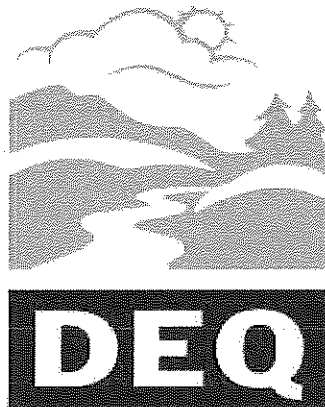


**OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS 06/03/1994**



**State of Oregon
Department of
Environmental
Quality**

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A G E N D A

ENVIRONMENTAL QUALITY COMMISSION MEETING

June 3, 1994

DEQ Conference Room 3a

811 S. W. 6th Avenue

Portland, Oregon

Friday, June 3, 1994: Regular Meeting beginning at 9:00 a.m.

Notes:

Because of the uncertain length of time needed for each agenda item, the Commission may deal with any item at any time in the meeting. If a specific time is indicated for an agenda item, an effort will be made to consider that item as close to that time as possible. However, scheduled times may be modified if agreeable with participants. Anyone wishing to be heard or listen to the discussion on any item should arrive at the beginning of the meeting to avoid missing the item of interest.

Public Forum: The Commission will break the meeting at approximately 11:30 a.m. for the Public Forum if there are people signed up to speak. The Public Forum is an opportunity for citizens to speak to the Commission on environmental issues and concerns not a part of the agenda for this meeting. Individual presentations will be limited to 5 minutes. The Commission may discontinue this forum after a reasonable time if an exceptionally large number of speakers wish to appear.

- A. Approval of Minutes
- B. Approval of Tax Credits
- C. †Rule Adoption: Vehicle Inspection/Maintenance Program SIP Update
- D. Proposed Amendments to the Stipulation and Final Order Addressing the City of Portland's Combined Sewer Overflows
- E. Information Report on Rule Adoption by the Oregon Department of Forestry for Classification and Protection of Waters of the State
- F. EQC Member Reports (Oral)
- G. Director's Report (Oral)

Hearings have already been held on the Rule Adoption items; therefore any testimony received will be limited to comments on changes proposed by the Department in response to hearing testimony. The Commission also may choose to question interested parties present at the meeting.

The Commission has set aside July 21-22, 1994, for their next meeting. The location has not been established.

Copies of staff reports for individual agenda items are available by contacting the Director's Office of the Department of Environmental Quality, 811 S. W. Sixth Avenue, Portland, Oregon 97204, telephone 229-5395, or toll-free 1-800-452-4011. Please specify the agenda item letter when requesting.


If special physical, language or other accommodations are needed for this meeting, please advise the Director's Office, (503)229-5395 (voice)/(503)229-6993 (TDD) as soon as possible but at least 48 hours in advance of the meeting.

May 19, 1994

State of Oregon
Department of Environmental Quality

Memorandum[†]

Date: May 11, 1994

To: Environmental Quality Commission
From: Fred Hansen, Director 
Subject: Informational Item, June 4, 1994 EQC Meeting

Background and Purpose

At the January 28 EQC meeting, the Commission adopted an interim revision to OAR 340-41-470(1), the three basin rule. The Commission directed the Department to begin formal review of the rule, and specified two dates by which recommendations were needed:

- June 3, 1994: The EQC asked for recommendations regarding any necessary changes in the interim rule
- September, 1994: Recommendations for revising the permanent rule were requested

The purpose of this memo is to inform the Commission of the Department's recommendation on the interim rule, and to report progress-to-date on the permanent rule review.

Alternatives and Evaluation--The Interim Rule

The Commission asked whether types or levels of discharges not permitted under the interim rule should be added to the list of allowable discharges. The Department considered several alternatives, which are outlined in Attachment A. The alternatives were presented to the Advisory Committee formed to review OAR 340-41-470(1). The opinion of the Department, and the consensus view of Advisory Committee members is that the interim rule should not be revised. This recommendation results from the following conclusions:

[†]Accommodations for disabilities are available upon request by contacting the Public Affairs Office at (503)229-5317(voice)/(503)229-6993(TDD).

- 1) There are no compelling reasons to change the interim rule. Potential gains do not appear to outweigh the costs of the revision process itself.
- 2) Revisions to the interim rule could have policy implications that might affect review of the permanent rule. Advisory Committee members were unwilling to make implicit policy statements at this point.

Progress to Date on the Permanent Rule Review

A public Advisory Committee was formed, with representatives of stakeholder groups in the three basins and across the state. Joe Richards, former EQC chairman, agreed to chair the Committee. Advisory Committee meetings were held in March and April, and are planned monthly through August. To date, the Committee has adopted bylaws, agreed on a recommendation for the interim rule, and considered whether to form subcommittees. At the May meeting the Committee will begin the process of reviewing alternatives for revising the permanent rule. To allow for citizen input, a public comment period has been held at each meeting. In addition, meeting notices and draft notes are mailed to a list of almost 400 interested persons.

Conclusions

No action is required by the EQC at this time. The interim revision to OAR 340-41-470(1) is acceptable as currently written.

Approved:

Section:

Thomas J. Lucas

Division:

Michael Potts

Report Prepared By: Lynne Kennedy

Phone: 229-5371

Date Prepared: May 11, 1994

**Three Basin Rule Advisory Committee
ALTERNATIVES FOR REVISING THE INTERIM RULE
(OAR 340-41-470 (1))**

Type of Change	Alternative	Possible Benefits	Possible Drawbacks
No Change	A. No change in the interim rule or its interpretation	<p>Important activities with nominal impact on water quality are allowed</p> <p>Allowable discharges are temporary and have no implications for the permanent rule revision</p> <p>Staff and Committee time would be available for review of the permanent rule</p>	Some nominal impacts may be cumulative over time
Some Change	B. Change the rule to allow municipal stormwater permits in that part of the Clackamas Basin that is within urban growth boundaries	<p>Many existing discharges will occur even if permits are not issued, so this would make the rule consistent with reality</p> <p>Cities would not be required to change their land-use plans</p>	<p>Could be construed to have implications for the permanent rule</p> <p>A rule change would take staff time away from the permanent rule review</p> <p>The new rule would be effective for about four months</p>
	C. Change the rule to allow other permitted activities that are neither short-term nor emergency	Could allow important activities with nominal water quality impact that have not been foreseen	<p>Could be construed to have implications for the permanent rule</p> <p>Could result in a perception that adequate public process was not followed</p> <p>A rule change would take staff time away from the permanent rule review</p> <p>The new rule would be effective for about four months</p>
	D. Disallow some specific short-term discharges allowed in the Interim rule	Could result in reduced turbidity and sediment deposition near sites of permitted activities	<p>Could be construed to have implications for the permanent rule</p> <p>A rule change would take staff time away from the permanent rule review</p> <p>The new rule would be effective for about four months</p> <p>Was not the intention of the EQC</p>
Repeal the Interim Revisions	E. Repeal the interim rule revisions	Could result in reduced turbidity and sediment deposition near sites of permitted activities	<p>Could be construed to have implications for the permanent rule</p> <p>A rule change would take staff time away from the permanent rule review</p> <p>The new rule would be effective for about four months</p> <p>Was not the intention of the EQC</p>

ATTACHMENT B

THREE BASIN RULE ADVISORY COMMITTEE
LIST OF MEMBERS

Committee Chairman

1. Joe Richards, Attorney and former Environmental Quality Commission chairman

A. Commercial Interests

2. Associated Oregon Industries - Jim Whitty
3. North Santiam Chamber of Commerce - John Hall
4. Eugene - Springfield Metro Partnership - John Lively
5. Oregon Forest Industries Council - Ward Armstrong
6. Homebuilder's Association of Portland - Drake Butsch
7. Kinross and Other Mining Interests - Chuck Bennett

B. Counties and other Organizations

8. Marion County - Mary Pearmine
9. Lane County - Roy Burns
10. Clackamas County - Dan Helmick
11. Association of Clean Water Agencies - Cathryn Collis
12. League of Oregon Cities - Joni Low

C. Water Suppliers/Cities

13. Salem - Frank Mauldin
14. Eugene Water and Electric Board - Laurie Power
15. South Fork Water Board - Larry Sparling
16. Springfield Utility Board - Ken Cerotsky
17. Stayton - Craig Johns
18. Estacada - Bill Straun

D. Environmental Organizations

19. Sierra Club - Elizabeth Frenkel
20. Northwest Environmental Defense Center - Bart Brush
21. Oregon Trout - David Moskowitz
22. Pacific Rivers Council - Megan Smith
23. Northwest Environmental Advocates - Nina Bell

E. Independent Citizen

24. Martha Shrader

Approved _____
Approved with Corrections _____

Minutes are not final until approved by the EQC

ENVIRONMENTAL QUALITY COMMISSION

Minutes of the Two Hundred and Thirty Sixth Meeting
April 21 and 22, 1994
La Grande, Oregon

Field Trips

Commissioners Wessinger, Whipple, and McMahan traveled by van with staff from Portland to the Hermiston area. Commissioner Lorenzen joined the group for a tour of facilities at the Madison Ranch. Dean Madison explained their programs for utilization of sewage sludge from the City of Portland and Unified Sewage Agency and management of irrigation water.

The group then traveled to Pendleton for lunch with Department of Environmental Quality (DEQ) staff from the Pendleton office. Following lunch, the group convened at the Umatilla National Forest District Office in Pendleton. Commissioner Castle joined the group at this time.

Mr. Charlie Johnson, U. S. Forest Service (USFS) ecologist, made a presentation to the Commission on the forest health crisis in the Blue Mountains. He described how the absence of wildfire in the forest has resulted in the ecosystem being out of balance. He indicated that the current situation in the Blue Mountains is one where much of the forests are dead or dying, and the potential for catastrophic wildfire is high. Afterwards, the Commission toured a section of the Wallowa-Whitman National Forest (WWNF) to observe first-hand some areas of high tree mortality (damage).

The Commission next travelled to the La Grande Ranger District where the Department's air quality staff gave a presentation on the air quality issues and solutions related to the forest health crisis. John Kowalczyk, acting Air Quality Division administrator for the Department, described concerns about the threat to visibility in the Grande Canyon National Park posed by significant increases in burning in the Blue Mountains, and how the Department has been working closely with federal and state forest land managers to develop solutions which would satisfy federal Clean Air Act requirements. Brian Finneran, Air Quality Division, gave a presentation about the agreements and solutions that have been reached through the establishment of a mandatory smoke management and monitoring program in northeastern Oregon, similar to the program in western Oregon which has been largely successful in

reducing smoke impacts and protecting air quality in that area. Additional wildfire suppression efforts and use of non-burning alternatives such as slash utilization would also be part of the overall strategy to protect air quality in the Blue Mountains region.

Evening Work Session, April 21, 1994

1. La Grande air quality non-attainment area: status report.

At the evening Commission meeting at Eastern Oregon State College, Mr. Finneran summarized recent air quality improvements that have occurred in the La Grande PM₁₀ nonattainment area. He indicated that since 1989 when the area became nonattainment, the Department helped establish a citizens air quality committee, which began developing control strategies primarily for residential woodstoves and windblown dust that would bring La Grande into attainment by 1994. The result of these controls has been that no air quality violations have occurred since 1991, and the city is on track in meeting federal air quality standards and by the end of this year.

Mr. Finneran then introduced Bob Leonard, chair of the La Grande Air Quality Committee, who provided a brief summary of the committee activities since 1989. Chair Leonard described the extensive and innovative public education program that has been developed by the committee to increase public awareness of the air quality problem in La Grande, with emphasis on the need to reduce woodstove emissions. Chair Leonard mentioned that in addition to public education the committee was involved in La Grande's voluntary woodstove curtailment and woodstove change out loan programs and that all of these programs will need continued funding for future operation. Mr. Finneran commented that Chair Leonard and the committee have been instrumental in making these programs successful and reducing pollution levels in La Grande. Director Hansen offered his praise for the work and success that the La Grande Air Quality Committee has achieved.

2. Grande Ronde watershed activities: information report.

This was an informational item to give the Commission the opportunity to hear about the various activities underway in the Grande Ronde basin and to hear from some of the local officials on their perspectives of these activities. Andy Schaedel of the Department's Water Quality Division began the presentation with an introduction. Some of the major activities in the basin related to water quality include an intensive water quality study and the setting of total maximum daily loads (TMDLs) by the Department, a model watershed program with local, state, tribal and federal participation, and the Governor's Watershed Health Initiative program.

Debra Sturdevant, Water Quality Division, briefly provided some background on the basin, native fish species, water quality problems and timeline for establishing TMDLs. The Department conducted intensive water quality studies in the Grande Ronde and its major tributaries above Elgin in 1991 to 1993. The primary parameters of concern include pH, dissolved oxygen and temperature.

Mitch Wolgamott, the Department's staff person in La Grande, spoke about the watershed health program. The Grande Ronde is one of two basins in the state selected for interagency focus and funding to protect and enhance ecosystem health on a holistic rather than species-by-species basis. Mr. Wolgamott also mentioned some of the projects being funded in the basin by the watershed health program or with the Department's nonpoint source (319) funding from the U. S. Environmental Protection Agency (EPA).

Speakers from the basin included John Howard, Union County Commissioner and Chair of the Grande Ronde Model Watershed Board of Directors; Bob Horton, Director of the Model Watershed program; Arleigh Isley, Wallowa County Court Judge; and Ron Gross, Public Works Director from the City of La Grande. These speakers told the Commission about their participation in activity related to water quality and watershed health, as well as some of their interactions with the Department.

Breakfast and Regular Meeting, April 22

Members of the Environmental Quality Commission, Department staff and local officials met for breakfast at 7:30 a.m. in Room 203, Hoke College Center, Eastern Oregon State College, La Grande, Oregon. Informal discussion topics included introductions and remarks from local officials and a report from the Department's Eastern Region Office, Pendleton staff.

The Environmental Quality Commission regular meeting was convened at 9:30 a.m. on Friday, April 22, 1994, in Room 201, Hoke College Center, Eastern Oregon State College, La Grande, Oregon. The following commission members were present:

William Wessinger, Chair
Emery Castle, Vice Chair
Henry Lorenzen, Commissioner (arrived at approximately 11:30 a.m.)
Linda McMahan, Commissioner
Carol Whipple, Commissioner

Environmental Quality Commission Minutes

Page 4

April 21 and 22, 1994

Also present were Michael Huston, Assistant Attorney General, Oregon Department of Justice, Fred Hansen, Director, DEQ, and other DEQ staff.

Note: Staff reports presented at this meeting, which contain the Department's recommendations, are on file in the Office of the Director, DEQ, 811 S. W. Sixth Avenue, Portland, Oregon 97204. Written material submitted at this meeting is made a part of this record and is on file at the above address. These written materials are incorporated into the minutes of the meeting by reference.

Chair Wessinger called the meeting to order.

NOTE: Since two commissioner members did not receive the minutes, a quorum could not be obtained for voting until Commissioner Lorenzen arrived. Action was taken on the minutes following consideration of agenda item D.

B. Approval of tax credits.

The Department recommended issuance of the following tax credit applications:

Application Number	Applicant	Description
TC 3291	The Bag Connection	A Reclaimed Plastics facility consisting of an injection mold for plastic product.
TC 3906	The Bag Connection	A Reclaimed Plastics facility consisting of backing plates for plastic product molds.
TC 4136	Dayton Sand and Gravel	An Air Quality facility consisting of a Gencor-Bituma baghouse for controlling emissions from an asphalt plant.
TC 4187	Happy Danes Quality Auto Repair, Inc.	A Solid Waste pollution control facility consisting of an antifreeze recycling machine.
TC 4217	William J. Stellmacher	A Field Burning (Air Quality) facility consisting of a Rear's 15' grass vacuum implement to clean grass seed acreage after the majority of straw has been removed in baled form.

Tax Credit Application Review Reports With Facility Costs Over \$250,000:

Application Number	Applicant	Description
TC 4204	Wilco Farmers, Inc.	An Air Quality facility consisting of baghouses, ductwork and plastic stripping to control the emission of particulate generated from the processing and shipping of grass seed.
TC 4207	Eichler Hay Company	A Field Burning (Air Quality) facility consisting of straw storage buildings (5), balers (3), stackers (2), squeezes (2), trailers (2) and a truck for a custom baling business.

Commissioner Castle moved approval of the above-listed tax credit applications; Commissioner Whipple seconded the motion. The motion was approved with four yes votes.

C. Information report: project for improving effectiveness in technical assistance and pollution prevention.

Marianne Fitzgerald, Pollution Prevention Coordinator for the Department, provided an overview of this project. Ron Gross, Public Works Director for the City of La Grande, also provided comments on the Department's efforts to improve technical assistance delivery. This presentation was an informational item on how to incorporate pollution prevention incentives into all interactions so that the regulated community's choices favor pollution prevention over pollution control. Commissioner Wessinger asked how this is different from how the Department is currently operating. Director Hansen pointed out that most of the nation's environmental budget is spent on pollution control, and the Department is trying to encourage companies and individuals to make greater investments in pollution prevention efforts which go beyond meeting the letter of the law. Advances in technology and improved awareness among individuals make this more feasible now than several years ago. The Department is also taking more of a systems approach to environmental management instead of the traditional command and control approach to air and water quality and waste management programs.

NOTE: Agenda Item H was considered after Agenda Item J.

E. Rule adoption: permanent Title V permit fee rules.

These proposed rules were a required element of the Federal Operating Permit Program submittal package due to the EPA before November 15, 1993. In order to meet this federal deadline, the Department recommended that the Commission adopt these rules as temporary rules at their October 29, 1993, meeting. The Department then took the rules out to public hearing and is now returning to the Commission to propose permanent rule adoption.

In order to have a fully approved Federal Operating Permit Program submittal, the Department must have the authority to include all federally applicable requirements in permits. One of these requirements is the National Emission Standards for Hazardous Air Pollutants (NESHAP) for asbestos. While the Commission's existing asbestos rules meet or exceed the federal requirements in most respects, the rules do not include one provision of the federal asbestos NESHAP relating to asbestos surveys prior to demolition.

The Department recommended the Commission adopt the rules/rule amendments regarding Federal Operating Permit Program Fees, Enforcement, Federal Operating Permits and Asbestos Survey Requirements as presented in Attachment A of the Department's staff report.

Dave Berg of the Department's Air Quality Division provided a brief explanation about permitted versus actual levels of air contaminant discharges. Director Hansen and Mr. Berg explained that companies always have the opportunity to discharge at permitted levels but cannot sell any unused emission space.

Commissioner McMahan moved approved of the proposed Federal Operating Permit Program Fee rules and Asbestos Survey Rules; Commissioner Whipple seconded the motion. The motion was passed with four yes votes.

F. Rule adoption: amendments to field burning rules (Willamette Valley).

The proposed rules amend existing field burning rules (Division 26) specifically, the open field burning, propane flaming and stack burning portions of the rules. The rule amendments respond to legislation (House Bill 2211) and make clarifications intended to ease rule administration.

The Department recommended that the Commission adopt the rules/rule amendments regarding the open field burning, propane flaming and stack burning as presented in Attachment A of the Department's staff report.

Steve Crane from the Department's Western Region Office, Salem, was available for Commission questions. Mr. Crane also suggested a wording change to the rules. The proposed new wording is provided below.

Page A-8 of the proposed rules, item 44 and Page A-15, (e):

Old Language:

"Stack burning permit" means a permit issued by the Department pursuant to ORS 468A.575 ~~and~~ that ~~consisting of a validation number~~ identifies the responsible person, date and time of permit issuance, and specif~~ing~~ies the ~~conditions and~~ acreage and location authorized ~~specifically registered~~ for stack or pile burning.

New Language:

"Stack burning permit" means a permit issued by the Department pursuant to ORS 468A.575 ~~and~~ that ~~consisting of a validation number~~ identifies the responsible person~~,~~ and date ~~and time~~ of permit issuance, and specif~~ing~~ies the ~~conditions and~~ acreage and location authorized ~~specifically registered~~ for stack or pile burning.

Commissioner Castle moved approval as amended of the proposed amendments to field burnings rules for the Willamette Valley; Commissioner Whipple seconded the motion. The motion was pass with four yes votes.

G. Rule adoption: amendments to solid waste rules to incorporate changes required for federal Subtitle D implementation, changes in "annual" permit fees and other housekeeping changes.

This proposed rule would establish new dates by which all existing land disposal sites have to provide financial assurance for closure and post-closure care; would require self-reporting and quarterly payments of the annual solid waste permit fees permit fee for larger facilities; would establish a \$500 renewal fee for letter authorizations and a new \$500 permit exemption determination fee; and other housekeeping changes.

The Department recommended the Commission adopt the rule amendments regarding solid waste permit fees and other changes to solid waste rules required by 1993 legislation as presented in Attachment A of the Department's staff report.

Mary Wahl of the Department's Waste Management and Cleanup Division provided a brief background for the Commission.

Commissioner Castle moved approval of the proposed amendments to solid waste rules to incorporate changes required for federal Subtitle D implementation, changes in annual permit fees and other housekeeping changes; Commissioner McMahan seconded the motion. The motion was passed with four yes votes.

NOTE: **Agenda H was discussed after Agenda Item J.**

I. Status update: Northern Malheur County and Lower Umatilla Basin groundwater management areas.

Rick Kepler of the Department's Water Quality Division introduced this topic. He identified the 1989 Groundwater Protection Act (House Bill (HB) 3515) as the legislative authority for conducting groundwater management area (GWMA) and other state groundwater activities. Most authority for implementing the Act resides with the Strategic Water Management Group (SWMG). Mr. Kepler outlined the GWMA process as identifying and confirming an area-wide groundwater contamination problem; the Department declaring a groundwater management area; SWMG appointing a local committee representing diverse local interests; state agencies conducting a technical groundwater investigation; the local citizen committee and state agencies developing an action plan to improve the groundwater quality for SWMG approval; and periodically reviewing and adjusting the action plan.

Ivan Camacho, Water Quality Division, discussed the northern Malheur County groundwater management area which is currently implementing an action plan. Mr. Camacho noted that implementing best practicable management practices (BMP) in the area has been successful to date. The effort includes a strong research and development program, public education, and an incentive program. Agricultural producers in the area have begun using recommended practices to protect groundwater from further contamination. Existing and future work includes continued BMP research and development, greater adoption of developed BMPs, more area-wide public education, continued groundwater monitoring, and relating BMP implementation to groundwater quality changes.

Dr. Clinton Schrock, superintendent, Oregon State University Malheur Experiment Station, and Ms. Kit Kamo, district manager, Malheur Soil and Water Conservation District, provided additional comments about the northern Malheur County Groundwater Management Area. Dr. Schrock provided some local land use history, and he presented some of the management practices being researched, promoted and adopted. Dr. Schrock noted practices are being adopted by local farmers, and he explained how new practices spread within the farming community in response to a question from Commissioner Lorenzen. Ms. Kamo thanked the Commission for traveling to eastern Oregon, and she invited members to come and see all the good work in progress to improve the groundwater quality in Northern Malheur County.

Jerry Grondin, Water Quality Division, presented the technical groundwater and land use investigation in the Lower Umatilla Basin groundwater management area. Mr. Grondin explained the purpose of the investigation is to provide a sufficient understanding of the land uses and groundwater occurrence, flow, chemistry and quality to enable the local citizen committee and state agencies to develop an effective action plan. The land use, hydrogeologic, and groundwater chemistry/quality complexities in the basin were highlighted and contrasted with northern Malheur County. The primary groundwater quality concern is nitrate and total dissolved solids. Additional concern may include sodium, arsenic and phosphate.

A list of sources contributing to the groundwater quality problem was presented which included irrigated agriculture; large animal feeding operations; established food processing land application sites; specific sites within the U.S. Army Depot; large on-site septic systems; and concentrated rural residential development with individual on-site septic systems. Some of these sources can be addressed through existing programs at the DEQ. However, the action plan could provide guidance or directives about how some of the DEQ programs are implemented in the Lower Umatilla Basin.

Commissioner Lorenzen concluded the topic discussion by noting the many areas that could be declared a groundwater management area, and he cautioned staff about declaring too many areas in eastern Oregon versus western Oregon.

The Commission was requested to accept the presentation as an informational item. No Commission action was required.

D. Rule adoption: addition to chemical mining rules to require persons or entities who control a chemical mine permittee to assume liability for environmental injury, remediation expenses and penalties.

This agenda item proposed adoption of a new rule which provides that the Department shall require, prior to issuing a chemical mining facility permit and as a condition of the permit, that those persons or entities who have the power to direct or exercise significant control over the management or policies of a chemical mine permittee also assume liability for any environmental injury, remediation expenses, and penalties which result as a consequence of activities that are associated with the permit. An exception to this requirement may be granted by the Commission pursuant to specific criteria in the rule. Such persons or entities may assume liability by joining with the permittee as a co-permittee or by such other means as the Commission, with advice of the Attorney General, may approve as being legally sufficient to protect the interests of the state and its citizens.

Fifteen persons provided testimony on the proposed rule during the hearing and comment process. Nine supported the rule; several opposed the rule and two proposed amendments.

In response to testimony, the Department proposed amendments to the original proposal to clarify its intent and application. In particular, the indicators of situations where a person or entity may be deemed to be in control of the permittee are more clearly defined. Situations where a person or entity is not deemed to fall under the definition of control are also defined. Attachment A of the staff report presented the rule with changes made in response to testimony reflected as additions and deletions.

The Department recommended that the Commission adopt the rule with amendments made in response to public testimony as presented in the left hand column of Attachment A of the staff report.

Commissioner Lorenzen asked for one additional amendment to section (2) of the proposed rule. He requested that the words "or renewing" be added after the word "issuing" in the third line of the section. The amended section would read:

- (2) Unless an exception is granted by the EQC pursuant to section (3) of this rule, and consistent with the provisions of section (4) of this rule, the Department shall require, prior to issuing or renewing a permit for a Chemical Mining facility, and as a condition of the permit, that those persons or entities who control the permittee assume liability for environmental injuries, remediation expenses, and penalties.

Two people presented testimony on the proposed rule. Roberta Bates, representing Grande Ronde Resources Council, supported adoption of the rule as proposed. Terry Drever-Gee, President of the Eastern Oregon Mining Association, commented on the extensive reclamation efforts being undertaken at the Bonanza Mine.

Commissioner Lorenzen moved that the proposed rule as presented in Attachment A and as amended by adding the words "or renewing" be adopted. The motion was seconded by Commissioner Castle and unanimously approved.

B. Approval of the minutes.

Commissioner Lorenzen moved approval of the March 10 work session and March 11 regular meeting minutes; Commissioner Whipple seconded the motion. The motion was approved with three yes votes and Commissioners Castle and McMahan abstaining.

J. Information report on rule development by the Oregon Department of Agriculture (ODOA) for agricultural water quality management under SB 1010.

Staff of the Oregon Department of Agriculture (ODOA) and DEQ presented information on SB 1010, the Agricultural Water Quality Management Program, adopted by the 1993 legislature. This bill gives the ODOA the authority to develop plans for preventing and controlling pollution from agricultural activity and soil erosion in certain areas, including TMDL basins, groundwater management areas and any other place where an agricultural water quality management plan is required by state or federal law. SB 1010 applies to Oregon's coastal areas which is required to have an enforceable nonpoint pollution control program, including agricultural activity by the federal Coastal Zone Management Act of 1990. SB 1010 gives the ODOA the authority to require actions by landowners to enforce the requirements and to collect fees for program funding. The ODOA has proposed administrative rules for the implementation of the program except for fee collection. The rules cover program definition and procedure but do not yet include basin plan rules for a specific basin.

SB 1010 was developed because the ODOA and DEQ were concerned about the lack of mechanisms to ensure that nonpoint source pollution would be controlled in TMDL basins and other areas experiencing water quality problems. Additionally, there is a lack of stable funding for ODOA's agricultural water quality management program. SB 1010 addresses both of these issues.

Since this was an information item only, no action was requested.

Phil Ward, Assistant Director of the ODOA, told the Commission that the ODOA had used a goal-oriented approach to the water quality management program. He said the department tried to accommodate those goals using a basin-by-basin strategy. He said voluntary initiatives were established up front and that ODOA would enforce the program rules swiftly and efficiently.

The Commission discussed several issues with Mr. Ward. Those issues included BMPs, monitoring and boundaries. Commissioner Castle indicated that the ODOA should examine rural lands that are not agricultural, and Commissioner McMahan stated that the agricultural and environmental groups do not often talk well with each other. She suggested improved communication and that communities be more involved in the program process.

Director Hansen indicated that the program was financed by the state's General Fund in ODOA's budget and that it would be appropriate to assess fees since the program involves regulatory activity. Mr. Ward added that the department expected to request fee authority in its 1995-97 budget. Mr. Schaedel said that the rules do not address fees.

H. Potential rule under which exceptions may be granted to EQC (Environmental Quality Commission) rules.

In response to a subject raised at an Commission retreat in October 1993, staff reviewed three alternatives for the Commission to add flexibility to program rules and numerical standards which do not already have variance or exception procedures. The alternatives are listed below.

1. Variance or appeal of rule or standard where the burden of proof is on the applicant;
2. Rule exception process initiated by the Department/Commission; and,
3. Narrative limits, presumably in rules, to replace numerical standards.

Staff analysis found the current structure of numerical standards, unequivocal policies, variances and appeals to generally be effective.

The Department recommended that current variance and appeals processes not be changed and asked the Commission to give direction for pursuing one or more of the three suggested alternatives.

Dennis Belsky from the Department's Wester Region Office, Medford, was available to answer Commission questions. Director Hansen provided a brief introduction to this item.

Commissioner Castle indicated that he would like to make a clarification, that when this subject was discussed at the retreat, alternate rule language was not considered. Instead, he believed the discussion would focus within the existing framework and would incorporate language to assist if standards were accomplishing goals. He said his suggestion to review this issue was not intended to weaken procedures. Commissioner Castle commented that the Commission seemed to have the most difficulty with procedures in non-flexible situations and more success when they could be flexible in their decision making. He suggested that this issue be tabled until after the three-basin rule evaluation is completed.

K. Commission member reports.

There were no Commission member reports.

The Commission did, however, thank Harold Sawyer for all his help, work and dedication. This meeting was the last Commission meeting for Mr. Sawyer since he will be retiring in May.

There was no further business, and the meeting was adjourned at 1:20 p.m.

NOTE: Director Hansen gave the following report to the Commission on the trip back to Portland.

L. Director's report.

Salt Caves Decision: The Oregon Supreme Court ruled in favor of the Environmental Quality Commission (EQC) in the Salt Caves dam appeal. The appeal resulted from a 1991 decision in which the DEQ denied water quality certification for the proposed project based on a rule that limits development-caused changes in the temperature of the river. The Department's decision was then appealed to the EQC. The EQC agreed with the Department and that decision was appealed to the Oregon Court of Appeals and then on to the Supreme Court.

Vehicle Inspection Boundary Expansion: The DEQ announced proposed changes in the Portland area vehicle inspection boundary on April 5. The proposed boundary would add several communities including Scappoose, Sandy and Newberg. The Department is holding a series of informal open houses to answer questions about the boundary expansion and will hold public hearings next month.

Lawsuit Filed Against UST Cleanup Contractor: The Attorney General filed a lawsuit on behalf of the DEQ against a contractor involved in underground storage tank (UST) cleanup work. The action alleges that an Albany business enterprise has fraudulently provided environmental cleanup services in Oregon involving that at least 30 cleanup sites.

The complaint alleges racketeering and violations of Oregon's unlawful trade practices act and environmental laws. Named as defendants are Kenneth R. "Bob" Cyphers and Sharel L. Cyphers of Corvallis and four businesses owned and operated by the Cyphers.

Kenneth Cyphers is licensed by the DEQ to supervise UST soil cleanup services. Hogate Drilling and UST Environmental Engineers are licensed as service providers under UST laws.

A temporary restraining order preventing Cyphers from doing business has been signed pending a court hearing.

The lawsuit alleges that the defendants violated racketeering law by committing multiple acts of forgery and falsifying business records, by submitting phoney reports from nonexistent testing laboratories and forging signatures of attesting chemists. Other allegations include false receipts from landfills. Investigators have discovered close to 100 phoney reports from two fictitious scientific laboratories, Field Enviro Lab Services and Sierra Chromalab.

The legal action is part of a continuing investigation involving the Attorney General's office, the DEQ, Oregon State Police, U.S. Attorney's office and EPA.

The Department has begun a review of the UST cleanup files and has identified 74 sites that used a Cyphers owned company. Most of the sites are in Linn and Benton counties. The Department is reviewing the files to determine whether the reports are sufficient to meet the requirements of the regulations, or whether additional work is necessary.

The DEQ is sending a letter to those property owners which says the Department has concerns about the accuracy of the environmental reports and will continue to investigate. The DEQ will notify the property owners as soon as the file review is complete and additional information is obtained.

Out-of-State Waste Decision: On April 4, the U.S. Supreme Court held that the Oregon surcharge on solid waste coming from out of state for disposal is invalid under the Commerce Clause of the U. S. Constitution. Those on the Commission in 1990 may remember the rule making which established the out-of-state waste fee based on the costs to the state for disposing of the waste. Many hours of advisory committee, economic consultants, staff and EQC time went into the rulemaking. The fee was immediately challenged by Oregon Waste Systems and Finley Buttes Landfill Company. Although the state won unanimous decision in the Oregon Court of Appeals and Supreme Court, the U.S. Supreme court basically found that even a compensatory fee was on its face discriminatory and only Congress, not individual states, can allow such fees.

It is possible that Congress will allow out-of-state fees as it considers a "RCRA light" bill this session. In 1993, Oregon imported 800,000 tons of waste, all from Washington.

Environmental Partnerships for Oregon: The DEQ's Livable Communities project has changed its name to Environmental Partnerships for Oregon to avoid confusion with other "livable communities" programs. An advisory committee has been established and community agreements have been signed with the Health Division and the two pilot cities, Nyssa and Powers. Although not a party to the agreements, the Economic Development Department is closely involved with the pilots and is participating with the advisory committee.

Both Nyssa and Powers have completed a self-diagnostic concerning their compliance with state and EPA regulations. In addition to wastewater treatment and safe drinking water, these small communities must be concerned with environmental regulations for sludge disposal, upgrading and cleanup of city-owned USTs, air quality (especially woodstove issues), the handling of hazardous wastes at city shops and solid waste disposal.

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In addition to multi-media coordination, multi-media education has quickly become an issue in the program. It is apparent that city staff, especially in small communities, have very limited time to learn about environmental regulations. DEQ staff will work on developing a comprehensive guidebook to state environmental regulations for local governments. The intent is to pursue this project concurrently with the pilots this year.

New Office Space: The Department has opened a one-person office in Hermiston to coordinate the permits for the Umatilla Army Depot incinerator. Sue Oliver has been hired to work with the citizens advisory committee and coordinate the Department's public information efforts.

The Eugene office is set to open the first week in May. Computers will be installed during the week and staff will be moving in soon after. The Dalles office could be open by mid-May. The Columbia Gorge Community College Board has approved an agreement to allow the DEQ to use temporary space while permanent office space at the college is remodeled.

Final negotiations are taking place for office space in Baker City. If all goes well, the Department will be co-locating with the Parks and Recreation Department in June.

Intended Use Plan: The proposed 1994 Intended Use Plan has been prepared for the EPA as part of the application to receive federal grant funds for the State Revolving Fund (SRF). The plan be finalized after May 9, 1994.

The SRF program offers low-cost loans to communities for the planning, design and construction of water pollution control facilities and for estuary management plans. Preliminary SRF loan application forms were sent to all cities, service districts and sanitary districts in the state. A total of 30 jurisdictions requested loans to carry out 37 different water pollution control projects in a total dollar amount of \$88,357,220.

If approved in its current form, the Intended Use Plan will allocate \$20,725,505 to new loans and increases to existing loans.

Approved _____
Approved with Corrections _____

Minutes are not final until approved by the EQC

ENVIRONMENTAL QUALITY COMMISSION

Minutes of the Special Meeting May 16, 1994

The Environmental Quality Commission met for a special meeting on Monday, May 16, 9 a.m., 1994, in Conference Room 3A, Oregon Department of Environmental Quality (DEQ), 811 S. W. Sixth Avenue in Portland, Oregon. The following Commission members were present:

William Wessinger, Chair
Emery Castle, Vice Chair
Henry Lorenzen, Commissioner
Linda McMahan, Commissioner
Carol Whipple, Commissioner

Also present were Michael Huston, Assistant Attorney General, Oregon Department of Justice, Fred Hansen, Director, DEQ, and other DEQ staff.

The purpose of this special meeting was to consider the water quality standards in regard to total dissolved gas (TDG) concentrations in the Columbia River. Director Hansen provided a brief summary of this issue. He said the agenda represented an effort to use panels of experts for providing explicit explanations. Director Hansen said there were three questions that needed to be considered: 1) should the temporary rule that the Commission adopted a week ago which will expire at midnight be extended; if so, does the rule need modification; 2) is the Commission in favor of moving smolts downriver by spilling over the dams or by barging or by some other method; and 3) is the monitoring program sufficient to indicate whether and when problems arise and to allow lowered spillage so that adverse effects can be minimized?

Michael Huston, Assistant Attorney General, provided a copy of the state statute that applied to this situation (ORS 468b.048), Standards of quality and purity, factors to be considered; meeting standards. He noted that an opinion was received from the State Supreme Court in the Salt Caves case in which the Court concluded that the Commission had a great deal of latitude in terms of adopting water quality standards.

Commissioner Lorenzen asked whether the Commission was to consider the benefits of transport and focus solely upon the water quality issue. Mr. Huston replied that the Commission is not primarily responsible for determining beneficial uses or balancing tradeoffs. Commissioner Castle asked if more than one beneficial use were affected, should all beneficial uses be considered. Neil Mullane, Water Quality Division, indicated yes. He said that if one parameter is changed, that change can influence other beneficial uses.

The Commission heard a number of panel discussions. Those discussions are provided below in order of presentation.

REQUEST FOR SPILL

Don Raft, National Marine Fisheries Service (NMFS), said the NMFS was requesting implementation of the spill proposal developed by the technical staffs of the U. S. Fish and Wildlife Service (USFW) and NMFS. This request was also in coordination with the state fisheries agencies and tribes in response to declining numbers of Snake River salmon listed under the Endangered Species Act.

Mr. Raft said the initial request for implementation of this spill proposal was outlined in a May 9 letter from J. Gary Smith of the NMFS to Randy Hardy of the Bonneville Power Administration (BPA) and Major General Ernest Harrell of the U. S. Army Corps of Engineers (Corps) following a May 7 conference call. Mr. Raft said the initial 12-hour spill request is intended to result in 80 percent fish guidance efficiency; that is, 80 percent of the daily average passage of juvenile spring-summer chinook salmon migrates will pass hydroelectric dams by non-turbine routes. Specifically, he asked that the following spill levels be implemented.

- At Lower Granite Dam, 78 percent of instantaneous flow, from 1800 to 0600 hours;
- At Little Goose Dam, 48 percent of instantaneous flow, from 1800 to 0600 hours;
- At Lower Monumental Dam, 54 percent of instantaneous flow, from 1800 to 0600 hours;
- At Ice Harbor Dam, 25 kcfs, 24 hours per day;
- At McNary Dam, 48 percent of instantaneous flow, from 1800 to 0600 hours;
- At John Day Dam, 33 percent of instantaneous flow, from 1900 through 0700 hours;
- At The Dalles Dam, 40 percent of instantaneous flow, 24 hours per day;

- At Bonneville Dam, through May 31, 68 percent of instantaneous flow, from one half hour before sunset to one hour before sunrise and 75 kcfs one hour before sunrise to one half hour before sunset; from June 1 through June 20, 68 percent of instantaneous flow from one hour before sunset to one hour before sunrise and 75 kcfs one hour before sunrise to one hour after sunset.

Mr. Raft outlined the spill modification regime and monitoring program. He said that after two weeks of operation under the revised spill regime, the NMFS will convene monitoring experts to review the monitoring design and protocol and to recommend any changes to the program.

Commissioner Whipple asked for a brief review about the role given to additional spills in the original plan. The NMFS responded that in the draft recommendations from the recovery team, spill was mentioned as an additional strategy to be explored but not in regard to using spill to increase downstream passage survival. It was indicated that a new draft would soon be available.

Commissioner Lorenzen asked if this particular spill program was designed to assist the fish returning up river. The NMFS responded no, the program and different spill levels at the individual dams would have to be carefully monitored in terms of adult passage conditions; excessive spill could also affect upstream passage conditions for the returning adults. Commissioner Whipple asked about the smolt run for this year and how it compared historically. The NMFS said that historically, it is relatively higher at least compared to recent years.

Russell George, reservoir control center for the Pacific Division for the Corps, gave a brief summary of the events leading up to this meeting. He provided examples of several different data sheets.

Commissioner Whipple asked how tailwater stations were determined. Mr. George said that most were near the bank and in the area on the spill side of the project versus the powerhouse side because that is the area where the dissolved gases are. Chair Wessinger asked what would be found in a seven-mile distance of the river in regard to dissolved gas. Mr. George responded that there is gradual deterioration of the gas levels downstream depending upon the type of river conditions.

INTERAGENCY PANEL

Ron Boyce, Oregon Department of Fish and Wildlife (ODFW), provided comments on the proposed spill program. He said the ODFW strongly supports the spill program requested by the NMFS which is designed to maximize survival of juvenile chinook and steelhead while minimizing impact to aquatic species. He said the purpose of the program is to increase passage of juveniles over spillways which has been shown by numerous studies to provide the safest route to passing juvenile fish through mainstem hydroelectric projects.

Mr. Boyce added that the spill program is also designed to improve survival by reducing the number of fish being transported. He said the ODFW believes a spill program will provide immediate and significant improvements in survival of juvenile chinook and steelhead.

He said the ODFW supports the biological monitoring programs for TDG symptoms submitted to the NMFS by the Fish Passage Center (FPC). The ODFW recommended the Commission adopt a 180-day variance in the state's dissolved gas criteria to allow the spill program to proceed throughout the duration of the spring and summer migrations.

Commissioner Lorenzen asked if the ODFW believed there was data and studies indicating that transportation leads to a lower fish supply than spill. Mr. Boyce replied that it is inconclusive that transportation provides benefits, however, there are indications that it may reduce survival rates of fish returning to spawning grounds. Commissioner Lorenzen further asked if it is conclusive that spill increases survival rates. Mr. Boyce answered yes, that numerous studies had been conducted throughout the Columbia and Snake rivers systems. He indicated that the ODFW has data, studies have been conducted on the Columbia River by the NMFS and other agencies and that studies have been made on the mid-Columbia by the mid-Columbia public utility districts.

Dr. Filardo, the FPC, said that the data on fish abundance are based on the collection counts taken at the dams. She said the numbers are dependent on the hatchery releases in any one year. In general, she said, about 50 percent of the fish are collected at the project. Dr. Filardo described the process, that at each system a screen is used to divert fish into a collection system. She provided a historical perspective of flow spill and dissolved gas in the Columbia River system and talked about the current smolt monitoring program that is being implemented by the FPC.

Dr. Filardo said that the spill being asked for is not something that has not occurred in this system historically and that dissolved gas levels seen this year are not outside of the boundaries seen in the past years. She indicated that under the smolt monitoring program since the beginning of the season, three times per week, fish are sampled for gas bubble symptoms, that information is recorded and the information is sent to the FPC. Dr. Filardo explained migration and numbers of fish involved. She explained that the FPC is an arm of the Columbia Basin Fish and Wildlife Authority which represents the state and federal fishery agencies and Indian tribes in fish passage and migrational matters. She said that June 20 is the date used to signify the end of the spring fish migration.

Earl Dawley, the NMFS, said that because of the extra spill being asked for, the monitoring program has been increased. He said that the monitoring program received by the Commission had just been developed. The smolt monitoring conducted at Little Goose, Lower Monumental, McNary, John Day and Bonneville dams has been increased to become a daily assessment and has also been increased to examine internal and microscopic assessment if bubbles are apparent on the fish.

Mr. Dawley said there is a research program being conducted to specifically evaluate the effects of GBD on fish in the reaches downstream of Priest Rapids Dam, downstream of Ice Harbor Dam and downstream of Bonneville Dam and within those reaches at time periods when the gas saturations are above 120 percent of total dissolved gas. A NMFS lead decision making process which involves representatives from the NMFS, USFW, BPA, Corps and Bureau of Reclamation will be having bi-weekly meetings to decide implementation of further spill. The operations group will be looking at the available real-time information that is coming from the monitoring programs.

Jim Athearn of the Corps said the Corps is implementing emergency spill operations at the request of the NMFS and USFW with strong support from the governors of Washington and Oregon and the state fisheries agency and tribal fish managers. After notification that the state water quality standards were revised for TDG for a seven-day period, he said the Corps remains concerned about the potential adverse effects on the aquatic system particularly for Snake River salmon listed for protection under the Endangered Species Act and their critical habitat.

He said the Corps has received preliminary reports that symptoms of GBD have begun appearing in smolts sampled at Lower Monumental Dam and Little Goose. Mr. Athearn commented that decisions made in regard to water quality standards should be done only after existing scientific data has been thoroughly analyzed and

should be conservative when dealing with listed stocks and critical habitat rather than being experimental. He said that the scientists involved in dissolved gas research for the Columbia and Snake rivers since the 1960s and 1970s should be consulted on their assessment for the potential for significant increases in spill to improve survival under the unique circumstances of 1994.

Mr. Athearn went on to say that 1994 is a low-flow year with high spill. He said the Corps was being asked to manage flows that will affect the amount of water available next year if similar weather patterns persist. If current projections for yet lower adult returns next year occur, the Corps can expect even more requests for drastic action.

Chair Wessinger asked about the difference in turbine operations and fish survival. Mr. Athearn replied that there is a 95 percent survival of the fish passing a particular project through either a collection system for transportation or through the spillway or through ice and trash sluiceway.

Director Hansen asked if the Corps was asking with the other federal agencies and ODFW the Commission to modify the standard allowing for additional spill or was he indicating that he was either taking no position or opposing such an action. Mr. Athearn replied that the Corps was not taking a position on the TDG spill percentage.

Dr. Wes Ebel told the Commission a problem he has with this request is that the NMFS is trying to achieve 80 percent fish passage efficiency and not exceeding 120 percent saturation. He said he did not see how they could do that at the proposed spill levels. Dr. Ebel said that another factor that has not been discussed was the lethal effects from exposure to total gas supersaturation. Additionally, he said he was concerned about the adult monitoring program.

Dr. Ebel said that there have been numerous studies, peer review scientific reports on the results of collection and transportation from various locations from Ice Harbor to Lower Granite dams from 1968 to the present. He said there has been over 20 years of studies and over 20 different tests conducted; there has never been a single controlled release that came back at a lower rate than the transported release. Dr. Ebel added that all of the data on steelhead has shown a significant and substantial benefit from transport during all these tests.

Chair Wessinger asked Dr. Ebel for his recommendation. Dr. Ebel said he did not see the need for the spill program. He said the NMFS should continue doing what they are doing and work to improve the collection and transportation system and spill in areas where they are not collecting fish in tributary streams.

Dr. Gerald Bouck told the Commission that he was retired and did not represent anyone. He said that over the past 35 years he has investigated GBD and gas supersaturation. Dr. Bouck said he strongly believes that Oregon should not grant a waiver or otherwise allow relaxation of its water quality standards. He said the Commission should consider the examples of Norway or British Columbia and look to them for legal precedence.

Commissioner McMahan commented that relaxing the standard is not the same as allowing a variance in temperature because this case involves the Endangered Species Act and is a legal precedence rather than something like heat which would be economic.

Director Hansen asked how the Commission and Department should address the issue of allowing supersaturated conditions because of involuntary spills. Dr. Ebel replied that the Corps and BPA have not been allowed to operate the river the way they want to control the nitrogen. Dr. Ebel indicated that there are very few times that the existing standard would be exceeded. Dr. Bouck added that if the dams were operated as designed, spill would not be necessary; if spill is needed to move the fish through and a demonstrated need exists, there should be some way to accomplish that without creating a gas supersaturation problem.

Robert Heinith, Columbia River Inter Tribal Fish Commission (CRITFC), said the tribes are not just another interest but are sovereign governments and have management jurisdiction over the salmon and other resources in the basin. He said the tribes first brought this issue to the Department's attention in September 1993 when the tribes were facing problems and some contradictions existed within the dissolved gas standard from prior operations over the river. Mr. Heinith said the crisis over the salmon is basin wide and has meant for the tribes a severe impact. The tribes have been forced to fish the Willamette River for their ceremonial subsistence fish.

Mr. Heinith said the tribes' philosophy is to allow fish to migrate in the river and not to be handled; he said spill achieves this philosophy and scientific goal. He said that the three agencies and tribes have chosen a conservative approach, implementing the spill program based on real-time and historic migration patterns with spills being

confined to night-time hours. This plan substantially limits economical impacts to the spill because power demand is much less at night and that river flows are lower at night. He said member tribes support and concur with the ODFW request of 180-day variance with the state dissolved gas standard to allow for the best possible fresh water juvenile survival and protection of beneficial use of this resource which is in critical status.

Thane Tienson told the Commission that he grew up in the commercial fishing industry and that he represented the commercial fishing industry. He said that people opposed to spilling have an interest in not seeing a potential increase in power rates and are afraid this experiment will work which will lead to yet higher rates and, therefore, higher costs and less profits. He said the agencies and tribes have requested for years that spill be implemented, and they have been refused because the people who dominate and ultimately decide how the river is run do not want to change the status quo. Mr. Tienson said the only reason this issue was being discussed today was because a federal judge said the status quo in altering this system cannot occur any more. He said that if the transporting program was subjected to the same scrutiny and monitoring being required in the spill program, transportation would not survive that scrutiny. Mr. Tienson said the best returns for adult fish have coincided generally with the highest flows and highest spills over the last several decades. He concluded by saying that fish do better migrating in-river since they have done it successfully for thousands of years.

Bill Bakke, Oregon Trout, highlighted findings from the study conducted by Earl Dawley and Wes Ebel entitled, "Studies on Effects of Supersaturation of Dissolved Gases on Fish, Final Report." He also told the Commission that while Oregon Trout supports the use of spill as a means to improve juvenile salmon and steelhead survival at hydro dams on the Columbia and Snake rivers, excessive levels of nitrogen saturation could impair survival. He said that adult salmon and steelhead do not recover from GBD and that a standard for nitrogen supersaturation must be responsive to the survival of juvenile and adult salmonids.

Mr. Bakke stated that Oregon Trout recommended that the standard of 110 percent saturation for nitrogen be reinstated since that is the threshold where increased mortality for salmonids begins. He said that a threshold should be set at the point where there is some safety margin rather than at a point where there is measurable mortality. Every effort should be made to keep nitrogen below 120 percent of saturation; by using 110 percent as the threshold, actions should be taken to mediate increases above that point. Mr. Bakke concluded by saying that an intensive monitoring program must be in place to make sure that excessive nitrogen and GBD are controlled.

Commissioner Castle complimented Mr. Bakke on his testimony for being precise with respect to his organization's position.

Dan Roth, Northwest Environmental Defense Center (NEDC), said the Center supports the spill proposal and urged the Commission to grant the variance for 180 days. He said that under the Clean Water Act there is a move to biologically-based standards and that this could be an area to have a biologically-based nitrogen standard. Mr. Roth suggested that the Commission has to also decide about weighing public interest values. He said the Commission should weigh three points. First, that the Corps and BPA have been refusing requests for about 20 years from the agencies and tribes to spill. Second, the Corps has historically refused to spend money to protect fish and have refused to screen the dams. Third, he said, it is time to implement adaptive management. Mr. Roth indicated that the Northwest Power Planning Council has created adaptive management which essentially says action must be taken in the face of scientific uncertainty.

MONITORING PLAN

Mr. Dawley briefly provided an update of the monitoring program proposed by the NMFS. He said that the program was not yet complete but would be implemented to the full extent as quickly as the NMFS can solve some permit modification issues and how to conduct some of the monitoring. He said that for the most part the monitoring plan is in place, and the data so far received indicates little sign of GBD within the salmon population of those migrating downstream; no data has been received on those migrating upstream.

Commissioner Whipple asked about observations and asked what constituted a observation. Mr. Dawley said that they looked for external emphysema, gas bubbles under the skin and fins; he said that other signs include gas bubbles within the body

cavity and circulatory system. Mr. Dawley said that, in general, the impacts of a high gas saturation level in the river are less than what would be seen in laboratory data because the depth distribution of fish is greater than that mandated in laboratory tests.

Commissioner McMahan asked if the data received gives the NMFS a comfort level that the fish are swimming deeper in the river. Mr. Dawley said that there have been several studies of depth distribution that suggest the average fish is not right at the surface but several feet down below the surface which provides them some compensation from the surface major level of gas saturation.

Director Hansen said that is important to note that decisions are made depending on how fast the monitoring data gives feedback. He said that physical assessment may be able to indicate symptoms but at a very gross level. Director Hansen asked how quickly data will be available as autopsies are performed on the fish so that spill regimes can be adjusted. Mr. Dawley indicated that the monitoring plan was just being completed and that the NMFS expected to have the data available by the following morning from the day-before activity.

Chair Wessinger asked Director Hansen how the Department would monitor the NMFS program. Director Hansen indicated the Department would expect to be a part of the program or at least receive immediate feed back. He said that Department staff will need to determine how to collect the data and have it available in a timely manner.

PUBLIC TESTIMONY

Al Wright, Pacific Northwest Utilities Conference Committee (PNUCC), talked about his experience in working on the Columbia River and nitrogen supersaturation during the 1960s and 1970s. Mr. Wright spoke about the spill priority, which was a nitrogen abatement program where spills were shifted around in the river to maximize the nitrogen abatement potential that existed. He indicated that in the 1980s a memorandum of agreement (MOA) regarding spill was created. The MOA was a negotiated settlement between balancing the spill and unscreened projects and power generation to optimizing fish protection but always making sure the spill was under the spill priority program and attempting to stay within the 110 percent standard. He urged the Commission not to allow the current standard to be violated.

Dave Sabala, Douglas Electric Cooperative, said he was testifying on behalf of himself and the Pacific Northwest Generating Cooperative. Mr. Sabala said that backing up their shared desire to see threatened and endangered salmon run saved was \$350 million of ratepayer money. That money is funded through the BPA to support salmon enhancement efforts on the Columbia/Snake river systems for 1994. He said that with that level of commitment, BPA's customers have a right to expect efforts that have quantifying benefits to Northwest salmon runs. He said that the agencies should fund those enhancement actions that provide the greatest benefits achievable for the limited dollars available. Mr. Sabala said that the biological benefits of the NMFS spill program are uncertain at best. He said that while the NMFS and state fisheries agencies may view this spill program as a grand experiment, the downside is very real for down migrating salmon and for those paying the price to save them. Mr. Sabala talked about the costs involved with the spill program and costs that will be passed on to power customers. He said it appears to him that the NMFS proposal is a costly way of killing fish and kills the effectiveness of the \$350 million which is to be used to help those fish that will not be around to receive any benefits. He asked the Commission not to approve a waiver to the standard.

John Colt, Seattle, Washington, discussed monitoring for GBD. He said fish impaired or dying from gas supersaturation will be eaten by squaw fish or seagulls. He said that one of the problems with intermediate spill was that gas supersaturation is almost a mass phenomena. If water is spilled for a number of hours at a series of dams, very high gas levels will be created. He said that turning off the spill will not affect the dissolved gas already in the water.

Rob Lothrop, CRITFC, said he has been working on mainstem passage issues for approximately 13 years with the CRITFC. He said the CRITFC supports a temporary modification. He asked that the temporary rule be extended until September 30 which is within the 180 days allowed by law and would allow for a summer spill program to be implemented in 1994. He encouraged the Commission to defer to the ODFW who has been an active participant in the mainstem biological issues. Mr. Lothrop talked about the conflicting testimony in regard to fish distribution and gas concentrations in the water. He spoke briefly on the costs of the spill program. Mr. Lothrop concluded by saying that the proposed monitoring program is a state-of-the-art monitoring program and urged the Department to communicate with the FPC.

Jonathan Poisner, Sierra Club, Columbia Group, said the Sierra Club strongly supports the emergency action by the NMFS to use spill at the dams to help juvenile salmon on their migration past the dams to the ocean. He said that efforts to save wild salmon must begin by helping a greater number of migrating juvenile smolts to

reach the ocean and that spill is a necessary first step in this process. He said two points need to be kept in mind while evaluating the dangers of spill: 1) these dangers can be controlled; 2) whatever danger spill represents, it must be compared to the known hazard of not using spill. Mr. Poisner said that the Club realizes that spill will cost money but they believe that the costs pale in comparison to the economic and social benefits that will come over the long term from restoring wild salmon runs.

Diane Valantine, Oregon Natural Resources Council, said the Council supported the spill program. She said that the request is a major incremental improvement and that more major drawdowns are needed to achieve restoration.

COMMISSION DISCUSSION AND ACTION

Neil Mullane, Greg McMurray and Mike Downs from the Department's Water Quality Division spoke briefly about the staff recommendation. Mr. Mullane said that staff is not comfortable with any permanent change to the 110 percent level without a great deal more information and study.

Commissioner Whipple asked about the staff's reassurance in regard to the 120 percent level. Mr. Mullane and Director Hansen responded that a distinction needs to be made in regard to a temporary versus permanent rule. Chair Wessinger asked about the NMFS 5 percent mortality trigger to reduce the spill. Mr. Mullane said staff believed that percentage was high because waiting until an actual 5 percent impact on the fish being collected might be very high.

Commissioner Castle suggested the Commission go on record in support of the 110 percent standard but in the event that agencies responsible for fisheries management wish to exceed the standard then in no case would nitrogen exceed the 120 percent of saturation, effective until June 20.

Director Hansen read the modified draft rule as revised by Commissioner Castle. After discussion and further revision, Commissioner Castle moved approval of the proposed temporary rule modification; Commissioner McMahan seconded the motion. The proposed rule read as follows:

340-41-155 Effective on filing and until June 20, 1994, ~~{for 7 consecutive days thereafter}~~ ending at midnight on that ~~{the 7th}~~ day. This rule supersedes paragraphs 340-41-205(2)(n), 340-41-445(2)(n), 340-41-485(2)(n), 340-41-525(2)(n), 340-41-565(2)(n), 340-41-605(2)(n) and 340-41-645(2)(n) as these paragraphs apply to the Columbia River. In the Columbia River, the Total Dissolved Gas (TDG) concentration relative to atmospheric pressure at the point of sample collection may exceed the current standard of 110 percent only if the Department concurs with the National Marine Fisheries Service that such exceedances are necessary for the enhanced management of the salmon resource. In no event, however, may 120 percent be exceeded. ~~{shall not exceed 130 percent saturation as determined by the Department.}~~ The appropriate Federal agencies shall at all times operate the river system in a manner to minimize TDG whenever the TDG levels exceed 110 percent. The purpose of this temporary rule is to provide for emergency assistance to outmigrating salmon smolts in the mainstem of the Columbia River via increased spill over the mainstem dams. The responsible agency or agencies shall develop a monitoring program acceptable to the Department. The responsible agency or agencies shall conduct monitoring for TDG concentrations and for the incidence of gas bubble disease (GBD) sufficient to determine whether the resultant TDG concentrations cause a significant increase in GBD as determined by the Department. ~~{related mortality in salmon populations.}~~ If such ~~{a significant}~~ an increase ~~{in mortality}~~ is documented, as determined by the Director, the Director shall make such alteration in the maximum allowable TDG level, until a satisfactory level is achieved.

The motion was approved three to two with Chair Wessinger, Commissioners Castle and McMahan voting yes, Commissioners Whipple and Lorenzen voting no.

Commissioner McMahan moved approval of the Statement of Need and Justification of Temporary Rule. Commissioner Castle made several modifications to the Statement of Findings. Commissioner McMahan accepted the modifications made by Commissioner Castle, and Commissioner Castle seconded the motion. The Statement of Findings read as follows:

**Statement of Findings of Serious Prejudice
and
Attorney General Approval of Temporary Rule Justification**

Agency: Environmental Quality Commission

Temporary Rule: OAR 340-41-155 Relating to Total Dissolved Gas
in the Columbia River

1. The Environmental Quality Commission finds that its failure to promptly take this rulemaking action will result in serious prejudice to the public interest and to all individuals and groups that have a commercial, recreational or social interest in the enhancement of anadromous fish in the Columbia River.
2. This finding of serious prejudice is based upon the agency's conclusion that the following specific consequences would flow from failure to immediately take this rulemaking action:

Very recent data has revealed that the population of adult salmon in the Columbia River basin are dangerously low.

The responsible state and federal fish management agencies, especially the National Marine Fisheries Service, have determined that migration efforts should be diversified by spilling additional water from certain mainstream dams on the Columbia River. In addition, a federal district court recently ruled that the prior migration plan was inadequate and did not comply with federal law.

Additional spills would likely violate the state's instream water quality standard for total dissolved gases in the Columbia River. The rule would temporarily raise the total dissolved gases standard, thereby permitting the spills, subject to several conditions. The conditions include a requirement for careful monitoring of possible impacts of the spills and preserve the authority of the Department of Environmental Quality to return to a lower total dissolved gases standard if there is significant increase in fish mortality.

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3. The agency concludes that following the permanent rulemaking process, rather than taking this temporary rulemaking action, will result in the consequences stated above because the current outmigration of juvenile smolt will be complete before a permanent rule could be adopted.

4. This temporary rulemaking action will avoid or mitigate these consequences by allowing for additional, immediate spills at certain dams without violating state water quality standards.

The motion was approved three to two with Chair Wessinger, Commissioners Castle and McMahan voting yes, Commissioners Whipple and Lorenzen voting no.

There was no further business, and the meeting was adjourned at 4:10 p.m.

Environmental Quality Commission

- Rule Adoption Item
- Action Item
- Information Item

Agenda Item B
June 3, 1994 Meeting

Title:

Approval of Tax Credit Applications

Summary:

New Applications - 10 tax credit applications with a total facility cost of \$1,605,270.00 are recommended for approval as follows:

- | | |
|--|------------|
| - 1 Air Quality facility with a total facility cost of: | \$ 862,560 |
| - 2 Field Burning related facilities recommended by the Department of Agriculture with a total facility cost of: | \$ 116,200 |
| - 2 Plastics Recycling facilities with a total facility cost of: | \$ 125,000 |
| - 1 Solid Waste Recycling facility costing: | \$ 215,856 |
| - 2 Water Quality facilities with a total facility cost of: | \$ 156,603 |
| - 2 Underground Storage Tank (UST) costing: | \$ 129,051 |

One application of those recommended for approval having a claimed facility cost exceeding \$250,000 has been reviewed by an independent accounting firm contractor and the review statement is attached to the application review report. Issues relating to tax credit application 4208, Kinzua Corporation, and the requested transfer of this credit to Kinzua Resources, LLC, are discussed in the Background section of this report.

The Department also recommends the transfer of 77 tax credits from Pride of Oregon Stations, Harris Oil Company and Metrofueling, Inc. to the Truax Harris Energy Company, a general partnership formed by the companies. A copy of the letter requesting the transfer is attached.

In addition, in response to a request by the Chairman, the tables on page 5 have been amplified to present a clearer picture of the value of tax credits that are approved for certification.

Department Recommendation:

- 1) Approve issuance of tax credit certificates for 10 applications as presented in Attachment A of the staff report.
- 2) Approve the transfer of tax credit 4208 from the Kinzua Corporation to Kinzua Resources, LLC.
- 3) Approve the transfer of the remaining value of pollution control tax credits issued to Pride of Oregon Stations, Harris Oil Company and Metrofueling, Inc. to the Truax Harris Energy Company.

 Report Author	 Division Administrator	 Director
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May 13, 1994

†Accommodations for disabilities are available upon request by contacting the Public Affairs Office at (503)229-5317(voice)/(503)229-6993(TDD).

Date: June 3, 1994

To: Environmental Quality Commission
From: Fred Hansen, Director *Fred Hansen KO*
Subject: Agenda Item B, June 3, 1994 EQC Meeting
Approval of Tax Credit Applications

Statement of the Need for Action

This staff report presents the staff analysis of pollution control facilities tax credit applications and the Department's recommendation for Commission action on these applications. The following is a summary of the applications presented in this report:

Tax Credit Application Review Reports:

Application Number	Applicant	Description
TC 4107	Vahan M. Dinihanian	A Reclaimed Plastic facility consisting of a 200 ton Nissei injection mold.
TC 4122	Oregon Metallurgical Corporation	A Water Pollution Control facility consisting of two caustic storage tanks, one neutralizing tank, a concrete foundation, instrumentation and piping.
TC 4137	Planned Marketing Solutions, Inc.	A Reclaimed Plastic products facility consisting of an aluminum injection mold.
TC 4159	William H. Burrell, Jr.	A Water Pollution control facility consisting of a covered steam pit, including a building, a sump, an oil/water separator and plumbing for steam cleaning engines, equipment and parts.
TC 4195	Pendleton Sanitary Service, Inc.	A Solid Waste recycling facility consisting of costs to remodel a building, a conveyor and baler, drop boxes, storage containers and recycling process equipment.
TC 4224	Stanley Goffena	An Air Quality (field burning) facility consisting of a John Deere round baler for baling grass seed straw.

[†]A large print copy of this report is available upon request.

Application Number	Applicant	Description
TC 4225	Flanagan Farms, Inc.	An Air Quality (field burning) facility consisting of a Big "G" 18' offset disk, a John Deere 2810 plow and a John Deere 8650 tractor.
TC 4227	Hays Oil Company	A Water Pollution Control (UST) facility consisting of galvanic cathodic protection for three steel tanks, fiberglass piping, spill containment basins, a tank gauge system, an overfill alarm, line leak detectors, monitoring wells, automatic shutoff valves and Stage I and II vapor recovery piping.
TC 4228	Hays Oil Company	A Water Pollution Control (UST) facility consisting of three fiberglass coated steel doublewall tanks, flexible doublewall piping, spill containment basins, a tank gauge system with overfill alarm, line leak detectors, and Stage I and II vapor recovery piping.

Tax Credit Application Review Reports With Facility Costs Over \$250,000 (Accountant Review Reports Attached):

Application Number	Applicant	Description
TC 4208	Kinzua Corporation	An Air Quality facility consisting of one PPC Industries electrostatic precipitator (ESP).

Background

On January 7, 1994, the Kinzua Corporation applied for certification of tax credit relief for a facility located in Heppner, Oregon. The facility was completed and placed in operation on June 25, 1992, and has continued to function satisfactorily. Recently, an investment group, Pioneer Resources, purchased the assets of the Kinzua Corporation at the Heppner site. Pioneer Resources has reorganized as a Limited Liability Corporation (LLC) under Oregon law and is now doing business as Kinzua Resources, LLC. Because Kinzua Corporation applied for and is entitled to tax relief for at least a portion of the 1994 tax year, the Department is requesting approval of the credit on behalf of the original applicant. However, Kinzua Resources, LLC, has requested that the value of the credit be transferred to the new owners and has provided a formal request to that effect signed by both parties. The firm also indicates that they intend to continue to operate the Heppner facility. To safeguard the rights of all parties involved and to expedite the processing of these requests, the Department recommends approval of both the request for certification and the request for the transfer of the approved tax credit.

On June 30, 1992, an Oregon general partnership was formed that transferred the assets of Pride of Oregon Stations, Inc., the Harris Oil Company and Metrofueling, Inc. to the general partner, the Truax Harris Energy Company. The Truax Harris Energy Company requests the transfer the remaining value of 77 tax credits that were granted and are currently available to the firms that formed the partnership. A letter from the Truax Harris Energy Company is included in this report as is a list of tax credits to be transferred. The partnership also provided a copy of the bills of sale between the constituent firms and the general partnership, which can be provided to the Commission upon request.

Authority to Address the Issue

ORS 468.150 through 468.190 and OAR 340-16-005 through 340-16-050 (Pollution Control Facilities Tax Credit).

ORS 468.925 through 468.965 and OAR 340-17-010 through 340-17-055 (Reclaimed Plastic Product Tax Credit).

Alternatives and Evaluation

None.

Summary of Any Prior Public Input Opportunity

The Department does not solicit public comment on individual tax credit applications during the staff application review process. Opportunity for public comment exists during the Commission meeting when the applications are considered for action.

Conclusions

- o The recommendations for action on the attached applications are consistent with statutory provisions and administrative rules related to the pollution control facilities and reclaimed plastic product tax credit programs.

o Proposed June 3, 1994 Pollution Control Tax Credit Totals:

<u>Certificates</u>	<u>Certified Costs*</u>	<u>Certified Allocable Costs**</u>	<u>No.</u>
Air Quality	\$ 862,560	\$ 862,560	1
CFC	0	0	0
Field Burning	116,200	74,536	2
Hazardous Waste	0	0	0
Noise	0	0	0
Plastics	125,000	125,000	2
SW - Recycling	215,856	215,856	1
SW - Landfill	0	0	0
Water Quality	156,603	156,603	2
UST	<u>129,051</u>	<u>117,471</u>	<u>2</u>
TOTALS	\$1,605,270	\$1,552,026	10

o Calendar Year Totals Through April 22, 1994:

<u>Certificates</u>	<u>Certified Costs*</u>	<u>Certified Allocable Costs**</u>	<u>No.</u>
Air Quality	\$ 1,758,000	\$ 1,758,000	5
CFC	\$ 17,760	\$ 15,644	7
Field Burning	\$ 1,147,295	\$ 406,500	4
Hazardous Waste	0	0	0
Noise	0	0	0
Plastics	\$ 237,777	\$ 237,777	8
SW - Recycling	\$ 221,116	\$ 221,116	2
SW - Landfill	\$ 0	0	0
Water Quality	\$ 207,973	\$ 207,973	2
UST	<u>\$ 1,082,479</u>	<u>\$ 961,194</u>	<u>12</u>
TOTALS	\$ 4,672,400	\$ 3,808,204	40

*These amounts represent the total eligible facility costs that have been, or are recommended to be, certified.

**These amounts represent the total eligible facility costs that are allocable to pollution control. To calculate the total dollar value that can be applied as credit, the certified allocable cost is multiplied by 50 percent.

Recommendation for Commission Action

It is recommended that the Commission approve certification for the tax credit applications as presented in Attachment A of the Department Staff Report. The Department also recommends approval of the transfer of the remaining value of 77 tax credit certificates from the original recipients to the general partnership formed by the firms, the Truax Harris Energy Company, and the transfer of tax credit 4208, for which approval is requested in this report, from the Kinzua Corporation to Kinzua Resources, LLC.

Intended Followup Actions

Notify applicants of Environmental Quality Commission actions.

Attachments

- A. Pollution Control Tax Credit Application Review Reports.
- B. Request for transfer of Pollution Control Facility Certificates.

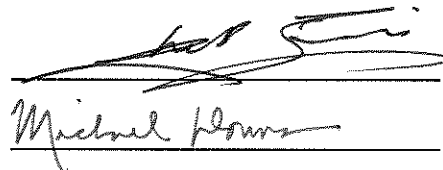
Reference Documents (available upon request)

- 1. ORS 468.150 through 468.190.
- 2. OAR 340-16-005 through 340-16-050.
- 3. ORS 468.925 through 468.965.
- 4. OAR 340-17-010 through 340-17-055.

Approved:

Section:

Division:



Report Prepared By: Charles Bianchi

Phone: 229-6149

Date Prepared: May 13, 1994

Application No. TC-4107

State of Oregon
Department of Environmental Quality

RECLAIMED PLASTIC TAX CREDIT
TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Vahan M. Dinihanian
Dinihanian Recycling and Manufacturing
15005 N. W. Cornell Rd.
Beaverton, Oregon 97006

The applicant has purchased a Nissei injection molding machine to be used to manufacture reclaimed plastic wreath frames for the nursery and florist industry.

Application was made for Reclaimed Plastic Tax Credit.

2. Description of Equipment, Machinery or Personal Property

Claimed Investment Cost: \$110,000 consisting of:

A 200 ton injection molding machine Nissei #FS180S36ASE2 Model. This machine mold will be used exclusively to manufacture a reclaimed plastic product from plastic regrind supplied by an Oregon reclaimed plastic dealer.

An invoice was provided.

3. Procedural Requirements

The investment is governed by ORS 468.925 through 468.965, and by OAR Chapter 340, Division 17.

The investment met all statutory deadlines in that:

- a. The request for preliminary certification was received on July 6, 1993. The preliminary application was filed complete on July 13, 1993.
- b. The request for preliminary certification was approved on July 13, 1993, before the application for final certification was made.
- c. The investment was made on February 8, 1994, prior to June 30, 1995.

- d. The request for final certification was submitted on March 14, 1994 and was filed complete on April 6, 1994.

4. Evaluation of Application

- a. The investment is eligible because the equipment is necessary to process reclaimed plastic.
- b. Allocable Cost Findings

In determining the portion of the investment costs properly allocable to reclaiming and recycling plastic material, the following factors from ORS 468.960 have been considered and analyzed as indicated:

- 1) The extent to which the claimed collection, transportation, processing or manufacturing process is used to convert reclaimed plastic into a salable or usable commodity.

This factor is applicable because the sole purpose of this mold is to manufacture a reclaimed plastic product. The waste plastic used to manufacture this product is generated by persons other than the applicant.

- 2) The alternative methods, equipment and costs for achieving the same objective.

The applicant investigated other alternatives and determined that no other type of equipment can be used for making this item on an injection molding machine.

- 3) Any other factors which are relevant in establishing the portion of the actual cost of the investment properly allocable to the collection, transportation or processing of reclaimed plastic or to the manufacture of a reclaimed plastic product.

There are no other factors to consider in establishing the actual cost of the investment properly allocable to reclaiming and recycling plastic material.

The actual cost of the investment properly allocable to

processing reclaimed plastic as determined by using these factors is 100%.

5. Summation

- a. The investment was made in accordance with all regulatory deadlines.
- b. The investment is eligible for final tax credit certification in that the equipment is necessary to manufacture a reclaimed plastic product.
- c. The qualifying business complies with DEQ statutes and rules.
- d. The portion of the investment cost that is properly allocable to reclaiming and recycling plastic is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Reclaimed Plastic Tax Credit Certificate bearing the cost of \$110,000 with 100% allocated to reclaiming plastic material, be issued for the investment claimed in Tax Credit Application No. TC-4107.

WRB:wrb
wp51\tax\tc4107rr.sta
(503) 229-5934
May 3, 1994

Application No.T-4122

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Oregon Metallurgical Corporation
P.O. Box 580
Albany, OR 97321

The applicant owns and operates a titanium manufacturing facility in Albany, OR.

Application was made for tax credit for a water pollution control facility.

2. Description of Facility

The water pollution control facility for which tax credit has been applied consists of two caustic storage tanks, one neutralizing tank, concrete foundation, instrumentation, and miscellaneous piping.

Claimed Facility Cost: \$115,686.42
(Accountant's Certification was provided).

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190 and by OAR Chapter 340, Division 16.

The applicant was granted a six month extension to file a completed application by the Commission on April 23, 1993. The facility met the statutory deadline in that construction of the facility was substantially completed on February 1, 1991 and the application for certification was found to be complete on August 1, 1993, within 2.5 years of substantial completion of the facility.

4. Evaluation of Application

- a. The facility is eligible because the sole purpose of the facility is to prevent a substantial quantity of water pollution. This prevention is accomplished by the use of treatment works for industrial waste as defined in ORS 468B.005.

Changes were made to the air scrubber system resulting in a change in the

wastewater from the scrubbers that flow to the facility wastewater treatment system. The changes were required for the facility to meet the requirements of National Pollutant Discharge Elimination System permit No. 100763.

b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

- 1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The facility does not recover or convert waste products into a salable or usable commodity. The facility is used to adjust the pH of the wastewater.

- 2) The estimated annual percent return on the investment in the facility.

There is no return on investment for this facility.

- 3) The alternative methods, equipment and costs for achieving the same pollution control objective.

There are no known alternatives and the selected facility was known to be successful for the type of treatment desired.

- 4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

There are no savings from the facility. The cost of maintaining and operating the facility is \$6,279 annually.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control or reduction of pollution.

5. Summation

- a. The facility was constructed in accordance with all regulatory deadlines.

- b. The facility is eligible for tax credit certification in that the sole purpose of the facility is to prevent a substantial quantity of water pollution and accomplishes this purpose by the redesign to eliminate industrial waste as defined in ORS 468.700.
- c. The facility complies with DEQ statutes and rules and permit conditions.
- d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$115,686 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-4122.

Timothy McFetridge:(TYPIST INITIALS)
(503) 378-8240
May 4, 1994

State of Oregon
Department of Environmental Quality

RECLAIMED PLASTIC TAX CREDIT
TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

James M. Sapp
Planned Marketing Solutions, Inc.
One S.W. Centerpointe Dr., Suite 500
Lake Oswego, OR 97035

The applicant is a marketing company which has designed and markets a plastic pan, part of a Christmas tree stand. The pan is made from reclaimed plastic and is manufactured by a contractor using the applicant's mold.

Application was made for Reclaimed Plastic Tax Credit.

2. Description of Equipment, Machinery or Personal Property

Claimed Investment Cost: \$15,000 consisting of:

An aluminum injection mold for manufacture of a Christmas tree stand pan. This machine mold will be used exclusively to manufacture a reclaimed plastic product from plastic regrind supplied by an Oregon reclaimed plastic dealer.

An invoice was provided.

3. Procedural Requirements

The investment is governed by ORS 468.925 through 468.965, and by OAR Chapter 340, Division 17.

The investment met all statutory deadlines in that:

- a. The request for preliminary certification was received on September 7, 1993. The preliminary application was filed complete and preliminary certification was approved on September 8, 1993, before the application for final certification was made.
- c. The investment was made on October 27, 1993, prior to June 30, 1995.
- d. The request for final certification was submitted on April 7, 1994 and was filed complete on April 8, 1994.

4. Evaluation of Application

- a. The investment is eligible because the equipment is necessary to process reclaimed plastic.
- b. Allocable Cost Findings

In determining the portion of the investment costs properly allocable to reclaiming and recycling plastic material, the following factors from ORS 468.960 have been considered and analyzed as indicated:

- 1) The extent to which the claimed collection, transportation, processing or manufacturing process is used to convert reclaimed plastic into a salable or usable commodity.

This factor is applicable because the sole purpose of this mold is to manufacture a reclaimed plastic product. The waste plastic used to manufacture this product is generated by persons other than the applicant.

- 2) The alternative methods, equipment and costs for achieving the same objective.

The applicant investigated other alternatives and determined that no other type of equipment can be used for making this item on an injection molding machine.

- 3) Any other factors which are relevant in establishing the portion of the actual cost of the investment properly allocable to the collection, transportation or processing of reclaimed plastic or to the manufacture of a reclaimed plastic product.

There are no other factors to consider in establishing the actual cost of the investment properly allocable to reclaiming and recycling plastic material.

The actual cost of the investment properly allocable to processing reclaimed plastic as determined by using these factors is 100%.

5. Summation

- a. The investment was made in accordance with all regulatory deadlines.
- b. The investment is eligible for final tax credit certification in that the equipment is necessary to manufacture a reclaimed plastic product.
- c. The qualifying business complies with DEQ statutes and rules.
- d. The portion of the investment cost that is properly allocable to reclaiming and recycling plastic is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Reclaimed Plastic Tax Credit Certificate bearing the cost of \$15,000 with 100% allocated to reclaiming plastic material, be issued for the investment claimed in Tax Credit Application No. TC-4137.

WRB:wrb
wp51\tax\tc4137rr.sta
(503) 229-5934
May 3, 1994

State of Oregon
Department of Environmental Quality
TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

William H. Burrell, Jr.
3618 Dogwood S.E.
Salem, OR 97302

The applicant owns and operates an automobile repair shop in Salem, Oregon.

Application was made for tax credit for a water pollution control facility.

2. Description of Facility

The claimed facility is a covered steam pit for steam cleaning engines, equipment and miscellaneous parts. It consists of a building, a sump, an oil/water separator and necessary plumbing to tie into the city sanitary sewer.

Claimed Facility Cost: \$40,917
(Accountant's Certification was provided).

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190 and by OAR Chapter 340, Division 16.

The facility met statutory deadline in that construction of the facility was substantially completed in April, 1993 and the application for certification was found to be complete on January 11, 1994, within 2 years of substantial completion of the facility.

4. Evaluation of Application

- a. The facility is eligible because the principal purpose of the facility is to comply with a requirement imposed by the City of Salem to reduce a substantial quantity of water pollution. This reduction is accomplished by the use of works for industrial waste as defined in ORS 468B.005

The City of Salem is required to administer a pretreatment program as a condition of its National Pollutant Discharge Elimination System (NPDES) permit issued by the Department. The NPDES permit program was established to achieve goals outlined in the federal Clean Water Act (CWA). Two primary goals of the CWA were to eliminate the discharge of pollutants by 1985 and achieve interim water quality level that would protect fish, shellfish and wildlife and to provide recreation in and on the water wherever attainable. The City of Salem pretreatment program as required in the NPDES permit has been approved by the Department.

Wastewater generated from steam cleaning operations is discharged into a drain pit and then through two oil/water separators connected in series, and into the sanitary sewer. The discharge complies with the pretreatment requirements of the City of Salem.

The recycled solids and oil are picked up by an independent oil recycler.

b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

- 1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The facility does not recover or convert waste products into a salable or usable commodity.

- 2) The estimated annual percent return on the investment in the facility.

There is no revenue generated from the facility, therefore, no return on the investment.

- 3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant has not identified, and is not aware of alternative methods for achieving the same objective. It is the Department's determination that the proposed facility is an acceptable method for achieving the pollution control objective.

- 4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

There are no savings or increase in costs as a result of the facility modification.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water or noise pollution or solid or hazardous waste or to recycling or properly disposing of used oil.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control or reduction of pollution.

The actual cost of the facility properly allocable to pollution control as determined by using these factors is 100%.

5. Summation

- a. The facility was constructed in accordance with all regulatory deadlines.
- b. The facility is eligible for tax credit certification in that the principal purpose of the facility is to comply with a requirement imposed by the City of Salem to reduce a substantial amount of water pollution. This reduction is accomplished by the use of treatment works for industrial waste as defined in ORS 468B.005.
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$40,917 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. T-4159.

WJP:crw
MW\WC12\WC12441.5
(503) 378-8240
January 11, 1994

STATE OF OREGON
Department of Environmental Quality
TAX RELIEF APPLICATION REVIEW REPORT

1. **Applicant**

Pendleton Sanitary Service, Inc.
Route 1, Box 1164
Hermiston, Oregon 97838

The applicant owns and operates a solid waste collection and disposal service in Pendleton, Oregon. Application was made for tax credit for a solid waste pollution control facility.

2. **Description of Facility**

The facility is recycling depot and processing center for recyclable material collected from the residential and commercial customers. The facility consists of the following:

- 1) A remodeled building located at 1816 S.W. Byers, Pendleton, OR.;
- 2) A Marathon 30 HP baler, Serial # 62900, and Krause 48' X 60" conveyor, serial # 93KRACONV00472R;
- 3) Five drop boxes and 42 containers for material collection, handling and storage; and,
- 4) Caterpillar fork lift, Serial # 03EC06784.

Claimed facility cost include

1) Building remodeling	\$ 58,573
2) Conveyor and baler	\$ 108,342
3) Drop boxes and storage containers	\$ 35,441
4) Recycling processing equipment	\$ 13,500
Total claimed facility cost	\$ 215,856

An Independent accountant certification of costs was provided.

3. **Procedural Requirements**

The facility is governed by ORS 468.150 through 468.190 and by OAR Chapter 340, Division 16.

The facility met all statutory deadlines in that:

- a. Installation of the facility was started on April 2, 1993.
- b. The facility was placed into operation on September 1, 1993.
- c. The application for tax credit was submitted to the Department on December 3, 1993, within two years of substantial completion of the facility.
- d. The application was found to be technically complete and was filed on April 13, 1994.

4. Evaluation of Application

- a. The facility is eligible because the sole purpose of the claimed facility is to reduce a substantial quantity of solid waste through recycling.
- b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

- 1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

This factor is applicable because the facility is used exclusively to process recyclable materials.

The percent allocable by using this factor would be 100%.

- 2) The estimated annual percent return on the investment in the facility.

The annual percentage return on investment was calculated using income and costs related directly to the processing center. There are direct expenses to operate and maintain the processing center. There is also income from the sale of processed recyclable materials. These figures produce a very small average annual cash flow for this facility and the applicant operates this facility in order to comply with state and local government requirements to provide the "opportunity to recycle" to their solid waste service customers. The cash flow results in a return on investment factor of 261. As a result of using Table 1, OAR 340-16-030, the return on investment for the claimed facility is 0% and the percent allocable is 100%.

- 3) The alternative methods, equipment, and costs for achieving the same pollution control objective.

The applicant considered other methods for processing recyclable materials and determined that this method was environmentally acceptable and economically feasible. It is the Department's determination that the proposed facility is an acceptable method of achieving the material recovery objective.

- 4) Any related savings or decrease in costs which occur or may occur as a result of the installation of the facility.

There are no savings, other than those considered in (2) above, associated with the purchase or use of this facility.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air, water, or noise pollution or solid or hazardous waste, or to recycle or properly dispose of used oil.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to material recovery from solid waste.

The actual cost of the facility properly allocable to pollution control as determined by using these factors is 100%.

5. Summation

- a. The facility was constructed in accordance with all regulatory deadlines.
- b. The facility is eligible for tax credit certification in that the sole purpose of the facility is to reduce a substantial quantity of solid waste through recycling.
- c. The facility complies with DEQ statutes and permit conditions.
- d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon the findings, it is recommended that a Pollution Control Facility certificate bearing the cost of \$215,856 with 100% allocable to pollution control be issued for the facility claimed in Tax Credit Application No. T-4195.

State of Oregon
Department of Agriculture

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Stanley Goffena
22775 SW Broadmead Road
Amity, Oregon 97101

The applicant owns and operates a grass seed farm operation in Yamhill County, Oregon.

Application was made for tax credit for air pollution control equipment.

2. Description of Claimed Facility

The equipment described in this application is a John Deere round baler 535, located at 22775 SW Broadmead Road, Amity, Oregon. The equipment is owned by the applicant.

Claimed equipment cost: \$17,000
(The applicant provided copies of the cancelled check.)

3. Description of farm operation plan to reduce open field burning

The applicant has 1,475 acres of perennial grass seed under cultivation. Prior to initiating alternatives to thermal sanitation the applicant open field burned as many acres as the smoke management program and weather permitted.

The most favored alternative selected by the applicant is to trade the straw to a custom baler for the removal of the straw. However, the custom baler failed to remove the straw in a timely manner at times and would not remove rain damaged straw at all.

To ensure that straw was removed from all designated fields, the applicant purchased the round baler. On acreage that the custom baler fails to remove the straw the applicant performs the baling and stack burns the straw field side.

4. Procedural Requirements

The equipment is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16. The equipment has met all statutory deadlines in that:

Purchase of the equipment was substantially completed on August 1, 1992. The application was submitted on March 21, 1994 and the application for final certification was found to be complete on

March 31, 1994. The application was submitted within two years of substantial purchase of the equipment.

5. Evaluation of Application

- a. The equipment is eligible under ORS 468.150 because the equipment is an approved alternative method for field sanitation and straw utilization and disposal that reduces a substantial quantity of air pollution. This reduction is accomplished by reduction of air contaminants, defined in ORS 468A.005; by reducing the maximum acreage to be open burned in the Willamette Valley as required in OAR 340-26-013; and, the facility's qualification as a "pollution control facility", defined in OAR 340-16-025(2)(f)(A): "Equipment, facilities, and land for gathering, densifying, processing, handling, storing, transporting and incorporating grass straw or straw based products which will result in reduction of open field burning."

b. Eligible Cost Findings

In determining the percent of the pollution control equipment cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1. The extent to which the equipment is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2. The estimated annual percent return on the investment in the equipment.

There is no annual percent return on the investment as applicant claims no gross annual income.

3. The alternative methods, equipment and costs for achieving the same pollution control objective.

The method chosen is an accepted method for reduction of air pollution. The method is one of the least costly, most effective methods of reducing air pollution.

4. Any related savings or increase in costs which occur or may occur as a result of the purchase of the equipment.

There is an increase in operating costs of \$2,350 to annually maintain and operate the equipment. These costs were considered in the return on investment calculation.

5. Any other factors which are relevant in establishing the portion of the actual cost of the equipment properly allocable to the prevention, control or reduction of air pollution.

There are no other factors to consider in establishing the actual cost of the equipment properly allocable to prevention, control or reduction of air pollution.

The actual cost of the equipment properly allocable to pollution control as determined by using these factors is 100%.

6. Summation

- a. The equipment was purchased in accordance with all regulatory deadlines.
- b. The equipment is eligible under ORS 468.150 as an approved alternative method for field sanitation and straw utilization and disposal that reduces a substantial quantity of air pollution as defined in ORS 468A.005.
- c. The equipment complies with DEQ statutes and rules.
- d. The portion of the equipment that is properly allocable to pollution control is 100%.

7. The Department of Agriculture's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$17,000, with 100% allocated to pollution control, be issued for the equipment claimed in Tax Credit Application Number TC-4224.

Jim Britton, Manager
Smoke Management Program
Natural Resources Division
Oregon Department of Agriculture
(503) 378-6792

jb:bm4224
March 31, 1994

State of Oregon
Department of Agriculture

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Flanagan Farms, Inc.
PO Box 305
Junction City, Oregon 97448

The applicant owns and operates a grass seed farm operation in Lane County, Oregon.

Application was made for tax credit for air pollution control equipment.

2. Description of Claimed Facility

The equipment described in this application is located at 29459 Meadowview Road, Junction City, Oregon. The equipment is owned by the applicant.

Big "G" 18' offset Disk	\$13,200
John Deere 2810 Plow	11,000
John Deere 8650 Tractor	75,000

Claimed equipment cost: \$99,200
(Accountant's Certification was provided.)

3. Description of farm operation plan to reduce open field burning

The applicant has 1,200 perennial grass seed acres and 800 annual grass seed acres under cultivation. Prior to establishing alternatives to open field burning the applicant used thermal sanitation on perennial acreage for straw removal and sanitization and on annual acreage prior to no-till drilling.

The absence of thermal stimulation has placed perennial fields on a shorter rotation requiring new crop establishment more often. Annual fields' full straw load are being chopped and plowed under on a yearly basis.

The offset disk is used to accommodate the increased perennial acreage prepared for new crop establishment. The high clearance plow was required to handle the full straw load turn under. The 275 hp tractor was required to power the offset disk and high clearance plow.

4. Procedural Requirements

The equipment is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16. The equipment has met all statutory deadlines in that:

Purchase of the equipment was substantially completed on August 25, 1993. The application was submitted on March 18, 1994 and the application for final certification was found to be complete on March 31, 1994. The application was submitted within two years of substantial purchase of the equipment.

5. Evaluation of Application

a. The equipment is eligible under ORS 468.150 because the equipment is an approved alternative method for field sanitation and straw utilization and disposal that reduces a substantial quantity of air pollution. This reduction is accomplished by reduction of air contaminants, defined in ORS 468A.005; by reducing the maximum acreage to be open burned in the Willamette Valley as required in OAR 340-26-013; and, the facility's qualification as a "pollution control facility", defined in OAR 340-16-025(2)(f)(A): "Equipment, facilities, and land for gathering, densifying, processing, handling, storing, transporting and incorporating grass straw or straw based products which will result in reduction of open field burning."

b. Eligible Cost Findings

In determining the percent of the pollution control equipment cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

1. The extent to which the equipment is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

2. The estimated annual percent return on the investment in the equipment.

There is no annual percent return on the investment as applicant claims no gross annual income.

3. The alternative methods, equipment and costs for achieving the same pollution control objective.

The method chosen is an accepted method for reduction of air pollution. The method is one of the least costly, most effective methods of reducing air pollution.

4. Any related savings or increase in costs which occur or may occur as a result of the purchase of the equipment.

The established average annual operating hours for tractors is set at 450 hours. To obtain a total percent allocable, the annual operating hours per implement used in reducing acreage open field burned is as follows:

<u>Implement</u>	<u>Acres worked</u>	<u>Machinery capacity</u>	<u>Annual operating hours</u>
Cover crop disk (250X2)	500	8	63
Moldboard plow	1100	8	<u>138</u>
Total Annual Operating Hours			201

The total annual operating hours of 201 divided by the average annual operating hours of 450 produces a percent allocable of 45%.

<u>Equipment</u>	<u>Claimed Cost</u>	<u>Percent Allocable</u>	<u>Cost Allocable</u>
Big "G" 18' offset disk	13,200	100%	13,200
John Deere 2810 Plow	11,000	100%	11,000
John Deere 8650 Tractor	<u>75,000</u>	<u>45%</u>	<u>33,750</u>
Total	99,200	58%	57,950

There is an increase in operating costs of \$3,555 to annually maintain and operate the equipment. These costs were considered in the return on investment calculation.

5. Any other factors which are relevant in establishing the portion of the actual cost of the equipment properly allocable to the prevention, control or reduction of air pollution.

There are no other factors to consider in establishing the actual cost of the equipment properly allocable to prevention, control or reduction of air pollution.

The actual cost of the equipment properly allocable to pollution control as determined by using these factors is 58%.

6. Summation

- a. The equipment was purchased in accordance with all regulatory deadlines.
- b. The equipment is eligible under ORS 468.150 as an approved alternative method for field sanitation and straw utilization and disposal that reduces a substantial quantity of air pollution as defined in ORS 468A.005.
- c. The equipment complies with DEQ statutes and rules.
- d. The portion of the equipment that is properly allocable to pollution control is 58%.

7. The Department of Agriculture's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$99,200, with 58% allocated to pollution control, be issued for the equipment claimed in Tax Credit Application Number TC-4225.

Jim Britton, Manager
Smoke Management Program
Natural Resources Division
Oregon Department of Agriculture
(503) 378-6792

jb:bm4225
March 31, 1994

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Hays Oil Company
P. O. Box 1220
Medford, OR 97501

The applicant owns and operates a retail gas station at 60 Shamrock Lane, Ashland, OR, Facility No. 4053.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks. The application also included related air quality Stage I vapor recovery and Stage II vapor recovery piping.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are galvanic cathodic protection on three steel tanks, fiberglass piping, spill containment basins, tank gauge system, overfill alarm, line leak detectors, monitoring wells, automatic shutoff valves and Stage I and II vapor recovery piping.

Claimed facility cost \$32,683
(Accountant's certification was provided)

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on August 4, 1992 and placed into operation on August 4, 1992. The application for certification was submitted to the Department on March 25, 1994 and was considered to be complete and filed on May 6, 1994, within two years of the completion date of the project.

4. Evaluation of Application

- a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

Prior to the installation of pollution control, the facility consisted of three steel tanks and piping with no corrosion protection and no spill and overfill prevention or leak detection equipment.

To respond to Air Quality regulations under OAR 340-22-400 - 403 and Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

- 1) For corrosion protection - Galvanic cathodic protection and fiberglass piping.
- 2) For spill and overfill prevention - Spill containment basins, overfill alarm and automatic shutoff valves..
- 3) For leak detection - Tank gauge system, monitoring wells and line leak detectors.
- 4) For VOC reduction - Stage I and II vapor recovery piping.

Contamination found at the site was reported to DEQ. Cleanup is in progress.

Based on information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

The Department concludes that the costs claimed by the applicant (\$32,683) are eligible pursuant to the definition of a pollution control facility in ORS 468.155.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

- 1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

- 2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

- 3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant did not indicate that any alternatives were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

- 4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
	-----	-----	-----
<u>Corrosion Protection:</u>			
Cathodic protection	\$ 931	100	\$ 931
Fiberglass piping	829	39% (1)	323
<u>Spill & Overfill Prevention:</u>			
Spill containment basins	270	100	270
Overfill Alarm	232	100	232
Automatic Shutoff Valves	132	100	132
<u>Leak Detection:</u>			
Tank gauge w/alarm	5,630	90 (2)	5,067
Line leak detectors	293	100	293
Labor & materials (incl. monitoring wells and stage I & II vapor recovery piping)	24,366	100	24,366
	-----	-----	-----
Total	\$ 32,683	97%	\$ 31,614

- (1) The Department has determined the percent allocable on the cost of a corrosion protected piping system by using a formula based on the difference in cost between the protected piping system and an equivalent bare steel system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the protected system cost is \$829 and the bare steel system is \$508, the resulting portion of the eligible piping cost allocable to pollution control is 39%.
- (2) The applicant's cost for a tank gauge system is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, for example, inventory control.

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 97%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$32,683 with 97% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4227.

Barbara J. Anderson
(503) 229-5870
May 9, 1994

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Hays Oil Company
P. O. Box 1220
Medford, OR 97501

The applicant owns and operates a retail gas station at 5746 Crater Lake Ave., Central Point, OR, Facility No. 7051.

Application was made for a tax credit for a water pollution control facility involving underground storage tanks. The application also included related air quality Stage I vapor recovery and Stage II vapor recovery piping.

2. Description of Claimed Facility

The claimed pollution control facilities described in this application are three fiberglass coated steel doublewall tanks and flexible doublewall piping, spill containment basins, tank gauge system with overflow alarm, line leak detectors and Stage I and II vapor recovery piping.

Claimed facility cost \$96,368
(Accountant's certification was provided)

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility was substantially completed on June 1, 1993 and placed into operation on June 1, 1993. The application for certification was submitted to the Department on March 25, 1994 and was considered to be complete and filed on May 6, 1994, within two years of the completion date of the project.

4. Evaluation of Application

- a. The facility is eligible because the principal purpose of the facility is to comply with underground storage tank requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases into soil, water or air. The facility qualifies as a "pollution control facility", defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."

Prior to the installation of pollution control, the facility consisted of three steel tanks and piping with no corrosion protection and no spill and overfill prevention or leak detection equipment.

To respond to Air Quality regulations under OAR 340-22-400 - 403 and Underground Storage Tank requirements under OAR 340-Division 150, the applicant installed:

- 1) For corrosion protection - Doublewall fiberglass coated steel tanks and flexible piping.
- 2) For spill and overfill prevention - Spill containment basins and overfill alarm.
- 3) For leak detection - Tank gauge system and line leak detectors.
- 4) For VOC reduction - Stage I and II vapor recovery piping.

Contamination found at the site was reported to DEQ. Cleanup is in progress.

Based on information currently available, the applicant is in compliance with all applicable DEQ regulations in that these tanks are permitted and fee payments are current.

The Department concludes that the costs claimed by the applicant (\$96,368) are eligible pursuant to the definition of a pollution control facility in ORS 468.155.

b. Eligible Cost Findings

In determining the percent of the eligible pollution control facility cost allocable to pollution control, the following factors from ORS 468.190 have been considered and analyzed as indicated:

- 1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The equipment does not recover or convert waste products into a salable or usable commodity.

- 2) The estimated annual percent return on the investment in the facility.

There is no annual percent return on investment as the applicant claims no gross annual income from the facility.

- 3) The alternative methods, equipment and costs for achieving the same pollution control objective.

The applicant did not indicate that any alternatives were considered. The methods chosen are acceptable for meeting the requirements of federal regulations.

- 4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

The applicant claims no savings or increase in costs as a result of the installation.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to pollution control.

There are no other factors to consider in establishing the actual cost of the facility properly allocable to prevention, control of reduction of pollution.

The actual cost of the facility properly allocable to pollution control is determined by using these factors as displayed in the following table:

	Eligible Facility Cost	Percent Allocable	Amount Allocable
	_____	_____	_____
<u>Corrosion Protection:</u>			
Doublewall fiberglass/steel tanks and doublewall flexible piping	\$22,271	54% (1)	\$12,026
<u>Spill & Overfill Prevention:</u>			
Spill containment basins	570	100	570
<u>Leak Detection:</u>			
Tank gauge w/alarm	7,831	90 (2)	7,048
Line leak detectors	841	100	841
Labor & materials (incl. stage I & II vapor recovery piping	64,855	100	64,855
	_____	_____	_____
Total	\$ 96,368	89%	\$ 85,340

- (1) The Department has determined the percent allocable on the cost of a corrosion protected tank and piping system by using a formula based on the difference in cost between the protected tank and piping system and an equivalent bare steel system as a percent of the protected system. Applying this formula to the costs presented by the applicant, where the protected system cost is \$22,271 and the bare steel system is \$10,240, the resulting portion of the eligible tank and piping cost allocable to pollution control is 54%.
- (2) The applicant's cost for a tank gauge system is reduced to 90% of cost based on a determination by the Department that this is the portion properly allocable to pollution control since the device can serve other purposes, for example, inventory control.

5. Summation

- a. The facility was constructed in accordance with all regulatory requirements.
- b. The facility is eligible for tax credit certification in that the principal purpose of the claimed facility is to comply with requirements imposed by the federal Environmental Protection Agency to prevent pollution of soil, water and air. This is accomplished by preventing releases in soil, water or air. The facility qualifies as a "pollution control facility" defined in OAR 340-16-025(2)(g): "Installation or construction of facilities which will be used to detect, deter or prevent spills or unauthorized releases."
- c. The facility complies with DEQ statutes and rules.
- d. The portion of the facility cost that is properly allocable to pollution control is 89%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$96,368 with 89% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4228.

Barbara J. Anderson
(503) 229-5870
May 9, 1994

State of Oregon
Department of Environmental Quality

TAX RELIEF APPLICATION REVIEW REPORT

1. Applicant

Kinzua Corporation
Heppner Generating
Route 2, Box 2100
Heppner, Oregon 97836

The applicant owns and operates a saw mill/ planer mill in Heppner, Oregon.

Application was made for tax credit for an air pollution control facility.

2. Description of Facility

The facility controls the emission of particulate from the applicant's wood fired boiler. The facility consists of one dry electrostatic precipitator (ESP) model 20R-1330-3712, manufactured and installed by PPC Industries of Texas.

Claimed Facility Cost: \$899,502.00

A distinct portion of the claimed facility makes an insignificant contribution to the principal purpose of pollution control. The applicant claimed \$2,370.00 for ash handling components used to collect and move waste collected by the ESP. The applicant also claimed \$34,571.66 for costs not attributable to the installation of the pollution control device.

Total Ineligible Costs: \$36,941.66

Adjusted facility cost: \$862,560.34

The applicant indicated the useful life of the facility is 20 years.

Accountant's Certification was provided.

3. Procedural Requirements

The facility is governed by ORS 468.150 through 468.190, and by OAR Chapter 340, Division 16.

The facility met all statutory deadlines in that:

Installation of the facility was substantially completed on June 25, 1992, and placed into operation on June 25, 1992. The application for final certification was received by the Department on January 7, 1994. The application was found to be complete on March 21, 1994.

4. Evaluation of Application

a. Rationale For Eligibility

The facility is eligible because the principal purpose of the facility is to comply with a requirement imposed by the Department to control air pollution. This is in accordance with OAR Chapter 340, Division 25, Rule 553. The applicant's Air Contaminant Discharge Permit, 25-0020, Condition 3 and Addendum 2, requires the permittee to control the emission of particulate. The emission reduction is accomplished by the elimination of air contaminants as defined in ORS 468A.005.

The claimed facility consists of a dry electrostatic precipitator, Model 20R-1330-3712, manufactured by PPC Industries of Texas. Installation of the facility required a foundation, structural and electrical materials and labor. Department inspection records dated July 20, 1993 indicate that the facility is considered to be in compliance. The facility controls the atmospheric emission of particulate generated from a hogged fuel steam generating boiler. The boiler is a Deltak boiler with a maximum rating 120,000 pounds of steam per hour. The boiler, which was installed in 1985, is used for cogeneration of electricity at the applicant's Heppner sawmill.

The ESP removes airborne particulate from exhaust flue gases of the boiler by imparting an electrical charge to the particles which are then collected on internal and oppositely charged plates. The collected material is removed from the plates by

"rapping" the plates or bending them to loosen the residue. This residue then falls to a conveyor system which carries it to hoppers. The collected particulate is then sent off site for disposal at a landfill.

b. Eligible Cost Findings

In determining the percent of the pollution control facility cost allocable to controlling pollution, the following factors from ORS 468.190 have been considered and analyzed as indicated:

- 1) The extent to which the facility is used to recover and convert waste products into a salable or usable commodity.

The waste material recovered by the facility is not converted into a salable or usable commodity.

- 2) The estimated annual percent return on the investment in the facility.

The annual operating expenses exceed income from the facility, so there is no return on investment.

- 3) The alternative methods, equipment and costs for achieving the same pollution control objective.

Electrostatic precipitators are technically recognized as an appropriate method for controlling the emission of particulate to the atmosphere.

- 4) Any related savings or increase in costs which occur or may occur as a result of the installation of the facility.

There are no savings from the facility. The average cost of maintaining and operating the facility is \$28,462.00 annually.

- 5) Any other factors which are relevant in establishing the portion of the actual cost of the facility properly allocable to the prevention, control or reduction of air pollution.

The eligible facility costs have been determined to be \$862,560.34 after adjusting for distinct portions of the facility which do not have the principal purpose of pollution control. This is discussed in Section 2 of this report.

The Environmental Quality Commission has directed that tax credit applications at or above \$250,000 go through an additional Departmental accounting review, to determine if costs were properly allocated. This review was performed under contract with the Department by the accounting firm of Coopers & Lybrand (see attached report).

Other than the adjustments to the claimed facility cost made by the Department referenced in section 2, the cost allocation review of this application has identified no issues to be resolved and confirms the cost allocation as submitted in the application.

The actual cost of the facility properly allocable to pollution control as determined by using these factors is 100%.

5. Summation

- a. The facility was constructed in accordance with all regulatory deadlines.
- b. The facility is eligible for final tax credit certification in that the principal purpose of the facility is to comply with a requirement imposed by the Department to control air pollution.
- c. The facility complies with DEQ statutes, rules, and permit conditions.
- d. The portion of the facility cost that is properly allocable to pollution control is 100%.

6. Director's Recommendation

Based upon these findings, it is recommended that a Pollution Control Facility Certificate bearing the cost of \$862,560.00 with 100% allocated to pollution control, be issued for the facility claimed in Tax Credit Application No. TC-4208.

Robyn Neaville
SJO Consulting Engineers
LEGAL\AH73506
March 22, 1994

Oregon Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, Oregon 97204

At your request, we have performed certain agreed upon procedures with respect to Kinzua Corporation's (the Company) Pollution Tax Control Credit Application No. 4208 regarding the Dry Electrostatic Precipitator in Morrow County, Oregon (the Facility). The aggregate claimed Facility costs on the Application were \$899,502. The following agreed upon procedures and related findings are as follows:

1. We read the Application, the Oregon Revised Statutes on Pollution Control Facilities Tax Credits - Sections 469.150 -468.190 (the Statutes) and the Oregon Administrative Rules on Pollution Control Tax Credits - Sections 340-16-005 through 340-16-050 (OAR'S).
2. We discussed the Application and Statutes with Charles Bianchi and Brian Fields of the Oregon Department of Environmental Quality (DEQ).
3. We discussed the Application and Statutes with Dennis Cartier and Robyn Neaville of SJO Consulting Engineers.
4. We discussed the Application and Statutes with Frank Pearson, General Manager of the Company.
5. We inquired as to whether there were any direct or indirect Company costs charged to the Facility costs claimed in the Application. We were informed that \$1,535 of direct costs were included in the Application.

Based on our review of supporting documentation discussed in item no. 6 below, we noted that the direct costs charged to the Application appeared to be properly allowable.

6. We reviewed supporting documentation for 96% of the amount claimed on the Application through review of vendor invoices. All costs which we reviewed supporting the Application appeared to be from third party vendors.

7. We discussed with Frank Pearson, General Manager for the Company, the extent to which non-allowable costs were excluded from the Application. This was accomplished by reviewing specific contractor invoices (see item no. 6) with Mr. Pearson. We determined that the Company had not properly excluded from the Application \$36,942 of costs which were not directly related to the pollution control project. Accordingly, the Facility costs claimed on the Application should have been \$862,560 instead of \$899,502.

Because the above procedures do not constitute an audit conducted in accordance with generally accepted auditing standards, we do not express an opinion on any of the items referred to above. In connection with the procedures referred to above, no matters came to our attention that caused us to believe that the Application should be adjusted, except for the \$36,942 of costs noted in item no. 7 above. Had we performed additional procedures, or had we conducted an audit of the financial statements of the Company in accordance with generally accepted auditing standards, other matters might have come to our attention that would have been reported to you. This report relates only to the items specified above and does not extend to any financial statements of the Company taken as a whole.

This report is solely for the State of Oregon Department of Environmental Quality in the evaluating the Company's Pollution Control Tax Credit Application and should not be used for any other purpose.

Cogus & Lybrand

Portland, Oregon
April 29, 1994

701 SKINNER BUILDING
1328 FIFTH AVENUE
SEATTLE, WASHINGTON 98101

TELEPHONE (206) 624-6480
FAX (206) 624-5376

May 6, 1994

Mr. Charles Bianchi
State of Oregon
Department of Environmental Quality
811 S.W. Sixth Avenue
Portland OR 97204-1390

Re: Kinzua Corporation/Kinzua Resources L.L.C.

Dear Mr. Bianchi:

Frank Pearson, General Manager of Kinzua Resources L.L.C., requested that I send you this letter of acknowledgement regarding Department of Environmental Quality Pollution Tax Credits.

Kinzua Corporation sold its holdings to Kinzua Resources L.L.C. effective April 15, 1994. As part of the sale, Kinzua Corporation wishes to transfer all DEQ Pollution Tax Credits it has accrued to Kinzua Resources L.L.C. Signatures by the parties on the following page should serve as acknowledgment that both Kinzua Corporation and Kinzua Resources L.L.C. hereby authorize transfer of those tax credits.

Please let me know if you should have any questions or require further information.

Very truly yours,

KINZUA CORPORATION


Jim O'Donnell
President

HJO:sb

Mr. Charles Bianchi
May 6, 1994

Page 2

The undersigned, as agents for their respective companies, hereby authorize the transfer of all State of Oregon Department of Environmental Quality Pollution Tax Credits from Kinzua Corporation to Kinzua Resources L.L.C.

KINZUA RESOURCES L.L.C.

By: 

Mel McDougal
Partner

KINZUA CORPORATION

By: 

Jim O'Donnell
President



April 5, 1994

25115 S.W. Parkway
Post Office Box 607
Wilsonville, Oregon 97070-0607
Telephone (503) 682-3865
WATS: 1-800-367-3835
FAX: (503) 682-8726

Mr. Charles Bianchi
Water Quality Division
Department of Environmental Quality
811 SW 6th Avenue
Portland, OR 97204

RE: Transfer of Pollution Control Facility Tax Credits

Dear Mr. Bianchi:

On June 30, 1992, Truax Harris Energy Company, an Oregon partnership, was formed by Pride of Oregon Stations, Inc., Harris Oil Company and Metrofueling, Inc. Truax Harris Energy Company was organized to operate the three partners' petroleum distribution businesses.

At the formation of the partnership, the three partners transferred to the partnership all their petroleum distribution assets. These assets included the equipment which had been previously approved by the State of Oregon Environmental Quality Commission as Pollution Control Facilities and qualified for the related tax credits.

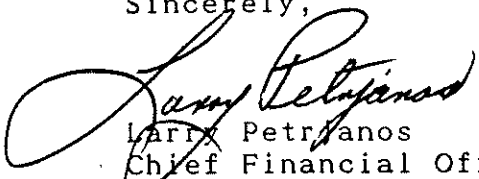
As required by Oregon Administrative Rules, these tax credits must be transferred to the new entity. Therefore, we request that the Department of Environmental Quality transfer the Pollution Control Facility Certificates on the attached lists to Truax Harris Energy Co. as of June 30, 1992.

As supporting documents to this transfer request, we have enclosed the following documents:

1. Copies of all related Pollution Control Certificates
2. Copy of Bill of Sale from Merritt Truax, Inc. to Pride of Oregon Stations, Inc., dated June 30, 1992
3. Copy of bill of Sale from Harris Enterprises, Inc., to Harris Oil Company dated June 30, 1992

Thank you for your attention to this matter and if you have any questions, please do not hesitate to contact me.

Sincerely,


Larry Petryanos
Chief Financial Officer

LP/js

Enclosure

Transfer Certificates to Truax Harris Energy Company

June 3, 1994

MERRITT TRUAX, INC.

Certificates:

2136
2148
2149
2150
2322
2323
2324
2325
2326
2327
2328
2330
2365
2394
2395
2576
2577
2578
2630
2631

METROFUELING, INC.

Certificates:

2137 2278
2138 2279
2139 2280
2141 2282
2153 2283
2154 2284
2155 2317
2156 2318
2157 2320
2158 2321
2159 2366
2160 2392
2161 2393
2162 2443
2163

PRIDE OF OREGON

Certificates:

2140
2168
2169
2170
2632
2633

HARRIS Enterprises, Inc.

Certificates:

2172 2182
2173 2183
2174 2184
2175 2185
2176 2186
2177 2188
2178 2189
2180 2190
2181

TRUAX PETROLEUM SALES, INC.

Certificates:

2164
2167

TRUAX OIL, INC

Certificates:

2287
2579

Environmental Quality Commission

- Rule Adoption Item
- Action Item
- Information Item

Agenda Item **C**
June 3, 1994 Meeting

Title:

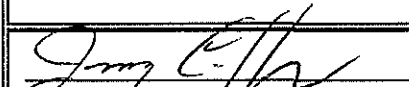
Rulemaking Proposal - Revision of the State Implementation Plan to Reflect Changes in the Vehicle Inspection Program

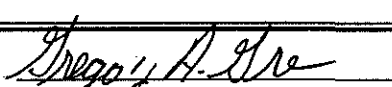
Summary:

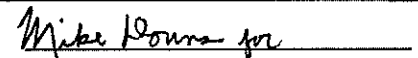
The proposed rules would revise Oregon's Vehicle Inspection and Maintenance (I/M) Program, and are designed to be equivalent to federal EPA requirements for basic vehicle I/M programs. The Proposed rules add new procedures for vehicle testing and inspector training. They use existing emissions reduction credits, which are beyond minimum EPA requirements, to offset pursuing additional enforcement and vehicle coverage.

Department Recommendation:

It is recommended that the Commission adopt the rules amendments regarding Vehicle I/M Program SIP Revisions.


Report Author


Division Administrator


Director

May 17, 1994

†Accommodations for disabilities are available upon request by contacting the Public Affairs Office at (503)229-5317(voice)/(503)229-6993(TDD).

State of Oregon
Department of Environmental Quality

Memorandum[†]

Date: May 17, 1994

To: Environmental Quality Commission
From: Fred Hansen, Director
Subject: Agenda Item , June 3, 1994, EQC Meeting

Rulemaking Proposal - Revision of the State Implementation Plan to Reflect Changes in the Vehicle Inspection Program

Background

On March 10, 1994, the Director authorized the Air Quality Division to proceed to a rulemaking hearing on proposed rules which would add to the inspection/maintenance (I/M) State Implementation Plan (SIP), new procedures for vehicle testing, inspector training, testing vehicles temporarily outside of Oregon, and the Department's position on enforcement and vehicle coverage of the I/M test.

Pursuant to the authorization, hearing notice was published in the Secretary of State's Bulletin on March 1, 1994. The Hearing Notice and informational materials were mailed to the mailing list of those persons who have asked to be notified of rulemaking actions, and to a mailing list of persons known by the Department to be potentially affected by or interested in the proposed rulemaking action on March 1, 1994.

Public Hearings were held on April 5, 1994 at 7:00 p.m. at the following locations:

Rogue Valley Vehicle Testing Center
3030 Biddle Road
Medford, Oregon

DEQ Headquarters
Executive Building, Room 3A
811 SW Sixth Avenue
Portland, Oregon

[†]Accommodations for disabilities are available upon request by contacting the Public Affairs Office at (503)229-5317(voice)/(503)229-6993(TDD).

Memo To: Environmental Quality Commission
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June 3, 1994 Meeting
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with Ted Wacker serving as Presiding Officer in Medford and Jerry Coffey serving as Presiding Officer in Portland. The Presiding Officer's Report (Attachment C) summarizes the oral testimony presented at the hearing.

Written comment was received through April 6, 1994 at 5:00 p.m. The written comments received are included as Attachment D.

Department staff have evaluated the comments received. Based upon that evaluation, modifications to the initial rulemaking proposal are being recommended by the Department. These modifications are summarized on page 4.

The following sections summarize the issue that this proposed rulemaking action is intended to address, the authority to address the issue, the process for development of the rulemaking proposal including alternatives considered, a summary of the rulemaking proposal presented for public hearing, a summary of the significant public comments and the changes proposed in response to those comments, a summary of how the rule will work and how it is proposed to be implemented, and a recommendation for Commission action.

Issue this Proposed Rulemaking Action is Intended to Address

On November 5, 1992 EPA published minimum requirements for vehicle inspection programs. These requirements were mandated to be implemented by July 1, 1994. On October 29, 1993, the Oregon Environmental Quality Commission adopted rule changes to meet some of the requirements and committed to a schedule to meet the remainder. The remaining requirements must now be met through a revision in the SIP in order to meet the implementation deadline.

Relationship to Federal and Adjacent State Rules

The proposed rules are designed to be equivalent to the requirements of the federal EPA regulations. Implementing the changes requires revisions to the State Implementation Plan (SIP). A total of 38 states including California and Washington are required to implement basic I/M testing programs on the same schedule and with the identical federal requirements as the State of Oregon.

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Authority to Address the Issue

Oregon is required by EPA regulations 40 CFR 51 (codified in 1993) to implement the proposed I/M program changes with associated SIP and rule revisions. ORS 468A.350 through 468A.415 established the authority of the Oregon Environmental Quality Commission to make rules governing the operation of the Oregon I/M program.

Process for Development of the Rulemaking Proposal (including Advisory Committee and alternatives considered)

Discussions regarding vehicle registration enforcement procedures were held with the Oregon Drivers and Motor Vehicle Services Branch (DMV). The Department also contacted the cities of Portland and Medford regarding parking attendant enforcement procedures used in assessing a penalty for expired vehicle registrations. Because of the long lead time required to implement these enforcement processes, and after receiving concurrence from EPA Region X, the Department proposes to use emissions reduction credits for its I/M program above and beyond minimum EPA requirement to offset pursuing these enforcement actions.

DMV was contacted with regard to registration of vehicles temporarily outside the state of Oregon and it was determined that this process currently conducted by DMV would best be done by DEQ. This proposal will provide EPA required follow-up to insure vehicles are either tested in another state's I/M area or are tested in an Oregon I/M test when the vehicle returns to Oregon.

Summary of Rulemaking Proposal Presented for Public Hearing and Discussion of Significant Issues Involved.

The proposed amendments to the SIP will allow the Oregon I/M program to meet EPA Emission Reduction requirements for a "basic" vehicle inspection program:

- o Rules are proposed to specify how vehicles registered in the I/M areas , but temporarily operated outside the state, will be tested.
- o Requirements and procedures for inspector training are specified.

- o Testing equipment specifications, procedures and quality assurance and auditing requirements are included.
- o Requirements to test fleet vehicles registered outside the I/M areas, but stationed inside the I/M areas, will be met by providing the equivalent emission reduction from program elements that are more stringent than minimum requirements such as testing light duty trucks. Similarly, the requirements to test federal fleet vehicles garaged in I/M areas and to test the personal vehicles of federal employees (when the federal facility is within an I/M area) will be met by emissions reduction trade-offs. Also, additional enforcement efforts required by EPA will be met by emissions reduction trade-offs.
- o The Department commits to monitor motorist compliance with the I/M testing program through parking lot registration surveys.

Summary of Significant Public Comment and Changes Proposed in Response

Rob Winthrop, Chairman - Board of Directors of the Rogue Valley Council of Governments, expressed agreement with the proposed improvements in Oregon I/M program. He, however was concerned that federal government vehicles not registered in an I/M area would not be required to be tested, even though the number of such vehicles may be small. In response to this concern, the Department proposes to request in writing voluntary cooperation of the federal fleets to insure those vehicle operated within I/M areas are tested. The Department expects to receive good cooperation from these fleets because of the strong position taken by EPA regarding federal fleet testing.

Joanne Peterson, Manager of Vehicle Programs, Department of Transportation DMV Services requested assurance that when DEQ accepts the responsibility of tracking the testing requirement for vehicles temporarily out of the state, that administrative details are handled to insure a smooth transition. The Department has resolved the main issue by providing DMV the authority, in the rules, to continue to process active DMV 1402 forms until November 1, 1994. Other administrative issues have been handled by establishing the specific procedure as a part of the SIP.

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Christi Lee with EPA Region X requested clarification in some areas of the proposed SIP and a requirement that all attachments referenced in the SIP be filed with the final SIP document. The clarifications were made and all attachments are currently submitted as a part of the proposed SIP.

Summary of How the Proposed Rule Will Work and How it Will be Implemented

The proposed rule will introduce procedural changes to the existing Oregon "basic" I/M program. The rule changes will be implemented by July 1, 1994 as required by EPA.

Recommendation for Commission Action

It is recommended that the Commission adopt the rules/rule amendments regarding changes in the Oregon I/M program to meet EPA requirements as presented in Attachment A of the Department Staff Report.

Attachments

- A. Rule (Amendments) Proposed for Adoption
 - 1. Rule
 - 2. SIP
- B. Supporting Procedural Documentation:
 - 1. Legal Notice of Hearing
 - 2. Rulemaking Statements (Statement of Need)
 - 3. Fiscal and Economic Impact Statement
 - 4. Land Use Evaluation Statement
- C. Presiding Officer's Report on Public Hearing
- D. Written Comments Received

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Reference Documents (available upon request)

Written Comments Received (listed in Attachment D)
(Other Documents supporting rule development process or proposal)

Approved:

Section: _____

Division: Gregory A. Dra

Report Prepared By: Jerry Coffey

Phone: 731-3049 E 229

Date Prepared: May 4, 1994

JC:jc
SIP15
5/4/94

AMENDMENTS TO OAR CHAPTER 340
DIVISION 24
MOTOR VEHICLES

Definitions

340-24-305 As used in OAR 340-24-300 through 340-24-350:

- (1) "Carbon dioxide" means a compound consisting of the chemical formula (CO₂).
- (2) "Carbon monoxide" means a compound consisting of the chemical formula (CO).
- (3) "Certificate of Compliance" means a certification issued by a vehicle emission inspector that the vehicle identified on the certificate is equipped with the required functioning motor vehicle pollution control systems and otherwise complies with the emission control criteria, standards, and rules of the Commission.
- (4) "Commission" means the Environmental Quality Commission.
- (5) "Crankcase emissions" means substances emitted directly to the atmosphere from any opening leading to the crankcase of a motor vehicle engine.
- (6) "Department" means the Department of Environmental Quality.
- (7) "Diesel motor vehicle" means a motor vehicle powered by a compression-ignition internal combustion engine.
- (8) "Director" means the director of the Department.
- (9) "Electric vehicle" means a motor vehicle which uses a propulsive unit powered exclusively by electricity.
- (10) "Exhaust emissions" means substances emitted into the atmosphere from any opening downstream from the exhaust ports of a motor vehicle engine.
- (11) "Factory-installed motor vehicle pollution control system" means a motor vehicle pollution control system installed by the vehicle or engine manufacturer to comply with United States motor vehicle emission control laws and regulations.
- (12) "Gas analytical system" means a device which measures the amount of contaminants in the exhaust emissions of a motor vehicle, and which has been issued a license by the Department pursuant to OAR 340-24-350 and ORS 468A.380.
- (13) "Gaseous fuel" means, but is not limited to, liquefied petroleum gases and natural gases in liquefied or gaseous forms.
- (14) "Gasoline motor vehicle" means a motor vehicle powered by a spark-ignition internal combustion engine.
- (15) "Gross vehicle weight rating" or "GVWR" means the value specified by the manufacturer as the maximum design loaded weight of a single vehicle.
- (16) "Heavy duty motor vehicle" means any motor vehicle rated at more than 8500 pounds GVWR or that has an actual vehicle curb weight as delivered to the ultimate purchaser of 6000 pounds or over.
- (17) "Hydrocarbon gases" means a class of chemical compounds consisting of hydrogen and carbon.
- (18) "Idle speed" means the unloaded engine speed when accelerator pedal is fully released.
- (19) "In-use motor vehicle" means any motor vehicle which is not a new motor vehicle.
- (20) "Light duty motor vehicle" means any motor vehicle rated at 8500 pounds GVWR or less and has an actual vehicle curb weight as delivered to the ultimate purchaser of under 6000 pounds.
- (21) "Model year" means the annual production period of new motor vehicles or new motor vehicle engines designated by the calendar year in which such period ends. If the manufacturer does not designate a production period, the model year with respect to such vehicles or engines shall mean the 12-month period beginning January of the year in which production thereof begins.
- (22) "Motorcycle" means any motor vehicle, including mopeds, having a seat or saddle for the use of the rider and designed to travel on not more than three wheels in contact with the ground and having a mass of 680 kilograms (1500 pounds) or less with manufacturer recommended fluids and nominal fuel capacity included.
- (23) "Motor vehicle" means any self-propelled vehicle used for transporting persons or commodities on public roads.
- (24) "Motor vehicle fleet operation" means ownership by any person of 100 or more Oregon-registered, in-use, motor vehicles, excluding those vehicles held primarily for the purpose of resale.
- (25) "Motor vehicle pollution control system" means equipment designed for installation on a motor vehicle for the purpose of reducing the pollutants emitted from the vehicle, or a system or engine adjustment or modification which causes a reduction of pollutants emitted from the vehicle, or a system or device which inhibits the introduction of fuels which can adversely affect the overall motor vehicle pollution control system.

- (26) "New motor vehicle" means a motor vehicle whose equitable or legal title has never been transferred to a person who in good faith purchases the motor vehicle for purposes other than resale.
- (27) "Noise level" means the sound pressure level measured by use of metering equipment with an "A" frequency weighting network and reported as dBA.
- (28) "Owner" means the person having all the incidents of ownership in a vehicle or where the incidents of ownership are in different persons, the person, other than a security interest holder or lessor, entitled to the possession of a vehicle under a security agreement, or a lease for a term of ten or more successive days.
- (29) "Person" includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, the state and any agencies thereof, and the federal government and any agencies thereof.
- (30) "PPM" means parts per million by volume.
- (31) "Propulsion exhaust noise" means that noise created in the propulsion system of a motor vehicle that is emitted into the atmosphere from any opening downstream from the exhaust ports. This definition does not include exhaust noise from vehicle auxiliary equipment such as refrigeration units powered by a secondary motor.
- (32) "Public roads" means any street, alley, road, highway, freeway, thoroughfare, or section thereof ~~in this state~~ used by the public or dedicated or appropriated to public use.
- (33) "RPM" means engine crankshaft revolutions per minute.
- (34) "Two-stroke cycle engine" means an engine in which combustion occurs, within any given cylinder, once each crankshaft revolution.
- (35) "Vehicle emission inspector" means any person possessing a current and valid license issued by the Department pursuant to OAR 340-24-340 and ORS 468A.380.

[NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

Stat. Auth.: ORS Ch. 468 & 468A

Hist.: DEQ 89, f. 4-22-75, ef. 5-25-75; DEQ 139, f. 6-30-77, ef. 7-1-77; DEQ 9-1978, f. & ef. 7-7-78; DEQ 22-1979, f. & ef. 7-5-79; DEQ 18-1980, f. & ef. 6-25-80; DEQ 12-1982, f. & ef. 7-21-82; DEQ 23-1984, f. 11-19-84, ef. 4-1-85; DEQ 4-1993, f. & cert. ef. 3-10-93

State of Oregon Facilities Light Duty Motor Vehicle And Heavy Duty Gasoline Motor Vehicle Emission Control Test Method

340-24-309

- (1) General Requirements
 - (a) Exhaust gas sampling algorithm. The analysis of exhaust gas concentrations shall begin 10 seconds after the applicable test mode begins. Exhaust gas concentrations shall be analyzed at a rate of two times per second. The measured value for pass/fail determinations shall be a simple running average of the measurements taken over five seconds.
 - (b) Pass/fail determinations. A pass or fail determination shall be made for each applicable test mode based on a comparison of the applicable standards listed in OAR 34-24-330 and OAR 340-24-335 and the measured value for HC and CO and described in subsection (1)(a) of this rule. A vehicle shall pass the test mode if any pair of simultaneous values for HC and CO are below or equal to the applicable standards. A vehicle shall fail the test mode if the values for either HC or CO, or both, in all simultaneous pairs of values are above the applicable standards.
 - (c) Void test conditions. The test shall immediately end and any exhaust gas measurements shall be voided if the measured concentration of CO plus CO₂ falls below the applicable standards listed in OAR 340-24-320 and OAR 340-24-325 or the vehicle's engine stalls at any time during the test sequence.
 - (d) Multiple exhaust pipes. Exhaust gas concentrations from vehicle engines equipped with multiple exhaust pipes shall be sampled simultaneously.
 - (e) The test shall be immediately terminated upon reaching the overall maximum test time.
- (2) Test sequence.
 - (a) The test sequence shall consist of a first-chance test and a second chance test as follows:
 - (A) The first-chance test, as described in section (3) of this rule, shall consist of an idle mode followed by a high-speed mode.

- (B) The second-chance high-speed mode, as described in section (3) of this rule, shall immediately follow the first-chance high-speed mode. It shall be performed only if the vehicle fails the first-chance test. The second-chance idle mode, as described in section (4) of this rule, shall follow the second-chance high-speed mode and be performed only if the vehicle fails the idle mode of the first-chance test.
- (b) The test sequence shall begin only after the following requirements are met:
 - (A) The vehicle shall be tested in as-received condition with the transmission in neutral or park and all accessories turned off. The engine shall be at normal operating temperature (as indicated by a temperature gauge, temperature lamp, touch test on the radiator hose, or other visual observation for overheating).
 - (B) The tachometer shall be attached to the vehicle in accordance with the analyzer manufacturer's instructions.
 - (C) The sample probe shall be inserted into the vehicle's tailpipe to a minimum depth of 10 inches. If the vehicle's exhaust system prevents insertion to this depth, a tailpipe extension shall be used.
 - (D) The measured concentration of CO plus CO2 shall be greater than or equal to the applicable standards listed in OAR 340-24-320 and OAR 340-24-325.
- (3) First-chance test and second-chance high-speed mode. The test timer shall start (tt=0) when the conditions specified in section (2)(b) of this rule are met. The first-chance test and second-chance high-speed mode shall have an overall maximum test time of 390 seconds (tt=390). The first-chance test shall consist of an idle mode following immediately by a high-speed mode. This is followed immediately by an additional second-chance high-speed mode, if necessary.
 - (a) First-chance idle mode.
 - (A) Except for diesel vehicles, the mode timer shall start (mt=0) when the vehicle engine speed is between 550 and 1300 rpm. If engine speed exceeds 1300 rpm or falls below 550 rpm, the mode timer shall reset to zero and resume timing. The minimum idle mode length shall be determined as described in section (3)(a)(B) of this rule. The maximum idle mode length shall be 30 seconds (~~mt=30~~ elapsed time[~~-(mt=30)
 - (B) The pass/fail analysis shall begin after an elapsed time of 10 seconds (mt=10). A pass or fail determination shall be made for the vehicle and the mode terminated as follows:
 - (i) The vehicle shall pass the idle mode and the mode shall be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), measured values are less or equal to the applicable standards listed in OAR 340-24-330 and OAR 34-24-335.
 - (ii) The vehicle shall fail the idle mode and the mode shall be terminated if the provisions of section (3)(a)(B)(i) of this rule is not satisfied within an elapsed time of 30 seconds (mt=30).
 - (iii) The vehicle may fail the first-chance and second-chance test shall be omitted if no exhaust gas concentration less than 1800 ppm HC is found by an elapsed time of 30 seconds (mt=30).~~
 - (b) First-chance and second-chance high-speed modes. This mode includes both the first-chance and second-chance high-speed modes, and follows immediately upon termination of the first-chance idle mode.
 - (A) Except for diesel vehicles, the mode timer shall reset (mt=0) when the vehicle engine speed is between 2200 and 2800 rpm. If engine speed falls below 2200 rpm or exceeds 2800 rpm for more than two seconds in one excursion, or more than six seconds over all excursions within 30 seconds of the final measured value used in the pass/fail determination, the measured value shall be invalidated and the mode continued. If any excursion lasts for more than ten seconds, the mode timer shall reset to zero (mt=0) and timing resumed. The minimum high-speed mode length shall be determined as described under paragraphs (3)(b)(B) and (C) of this rule. The maximum high-speed mode length shall be 180 seconds (~~mt=180~~ elapsed time[~~-(mt=180)
 - (B) Ford Motor Company and Honda vehicles. For 1981-1987 model year Ford Motor Company vehicles and 1984-1985 model year Honda Preludes, the pass/fail analysis shall begin after an elapsed time of 10 seconds (mt=10) using the following procedure.~~

- (i) A pass or fail determination, as described below, shall be used, for vehicles that passed the idle mode, to determine whether the high-speed test should be terminated prior to or at the end of an elapsed time of 180 seconds (mt=180).
- (i) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), the measured values are less than or equal to the applicable standards listed in OAR 34-24-330 and OAR 34-24-335.
 - ~~(II) The vehicle shall pass the high speed mode and the test shall be immediately terminated if, at any point between an elapsed time of 30 seconds (mt=30) and 180 seconds (mt=180), the measured values are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.]~~
 - (III) Restart. If at an elapsed time of ~~9]30~~ 30 seconds (mt=~~9]30~~ 30) the measured values are greater than the applicable standards listed in OAR 340-24-330- and OAR 340-24-335, the vehicle's engine shall be shut off for not more than 10 seconds after returning to idle and then shall be restarted. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure. The mode timer will stop upon engine shut off (mt=~~9]30~~ 30) and resume upon engine restart. The pass/fail determination shall resume as follows after ~~10]40~~ 40 seconds have elapsed (mt=~~10]40~~ 40).
 - ~~(IIIIV) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, at any point between an elapsed time of 10]40 seconds (mt=10]40) and 18]60 seconds (mt=18]60), the measured values are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.~~
 - ~~(IV) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, at a point between an elapsed time of 60 seconds (mt=60) and 180 seconds (mt=180) both HC and CO emissions continue to decrease and measured values are less than or equal to the applicable standards listed in OAR 340-24-330 or OAR 340-24-335.~~
 - (V) The vehicle shall fail the high-speed mode and the test shall be terminated if neither of sections (3)(b)(B)(i)(~~III~~), (III) or (IV) of this rule is not satisfied by an elapsed time of 180 seconds (mt=180).
- (ii) A pass or fail determination shall be made for vehicles that failed the idle mode and the high-speed mode terminated at the end of an elapsed time of 180 seconds (mt=180) as follows:
- (I) The vehicle shall pass the high-speed mode and the mode shall be terminated at an elapsed time of ~~18]30~~ 30 seconds (mt=~~18]30~~ 30) if any measured values of HC and CO exhaust gas concentrations during the high-speed mode are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.
 - (II) Restart. If at an elapsed time of ~~9]30~~ 30 seconds (mt=~~9]30~~ 30) the measured values of HC and CO exhaust gas concentrations during the high-speed mode are greater than the applicable short test standards as described in subsection (1)(b) of this rule, the vehicle's engine shall be shut off for not more than 10 seconds after returning to idle and then shall be restarted. The probe may be removed from the tailpipe or the sample pump turned off it necessary to reduce analyzer fouling during the restart procedure. The mode timer will stop upon engine shut off (mt=~~9]30~~ 30) and resume upon engine restart. The

- pass/fail determination shall resume as follows after ~~10~~30 seconds (mt=40) have elapsed ~~[(mt=100)].~~
- (III) The vehicle shall pass the high-speed mode and the mode shall be terminated at an elapsed time of ~~180~~160 seconds (mt=~~180~~160) if any measured values of HC and CO exhaust gas concentrations during the high-speed mode are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.
- ~~(IV)~~ The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, at a point between an elapsed time of 60 seconds (mt=60) and 180 seconds (mt=180) both HC and CO emissions continue to decrease and measured values are less than or equal to the applicable standards listed in OAR 340-24-330 or OAR 340-24-335.
- ~~(IV)~~ The vehicle shall fail the high-speed mode and the test shall be terminated if neither of sections (3)(b)(B)(ii)(I), (III) or (IV) of this rule is ~~not~~ satisfied by an elapsed time of 180 seconds (mt=180).
- (C) All other light-duty vehicles. The pass/fail analysis for vehicles not specified in section (3)(b)(B) of this rule shall begin after an elapsed time of 10 seconds (mt=10) using the following procedure.
- (i) A pass or fail determination shall be used for 1981 and newer model year vehicles that passed the idle mode, to determine whether the high-speed mode should be terminated prior to or at the end of an elapsed time of 180 seconds (mt=180). For pre-1981 model year vehicles, ~~the duration of the high speed idle mode shall be 30 seconds and no pass or fail determination shall be used at the high speed idle mode~~no high speed idle mode test shall be performed.
- (I) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), ~~any~~the measured values are less than or equal to the applicable standards listed in OAR 34-24-330 and OAR 340-24-335.
- (II) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if emissions continue to decrease after an elapsed time of 30 seconds (mt=30) and if, at any point between an elapsed time of 30 seconds (mt=30) and 180 seconds (mt=180), the measured values are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.
- (III) The vehicle shall fail the high-speed mode and the test shall be terminated if ~~none of~~neither the provisions of section~~s~~ (3)(b)(C)(i)(I) ~~and~~or (II) of this rule is satisfied ~~by an elapsed time of 180 seconds (mt=180)].~~
- (ii) A pass or fail determination shall be made for 1981 and newer model year vehicles that failed the idle mode and the high-speed mode terminated ~~prior to or~~ at the end of an elapsed time of 180 seconds (mt=180). For pre-1981 model year vehicles, the duration of the high speed idle mode shall be ~~9~~30 seconds and no pass or fail determination shall be used at the high speed idle mode.
- (I) The vehicle shall pass the high-speed mode and the mode shall be terminated at an elapsed time of ~~18~~30 seconds (mt=~~18~~30) if any measured values are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.
- (II) The vehicle shall ~~fail the high speed mode and the test shall be terminated if section (3)(b)(C)(ii)(I) of this rule is not satisfied by an elapsed time of 180 seconds (mt=180)]~~pass the high-speed mode and the test shall be immediately terminated if emissions continue to decrease after an elapsed time of 30 seconds (mt=30) and if, at any point between an elapsed time

of 30 seconds (mt=30) and 180 seconds (mt=180), the measured values are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.

(III) The vehicle shall fail the high speed mode and test shall be terminated if neither the provisions of section (3)(b)(C)(i)(4) or (II) is satisfied.

- (4) Second-chance idle mode. If the vehicle fails the first-chance idle mode and passes the high-speed mode, the mode timer shall reset to zero (mt=0) and a second chance idle mode shall commence. The second-chance idle mode shall have an overall maximum mode time of 30 seconds (mt=30). The test shall consist on an idle mode only.
- (a) The engines of 1981-1987 Ford Motor Company vehicles and 1984-1985 Honda Preludes shall be shut off for not more than 10 seconds and restarted. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure.
- (b) Except for diesel vehicles, the mode timer shall start (mt=0) when the vehicle engine speed is between 550 and 1300 rpm. If the engine speed exceeds 1300 rpm or falls below 550 rpm the mode timer shall reset to zero and resume timing. The minimum second-chance idle mode length shall be determined as described in section (4)(c) of this rule. The maximum second-chance idle mode length shall be 30 seconds (mt=30) elapsed time[~~(mt=30)~~].
- (c) The pass/fail analysis shall begin after an elapsed time of 10 seconds (mt=10). A pass or fail determination shall be made for the vehicle and the second-chance mode shall be terminated as follows:
- (A) The vehicle shall pass the second-chance idle mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), any measured values are less than or equal to 100 ppm HC and 0.5 percent CO.
- (B) The vehicle shall pass the second-chance idle mode and the test shall be terminated at the end of an elapsed time of 30 seconds (mt=30) if, prior to that time, the criteria of paragraph (4)(c)(A) of this rule are not satisfied and the measured values during the time period between 25 and 30 seconds (mt=25-30) are less than or equal to the applicable short test standards listed in OAR 340-24-330 and OAR 340-24-335.
- (C) The vehicle shall fail the second-chance idle mode and the test shall be terminated if neither of the provisions of sections (4)(c)(A) ~~and~~/or (B) of this rule are satisfied by an elapsed time of 30 seconds (mt=30).
- (5) If the vehicle is capable of being operated with both gasoline and gaseous fuels, then the steps in section (2) of this rule are to be followed so that emission test results are obtained from both fuels.
- (6) If it is judged that the vehicle may be emitting propulsion exhaust noise in excess of the noise standards of OAR 340-24-337, adopted pursuant to ORS 467.030, then a noise measurement is to be conducted and recorded while the engine is at the speed specified in section (3)(b)(A) of this rule. A reading from each exhaust outlet shall be recorded at the raised engine speed. This provision for noise inspection shall apply only with inspection boundaries located within Clackamas, Multnomah and Washington counties.
- (7) If it is determined that the vehicle complies with OAR 340-24-320 through 340-24-337, and ORS 467.030, 468A.350 through 468A.400, 803.350 and 815.295 through 815.325, then, following receipt of the required fees, the vehicle emission inspector shall issue the required Certificate of Compliance.

[NOTE: This rule, excluding section (6) is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

Stat. Auth.: ORS Ch. 183, 468 & 468A
Hist.: DEQ 16-1993, f. & cert. ef. 11-4-93

Renewal of Registration for Light Duty Motor Vehicles and Heavy Duty Gasoline Motor Vehicles Temporarily Operating Outside of Oregon 340-24-318

- (1) Vehicles registered in the boundaries described in OAR 340-24-301 that are being operated in another state and are at an address located at least 150 miles outside the Oregon border shall comply with the following requirements:

- (a) For vehicles operated within another Environmental Protection Agency approved Inspection and Maintenance (I/M) program area, the Department of Environmental Quality shall establish reciprocity provisions to ensure motor vehicle compliance with the other state's I/M requirements. Compliance with the other state's I/M program requirements shall be considered sufficient to the issuance of a Certificate of Compliance.
 - (b) For vehicles registered in another state, but not within another Environmental Protection Agency approved Inspection and Maintenance (I/M) area, the Department of Environmental Quality shall issue a temporary exemption from I/M testing requirements until such time as the vehicle returns to Oregon. Within 30 calendar days of the date the vehicle returns to Oregon it shall be required to comply with the Oregon I/M program's test criteria, methods and standards.
- (2) Notwithstanding the provisions of subsection (1), the Oregon Drivers and Motor Vehicles Services (DMV) will continue to accept and process DMV 1402 forms (Statement Of Vehicle Outside Of Oregon) for vehicles located at addresses outside the state of Oregon during the transition period in which the responsibility for screening out-of-state vehicles is passed from DMV to DEQ. DMV will accept and process any DMV 1402 form from the vehicle owner until November 1, 1994. After November 1, 1994, vehicle owners will be required to be screened by DEQ.

Light Duty Motor Vehicle Emission Control Test Criteria 340-24-320

- (1) No vehicle emission control test shall be considered valid if the vehicle exhaust system leaks in such a manner as to dilute the exhaust gas being sampled by the gas analytical system. For the purpose of the emission control tests conducted at state facilities, except for diesel vehicles, tests will not be considered valid if the exhaust gas is diluted to such an extent that the sum of the carbon monoxide and carbon dioxide concentrations recorded for the idle speed reading from an exhaust outlet is eight percent or less, and on 1975 and newer vehicles with air injection systems seven percent or less.
- (2) No vehicle emission control test shall be considered valid if the engine idle speed exceeds ~~the manufacturer's idle speed specifications by over 200~~ 1300 RPM.
- (3) (a) No vehicle emission control test for a 1975 or newer model vehicle shall be considered valid if any element of the following factory-installed motor vehicle pollution control systems have been disconnected, plugged, or otherwise made inoperative in violation of ORS 815.305(1), except that for 1975 through 1980 model year vehicles the inspection shall be limited to the catalytic converter system and fuel filler inlet restrictor listed below, and as noted in ORS 815.305(2) or as provided for by **40 CFR 85.1701-1709 (published July 1, 1991)**. Motor vehicle pollution control systems include, but are not necessarily limited to:
 - (A) Positive crankcase ventilation (PCV) system;
 - (B) Exhaust modifier system, including:
 - (i) Air injection reactor system;
 - (ii) Thermal reactor system; and
 - (iii) Catalytic converter system;
 - (C) Exhaust gas recirculation (EGR) systems;
 - (D) Evaporative control system;
 - (E) Spark timing system, including:
 - (i) vacuum advance system; and
 - (ii) vacuum retard system;
 - (F) Special emission control devices, including:
 - (i) Orifice spark advance control (OSAC);
 - (ii) Speed control switch (SCS);
 - (iii) Thermostatic air cleaner (TAC);
 - (iv) Transmission controlled spark (TCS);
 - (v) Throttle solenoid control (TSC);
 - (vi) Fuel filler inlet restrictor;
 - (vii) Oxygen sensor; and
 - (viii) Emission control computer.
- (b) The Department may provide alternative criteria for those required under subsection (a) of this section when it can be determined that the component or an acceptable alternative is unavailable. Such alternative criteria may be granted on the basis of the

nonavailability of the original part, replacement part, or comparable alternative solution.

- (4) No vehicle emission control test for a 1981 or newer model year vehicle shall be considered valid if any element of the factory installed motor vehicle pollution control system has been modified or altered in such a manner so as to decrease its efficiency or effectiveness in the control of air pollution in violation of ORS 815.305(1), except as noted in ORS 815.305(2). For the purposes of this section, the following apply:
 - (a) The use of a nonoriginal equipment aftermarket part (including a rebuilt part) as a replacement part is not considered to be a violation of ORS 815.305, if a reasonable basis exists for knowing that such use will not adversely effect emission control efficiency. The Department will maintain a listing of those parts which have been determined to adversely effect emission control efficiency;
 - (b) The use of a nonoriginal equipment aftermarket part or system as a add-on, auxiliary, augmenting, or secondary part of system, is not considered to be a violation of ORS 815.305, if such part or system is on the exemption list of "Modifications to Motor Vehicle Emission Control Systems Exempted Under California Vehicle Code Section 27156" granted by the Air Resources Board, or is on the list maintained by the U.S. Environmental Protection Agency of "Certified to EPA Standards", or has been determined after review of testing data by the Department that there is no decrease in the efficiency or effectiveness in the control of air pollution;
 - (c) Adjustments or alterations of particular part or system parameter, if done for purposes of maintenance or repair according to the vehicle or engine manufacturer's instructions, are not considered violations of ORS 815.305.
- (5) A 1981 and newer model vehicle which has been converted to operate on gaseous fuels shall not be considered in violation of ORS 815.305 when elements of the factory-installed motor vehicle air pollution control system are disconnected for the purpose of conversion to gaseous fuel as authorized by ORS 815.305.
- (6) If a vehicle older than the 1981 model year is now equipped with other than the original engine and factory installed vehicle pollution control systems, the vehicle for the purposes of determining test standards, shall be classified by the vehicle's original model year classification and current fuel system.
- (7) A 1981 and newer vehicle shall be classified by the model year and make of the vehicle as designated by the original chassis, engine, and its factory installed motor vehicle pollution control systems, or equivalent. This in no way prohibits the vehicle owner from upgrading the engine and emission control system to a more recent model year category including a diesel (compression ignition) power plant providing that all of the new factory installed pollution control system is maintained.

[NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

[Publication: The Publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

Stat. Auth: ORS Ch. 183, 468 & 468A

Hist: DEQ 136, f. 6-10-77, ef. 7-1-77; DEQ 22-1979, f. & ef. 7-5-79; DEQ 12-1982, f. & ef. 7-21-82; DEQ 19-1983, f. 11-29-83, ef. 12-31-83; DEQ 6-1985, f. & ef. 9-30-85; DEQ 21-1988, f. & cert. ef. 9-12-88; DEQ 4-1993, f. & cert. ef. 3-10-93; DEQ 16-1993, f. & cert. ef. 11-4-93

Heavy Duty Gasoline Motor Vehicle Emission Control Test Criteria 340-24-325

- (1) No vehicle emission control test shall be considered valid if the vehicle exhaust system leaks in such a manner as to dilute the exhaust gas being sampled by the gas analytical system. For the purpose of emission control tests conducted at state facilities, tests will not be considered valid if the exhaust gas is diluted to such an extent that the sum of the carbon monoxide and carbon dioxide concentrations recorded for the idle speed reading from an exhaust outlet is eight percent or less.
- (2) No vehicle emission control test shall be considered valid if the engine idle speed exceeds ~~the manufacturer's idle speed specifications by over 200 RPM on 1972 and newer model vehicles~~ **300 RPM**.
- (3) (a) No vehicle emission control test for a 1981 or newer model vehicle shall be considered valid if any element of the following factory-installed motor vehicle

pollution control systems have been disconnected, plugged, or otherwise made inoperative in violation of ORS 815.305(1), except as noted in ORS 815.305(2):

- (A) Positive crankcase ventilation (PVC) system;
 - (B) Exhaust modifier system, including:
 - (i) Air injection system;
 - (ii) Thermal reactor system; or
 - (iii) Catalytic convertor system;
 - (C) Exhaust gas recirculation (EGR) system;
 - (D) Evaporative control system;
 - (E) Spark timing system, including:
 - (i) Vacuum advance system; or
 - (ii) Vacuum retard system; or
 - (F) Special emission control devices, including:
 - (i) Orifice spark advance control (OSAC);
 - (ii) Speed control switch (SCS);
 - (iii) Thermostatic air cleaner (TAC);
 - (iv) Transmission controlled spark (TCS);
 - (v) Throttle solenoid control (TSC);
 - (vi) Fuel filler inlet restrictor;
 - (vii) Oxygen sensor; or
 - (viii) Emission control computer.
- (b) The Department may provide alternative criteria for those required under subsection (a) of this section when it can be determined that the component or an acceptable alternative is unavailable. Such alternative criteria may be granted on the basis of the nonavailability of the original part, replacement part, or comparable alternative solution.
- (4) No vehicle emission control test conducted for a 1980~~01~~ or newer model vehicle shall be considered valid if any element of the factory-installed motor vehicle pollution control system has been modified or altered in such a manner so as to decrease its efficiency or effectiveness in the control of air pollution in violation of ORS 815.305(1), except as noted in ORS 815.305(2). For the purposes of this section, the following apply:
- (a) The use of a nonoriginal equipment aftermarket part (including a rebuilt part) as a replacement part is not considered to be a violation of ORS 815.305, if a reasonable basis exists for knowing that such use will not adversely affect emission control efficiency. The Department will maintain a listing of those parts which have been determined to adversely effect emission control efficiency;
 - (b) The use of a nonoriginal equipment aftermarket part or system as an add-on, auxiliary, augmenting, or secondary part or system, is not considered to be a violation of ORS 815.305, if such part or system is listed on the exemption list maintained by the Department;
 - (c) Adjustments or alterations of a particular part or system parameter, if done for purposes of maintenance or repair according to the vehicle or engine manufacturer's instructions, are not considered violations of ORS 815.305.
- (5) A 1981 or newer model motor vehicle which has been converted to operate on gaseous fuels shall not be considered in violation of ORS 815.305 when elements of the factory-installed motor vehicle air pollution control system are disconnected for the purpose of conversion to gaseous fuel as authorized by ORS 815.305.

[NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

Stat. Auth.: ORS Ch. 183, 468 & 468A

Hist.: DEQ 136, f. 6-10-77, ef. 7-1-77; DEQ 22-1979, f. & ef. 7-5-79; DEQ 12-1982, f. & ef. 7-21-82; DEQ 19-1983, f. 11-29-83, ef. 12-31-83; DEQ 6-1985, f. & ef. 5-1-85; DEQ 12-1985, f. & ef. 9-30-85; DEQ 21-1988, f. & cert. ef. 9-12-88; DEQ 4-1993, f. & cert. ef. 3-10-93

Heavy-Duty Gasoline Motor Vehicle Emission Control Standards 340-24-335

- (1) Carbon monoxide idle emission values not to be exceeded:
 - (a) Pre 1970 Model Year: 6.5%
 - (b) 1970 - 1973 Model Year: 5.0%
 - (c) 1974 - 1978 Model Year: 4.0%
 - (d) 1979 and Newer Model Year without catalyst: 3.0%

- (e) 1985 and Newer Model Year with catalyst: ~~[Base Standard]~~ 1.0%
- (2) Carbon Monoxide nominal 2,500 rpm emission values not to be exceeded:
 - (a) Pre 1970 Model Year: 4.0%
 - (b) 1970 and Newer Model Year without catalyst with carburetor: 3.0%
 - (c) 1970 and newer model year without catalyst with fuel injection: no check.
 - (d) 1985 and Newer Model Year with catalyst: 1.0%
- (3) Hydrocarbon idle emission values not to be exceeded:
 - (a) Pre 1970 Model Year: 900 PPM
 - (b) 1970 - 1973 Model Year: 700 PPM
 - (c) 1974 - 1978 Model Year: 500 PPM
 - (d) 1979 and Newer Model Year without catalyst: 350 PPM
 - (e) 1985 and Newer Model Year with catalyst: 220 PPM
- (4) Hydrocarbon nominal 2,500 rpm emission values not be exceed: 1985 and Newer Model Year with catalyst: 220 PPM
- (5) There shall be no visible emission during the steady-state unloaded engine idle and raised rpm portion of the emission test from either the vehicle's exhaust system or the engine crankcase.
- (6) The Director may establish specific separate standards, differing from those listed in sections (1) through (4) of this rule for vehicle classes which are determined to present prohibitive inspection problems using the listed standards.

[NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

Stat. Auth.: ORS Ch. ORS 468 & 468A

Hist.: DEQ 136, f. 6-10-77, ef. 7-1-77; DEQ 9-1978, f. & ef. 7-7-78; DEQ 22-1979, f. & ef. 7-5-79; DEQ 18-1980, f. & ef. 6-25-80; DEQ 15-1981(Temp), f. & ef. 5-6-81; DEQ 20-1981, f. 7-28-81, ef. 8-1-81; DEQ 18-1986, f. 9-18-86, ef. 10-1-86; DEQ 4-1993, f. & ef. 3-10-93; DEQ 16-1993, f. & cert. ef. 11-4-93

Criteria for Qualifications of Persons Eligible to Inspect Motor Vehicles and Motor Vehicle Pollution Control Systems and Execute Certificates

340-24-340

- (1) Three separate classes of licenses are established as follows:
 - (a) Motor vehicle fleet operations;
 - (b) Fleet operation vehicle emission inspector;
 - (c) State-employed vehicle emission inspector.
- (2) Application for a license must be completed on a form provided by the Department.
- (3) (a) Each motor vehicle fleet operation license shall be valid for not more than a one year period and shall expire on ~~[through]~~ December 31 of each year unless revoked, suspended, or returned to the Department;
- (b) Each vehicle emission inspector license shall be valid for not more than a two year period and shall expire on ~~[through]~~ December 31 of every other year unless revoked, suspended, or returned to the Department.
- (4) No license shall be issued until the applicant has fulfilled all requirements and paid the required fee.
- (5) No license shall be transferable.
- (6) Each license may be renewed upon application and receipt of renewal fee if the application for renewal is made within the 30-day period prior to the expiration date and the applicant complies with all other licensing requirements.
- (7) A license may be suspended, revoked, or not renewed if the licensee has violated this Division or ORS 468A.350 to 468A.400, 815.295 to 815.325.
- (8) A fleet operation vehicle emission inspector license shall be valid only for inspection of, and execution of certificates for, motor vehicle pollution control systems and motor vehicles of the motor vehicle fleet operation by which the inspector is employed on a full time basis, except: A fleet operation vehicle emission inspector employed by a governmental agency may be authorized by the Department to perform inspections and execute Certificates of Compliance for vehicles of other governmental agencies that have contracted with that agency for that service and that contract having the approval of the Director.
- (9) Inspector training and licensing or certification. To initially receive or renew a license as a vehicle emission inspector, the applicant must be an employee of the Vehicle Inspection Program of the Department or an employee of a licensed motor vehicle fleet operation and complete an application. All inspectors shall receive formal training and be licensed or

certified to perform inspections. The duration of the training program for persons employed by a motor vehicle fleet operation shall not be less than 16 hours.

- (a) Training.
 - (A) Inspector training shall impart knowledge of the following:
 - (i) The air pollution problems, its causes and effects;
 - (ii) The purpose, function and goal of the inspection program;
 - (iii) Inspection regulations and procedures;
 - (iv) Technical details of the test procedure and the rationale for their design;
 - (v) Test equipment operation, calibration and maintenance;
 - (vi) Emission control device function, configuration and inspection;
 - (vii) Quality control procedures and their purpose;
 - (viii) Public relations; and
 - (ix) Safety and health issues related to the inspection process.
 - (B) In order to complete the training requirement, a trainee shall pass (minimum of 80% correct responses) a written test covering all aspects of the training. In addition, a hands-on test shall be administered in which the trainee demonstrates without assistance the ability to conduct a proper inspection, to properly utilize equipment and to follow other procedures. Inability to properly conduct all test procedures shall constitute failure of the test. The Department shall take appropriate steps to insure the security and integrity of the testing process.
- (b) Licensing and certification.
 - (A) All inspectors shall be either licensed or certified by the Department in order to perform official inspections.
 - (B) Completion of inspector training and passing required tests shall be a condition of licensing or certification.
 - (C) Inspector licenses and certificates shall be valid for no more than 2 years, at which point refresher training and testing shall be required prior to renewal. Alternative approaches based on more comprehensive skill examination and determination of inspector competency may be used.
 - (D) Licenses or certificates shall not be considered a legal right but rather a privilege bestowed by the Department conditional upon adherence to Department requirements.
- (c) Enforcement against inspectors. Enforcement against licensed inspectors shall include swift, sure, effective, and consistent penalties for violation of program requirements.
 - (A) Substantial penalties shall be imposed on the first offense for violations that directly affect emission reduction benefits. At a minimum, whenever a vehicle is intentionally improperly passed for any required portion of the test, inspectors shall be removed from inspector duty for at least 6 months or a retainage penalty equivalent to the inspector's salary for that period shall be imposed.
 - (B) License or certificate suspension or revocation shall mean the individual is barred from direct or indirect involvement in any inspection operation during the term of the suspension or revocation.
- (10) To be licensed as a motor vehicle fleet operation, the applicant must:
 - (a) Be the owner of 100 or more Oregon registered in-use motor vehicles, or 50 or more government-owned vehicles registered pursuant to ORS 805.040;
 - (b) Be equipped with an exhaust gas analyzer complying with criteria established in OAR 340-24-350;
 - (c) Be equipped with a sound level meter conforming to "**Requirements for Sound Measuring Instruments and Personnel**" (NPCS-2) manual, revised September 15, 1974, of this Department.
- (11) No person licensed as a motor vehicle fleet operation shall advertise or represent himself as being licensed to inspect motor vehicles to determine compliance with the criteria and standards of OAR 340-24-320 and 340-24-330.

[**Publication:** The Publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

[**NOTE:** This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

State of Oregon Facilities Gas Analytical System Licensing Criteria

340-24-355

- (1) Test equipment. Computerized test systems are required for performing any measurement on subject vehicles.
 - (a) Performance features of computerized test systems. The test equipment shall be certified to meet the requirements contained in **40 CFR Part 51 Appendix D (November 5, 1992)** and new equipment shall be subjected to acceptance test procedures to ensure compliance with program specifications.
 - (A) Emission test equipment shall be capable of testing all subject vehicles and shall be updated from time to time to accommodate new technology vehicles as well as changes to the Vehicle Inspection Program.
 - (B) At a minimum, emission test equipment:
 - (i) Shall be automated to the highest degree commercially available to minimize the potential for intentional fraud and/or human error;
 - (ii) Shall be secure from tampering and/or abuse;
 - (iii) Shall be based upon written specifications; and
 - (iv) Shall be capable of simultaneously sampling dual exhaust vehicles.
 - (C) The vehicle owner or driver shall be provided with a computer-generated record of test results, including all of the items listed in **40 CFR Part 85, subpart W** as being required on the test record. The test report shall include:
 - (i) A vehicle description, including license plate number, vehicle identification number, and odometer reading;
 - (ii) The date and time of the test;
 - (iii) The name or identification number of individual(s) performing the tests and the location of the test station and lane;
 - (iv) The type of test performed, including emission tests, visual checks for the presence of emission control components, and functional, evaporative checks;
 - (v) The applicable test standards;
 - (vi) A statement indicating the availability of warranty coverage as required in section 207 of the Clean Air Act;
 - (vii) Certification that tests were performed in accordance with the regulations ~~and the signature of the individual who performed the test~~; and
 - (ix) For vehicles that fail the tailpipe emission test, information on the possible causes of the specific pattern of high emission levels found during the test.
- (2) Functional characteristics of computerized test systems. The test system is composed of emission measurement devices and other motor vehicle test equipment controlled by a computer.
 - (a) The test system shall automatically:
 - (A) Make a pass/fail decision for all measurements;
 - (B) Record test data to an electronic medium;
 - (C) Conduct regular self-testing of recording accuracy;
 - (D) Perform electrical calibration and system integrity checks before each test, as applicable; and
 - (E) Initiate system lockouts for:
 - (i) Tampering with security aspects of the test system;
 - (ii) Failing to conduct or pass periodic calibration or leak checks; and
 - (iii) A full data recording medium or one that does not pass a cyclical redundancy check.
 - (b) The test system shall insure accurate data collection by limiting, cross-checking; and/or confirming manual data entry.

[NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

[Publication: The Publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

SIP REVISION

5.4 Motor Vehicle Inspection and Maintenance

5.4.1 Applicability

Inspection/Maintenance (I/M) programs are operated in the Portland and Medford urban areas within the state of Oregon. A program meeting basic I/M requirements will be operated in both areas. This I/M program will remain in effect until a redesignation is made that demonstrates that the subject areas can maintain the ambient carbon monoxide and ozone standards for the maintenance period without the emission reductions attributable to the I/M program.

The Portland I/M boundary is that of the Metropolitan Service District (MSD), incorporating portions of Clackamas, Multnomah and Washington Counties. The 1990 population of the MSD, estimated from the 1990 federal census is 1,051,817. Appendix A contains a list of all the U.S. postal zip codes included in whole or in part within the Portland I/M area. It also contains a map of the Portland I/M area. The Portland I/M program consists of six testing centers and a total of 21 test lanes.

The Medford I/M boundary is that of the Medford-Ashland Air Quality Maintenance Area (AQMA) which includes approximately 85 percent of the population of Jackson County. The 1990 AQMA population, estimated from the 1990 federal census is 124,430. Appendix A contains a list of all the U.S. postal zip codes included in whole or in part within the Medford I/M area. It also contains a map of the Medford I/M area. The Medford I/M program consists of one testing center with three test lanes.

The legal authority for the I/M program ~~is included in Section 2.2.11 of the State Implementation Plan (SIP)~~ is found in Oregon Revised Statutes 468A.360 to 468A.405, ORS 803.070 through 803.375 and ORS 815.095 through 815.325. These statutes are included in Section 2.2.11 of the State Implementation Plan (SIP). Regulations for program operations, Oregon Administrative Rules 340-24-005 through 340-24-350, are in Section 2.2.7 of the SIP. The rules were revised to meet the requirements for a basic program as outlined in EPA Inspection/Maintenance Program Requirements; Final Rule (40 CFR Part 51, 1993). This final rules revision was approved by the Oregon Environmental Quality Commission on ~~October 29,~~

~~1993~~ June 3, 1994.

5.4.2 Basic I/M Performance Standard

Appendix B contains the input and output files for Mobile 5A runs performed to evaluate the emission reduction benefits of the I/M areas in the State of Oregon. Appendix C shows the local inputs to the model including their source and derivation. The table below summarizes the projected emission factor levels at the attainment date for the program for each I/M area:

Portland I/M Area

	{January 1} Summer	1997
VOC		
	Without I/M Program	3.05 g/mi
	Performance Standard	{2.67} 2.72 g/mi
	Program Target	2.54 g/mi
	{January 1} Winter	1996
CO		
	Without I/M Program	28.04 g/mi
	Performance Standard	{22.66} 24.07 g/mi
	Program Target	22.09 g/mi
	{January 1} Summer	1997
NOx		
	Without I/M Program	2.45 g/mi
	Performance Standard	2.4112 g/mi
	Program Target	2.38 g/mi

Medford I/M Area

	{January 1} Winter	1996
CO		
	Without I/M Program	33.73 g/mi
	Performance Standard	{26.98} 28.98 g/mi
	Program Target	{26.64} 27.30 g/mi

The I/M programs meet the emission reduction targets in the attainment year. The State of Oregon commits to meeting the performance standard during actual implementation of the revised basic programs.

5.4.3 Network Type and Program Evaluations

In both the Portland and Medford areas, I/M programs will be basic centralized, test-only programs operated by the

Department of Environmental Quality (DEQ).

The Oregon I/M programs, in both Portland and Medford, operate fleet self-testing programs with oversight by DEQ employees. In Portland, there are currently 50 fleets which test 10,306 vehicles. In Medford, there are currently 10 fleets, testing 1,069 vehicles.

5.4.4 Adequate Tools and Resources

The I/M program as stipulated in ORS 468A.405 is funded solely by collection of fees from vehicle owners at the time of passing the I/M test. These fees are to be adjusted by the Oregon Environmental Quality Commission to cover the costs of administering the I/M program. The current fee is \$10 per certificate issued for DEQ inspected vehicles and \$5 each for certificates issued by fleets.

The fees are collected and deposited on a monthly basis into the Department of Environmental Quality Motor Vehicle Pollution Account. The monies from this account are continuously appropriated to the Department to be used solely for operations related to the I/M program.

Appendix D shows the proposed budget for the vehicle inspection program operations. DEQ expects to maintain staffing levels approximately as follows:

Overt and covert auditing	0.8	FTE
Data Collection and analysis	0.2	FTE
Performance monitoring	0.8	FTE
Technician assistance	0.5	FTE
Consumer assistance	0.6	FTE
Waiver oversight	N/A	
Employee management	1.7	FTE
Building Maintenance	2.0	FTE
Testing Equipment Maintenance and Quality Control	2.0	FTE
Special Technical Projects	0.4	FTE
Rule Development	0.4	FTE
Fleet Oversight	0.6	FTE
Public Response & Records Keeping	1.0	FTE
DEQ Testing Inspectors	44.0	FTE

The DEQ Vehicle Inspection Program operates the I/M program including overseeing the construction of testing facilities, purchasing of testing equipment, development of testing procedures, actual testing of vehicles and oversight of program operations. Currently, none of the vehicle testing operations (except self-inspecting fleet

testing) is contracted to a source outside the Department.

The DEQ expects to allocate 0.2 FTE to the oversight of the registration denial enforcement mechanism. This is included in above FTE summary.

5.4.5 Test Frequency and Convenience

The test frequency is biennial for all subject vehicles. For new vehicles the first test is required for reregistration two years after initial registration. Since the inspection program has been operating in this manner since 1975, no special vehicle testing sequence scheme is required to accomplish a steady month to month flow of vehicles. Vehicles are merely reregistered periodically two years after the previous registration. Used vehicles newly arriving into the I/M area are required to be inspected and registered within 30 days of establishing residence if the vehicle does not have an Oregon license plate. Such vehicles with Oregon plates are not tested until current registration expires. Statutory authority is contained in ORS 803.400, 803.415 and 803.350 which are shown in Appendix E.

The inspection is required within 90 days prior to expiration of vehicle registration. Registration is good for two years and expires on the anniversary of initial titling. Vehicles that change ownership receive a shortened registration, valid only until the next anniversary of initial titling.

The test stations are located such that approximately 85 percent of all motorists are within five miles of a test facility and 95 percent are within 12 miles of a facility. Monthly average waiting times range between 5 minutes and 12 minutes varying with station location and time of month. Regular testing hours are posted at all stations. The public is notified of station closure in the case of holidays by posting signs at stations two weeks in advance.

The Oregon two speed idle test procedure offers a second chance idle test for all vehicles. Certain Ford Motor Company and Honda vehicles are allowed a ~~{second test}~~ key off/restart if the first idle test is failed.

5.4.6 Vehicle Coverage

Vehicle tests must be performed on all the following

types of vehicles:

Passenger cars (gasoline, diesel, and alternative fuels except electric)
Light duty trucks (gasoline, diesel, and alternative fuels except electric)
Medium and heavy duty trucks (all gasoline, diesels up to 8,500 GVWR, all alternative fuels except electric)

The total estimated number of vehicles licensed for road use in the I/M areas in Oregon is 839,000 vehicles. Approximately 45,000 of these vehicles appear to avoid the I/M test by improperly registering outside the test area.

The following types of vehicles, with estimated numbers in parenthesis, are exempt from the testing requirement:

All vehicles model year 197[3]4 and older
([26,800]23,584 in Portland, 3,216 in Medford)
Electric Vehicles (N/A)
Farm Vehicles ([4,000]3,520 in Portland, 480 in Medford)
Fixed load vehicles ([1,200]1,056 in Portland, 114 in Medford)
Apportioned plate vehicle (N/A)
Motorcycles ([16,000]14,080 in Portland, 1,920 in Medford)
Snowmobiles ([3,200]2,816 in Portland, 384 in Medford)
All terrain vehicles ([7,400]6,512 in Portland, 888 in Medford)

~~{DEQ will contact rental car agencies and private and public fleets that operate vehicles in the I/M areas. DEQ will obtain a list of vehicle operated in the I/M areas and will update this list on an annual basis. DEQ is exploring strategies to identify vehicles operated in, but not registered in, the I/M area including: comparison of owners drivers license address with vehicle registration address, periodic parking lot surveys within I/M areas to determine address of vehicle registration and compare this address with telephone directory address for addressee's name, look up of vehicle registration addresses found to be within the I/M area but which do not have a emission test certificate on file (indicating a defect in the registration address review process).}~~

DEQ will not test rental car agency and private and public fleets that operate vehicles in the I/M areas, but whose fleets are not registered in the I/M areas.

Instead DEQ will accept a reduction in emissions benefits calculated by Mobile 5A based on the associated reduced vehicle coverage compared to the EPA standard "basic I/M program. DEQ estimates the quantity of fleet vehicles in this category to be approximately 10,000 vehicles (8,800 in Portland, 1,200 in Medford). Vehicle coverage was reduced by this quantity in the "program target" Mobile 5A computer calculations.

Federal fleet vehicles garaged in I/M areas are required to be tested. The federal General Services Administration reported approximately 800 vehicles fall into this category (704 in Portland, 96 in Medford). It is estimated that 100 federal vehicles are registered to agencies based outside of the I/M program areas, but are routinely operated within the program area (88 in Portland and 12 in Medford). All of these vehicles will not be required to be tested. Also vehicles owned by federal employees living outside the program areas, but working at federal facilities inside the program areas with employee parking provided, will not be tested. It is estimated this will impact about 250 vehicles (220 in Portland and 30 in Medford). As discussed above under private fleet vehicles, DEQ will accept a reduction in emissions testing benefits in the Mobile 5A model via a reduction in vehicle coverage by the amounts indicated.

Private fleets and local government fleets are allowed to test their own vehicles. Test records are tracked by the DEQ. DEQ employees visit fleet operations on a periodic basis to insure proper test procedures are used and testing equipment is properly calibrated. Fleet licenses can be removed if fleet operations do not meet standards.

Alternatively, fleets can be tested in the DEQ operated centralized testing facilities.

~~{Federal government fleets are required by EPA to meet the same requirements as other fleets. In addition, employees of federal facilities with employee parking are required by EPA to comply with the Oregon inspection program requirements. EPA is requiring federal employees not living in the I/M areas to provide a certificate of compliance from any Oregon I/M program for the installations located in the I/M areas. The Oregon I/M program will work with EPA and the federal fleets to ensure compliance with these requirements. DEQ will develop procedures for such testing and submit them to EPA prior to July 1, 1994.}~~

~~{DEQ will develop procedures for testing vehicles}~~

~~registered in an Oregon I/M area but primarily driven in an I/M area of another state. These procedures will be submitted to EPA prior to July 1, 1994.]~~

DEQ has procedures for testing vehicles registered in an Oregon I/M area but temporarily driven in an I/M area of another state. Prior to registration of such vehicles, the out of state vehicle owner will be notified that an I/M test certification of compliance from the other state will be required before Oregon registration can proceed. If a vehicle is temporarily located in another state, but not based in an I/M area of that state, the owner will be required to complete an Oregon DEQ form DEQ/VIP9401. This form will allow registration without an I/M test. The owner is required on the form to notify DEQ when the vehicle is scheduled back into Oregon. At that time the vehicle will require an I/M test. DEQ will insure that such delayed testing is completed by the vehicle owner.

A table showing the number of vehicles in each weight class in each model year in 1992 is contained in Appendix F.

5.4.7 Test Procedures and Standards

The authority to establish test procedures and standards is contained in Oregon statutes ORS 468A.360 through 468A.460 in Section 2.2.11 of the Oregon SIP. The test procedures and test standards are specified in the regulation in Section 2.2.7 of the Oregon SIP.

In the Portland area all 1975 model and newer vehicles are subject to a two speed idle test as outlined in the test procedures. For the Medford area all 20 year old vehicles must be tested. Vehicles 1981 and newer are required to pass both an idle and 2500 rpm emissions standards for carbon monoxide and hydrocarbon. Subject vehicles with model years older than 1981 are not judged at the 2500 rpm test point. All tested vehicle are given a second chance idle test.

Vehicles shall be rejected for unsafe conditions, including overheating, fluid leaks, or other conditions determined to be unsafe to the inspection program operations.

~~{DEQ is currently developing detailed testing procedures as a part of computerized testing equipment purchase. These procedures will be submitted to EPA prior to July 1, 1994.} Detailed testing procedures are shown in Appendix H Section 710.00 and Appendix K.~~

5.4.8 Test Equipment

All tests will be conducted with garage style idle emissions measuring equipment with computer timed measurements, automatic calibration and computerized test data storage. Equipment must meet California BAR 90 accuracy standards. Vehicles failing an initial tailpipe emissions test for any pollutant or pollutants must pass a retest for all pollutants in order to receive a certificate of compliance.

All 1975 and newer vehicles are examined to insure original factory pollution control equipment is in place. Vehicles 1975-1980 are required to maintain fuel restrictors and catalytic converters only. Vehicles newer than 1980 are required to maintain all factory installed pollution control equipment.

Test equipment will have access lock-outs to insure inspectors do not alter test parameters. VIN codes are intended to be read with a bar code reader where possible. Other procedures will be streamlined as much as possible within the guidelines of the program regulations.

The test process is completely computer controlled. The process begins with vehicle identification data entry, including full VIN and license number. DEQ plans to establish a I/M vehicle data base with full vehicle identification and test history accessed by entry of vehicle license plate. The inspector will verify vehicle identity with license plate and VIN. The inspector will then initiate the test procedure with the customer operating the vehicle. The test will proceed as programmed by the computer. After vehicle readings are taken, the computer will establish pass/fail and print out emission report. ~~{The DEQ is currently developing the detailed equipment specification and will submit them to EPA prior to July 1, 1994.}~~ Detailed equipment specifications are shown as Appendix I and Appendix J.

5.4.9 Quality Control

The Department's ~~{will establish the required}~~ quality control, record keeping and security procedures for the ~~computerized testing program are shown as Appendix H Section 700.04 and Appendix I Sections 4.5, 5, and 6. {after new computerized equipment has been purchased}~~. Authorization and funding for computerized equipment was granted by the 1993 Oregon Legislature in July 1993. The

Department has initiated the purchasing of new equipment and anticipates it will be on line before July 1, 1994.

~~{The Department will develop the specification for quality control and record keeping procedures and submit them to EPA prior to July 1, 1994.}~~

5.4.10 Waivers and Compliance Via Diagnostic Inspection

The Oregon I/M program does not allow vehicles to by-pass the test with use of a waiver. All vehicles must be repaired and meet testing standards before a certificate is issued and registration can be accomplished.

The test report will alert motorists that failed the vehicle test that they should pursue warranty repairs if the vehicle meets the age and mileage criteria.

5.4.11 Motorist Compliance Enforcement

The legal authority in Appendix E includes the authority necessary to develop and implement the enforcement element of the I/M program. A penalty schedule for violation of the regulation is included.

The motorist compliance enforcement program is to be implemented, in part, by the Oregon Drivers and Motor Vehicle Services Branch (DMV), which will take the lead in ensuring that owners of all subject vehicles are denied registration unless they provide valid proof of having received a certificate indicating they passed an emissions test in Oregon. State and local police agencies have the authority to cite motorists with expired registration tags. ~~{Vehicles found to be in non-compliance from parking lot surveys of the I/M areas will be cited when evidence is conclusive. The data from such surveys shall also be used as a supplement to the annual program evaluation.}~~ Periodic parking lot surveys will be used to evaluate motorist compliance with the I/M program.

The following vehicle types are exempt from the I/M program:

- All vehicle model years 1974 and older (in Portland)
- All vehicle model years older than 20 years (in Medford)
- Electric vehicles
- Farm Vehicles

Fixed load vehicles
Apportioned plate vehicles
Motorcycles
Snowmobiles
All terrain vehicles (not licensed for street use)

Studies were conducted of vehicles parked in I/M areas in 1983 and 1987. This data was reviewed with DMV registration records and phone book address look-up and tracing of vehicles that initially failed the DEQ test and did not return for retest, but were found to be registered. Based on these studies it is estimated that the current compliance rate is ~~{between 90-95 percent}~~ 95 percent in the Portland I/M area and 90 percent in the Medford I/M area. Studies are shown in Appendix G. It is estimated that essentially all of the non-compliance is due to test avoidance either by people who knowingly register inappropriately outside the inspection area or those who unknowingly register at the correct address inside the test area but indicate to DMV the address is outside the I/M area.

Oregon commits to a level of motorist enforcement necessary to ensure a compliance rate of no less than ~~{95}~~ 90% among subject vehicles in the Portland I/M program and no less than ~~{98}~~ 80% in the Medford I/M program. Mobile 5A calculations for these compliance rates are shown in Appendices B and C. If compliance rate is not achieved, Oregon commits to work with DMV to establish a specific strategies to insure compliance is achieved. ~~{These strategies may require statute and rule changes.}~~

~~A detailed description of motorist compliance enforcement mechanisms is currently being developed. It will be submitted to EPA prior to July 1, 1994. It will include a plan for testing fleet vehicles operated in, but registered outside the I/M areas; parking patrol enforcement against expired registration; minimum penalties for expired registration and falsifying registration information; require proof when vehicle moves from non-exempt to exempt status; a means of tracking registration time extensions; a means of encouraging registration transfer when a vehicle moves from outside to inside an I/M area; tracking vehicles registered without an I/M test when outside Oregon; verification of exempted vehicles.}~~

5.4.12 Motorist Compliance Enforcement Program Oversight

~~{The Department will develop a compliance program~~

~~including a procedures manual for insuring motorist compliance with the I/M program. This program will be developed and submitted to EPA prior to July 1, 1994.]~~ The Department will periodically review the compliance rates of both the Portland and Medford area I/M programs via parking lot surveys.

5.4.13 Quality Assurance

~~[The Department will develop a quality assurance program and submit it to EPA before July 1, 1994. This program shall have a procedures manual to be used by program auditors for conducting overt and covert audits. In this program auditors will be required to be thoroughly trained in I/M rules, evidence gathering, quality assurance practices and audit procedures.]~~ The Department's quality assurance program is shown in Appendix H Section 709.00. It will be used by program auditors for conducting overt and covert audits.

5.4.14 Enforcement Against Inspectors

Oregon Revised Statute 815.320 "Unlawful certification of compliance with pollution control requirements; penalty" describes that the unlawful certification of compliance with pollution control requirements is a Class A misdemeanor. This statute would apply when an Inspector is found to have intentionally improperly passed a vehicle that would not otherwise have been issued a Certificate of Compliance. The maximum penalty for a Class A misdemeanor is a \$2,500.00 fine and/or a 1 year jail sentence. Additionally, Article 12 of the current collective bargaining agreement between the Department and American Federation of State, County and Municipal Employees (AFSCME) Local 3336 details the process for disciplining and discharging State Employed Vehicle Emission Inspectors.

Oregon Administrative Rule 340-24-340 provides the Inspector's license may be suspended, revoked or removed if the Inspector fails to follow proper test procedures. This would include removal from testing duties for up to 6 months. However, Article 52 of the DEQ/AFSCME agreement requires that an State Employed Vehicle Emission Inspector shall be given at least fifteen (15) calendar days notice before any permanent change of an Inspector from one duty station to another. Where both parties agree, the required notice may be waived.

5.4.15 Data Collection

Oregon commits to collect the data elements listed in EPA regulations 40 CFR 51.365. The test equipment will be capable of tying specific test results to a specific vehicle, test site, test lane and inspector. The details of this record keeping ~~{will be submitted to EPA prior to July 1, 1994}~~ are shown as Appendix I Sections 4.5, 5 and 6.

Oregon will summarize and report to EPA the results of quality control checks performed on testing equipment, the concentration values of the calibration gases used and the time of the quality control check.

5.4.16 Data Analysis and Reporting

Beginning July 1, 1996 and annually thereafter the Department shall report to EPA summary data based upon program activities taking place from January through December of the previous year. This report will provide statistics for the testing program, the quality control program, the quality assurance program, and the enforcement program. At a minimum, Oregon commits to address all of the data elements listed in 51.366 of the federal EPA's November 5, 1992 I/M rule.

Beginning with July 1, 1996 and biennially thereafter the DEQ shall report to EPA on all changes made in the program design, funding, personnel levels, procedures, regulations and legal authority, and shall supply a detailed discussion of the impact of such changes upon the program. This report shall also detail and discuss any weaknesses or problems discovered in the program over the previous two-year period, as well as the steps that were taken to address those problems, the result of those corrective actions, and any future efforts planned.

5.4.17 Inspector Training and Licensing or Certification

Section 2.2.7 of the SIP contains rules requiring vehicle inspector to be formally trained and licensed to conduct inspection. Refresher training and relicensing is required every two years thereafter. Training will include all the elements required by 51.367(a) of the EPA I/M rule. Inspector candidates must pass a written test with at least 80 percent correct responses and a hands-on test to be certified. ~~{Oregon must resolve certain union issues before all aspects of training and licensing can be assured. Oregon will resolve these issues and submit~~

~~the resolution to EPA prior to July 1, 1994]~~

The Department will be responsible for training and testing all inspectors.

5.4.18 Public Information and Consumer Protection

DEQ commits to an ongoing public information and consumer protection program. DEQ dispenses warranty information with each failed test report. The DEQ operates a referee facility capable of conducting I/M tests. DEQ accepts smokey vehicle reports from the general public and sends a letter to the subject vehicle owner to resolve the problem. This program has been effective in correcting the problems of some smoking vehicles.

5.4.19 Improving Repair Effectiveness

~~[DEQ's experience with the automotive service industry in Portland and Medford and the record of effectiveness of mechanics in repairing vehicles to pass DEQ's current basic I/M test, demonstrates that mechanics in the Portland and Medford areas are adequately trained to meet basic program requirements.~~

~~DEQ currently operates a hot line in which mechanics or vehicle owners can get repair or program information. They can also bring the subject vehicle to Oregon's Technical Center to be reviewed by DEQ personnel. These personnel are not trained mechanics. So this may not meet EPA "hot line" requirements. DEQ will resolve this issue and submit the resolution to EPA prior to July 1, 1994.]~~

As in the past, the program's engineering and supervisory staff will continue to work with both motor vehicle owners and the automotive service industry regarding their vehicles failing to meet the exhaust emission levels. As such, a significant amount of staff time will be devoted to direct interactions with the customers. These direct contacts are normally either by telephone or person-to-person. The customers vary from the typical vehicle owner/operator to the automotive service industry technician that is trying to accomplish the necessary repairs within reasonable costs and still maintain a satisfied customer.

Customers with vehicles that present unusual testing problems or situations are referred by the inspector staff to the program's field supervisors. Initially, the problems are attempted to be resolved over the telephone

through the staff's utilization of program's reference and technical manuals. If the problems can not be resolved over the telephone, an appointment can be made to have a vehicle brought into the program's Tech Center, 1301 SE Morrison Street, Portland or to the Rogue Valley station for further testing. At that time, a diagnostic evaluation to identify the cause(s) of failure may be done.

Direct personal contacts by the program's field supervisors with customers who have encountered difficulties in meeting the testing program standards and criteria is expected to average between 20 and 25 per week. Although these personal contacts in addition to the telephone contacts are extremely time consuming, it enhances the staff's ability to effectively relate to and understand the customer's concerns about the operation of the inspection and maintenance program.

5.4.20 Compliance with Recall Notices

DEQ does not intend to require vehicle owners to comply with recall notices in order to complete vehicle registration.

5.4.21 On-road Testing

DEQ does not intend to perform on-road testing of motorist vehicles as an enhancement to DEQ's basic program.

~~{9/17/93}~~ 5/2/94
JC:jc
SIP14

ZIPCODES THAT ARE TOTALLY OR PARTIALLY WITHIN I/M PROGRAM BOUNDARY
PORTLAND AREA

COUNTY	ZIPCODE	IN OR BOTH
--	-----	----
CL	97009	BOTH
CL	97015	BOTH
CL	97027	IN
CL	97034	IN
CL	97035	IN
CL	97036	IN
CL	97045	BOTH
CL	97062	BOTH
CL	97068	BOTH
CL	97070	BOTH
CL	97080	BOTH
CL	97140	BOTH
CL	97202	IN
CL	97206	IN
CL	97219	IN
CL	97222	IN
CL	97236	IN
CL	97266	IN
CL	97267	IN
CL	97268	IN
MU	97009	BOTH
MU	97024	IN
MU	97030	IN
MU	97034	IN
MU	97035	IN
MU	97060	BOTH
MU	97080	BOTH
MU	97124	BOTH
MU	97201	IN
MU	97202	IN
MU	97203	IN
MU	97204	IN
MU	97205	IN
MU	97206	IN
MU	97209	IN
MU	97210	IN
MU	97211	IN
MU	97212	IN
MU	97213	IN
MU	97214	IN
MU	97215	IN
MU	97216	IN
MU	97217	IN
MU	97218	IN
MU	97219	IN

CL = CLACKAMAS COUNTY MU = MULTNOMAH COUNTY WA = WASHINGTON COUNTY

ZIPCODES THAT ARE TOTALLY OR PARTIALLY WITHIN I/M PROGRAM BOUNDARY
MEDFORD AREA

A-2

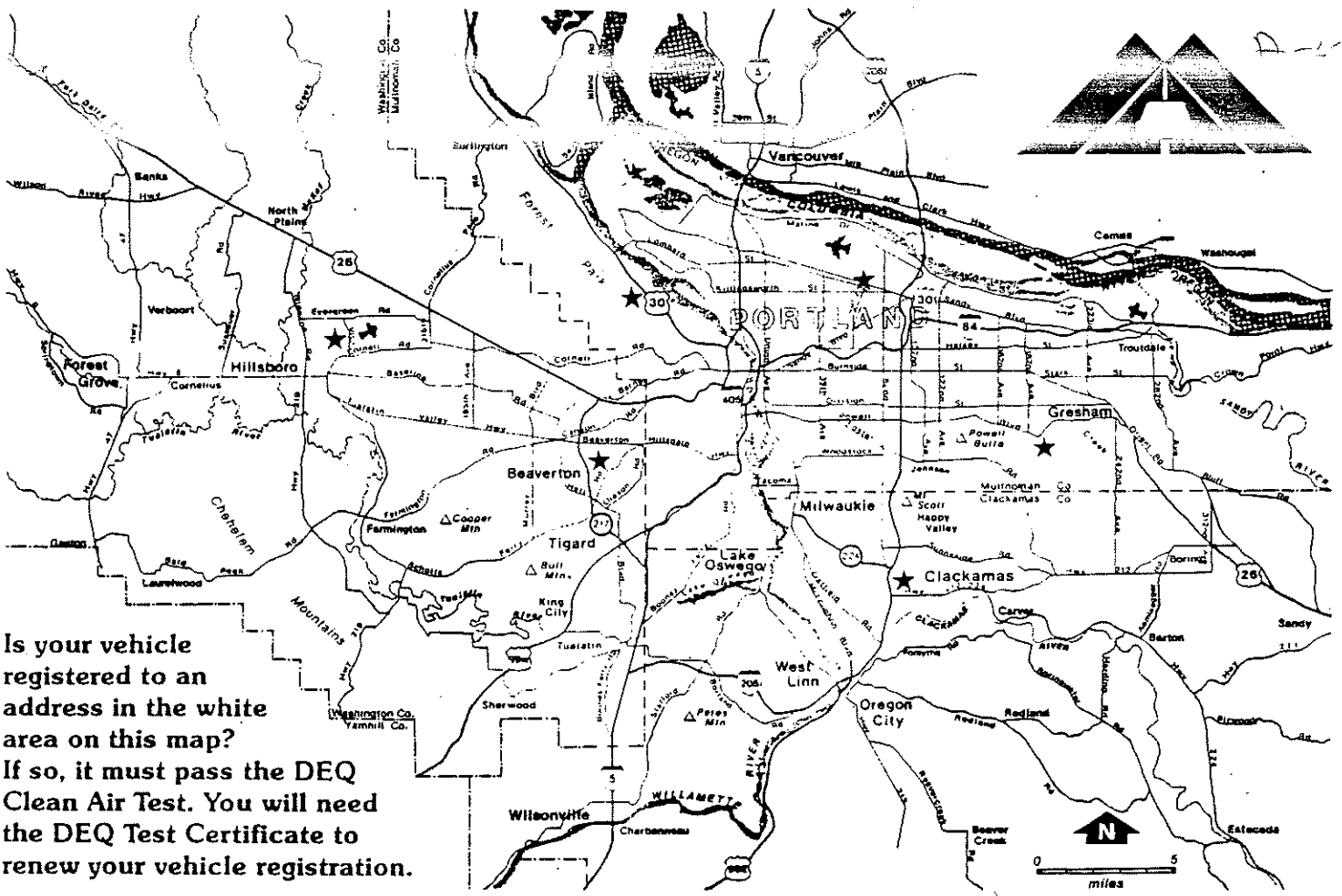
COUNTY	ZIPCODE	IN OR BOTH
--	-----	----
JA	97520	BOTH
JA	97502	BOTH
JA	97524	BOTH
JA	97525	BOTH
JA	97530	BOTH
JA	97501	IN
JA	97504	IN
JA	97535	BOTH
JA	97540	BOTH
JA	97503	BOTH

JA = JACKSON COUNTY

ZIPCODES THAT ARE TOTALLY OR PARTIALLY WITHIN I/M PROGRAM BOUNDARY
 PORTLAND AREA

COUNTY	ZIPCODE	IN OR BOTH
--	-----	-----
MU	97220	IN
MU	97221	IN
MU	97222	IN
MU	97227	IN
MU	97229	BOTH
MU	97230	IN
MU	97231	BOTH
MU	97232	IN
MU	97233	IN
MU	97236	IN
MU	97266	IN
WA	97005	IN
WA	97006	IN
WA	97007	BOTH
WA	97035	IN
WA	97062	BOTH
WA	97070	BOTH
WA	97113	BOTH
WA	97116	BOTH
WA	97123	BOTH
WA	97124	BOTH
WA	97140	BOTH
WA	97223	IN
WA	97224	BOTH
WA	97225	IN
WA	97229	BOTH
WA	97231	BOTH

CL = CLACKAMAS COUNTY MU = MULTNOMAH COUNTY WA = WASHINGTON COUNTY



Is your vehicle registered to an address in the white area on this map? If so, it must pass the DEQ Clean Air Test. You will need the DEQ Test Certificate to renew your vehicle registration.

DEQ Test Center Locations

Test Center Hours
 Open from 10 a.m. to 6 p.m.
 Tuesday through Saturday
 Closed on Sunday and Monday

- PORTLAND:** 5885 NW St. Helens Rd. (Highway 30)
- HILLSBORO:** 1065 NE 25th Ave. (off NW Cornell Rd. near Hillsboro Airport)
- BEAVERTON:** 11170 SW 5th Street (just off Highway 217)
- PORTLAND:** 6737 NE Portland Hwy. (NE Lombard)
- GRESHAM:** 1100 SW Highland Drive (SE 182nd Ave. & Powell Blvd.)
- CLACKAMAS:** 15180 SE 82nd Drive (East of I-205, south of Clackamas Town Ctr.)

What vehicles must be tested?

- Cars, trucks, vans, motor homes and buses powered by gasoline or alternative fuels such as propane.
- Diesel-powered vehicles with manufacturer gross vehicle weight rating of 8,500 pounds or less.

The program applies only to vehicles 20 model-years old or newer. Use the model year on the registration to figure the age of your vehicle. For example, starting January 1, 1992, vehicles registered as 1971 models or older don't have to be tested.

What vehicles are exempt?

- Heavy-duty diesel-powered vehicles (manufacturer gross vehicle weight rating of more than 8,500 pounds).
- Vehicles legally registered outside the DEQ program boundaries.

If your vehicle is exempt, fill out the Declaration of Exemption form on the other side and return the form to the Motor Vehicles Division with your registration renewal.

When should my vehicle be tested?

The DEQ Test Certificate is good for 3 months. Take your vehicle to a DEQ test center **within 3 months** of your registration expiration date.

What is the test procedure?

The test takes about 5 minutes. Vehicles are monitored for carbon monoxide, hydrocarbons, smoke and excessive noise. Pollution control equipment is checked on 1975 and newer vehicles.

When your vehicle passes, you can get the DEQ Test Certificate. The certificate costs \$10. It is required to renew your registration. There is no charge if your vehicle doesn't pass. However, it must be repaired or adjusted, then re-tested.

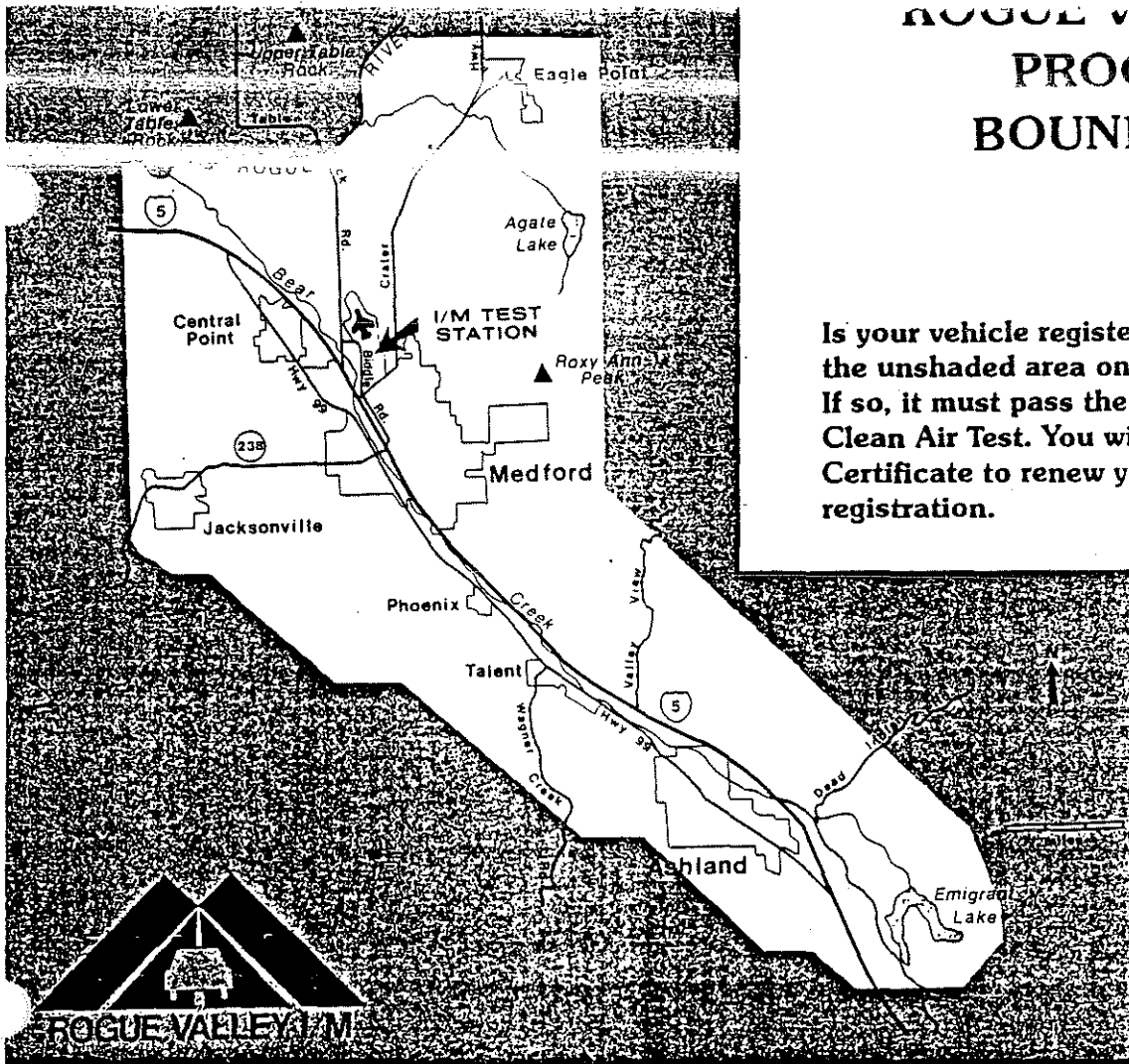
What if my vehicle doesn't pass?

It may need only a minor adjustment to pass the re-test. Performance and fuel economy generally improve with these adjustments. In some cases, more extensive repair may be needed. Adjustments and repairs may be done by anyone, including yourself, a friend, a garage mechanic or an auto dealership.

Up-to-date recorded information on the DEQ Vehicle Inspection Program is available 24 hours a day at 229-6234 or 229-6235.

For more specific information, call 229-6238, Monday through Friday, 8 a.m. to 5 p.m.

ROGUE VALLEY I/M PROGRAM BOUNDARIES



Is your vehicle registered to an address in the unshaded area on this map? If so, it must pass the Rogue Valley I/M Clean Air Test. You will need the I/M Test Certificate to renew your vehicle registration.

Vehicles are inspected at the Rogue Valley I/M Test Center.

We're located south of the Medford-Jackson County Airport at 3030 Biddle Road in Medford.

What vehicles must be tested?

- Cars, trucks, vans, motor homes and buses powered by gasoline or alternative fuels such as propane.
- Diesel-powered vehicles with manufacturer gross vehicle weight rating of 8,500 pounds or less.

The program applies only to vehicles that are 20 model-years old or newer. Use the model year on the registration to figure the age of your vehicle. For example, starting on

January 1, 1992, vehicles registered as 1971 models don't have to be tested.

What vehicles are exempt?

- Heavy-duty diesel-powered vehicles (manufacturers gross vehicle weight rating of more than 8,500 pounds).
- Vehicles legally registered outside the Rogue Valley I/M Program boundaries.

If your vehicle is exempt, fill out the Declaration of Exemption form on the other side and return the form to the Motor Vehicles Division with your registration renewal.

When should my vehicle be tested?

The I/M Test Certificate is good for 3 months. Bring your vehicle in for testing within 3 months of the date your registration expires.

What is the test procedure?

The test takes about 5 minutes. Vehicles are monitored for carbon monoxide, hydrocarbons and smoke. Pollution control equipment is checked on 1975 and newer vehicles.

If your vehicle passes, you can get the I/M Test Certificate. The certificate costs \$10. It is re-

quired to renew your registration. There is no charge if your vehicle doesn't pass. However, it must be repaired or adjusted, then re-tested.

What if my vehicle doesn't pass?

It may need only a minor adjustment to pass the re-test. Performance and fuel economy generally improve with these adjustments. In some cases, more extensive repair may be needed. Adjustments and repairs may be done by anyone, including yourself, a friend, a garage mechanic or an auto dealership.

TEST CENTER HOURS

TUESDAY through FRIDAY:
OPEN at 10 a.m.
CLOSE at 6 p.m.

SATURDAY:
OPEN at 9 a.m.
CLOSE at 5 p.m.

CLOSED
SUNDAY and MONDAY

Up-to-date recorded information on the Rogue Valley I/M Program is available 24 hours a day at 776-6145.

For more specific information, call 776-6140, Monday through Friday, 8 a.m. to 5 p.m.

MOBILE5a - (DATED 93085)

IBM-PC VERSION (1.00) MOBILE5a
(C) COPYRIGHT 1993, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 8351 SOLD TO OREGON DEPT. OF ENVIRONMENTAL

Run Began on 4/04/1994 at 17:07:06

1996 EPA Basic I&M Program (Winter)
MOBILE5a (26-Mar-93)
OI/M program selected:

0 Start year (January 1): 1983
Pre-1981 MYR stringency rate: 20%
First model year covered: 1968
Last model year covered: 2020
Waiver rate (pre-1981): 0.%
Waiver rate (1981 and newer): 0.%
Compliance Rate: 100.%
Inspection type: Test Only
Inspection frequency: Annual
Vehicle types covered: LDGV - Yes
LDGT1 - No
LDGT2 - No
HDGV - No
1981 & later MYR test type: Idle
Cutpoints, HC: 220.000 CO: 1.200 NOx: 999.000

0 Functional Check Program Description:

Check	Start (Jan1)	Model Yrs Covered	Vehicle Classes	Classes Covered	Inspection Type	Inspection Freq	Comp Rate
ATP	1977	1968-2020	Yes No	No No	Test Only	Annual	
0 Air pump system disablements:			Yes	No	Catalyst removals:		
Fuel inlet restrictor disablements:			Yes	No	Tailpipe lead deposit test		
EGR disablement:			Yes	No	Evaporative system dis-		
PCV system disablements:			Yes	No	Missing gas caps:		

0PTLD

Minimum Temp: 40. (F) Maximum Temp:
Period 1 RVP: 13.6 Period 2

MOBILE 5A INPUT AND OUTPUT
APPENDIX B & C

OVOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of Jan. 1st of the indicated calendar year.

0User supplied veh registration distributions.

0Cal. Year: 1996

Region: Low

Altitude: 500. Ft.

I/M Program: Yes

Ambient Temp: 44.0 (F)

Anti-tam. Program: Yes

Operating Mode: 20.6 / 27.3 / 20.6

Reformulated Gas: No

0 Ether Blend Market Share: 0.500

Alcohol Blend Market Share: 0.500

0 Ether Blend Oxygen Content: 0.027

Alcohol Blend Oxygen Content: 0.027

Alcohol Blend RVP Waiver: Yes

0Veh. Type: LDGV LDGT1 LDGT2 LDGT

HDGV LDDV LDDT HDDV MC All Veh

+

Veh. Spd.: 19.6 19.6 19.6 19.6 19.6 19.6 19.6 19.6 19.6

VMT Mix: 0.605 0.191 0.086 0.036 0.003 0.001 0.071 0.007

0Composite Emission Factors (Gm/Mile)

Exhst CO: 20.93 27.88 38.11 31.05 50.72 1.80 2.02 11.47 22.42 24.07

MOBILE5a - (DATED 93085)

IBM-PC VERSION (1.00) MOBILE5a
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SERIAL NUMBER 8351 SOLD TO OREGON DEPT. OF ENVIRONMENTAL

Run Began on 4/07/1994 at 14:51:57

EPA Basic I&M Program - 1997 (Summer)

MOBILE5a (26-Mar-93)

I/M program selected:

0 Start year (January 1): 1983
Pre-1981 MYR stringency rate: 20%
First model year covered: 1968
Last model year covered: 2020
Waiver rate (pre-1981): 0.%
Waiver rate (1981 and newer): 0.%
Compliance Rate: 100.%
Inspection type: Test Only
Inspection frequency: Annual
Vehicle types covered: LDGV - Yes
LDGT1 - No
LDGT2 - No
HDGV - No
1981 & later MYR test type: Idle
Cutpoints, HC: 220.000 CO: 1.200 NOx: 999.000

0Functional Check Program Description:

0Check Start	Model Yrs	Vehicle Classes	Covered	Inspection	Comp				
(Jan1)	Covered	LDGV	LDGT1	LDGT2	HDGV	Type	Freq	Rate	
ATP	1977	1968-2020	Yes	No	No	No	Test Only	Annual	100.0%
0Air pump system disablements:			Yes				Catalyst removals:		Yes
Fuel inlet restrictor disablements:			Yes				Tailpipe lead deposit test:		No
EGR disablement:			Yes				Evaporative system disablements:		Yes
PCV system disablements:			Yes				Missing gas caps:		Yes

0PTLD

Minimum Temp: 62. (F) Maximum Temp: 98. (F)

Period 1 RVP: 7.8 Period 2 RVP: 7.8 Period 2 Yr: 2020

OVOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of July 1st of the indicated calendar year.

0User supplied veh registration distributions.

0Cal. Year: 1997

Region: Low

Altitude: 500. Ft.

I/M Program: Yes

Ambient Temp: 88.8 / 88.8 / 88.8 F

Anti-tam. Program: Yes

Operating Mode: 20.6 / 27.3 / 20.6

Reformulated Gas: No

0Veh. Type: LDGV LDGT1 LDGT2 LDGT HDGV LDDV LDDT HDDV MC All Veh

+

Veh. Spd.:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	

VMT Mix:	0.600	0.194	0.086		0.036	0.002	0.001	0.073	0.007	
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0Composite Emission Factors (Gm/Mile)

VOC HC:	2.39	2.75	3.99	3.13	5.66	0.80	1.03	2.23	6.10	2.72
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Exhst CO:	17.55	23.98	34.82	27.31	57.81	1.79	1.94	11.30	25.34	21.29
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Exhst NOX:	1.56	1.62	2.27	1.82	4.98	1.62	1.75	10.73	0.77	2.42
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B/c-4

MOBILE5a - (DATED 93085)

IBM-PC VERSION (1.00) MOBILE5a
(C) COPYRIGHT 1993, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 8351 SOLD TO OREGON DEPT. OF ENVIRONMENTAL

Run Began on 4/05/1994 at 7:52:38

1997 Portland No I&M - Summer
MOBILE5a (26-Mar-93)
OPTLD 1997 HC EF

Minimum Temp: 62. (F) Maximum Temp: 98. (F)
Period 1 RVP: 7.8 Period 2 RVP: 7.8 Period 2 Yr: 2020

OVOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of July 1st of the indicated calendar year.

0User supplied veh registration distributions.

0Cal. Year: 1997 Region: Low Altitude: 500. Ft.
I/M Program: No Ambient Temp: 88.8 / 88.8 / 88.8 F
Anti-tam. Program: No Operating Mode: 20.6 / 27.3 / 20.6
Reformulated Gas: No

0Veh. Type: LDGV LDGT1 LDGT2 LDGT HDGV LDDV LDDT HDDV MC All Veh

+

	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Spd.:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
VMT Mix:	0.600	0.194	0.086		0.036	0.002	0.001	0.073	0.007	
0Composite Emission Factors (Gm/Mile)										
VOC HC:	2.93	2.75	3.99	3.13	5.66	0.80	1.03	2.23	6.10	3.05
Exhst CO:	24.56	23.98	34.82	27.31	57.81	1.79	1.94	11.30	25.34	25.49
Exhst NOX:	1.60	1.62	2.27	1.82	4.98	1.62	1.75	10.73	0.77	2.45

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16
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7

MOBILE5a - (DATED 93085)

IBM-PC VERSION (1.00) MOBILE5a
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SERIAL NUMBER 8351 SOLD TO OREGON DEPT. OF ENVIRONMENTAL

Run Began on 4/05/1994 at 7:53:25

1996 Portland - No I&M - Winter
MOBILE5a (26-Mar-93)
Optld 1996 hc ef

Minimum Temp: 40. (F) Maximum Temp: 50. (F)
Period 1 RVP: 13.6 Period 2 RVP: 13.6 Period 2 Yr: 2020

OVOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of Jan. 1st of the indicated calendar year.

0User supplied veh registration distributions.

0Cal. Year: 1996 Region: Low Altitude: 500. Ft.
I/M Program: No Ambient Temp: 44.0 (F)
Anti-tam. Program: No Operating Mode: 20.6 / 27.3 / 20.6
Reformulated Gas: No

0 Ether Blend Market Share: 0.500 Alcohol Blend Market Share: 0.500
Ether Blend Oxygen Content: 0.027 Alcohol Blend Oxygen Content: 0.027
Alcohol Blend RVP Waiver: Yes

0Veh. Type: LDGV LDGT1 LDGT2 LDGT HDGV LDDV LDDT HDDV MC All Veh

+

Veh. Spd.:	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
VMT Mix:	0.605	0.191	0.086	0.036	0.003	0.001	0.071	0.007	

0Composite Emission Factors (Gm/Mile)

Exhst CO:	27.50	27.88	38.11	31.05	50.72	1.80	2.02	11.47	22.42	28.04
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Page 1

MOBILE5a - (DATED 93085)

IBM-PC VERSION (1.00) MOBILE5a
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SERIAL NUMBER 8351 SOLD TO OREGON DEPT. OF ENVIRONMENTAL

Run Began on 4/05/1994 at 7:50:47

Portland 1996 With I&M Wintertime at 90%

MOBILE5a (26-Mar-93)

0I/M program selected:

0 Start year (January 1): 1975
Pre-1981 MYR stringency rate: 47%
First model year covered: 1975
Last model year covered: 2020
Waiver rate (pre-1981): 0.%
Waiver rate (1981 and newer): 0.%
Compliance Rate: 90.%
Inspection type: Test Only
Inspection frequency: Biennial
Vehicle types covered: LDGV - Yes
LDGT1 - Yes
LDGT2 - Yes
HDGV - Yes
1981 & later MYR test type: 2500 rpm / Idle
Cutpoints, HC: 220.000 CO: 1.200 NOx: 999.000

0Functional Check Program Description:

0Check Start	Model Yrs	Vehicle	Classes	Covered	Inspection	Comp			
(Jan1)	Covered	LDGV	LDGT1	LDGT2	HDGV	Type	Freq	Rate	
ATP	1977	1975-2020	Yes	Yes	Yes	Yes	Test Only	Biennial	90.0%
0Air pump system disablements:			Yes				Catalyst removals:		Yes
Fuel inlet restrictor disablements:			Yes				Tailpipe lead deposit test:		No
EGR disablement:			Yes				Evaporative system disablements:		Yes
PCV system disablements:			Yes				Missing gas caps:		Yes

0PTLD

Minimum Temp: 40. (F) Maximum Temp: 50. (F)
Period 1 RVP: 13.6 Period 2 RVP: 13.6 Period 2 Yr: 2020

R/c-7

OVOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of Jan. 1st of the indicated calendar year.

0User supplied veh registration distributions.

0Cal. Year: 1996 Region: Low Altitude: 500. Ft.
 I/M Program: Yes Ambient Temp: 44.0 (F)
 Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6
 Reformulated Gas: No

0 Ether Blend Market Share: 0.500 Alcohol Blend Market Share: 0.500
 Ether Blend Oxygen Content: 0.027 Alcohol Blend Oxygen Content: 0.027.

Alcohol Blend RVP Waiver: Yes

0Veh. Type: LDGV LDGT1 LDGT2 LDGT HDGV LDDV LDDT HDDV MC All Veh

+

	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Spd.:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
VMT Mix:	0.605	0.191	0.086		0.036	0.003	0.001	0.071	0.007	

0Composite Emission Factors (Gm/Mile)

Exhst CO:	21.92	21.71	28.61	23.85	46.66	1.80	2.02	11.47	22.42	22.53
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MOBILE5a - (DATED 93085)

IBM-PC VERSION (1.00) MOBILE5a
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SERIAL NUMBER 8351 SOLD TO OREGON DEPT. OF ENVIRONMENTAL

Run Began on 4/05/1994 at 7:50:30

Portland 1996 I&M Program at 95% (Wintertime)

MOBILE5a (26-Mar-93)

0I/M program selected:

0 Start year (January 1): 1975
Pre-1981 MYR stringency rate: 47%
First model year covered: 1975
Last model year covered: 2020
Waiver rate (pre-1981): 0.%
Waiver rate (1981 and newer): 0.%
Compliance Rate: 95.%
Inspection type: Test Only
Inspection frequency: Biennial
Vehicle types covered: LDGV - Yes
LDGT1 - Yes
LDGT2 - Yes
HDGV - Yes
1981 & later MYR test type: 2500 rpm / Idle
Cutpoints, HC: 220.000 CO: 1.200 NOx: 999.000

0Functional Check Program Description:

0Check Start	Model Yrs	Vehicle	Classes	Covered	Inspection	Comp			
(Jan1)	Covered	LDGV	LDGT1	LDGT2	HDGV	Type	Freq	Rate	
ATP	1977	1975-2020	Yes	Yes	Yes	Yes	Test Only	Biennial	95.0%
0Air pump system disablements:			Yes				Catalyst removals:		Yes
Fuel inlet restrictor disablements:			Yes				Tailpipe lead deposit test:		No
EGR disablement:			Yes				Evaporative system disablements:		Yes
PCV system disablements:			Yes				Missing gas caps:		Yes

OPTLD

Minimum Temp: 40. (F) Maximum Temp: 50. (F)
Period 1 RVP: 13.6 Period 2 RVP: 13.6 Period 2 Yr: 2020

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1
0

OVOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of Jan. 1st of the indicated calendar year.

0User supplied veh registration distributions.

0Cal. Year: 1996

Region: Low

Altitude: 500. Ft.

I/M Program: Yes

Ambient Temp: 44.0 (F)

Anti-tam. Program: Yes

Operating Mode: 20.6 / 27.3 / 20.6

Reformulated Gas: No

0 Ether Blend Market Share: 0.500

Alcohol Blend Market Share: 0.500

0 Ether Blend Oxygen Content: 0.027

Alcohol Blend Oxygen Content: 0.027

Alcohol Blend RVP Waiver: Yes

0Veh. Type: LDGV LDGT1 LDGT2 LDGT HDGV LDDV LDDT HDDV MC All Veh

+

Veh. Spd.:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
------------	------	------	------	--	------	------	------	------	------	--

VMT Mix:	0.605	0.191	0.086		0.036	0.003	0.001	0.071	0.007	
----------	-------	-------	-------	--	-------	-------	-------	-------	-------	--

0Composite Emission Factors (Gm/Mile)

Exhst CO:	21.48	21.23	27.85	23.28	46.30	1.80	2.02	11.47	22.42	22.09
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MOBILE5a - (DATED 93085)

IBM-PC VERSION (1.00) MOBILE5a

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SERIAL NUMBER 8351 SOLD TO OREGON DEPT. OF ENVIRONMENTAL

Run Began on 4/07/1994 at 14:48:33

Portland 1997 Summertime With I&M at 90% Compliance

MOBILE5a (26-Mar-93)

I/M program selected:

0 Start year (January 1): 1975
Pre-1981 MYR stringency rate: 47%
First model year covered: 1975
Last model year covered: 2020
Waiver rate (pre-1981): 0.%
Waiver rate (1981 and newer): 0.%
Compliance Rate: 90.%
Inspection type: Test Only
Inspection frequency: Biennial
Vehicle types covered: LDGV - Yes
LDGT1 - Yes
LDGT2 - Yes
HDGV - Yes
1981 & later MYR test type: 2500 rpm / Idle
Cutpoints, HC: 220.000 CO: 1,200 NOx: 999.000

0Functional Check Program Description:

0Check Start	Model Yrs	Vehicle Classes Covered	Inspection	Comp
(Jan1)	Covered	LDGV LDGT1 LDGT2 HDGV	Type Freq	Rate
ATP 1977	1975-2020	Yes Yes Yes	Yes Test Only Biennial	90.0%

0Air pump system disablements: Yes Catalyst removals: Yes
Fuel inlet restrictor disablements: Yes Tailpipe lead deposit test: No
EGR disablement: Yes Evaporative system disablements: Yes
PCV system disablements: Yes Missing gas caps: Yes

0PTLD

Minimum Temp: 62. (F) Maximum Temp: 98. (F)

Period 1 RVP: 7.8 Period 2 RVP: 7.8 Period 2 Yr: 2020

0VOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of July 1st of the indicated calendar year.

0User supplied veh registration distributions.

0Cal. Year: 1997 Region: Low Altitude: 500. Ft.
 I/M Program: Yes Ambient Temp: 88.8 / 88.8 / 88.8 F
 Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6
 Reformulated Gas: No

0Veh. Type: LDGV LDGT1 LDGT2 LDGT HDGV LDDV LDDT HDDV MC All Veh

+

	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Spd.:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
VMT Mix:	0.600	0.194	0.086		0.036	0.002	0.001	0.073	0.007	
0Composite Emission Factors (Gm/Mile)										
VOC HC:	2.47	2.17	3.20	2.49	5.36	0.80	1.03	2.23	6.10	2.58
Exhst CO:	18.37	17.54	24.87	19.79	53.06	1.79	1.94	11.30	25.34	19.50
Exhst NOX:	1.56	1.51	2.13	1.70	4.92	1.62	1.75	10.73	0.77	2.38

MOBILE5a - (DATED 93085)

IBM-PC VERSION (1.00) MOBILE5a
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 SERIAL NUMBER 8351 SOLD TO OREGON DEPT. OF ENVIRONMENTAL

Run Began on 4/07/1994 at 14:49:24

Portland I&M 1997 Summertime at 95% Compliance

MOBILE5a (26-Mar-93)

I/M program selected:

0 Start year (January 1): 1975
 Pre-1981 MYR stringency rate: 47%
 First model year covered: 1975
 Last model year covered: 2020
 Waiver rate (pre-1981): 0.%
 Waiver rate (1981 and newer): 0.%
 Compliance Rate: 95.%
 Inspection type: Test Only
 Inspection frequency: Biennial
 Vehicle types covered:
 LDGV - Yes
 LDGT1 - Yes
 LDGT2 - Yes
 HDGV - Yes
 1981 & later MYR test type: 2500 rpm / Idle
 Cutpoints, HC: 220.000 CO: 1.200 NOx: 999.000

0Functional Check Program Description:

0Check Start	Model Yrs	Vehicle	Classes	Covered	Inspection	Comp			
(Jan1)	Covered	LDGV	LDGT1	LDGT2	HDGV	Type	Freq	Rate	
ATP	1977	1975-2020	Yes	Yes	Yes	Yes	Test Only	Biennial	95.0%
0Air pump system disablements:			Yes				Catalyst removals:		Yes
Fuel inlet restrictor disablements:			Yes				Tailpipe lead deposit test:		No
EGR disablement:			Yes				Evaporative system disablements:		Yes
PCV system disablements:			Yes				Missing gas caps:		Yes

OPTLD

Minimum Temp: 62. (F) Maximum Temp: 98. (F)

Period 1 RVP: 7.8 Period 2 RVP: 7.8 Period 2 Yr: 2020

0VOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of July 1st of the indicated calendar year.

0User supplied veh registration distributions.

0Cal. Year: 1997 Region: Low Altitude: 500. Ft.
 I/M Program: Yes Ambient Temp: 88.8 / 88.8 / 88.8 F
 Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6
 Reformulated Gas: No

0Veh. Type: LDGV LDGT1 LDGT2 LDGT HDGV LDDV LDDT HDDV MC All Veh

+

	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Spd.:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
VMT Mix:	0.600	0.194	0.086		0.036	0.002	0.001	0.073	0.007	
0Composite Emission Factors (Gm/Mile)										
VOC HC:	2.43	2.12	3.14	2.44	5.34	0.80	1.03	2.23	6.10	2.54
Exhst CO:	17.87	17.01	24.04	19.18	52.63	1.79	1.94	11.30	25.34	19.01
Exhst NOX:	1.56	1.51	2.13	1.70	4.92	1.62	1.75	10.73	0.77	2.38

B/C-17

MOBILE5a - (DATED 93085)

IBM-PC VERSION (1.00) MOBILE5a
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SERIAL NUMBER 8351 SOLD TO OREGON DEPT. OF ENVIRONMENTAL

Run Began on 4/05/1994 at 9:36:37

Medford: 1996 I&M Program at 90% Compliance

MOBILE5a (26-Mar-93)

0I/M program selected:

0 Start year (January 1): 1986
Pre-1981 MYR stringency rate: 47%
First model year covered: 1975
Last model year covered: 2020
Waiver rate (pre-1981): 0.%
Waiver rate (1981 and newer): 0.%
Compliance Rate: 90.%
Inspection type: Test Only
Inspection frequency: Biennial
Vehicle types covered:
LDGV - Yes
LDGT1 - Yes
LDGT2 - Yes
HDGV - Yes
1981 & later MYR test type: 2500 rpm / Idle
Cutpoints, HC: 220.000 CO: 1.200 NOx: 999.000

0Functional Check Program Description:

0Check Start	Model Yrs	Vehicle Classes Covered	Inspection	Comp
(Jan1)	Covered	LDGV LDGT1 LDGT2 HDGV	Type Freq	Rate
ATP 1986	1975-2020	Yes Yes Yes	Test Only Biennial	90.0%
0Air pump system disablements:		Yes	Catalyst removals:	Yes
Fuel inlet restrictor disablements:	Yes		Tailpipe lead deposit test:	No
EGR disablement:	Yes		Evaporative system disablements:	Yes
PCV system disablements:	Yes		Missing gas caps:	Yes

0BAS mfr96 CO EF

Minimum Temp: 30. (F) Maximum Temp: 40. (F)

Period 1 RVP: 12.4 Period 2 RVP: 12.4 Period 2 Yr: 2020

0VOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of Jan. 1st of the indicated calendar year.

0User supplied veh registration distributions.

0Cal. Year: 1996

Region: Low

Altitude: 500. Ft.

I/M Program: Yes

Ambient Temp: 35.1 (F)

Anti-tam. Program: Yes

Operating Mode: 20.6 / 27.3 / 20.6

Reformulated Gas: No

0 Ether Blend Market Share: 0.500

Alcohol Blend Market Share: 0.500

Ether Blend Oxygen Content: 0.027

Alcohol Blend Oxygen Content: 0.027

Alcohol Blend RVP Waiver: Yes

0Veh. Type: LDGV LDGT1 LDGT2 LDGT HDGV LDDV LDDT HDDV MC All Veh

+

Veh. Spd.:	19.6	19.6	19.6		19.6	19.6	19.6	19.6	19.6	
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VMT Mix:	0.590	0.198	0.089		0.038	0.004	0.001	0.073	0.007	
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0Composite Emission Factors (Gm/Mile)

Exhst CO:	28.05	25.21	32.71	27.53	48.52	1.84	2.02	11.47	24.72	27.30
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MOBILE5a - (DATED 93085)

IBM-PC VERSION (1.00) MOBILE5a
(C) COPYRIGHT 1993, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 8351 SOLD TO OREGON DEPT. OF ENVIRONMENTAL

Run Began on 4/05/1994 at 9:36:33

Medford: 1996 I&M at 80% Compliance

MOBILE5a (26-Mar-93)

0I/M program selected:

0 Start year (January 1): 1986
Pre-1981 MYR stringency rate: 47%
First model year covered: 1975
Last model year covered: 2020
Waiver rate (pre-1981): 0.%
Waiver rate (1981 and newer): 0.%
Compliance Rate: 80.%
Inspection type: Test Only
Inspection frequency: Biennial
Vehicle types covered: LDGV - Yes
LDGT1 - Yes
LDGT2 - Yes
HDGV - Yes
1981 & later MYR test type: 2500 rpm / Idle
Cutpoints, HC: 220.000 CO: 1.200 NOx: 999.000

0Functional Check Program Description:

0Check Start	Model Yrs	Vehicle Classes	Covered	Inspection	Comp				
(Jan1)	Covered	LDGV	LDGT1	LDGT2	HDGV	Type	Freq	Rate	
ATP	1986	1975-2020	Yes	Yes	Yes	Yes	Test Only	Biennial	80.0%
0Air pump system disablements:			Yes	Catalyst removals:					Yes
Fuel inlet restrictor disablements:			Yes	Tailpipe lead deposit test:					No
EGR disablement:			Yes	Evaporative system disablements:					Yes
PCV system disablements:			Yes	Missing gas caps:					Yes

0BAS mfr96 CO EF

Minimum Temp: 30. (F) Maximum Temp: 40. (F)
Period 1 RVP: 12.4 Period 2 RVP: 12.4 Period 2 Yr: 2020

OVOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of Jan. 1st of the indicated calendar year.

0User supplied veh registration distributions.

0Cal. Year: 1996

Region: Low

Altitude: 500. Ft.

I/M Program: Yes

Ambient Temp: 35.1 (F)

Anti-tam. Program: Yes

Operating Mode: 20.6 / 27.3 / 20.6

Reformulated Gas: No

0 Ether Blend Market Share: 0.500

Alcohol Blend Market Share: 0.500

Ether Blend Oxygen Content: 0.027

Alcohol Blend Oxygen Content: 0.027

Alcohol Blend RVP Waiver: Yes

0Veh. Type: LDGV LDGT1 LDGT2 LDGT

HDGV LDDV LDDT HDDV MC All Veh

+

Veh. Spd.: 19.6 19.6 19.6 19.6 19.6 19.6 19.6 19.6 19.6

VMT Mix: 0.590 0.198 0.089 0.038 0.004 0.001 0.073 0.007

0Composite Emission Factors (Gm/Mile)

Exhst CO: 29.09 26.19 34.25 28.69 49.20 1.84 2.02 11.47 24.72 28.27

MOBILE5a - (DATED 93085)

IBM-PC VERSION (1.00) MOBILE5a

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SERIAL NUMBER 8351 SOLD TO OREGON DEPT. OF ENVIRONMENTAL

Run Began on 4/05/1994 at 7:51:04

Medford: 1996 EPA Basic I/M for CO - 35.1 degrees

MOBILE5a (26-Mar-93)

0I/M program selected:

0	Start year (January 1):	1983
	Pre-1981 MYR stringency rate:	20%
	First model year covered:	1968
	Last model year covered:	2020
	Waiver rate (pre-1981):	0.%
	Waiver rate (1981 and newer):	0.%
	Compliance Rate:	100.%
	Inspection type:	Test Only
	Inspection frequency	Annual
	Vehicle types covered:	LDGV - Yes
		LDGT1 - No
		LDGT2 - No
		HDGV - No
	1981 & later MYR test type:	Idle
	Cutpoints, HC: 220.000	CO: 1.200 NOx: 999.000

0BAS mfr96 CO EF

Minimum Temp: 30. (F) Maximum Temp: 40. (F)
Period 1 RVP: 12.4 Period 2 RVP: 12.4 Period 2 Yr: 2020

0VOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of Jan. 1st of the indicated calendar year.

0User supplied veh registration distributions.

0Cal. Year: 1996	Region: Low	Altitude: 500. Ft.
	I/M Program: Yes	Ambient Temp: 35.1 (F)
	Anti-tam. Program: No	Operating Mode: 20.6 / 27.3 / 20.6
	Reformulated Gas: No	

0 Ether Blend Market Share: 0.500 Alcohol Blend Market Share: 0.500

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Ether Blend Oxygen Content: 0.027

Alcohol Blend Oxygen Content: 0.027

Alcohol Blend RVP Waiver: Yes

0 Veh. Type: LDGV LDGT1 LDGT2 LDGT HDGV LDDV LDDT HDDV MC All Veh

+
Veh. Spd.: 19.6 19.6 19.6 19.6 19.6 19.6 19.6 19.6 19.6
VMT Mix: 0.590 0.198 0.089 0.038 0.004 0.001 0.073 0.007
0 Composite Emission Factors (Gm/Mile)
Exhst CO: 26.98 31.59 42.71 35.03 52.74 1.84 2.02 11.47 24.72 28.98

0
1
5
)

MOBILE5a - (DATED 93085)

IBM-PC VERSION (1.00) MOBILE5a
(C) COPYRIGHT 1993, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 8351 SOLD TO OREGON DEPT. OF ENVIRONMENTAL

Run Began on 4/05/1994 at 7:52:29

Medford: 1996 Without I/M
MOBILE5a (26-Mar-93)
OBAS mfr96 CO EF

Minimum Temp: 30. (F) Maximum Temp: 40. (F)
Period 1 RVP: 12.4 Period 2 RVP: 12.4 Period 2 Yr: 2020

OVOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of Jan. 1st of the indicated calendar year.

0User supplied veh registration distributions.

0Cal. Year: 1996 Region: Low Altitude: 500. Ft.
I/M Program: No Ambient Temp: 35.1 (F)
Anti-tam. Program: No Operating Mode: 20.6 / 27.3 / 20.6
Reformulated Gas: No

0 Ether Blend Market Share: 0.500 Alcohol Blend Market Share: 0.500
Ether Blend Oxygen Content: 0.027 Alcohol Blend Oxygen Content: 0.027
Alcohol Blend RVP Waiver: Yes

0Veh. Type: LDGV LDGT1 LDGT2 LDGT HDGV LDDV LDDT HDDV MC All Veh

+

Veh. Spd.:	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
VMT Mix:	0.590	0.198	0.089	0.038	0.004	0.001	0.073	0.007	

0Composite Emission Factors (Gm/Mile)

Exhst CO:	35.03	31.59	42.71	35.03	52.74	1.84	2.02	11.47	24.72	33.73
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ACCOUNTING MONTH OF DEC 1991

(3) BIENNIUM ENDING 06/30/93

01/21/92

413

PORTLAND MOTOR VEHICLES PROGRAM

	VOUCHERED THIS MONTH	VOUCHERED TO DATE	ENCUMBRANCES	APPROPRIATION OR LIMITATION	UNOBLIGATED BALANCE	- - - MONTHLY TO DATE	AVERAGE - - - TO SPEND
000.100 GROSS PAYROLL EXPENSE	112,701.46	596,508.24		2651,168.00	2054,659.76	99,418.04	114,147.76
000.200 OTHER PAYROLL EXPENSE	44,180.22	227,719.41		934,043.00	706,323.59	37,953.24	39,240.20
001.000 IN-STATE TRAVEL	1,586.36	9,389.19	989.00	31,805.00	21,426.81	1,729.70	1,190.38
002.000 OUT-OF-STATE TRAVEL				4,243.00	4,243.00		235.72
003.000 REGIONAL TRAVEL	18.60	102.04		498.00	395.96	17.01	22.00
004.000 OFFICE EXPENSE	1,008.66	5,066.63	204.39	11,341.00	5,269.98	1,011.84	292.78
005.000 TELECOMMUNICATIONS	1,518.62	7,361.52	880.00	26,369.00	18,127.48	1,373.59	1,007.08
006.000 STATE GOVT SERVICE CHARGE		225.37		516.00	290.63	37.56	16.15
007.000 DATA PROCESSING EXPENSE		17.70	1,655.24	638.00	1,034.94	278.82	57.50
008.000 PUBLICITY & PUBLICATIONS	10.00	14,078.56	3,430.00	27,857.00	10,348.44	2,918.09	574.91
009.000 PROFESSIONAL SERVICES				19,839.00	19,839.00		1,102.17
010.000 ATTORNEY GENERAL	86.40	228.40		4,759.00	4,530.60	38.07	251.70
011.000 EMPLOYEE RCRTMNT & DVL P		2,163.94	440.00	2,004.00	599.94	433.99	33.33
012.000 FACILITIES RENTAL	26,754.80	162,577.85		682,262.00	519,684.15	27,096.31	28,871.34
013.000 FUELS & UTILITIES	2,556.55	13,237.01		52,464.00	39,226.99	2,206.17	2,179.28
014.000 FACILITIES MAINTENANCE	537.00	3,827.90		9,866.00	6,038.10	637.98	335.45
016.000 PROGRAM RELATED S & S		75.05	200.00	52,516.00	52,240.95	45.84	2,902.28
017.000 OTHER SERVICES/SUPPLIES	6,265.69	20,809.38	2,708.31	54,521.00	31,003.31	3,919.62	1,722.41
020.000 CAPITAL OUTLAY	3,263.80	3,683.80	18,543.16	141,063.00	118,836.04	3,704.49	6,602.00
030.000 SPECIAL PAYMENTS				76,499.00	76,499.00		4,249.94
951.100				1.00	1.00		.06
PERSONAL SERVICES	156,881.68	824,227.65		3585,211.00	2760,983.35	137,371.28	153,387.96
SERVICES AND SUPPLIES	40,342.68	239,960.54	10,506.94	981,498.00	731,030.52	41,744.58	40,612.81
CAPITAL OUTLAY	3,263.80	3,683.80	18,543.16	141,063.00	118,836.04	3,704.49	6,602.00
SPECIAL PAYMENTS				76,499.00	76,499.00		4,249.94
OBJECT CLASS NOT ON FILE				1.00	1.00		.06
* FUND TOTAL	200,488.16	1067,871.99	29,050.10	4784,272.00	3687,349.91	182,820.35	204,852.77

APPENDIX D
BUDGET INFORMATION

ATTACHMENT A-2

(a) Alters or forges or causes to be altered or forged any certificate of title or certificate of registration issued by the division under the vehicle code or any assignment thereof or any certificate of registration issued by the Public Utility Commission.

(b) Holds or uses certificate of title, certificate of registration or assignment thereof issued by the division or by the Public Utility Commission knowing the certificate or assignment has been altered or forged.

(c) Unless authorized by the division or by the Public Utility Commission, prints or produces or causes to be printed or produced any certificate of title or certificate of registration required by the vehicle code or by the Public Utility Commission or any assignment thereof.

(d) Holds or uses any certificate of title, certificate of registration or assignment thereof required by the vehicle code or by the Public Utility Commission knowing that it has been printed or produced without authority from the division or the Public Utility Commission.

(2) The offense described in this section, forging, altering or unlawfully producing or using vehicle titles or registration, is a Class C felony.

REGISTRATION

(General Provisions)

803.300 Failure to register; penalty. (1)

A person commits the offense of failure to register a vehicle if the person owns a vehicle in this state and the person does not register the vehicle in this state.

(2) In addition to other persons subject to this section, this section applies to out-of-state corporations owning, operating or maintaining a place of business in this state with regard to vehicles that are used by the corporation doing business in this state.

(3) Exemptions from this section are established under ORS 803.305.

(4) The offense described in this section, failure to register a vehicle, is a Class C traffic infraction. [1983 c.338 §205; 1985 c.16 §74; 1985 c.401 §4]

803.305 Exemptions from general registration requirements. This section establishes exemptions from the requirements under ORS 803.300. The exemptions under this section are in addition to any exemptions under ORS 801.026. Vehicles exempted by this section from the requirements to be registered by this state are not prohibited from being registered by this state if registration is permitted under ORS 803.310. The following are exempt, either partially or completely as described, from the registration requirements under ORS 803.300:

(1) Road rollers, farm tractors, trolleys and traction engines are exempt from registration.

(2) Bicycles are exempt from registration.

(3) A vehicle is exempt from registration if it has registration issued for the vehicle by the Armed Forces of the United States

where the registration is issued in a foreign country to a vehicle owned by a member of the Armed Forces. The exemption granted by this subsection applies only for a period of 45 days from the time the vehicle is returned to the United States.

(4) A vehicle is exempt from registration if it is not operated on the highways of this state. No mobile home is exempt by this subsection. This subsection does not affect any exemption established under ORS 820.510.

(5) A trailer is exempt from registration if it is equipped with pneumatic tires made of elastic material and is not operated in this state with a loaded weight of more than 1,800 pounds. No trailer for hire, travel trailer, camper or mobile home is exempt by this subsection.

(6) Vehicles owned and operated by the United States Government are exempt from registration.

(7) Snowmobiles and Class I and Class III all-terrain vehicles are subject to the requirements for registration provided under ORS 821.080 to 821.110.

(8) Mobile homes are subject to ORS 803.300 as provided under ORS 820.500, 820.510 and 820.530.

(9) Implements of husbandry, well drilling machinery, emergency fire apparatus providing public fire protection and invalid chairs are exempt from registration.

(10) Farm tractors and farm trailers on highways are exempt from registration when the operation of the vehicle upon the highway is incidental to its use in an agricultural operation.

(11) Fixed load vehicles are exempt from registration while the vehicles are operated:

(a) In the construction or reconstruction of state or county roads, highways or city streets; and

(b) Within the immediate construction projects, as described in the governmental agency contract under which the work is being performed.

(12) Motor vehicles designed to operate at a loaded weight over 8,000 pounds, trailers and equipment are exempt from registration while being used for the purposes of forest protection and fire suppression under ORS chapter 477 or a similar federal statute. The exemption under this subsection applies to the vehicles or equipment described while being moved to or from the work area. The exemption under this subsection only applies to vehicles or equipment owned, leased, contracted for or requisitioned by the State Forester or State Board of Forestry, a contractor of the State Forester or State Board

of Forestry under ORS chapter 477 or the United States Government.

(13) Golf cart exemptions from registration are as provided in ORS 820.210.

(14) Vehicles currently registered and titled in any other country, state or territory are not required to be registered by this state. All of the following apply to this subsection:

(a) This subsection only provides an exemption as long as the owner of the vehicle satisfactorily shows that the owner is not a resident of this state as described under ORS 803.200.

(b) The exemption under this subsection applies to vehicles granted exemptions under ORS 768.003, 802.500 or 802.520 unless otherwise provided for under paragraph (c) of this subsection.

(c) Except as otherwise provided in this paragraph, a vehicle operated over the highways of this state for compensation or profit must comply with the registration requirements under ORS 803.300 in the same manner as vehicles owned by persons in this state. The following vehicles are not subject to this paragraph:

(A) Vehicles operated under reciprocal registration exemptions established under ORS 768.003 or 802.500.

(B) Vehicles operated under an exemption established under ORS 802.520.

(C) Vehicles that are proportionally registered under an agreement established under ORS 768.005 and according to the procedures established under ORS 768.007 and 768.009.

(D) Any vehicle if duly registered and titled under the laws of the state or country of which the owner is a bona fide resident to the extent that in the foreign country, state, territory or federal district where the owner resides like exemptions and privileges are granted vehicles duly registered and titled under the laws of this state and owned by residents of this state.

(d) If no exemption from registration requirements is in effect under ORS 768.003, 768.005, 802.500 or 802.520 with respect to another jurisdiction, any vehicle properly registered and titled in such other jurisdiction and for which evidence of compliance is supplied shall receive, when operated in this state, the same exemptions, benefits and privileges granted by such other jurisdictions to vehicles properly registered and titled in this state. Reciprocity extended under this paragraph shall apply to commercial vehicles only when engaged exclusively in interstate commerce.

(e) Any vehicle operated under dealer registration plates issued by another state,

country, province, territory or the District of Columbia is subject to this subsection.

(15) Vehicles operated or used by vehicle dealers may be operated or used without registration as provided under ORS 822.040.

(16) Vehicles towed by towing businesses may be towed without registration as provided under ORS 822.210.

(17) Vehicles without registration may be transported by vehicle transporters as provided under ORS 822.310.

(18) Vehicles that are not registered may be operated under trip permits described under ORS 803.600 or under permits described under ORS 803.610 to 803.625.

(19) If trailers that are part of a fleet of trailers for hire are properly registered in this state under ORS 805.130, all trailers that are identified as being a part of the same fleet and that are currently registered in any state, territory, province, country or the District of Columbia shall be permitted to operate in this state in both interstate and intrastate commerce without being registered by this state.

(20) Vehicles that are registered by the United States Department of State and that are owned or operated by foreign nationals with diplomatic immunity are exempt from registration.

(21) Tow dollies and converter dollies are exempt from registration. [1983 c.338 §206; 1985 c.16 §75; 1985 c.333 §7; 1985 c.401 §5; 1985 c.459 §4; 1985 c.668 §7; 1987 c.25 §2; 1989 c.43 §20; 1989 c.991 §25; 1991 c.284 §15; 1991 c.459 §438g]

803.310 Optional registration. (1) The division, by rule, may provide for optional registration of vehicles that are exempt from vehicle registration requirements by ORS 803.305. The rules adopted for purposes of this subsection may provide for the registration of categories of vehicles, types of vehicles or otherwise. Upon request of an owner, the division may issue registration for a vehicle that meets the requirements of rules adopted under this section.

(2) A vehicle that is registered under this section is subject to the same provisions, conditions, fees and other requirements for registration as are other vehicles under the vehicle code. [1985 c.333 §6]

803.315 Failure to pay registration fee; penalty. (1) A person commits the offense of failure to pay the appropriate registration fee if the person operates any vehicle or transports any camper that is registered in this state unless the proper fee, as established under ORS 803.420 or 820.580, has been paid for registration of the vehicle.

(2) The offense described in this section, failure to pay appropriate registration fee, is

a Class C traffic infraction. [1983 c.338 §207; 1985 c.16 §76]

803.320 Permitting unlawful operation of unregistered vehicle prohibited; penalty. (1) A person commits the offense of permitting unlawful operation of an unregistered vehicle if the person authorizes or knowingly permits a motor vehicle that is owned by the person or under the person's control and that is not registered as required under the vehicle code to be driven by any person.

(2) The offense described in this section, permitting unlawful operation of unregistered vehicle, is a Class B traffic infraction. [1983 c.338 §208]

Note: The amendments to 803.320 by section 23, chapter 407, Oregon Laws 1991, become operative January 1, 1993. See section 39, chapter 407, Oregon Laws 1991. The text that is operative on and after January 1, 1993, is set forth for the user's convenience.

803.320. (1) A person commits the offense of permitting unlawful operation of an unregistered vehicle if the person authorizes or knowingly permits a motor vehicle that is owned by the person or under the person's control and that is not registered as required under the vehicle code or ORS chapter 768 to be driven by any person.

(2) The offense described in this section, permitting unlawful operation of unregistered vehicle, is a Class B traffic infraction.

803.325 Purchase and use of out-of-state registered vehicle prohibited; requirements; penalty. (1) A person commits the offense of purchase and use of an out-of-state registered vehicle by a resident if the person is a resident of this state and the person purchases a vehicle registered outside of this state without doing all of the following:

(a) Upon purchase, the person shall remove the registration plates and shall cause the vehicle to be registered as provided under the vehicle code for vehicles owned by residents of this state.

(b) The person shall not use, within this state, the vehicle except when the person has paid fees and has complied with the vehicle code.

(2) The offense described in this section, purchase and use of out-of-state registered vehicle by resident, is a Class C traffic infraction. [1983 c.338 §209; 1985 c.16 §77]

Note: The amendments to 803.325 by section 24, chapter 407, Oregon Laws 1991, become operative January 1, 1993. See section 39, chapter 407, Oregon Laws 1991. The text that is operative on and after January 1, 1993, is set forth for the user's convenience.

803.325. (1) A person commits the offense of purchase and use of an out-of-state registered vehicle by a resident if the person is a resident of this state and the person purchases a vehicle registered outside of this state without doing all of the following:

(a) Upon purchase, the person shall remove the registration plates and shall cause the vehicle to be registered as provided under the vehicle code or under

ORS chapter 768, as appropriate, for vehicles owned by residents of this state.

(b) The person shall not use, within this state, the vehicle except when the person has paid fees and has complied with the vehicle code or with ORS chapter 768, as appropriate.

(2) The offense described in this section, purchase and use of out-of-state registered vehicle by resident, is a Class C traffic infraction.

(Qualifications)

803.350 Qualifications for registration; fee. This section establishes the requirements for qualification for registration. The division shall not issue registration to a vehicle if the requirements under this section are not met. The division, in the absence of just cause for refusing to register a vehicle upon application, shall assign a distinctive number or other distinctive means of identification and shall issue registration for a vehicle if all of the following requirements are met:

(1) The applicant applies for and is granted a certificate of title in the applicant's name at the same time the person makes application for registration, or presents satisfactory evidence that a certificate of title covering the vehicle has been previously issued to the applicant.

(2) The applicant completes an application described under ORS 803.370. If the vehicle is a reconstructed or assembled vehicle or a replica, the person must state that fact in the application or be subject to ORS 803.225.

(3) The applicant pays the division the registration fee established under ORS 803.420 and any applicable fees for issuance of registration plates.

(4) For motor vehicles, proof of compliance with pollution control equipment requirements is provided to the division. Proof required to comply with this subsection is described under ORS 815.310. This subsection does not apply if the vehicle is exempt from the requirements for proof of compliance under ORS 815.300.

(5) If inspection of the vehicle is required by ORS 803.210:

(a) The person must surrender to the division all of the registration plates, seals, certificates of registration or other evidences of the former registration in the applicant's possession or control;

(b) The vehicle must be inspected as described in ORS 803.212; and

(c) The inspection fee under ORS 803.215 must be paid.

(6) If required by the division, the applicant submits proof of ownership or submits an affidavit as described under ORS 803.205.

(7) The applicant is domiciled in this state, as described in ORS 803.355, if required by ORS 803.360 to be domiciled in the state in order to register a vehicle. If the division has reason to believe that the applicant is not domiciled in this state and is required to be in order to register a vehicle, the division may require the person to submit proof of domicile. The division shall determine by rule what constitutes proof of domicile.

(8) The applicant owns a vehicle that qualifies under ORS 803.360 (2) for registration in this state, if the owner is not domiciled in this state and is not required by ORS 803.200, or any other provision of law, to register the vehicle in this state.

(9) The applicant surrenders all evidence of any former registration or title as required by ORS 803.380. [1983 c.338 §210; 1985 c.16 §78; 1985 c.305 §9; 1985 c.402 §11; 1987 c.146 §7; 1989 c.22 §1]

803.355 "Domicile" described. For purposes of ORS 803.350 to 803.370 and 807.045, a person is domiciled in this state if the person's place of abode is in the state and the person intends to remain in the state or, if absent, to return to it. [1985 c.305 §7; 1989 c.636 §15]

803.360 Domicile in state required; exceptions. (1) No person may register or renew the registration of a vehicle in this state unless the person is domiciled in this state, as described in ORS 803.355. This section does not apply to persons required by ORS 803.200 or any other provision of law, to register vehicles in this state.

(2) Notwithstanding subsection (1) of this section, a person who is not domiciled in this state may register or renew the registration of a vehicle that:

(a) Is usually left within the state when the registered owner is absent from the state;

(b) Is used primarily for personal transportation within the state;

(c) Is a private passenger vehicle or a vehicle with a loaded weight of less than 8,000 pounds; and

(d) Is not a motor home or a camper. [1985 c.305 §8]

(Application)

803.370 Contents of application. This section establishes requirements for an application for vehicle registration in this state. If an applicant fails to comply with requirements under this section, the division may refuse to register or reregister a vehicle until the applicant complies with the requirements. An application shall be duly signed by the owner and shall contain all of the following:

(1) The true name and, except as provided for officers or eligible employees in ORS 802.250, actual residence or business address of the owner.

(2) A description of the vehicle, including the name of the make and the vehicle identification number.

(3) An odometer disclosure in a form determined by the division by rule pursuant to ORS 803.120, if a disclosure is otherwise required.

(4) Any other information required by the division.

(5) If the application is for registration or reregistration of a vehicle that is subject to the federal heavy vehicle use tax, proof that the federal use tax has been paid. The division shall adopt rules to determine proof that will be acceptable for purposes of this subsection.

(6) A statement that the applicant is domiciled in this state as described in ORS 803.355 if the applicant is required by ORS 803.360 to be domiciled in this state in order to register a vehicle in the state.

(7) A statement that the vehicle qualifies under ORS 803.360 (2) for registration in this state, if the owner is not domiciled in this state and is not required by ORS 803.200, or any other provision of law, to register the vehicle in this state. [1983 c.338 §211; 1985 c.16 §79; 1985 c.251 §18; 1985 c.305 §10; 1985 c.563 §4; 1989 c.695 §3; 1991 c.67 §215; 1991 c.523 §4; 1991 c.873 §15]

803.375 False application prohibited; penalty. (1) A person commits the offense of false application for vehicle registration if the person does any of the following:

(a) Knowingly makes any false statement or representation with respect to any facts required to be set forth in any application for registration.

(b) Uses a name other than the person's true name in any application for registration.

(2) The penalty for submitting a false odometer reading in an application for registration is as provided in ORS 815.430.

(3) The offense described in this section, false application for vehicle registration, is a Class A misdemeanor. [1983 c.338 §212; 1985 c.16 §80; 1985 c.251 §19]

803.380 Failure to surrender out-of-state registration; penalty. (1) A person commits the offense of failure to surrender out-of-state registration, if the person registers a vehicle in this state that has been registered in another jurisdiction and the person does not surrender to the division all number plates, seals, certificates of registration or other evidences of the former registration in possession or control of the applicant.

(2) The offense described in this section, failure to surrender out-of-state registration, is a Class D traffic infraction. [1983 c.338 §213; 1985 c.16 §81]

Note: The amendments to 803.380 by section 25, chapter 407, Oregon Laws 1991, become operative January 1, 1993. See section 39, chapter 407, Oregon Laws 1991. The text that is operative on and after January 1, 1993, is set forth for the user's convenience.

803.380. (1) A person commits the offense of failure to surrender out-of-state registration, if the person registers a vehicle in this state that has been registered in another jurisdiction and the person does not surrender to the division or to the Public Utility Commission, as appropriate, all number plates, seals, certificates of registration or other evidences of the former registration in possession or control of the applicant.

(2) The offense described in this section, failure to surrender out-of-state registration, is a Class D traffic infraction.

803.385 False swearing relating to registration; penalty. (1) A person commits the offense of false swearing relating to registration of vehicles if the person knowingly makes any false affidavit or knowingly swears or affirms falsely to any matter or thing relating to the registering of vehicles under the vehicle code.

(2) The penalty for submitting a false odometer reading in an application or on renewal of registration is as provided under ORS 815.430.

(3) The offense described in this section, false swearing relating to registration of vehicles, is a Class A misdemeanor. [1983 c.338 §214; 1985 c.251 §20; 1985 c.393 §5]

Note: The amendments to 803.385 by section 26, chapter 407, Oregon Laws 1991, become operative January 1, 1993. See section 39, chapter 407, Oregon Laws 1991. The text that is operative on and after January 1, 1993, is set forth for the user's convenience.

803.385. (1) A person commits the offense of false swearing relating to registration of vehicles if the person knowingly makes any false affidavit or knowingly swears or affirms falsely to any matter or thing relating to the registering of vehicles under the vehicle code or under ORS chapter 768.

(2) The penalty for submitting a false odometer reading in an application or on renewal of registration is as provided under ORS 815.430.

(3) The offense described in this section, false swearing relating to registration of vehicles, is a Class A misdemeanor.

(Periods and Fees)

803.400 Duration of registration periods. This section establishes and distinguishes registration periods. Each registration period determines the period of validity for vehicle registration. Registration under the following registration periods is valid during the described registration period:

(1) Annual registration is valid for a one-year period. The period starts on the first day of a calendar month and runs through

the last day of the same calendar month one year later. Once a vehicle is registered under annual registration, the registration period of the vehicle begins and ends with that same calendar month each time the vehicle is reregistered or registration for the vehicle is renewed.

(2) Biennial registration is valid for a two-year period. The period starts on the day a vehicle is registered and runs through the same day two years later. Once a vehicle is registered under biennial registration, the registration period of the vehicle begins and ends with that same day each time the vehicle is reregistered or registration for the vehicle is renewed. Vehicles initially registered on February 29 will expire on the last day of February two years later.

(3) Calendar-year registration starts on January 1 of a year and runs through December 31 of the same year.

(4) Ownership registration starts on the day the vehicle is registered and is valid until the ownership of the vehicle changes.

(5) Permanent registration starts on the day the vehicle is registered and is valid for the life of the vehicle.

(6) Quarterly registration starts on the first day of any calendar quarter and runs through the last day of the last calendar quarter in the registration period. The number of calendar quarters in a quarterly registration is elected by the vehicle owner at the time of registration. A person may not establish quarterly registration periods for more than four quarters. If a vehicle is registered for a quarterly registration period of less than four calendar quarters, the division shall collect, when issuing or renewing registration of the vehicle, the additional fee for quarterly registration established under ORS 803.420.

(7) Special five-year registration is valid for a five-year period. The period starts on the first day of a calendar month and runs through the last day of the same calendar month five years later. Once a vehicle is registered under special registration, the registration periods of the vehicle begin and end with that same month each time the vehicle is reregistered or registration for the vehicle is renewed. [1983 c.338 §222; 1989 c.76 §1]

803.405 Effect of initial registration month. (1) The month in which any vehicle is initially registered under annual registration is the month established as the beginning and ending of registration periods for the vehicle unless the division adjusts the registration month of the vehicle upon initial registration under ORS 803.410.

(2) The day on which any vehicle is initially registered under biennial registration

or when required under ORS 820.520 is the day established as the beginning and ending of registration periods for the vehicle unless the division adjusts the registration period of the vehicle upon initial registration under ORS 803.410. [1983 c.338 §223; 1989 c.76 §2]

803.410 Division authorized to adjust periods and fees. The division is empowered to administer ORS 803.400 and 803.405, relating to the registration periods of vehicles and to adopt and enforce rules, including rules for the adjustment or proration of fees and registration periods, necessary to accomplish the enforcement of those sections. The authority granted the division under this section is subject to the following:

(1) The division may initially register a vehicle that is subject to biennial registration for less than a 24-month period or for more than a 24-month period, not exceeding a maximum of a 30-month period, and prorate the fee on a monthly basis, when in its opinion such fractional registration tends to fulfill the purpose of the biennial registration system.

(2) The division may initially adjust the registration periods of trailers for hire registered as part of a fleet under ORS 805.130 for a maximum 60-month period.

(3) The authority granted under this section includes authority to adjust the initial registration period of travel trailers and special use trailers that are required to be registered after being removed from assessment under the ad valorem tax laws by ORS 820.520.

(4) The division, by rule, may adjust registration fees or registration periods for a vehicle, as is administratively convenient for the division, if:

(a) The vehicle is changed from one type of registration to another type; or

(b) Any other change relating to the registration of the vehicle is made where it would be administratively convenient for the division to make such adjustments. [1983 c.338 §224; 1985 c.16 §83; 1985 c.253 §3; 1987 c.750 §6; 1989 c.43 §21]

803.415 Registration periods for vehicles. This section establishes registration periods for vehicles. The registration periods are periods described under ORS 803.400. Except as provided in the following, the registration period for any vehicle registered in this state is a biennial registration period:

(1) The following vehicles have permanent registration:

(a) Antique vehicles registered under ORS 805.010.

(b) Vehicles of special interest registered under ORS 805.020.

(c) Trailers that will be operated on the highways at a loaded weight of more than 8,000 pounds and are not travel trailers, mobile homes, fixed load vehicles or special use trailers.

(2) Government-owned vehicles registered under ORS 805.040 have ownership registration.

(3) The following vehicles may be registered under annual or quarterly registration unless the vehicles are registered under proportional registration under ORS 768.007 or proportional fleet registration under ORS 768.009:

(a) Vehicles required to establish a registration weight under ORS 803.430.

(b) Commercial buses.

(c) Vehicles registered as farm vehicles under ORS 805.300.

(4) Snowmobiles and Class I and Class III all-terrain vehicles are registered as provided in ORS 821.080.

(5) Mobile homes are registered as provided in ORS 820.500.

(6) Vehicles operated by dealers who hold certificates under ORS 822.020 are as provided under ORS 822.040.

(7) Trailers for hire that will be operated at a loaded weight of 8,000 pounds or less may be registered as follows:

(a) Annual registration; or

(b) If registered under ORS 805.130, special five-year registration at the election of the owner.

(8) The registration period for electric vehicles is a biennial registration period except that the registration period for the following electric vehicles is an annual registration period:

(a) Commercial buses.

(b) Electric vehicles registered as farm vehicles under ORS 805.300.

(c) Vehicles required to establish registration weight under ORS 803.430.

(9) Vehicles registered under ORS 805.100 have an ownership registration period.

(10) School vehicles registered under ORS 805.050 have ownership registration except that the registration shall continue to be valid if ownership of the vehicle is transferred to a person who continues to use the vehicle for purposes authorized by ORS 805.050. [1983 c.338 §225; 1985 c.16 §84; 1985 c.177 §1; 1985 c.189 §1; 1985 c.547 §12; 1987 c.158 §162; 1987 c.217 §2; 1989 c.43 §22; 1989 c.723 §7; 1989 c.991 §26; 1991 c.284 §16]

Note: The amendments to 803.415 by section 27, chapter 407, Oregon Laws 1991, become operative January 1, 1993. See section 39, chapter 407, Oregon Laws

1991. The text that is operative on and after January 1, 1993, is set forth for the user's convenience.

803.415. This section establishes registration periods for vehicles. The registration periods are periods described under ORS 803.400. Except as provided in the following, the registration period for any vehicle registered in this state by the division is a biennial registration period:

(1) The following vehicles have permanent registration:

(a) Antique vehicles registered under ORS 805.010.

(b) Vehicles of special interest registered under ORS 805.020.

(c) Trailers that will be operated on the highways at a loaded weight of more than 8,000 pounds and are not travel trailers, mobile homes, fixed load vehicles or special use trailers.

(2) Government-owned vehicles registered under ORS 805.040 have ownership registration.

(3) The following vehicles may be registered under annual or quarterly registration unless the vehicles are registered under proportional registration under ORS 768.007 or proportional fleet registration under ORS 768.009:

(a) Vehicles required to establish a registration weight under ORS 803.430.

(b) Commercial buses.

(c) Vehicles registered as farm vehicles under ORS 805.300.

(4) Snowmobiles and Class I and Class III all-terrain vehicles are registered as provided in ORS 821.080.

(5) Mobile homes are registered as provided in ORS 820.500.

(6) Vehicles operated by dealers who hold certificates under ORS 822.020 are as provided under ORS 822.040.

(7) Trailers for hire that will be operated at a loaded weight of 8,000 pounds or less may be registered as follows:

(a) Annual registration; or

(b) If registered under ORS 805.130, special five-year registration at the election of the owner.

(8) The registration period for electric vehicles is a biennial registration period except that the registration period for the following electric vehicles is an annual registration period:

(a) Commercial buses.

(b) Electric vehicles registered as farm vehicles under ORS 805.300.

(c) Vehicles required to establish registration weight under ORS 803.430.

(9) Vehicles registered under ORS 805.100 have an ownership registration period.

(10) School vehicles registered under ORS 805.050 have ownership registration except that the registration shall continue to be valid if ownership of the vehicle is transferred to a person who continues to use the vehicle for purposes authorized by ORS 805.050.

803.420 Registration fees. This section establishes registration fees for vehicles. If there is uncertainty as to the classification of a vehicle for purposes of the payment of registration fees under the vehicle code, the division may classify the vehicle to assure that registration fees for the vehicle are the same as for vehicles the division determines to be comparable. The registration fees for

the vehicle shall be those based on the classification determined by the division. The fees described in this section are for an entire registration period for the vehicle as described under ORS 803.415, unless the vehicle is registered quarterly. The division shall apportion any fee under this section to reflect the number of quarters registered for a vehicle registered for a quarterly registration period under ORS 803.415. The fees are payable when a vehicle is registered and upon renewal of registration. Except as provided in ORS 801.041 (3) and 801.042 (7), the fee shall be increased by any amount established by the governing body of a county or by the governing body of a district, as defined in ORS 801.237 under ORS 801.041 or 801.042 as an additional registration fee for the vehicle. The fees for registration of vehicles are as follows:

(1) Vehicles not otherwise provided for in this section or ORS 820.580 or 821.320, \$30.

(2) Mopeds, \$9.

(3) Motorcycles, \$9.

(4) Government-owned vehicles registered under ORS 805.040, \$2.

(5) State-owned vehicles with regular registration plates registered under ORS 805.045, \$2 on registration or renewal.

(6) Undercover vehicles registered under ORS 805.060, \$2 on registration or renewal.

(7) Antique vehicles registered under ORS 805.010, \$30.

(8) Vehicles of special interest registered under ORS 805.020, \$45.

(9) Electric vehicles as follows:

(a) The registration fee for an electric vehicle not otherwise described in this subsection is \$60.

(b) The registration fee for electric vehicles that have two or three wheels is \$30. This paragraph does not apply to electric mopeds. Electric mopeds are subject to the same registration fee as otherwise provided for mopeds under this section.

(c) The registration fees for the following electric vehicles are the same as for comparable nonelectric vehicles described in this section plus 50 percent of such fee:

(A) Motor homes.

(B) Commercial buses.

(C) Vehicles registered as farm vehicles under ORS 805.300.

(D) Vehicles required to establish registration weight under ORS 768.011 or 803.430.

(10) Motor vehicles required to establish a registration weight under ORS 768.011 or 803.430, and commercial buses as provided in the following chart, based upon the weight

submitted in the weight certificate prepared under ORS 768.013 or 803.435:

Weight in Pounds	Fee
8,000 or less	\$ 15
8,001 to 10,000	125
10,001 to 12,000	140
12,001 to 14,000	155
14,001 to 16,000	170
16,001 to 18,000	190
18,001 to 20,000	210
20,001 to 22,000	230
22,001 to 24,000	250
24,001 to 26,000	270
26,001 to 28,000	120
28,001 to 30,000	125
30,001 to 32,000	135
32,001 to 34,000	140
34,001 to 36,000	150
36,001 to 38,000	155
38,001 to 40,000	165
40,001 to 42,000	170
42,001 to 44,000	180
44,001 to 46,000	185
46,001 to 48,000	190
48,001 to 50,000	200
50,001 to 52,000	210
52,001 to 54,000	215
54,001 to 56,000	220
56,001 to 58,000	230
58,001 to 60,000	240
60,001 to 62,000	250
62,001 to 64,000	260
64,001 to 66,000	265
66,001 to 68,000	275
68,001 to 70,000	280
70,001 to 72,000	290
72,001 to 74,000	295
74,001 to 76,000	305
76,001 to 78,000	310
78,001 to 80,000	320
80,001 to 82,000	325
82,001 to 84,000	335
84,001 to 86,000	340
86,001 to 88,000	350
88,001 to 90,000	355
90,001 to 92,000	365
92,001 to 94,000	370
94,001 to 96,000	380
96,001 to 98,000	385
98,001 to 100,000	390
100,001 to 102,000	400
102,001 to 104,000	405
104,001 to 105,500	415

8,001 to 10,000	\$ 50
10,001 to 12,000	60
12,001 to 14,000	65
14,001 to 16,000	75
16,001 to 18,000	80
18,001 to 20,000	90
20,001 to 22,000	95
22,001 to 24,000	105
24,001 to 26,000	110
26,001 to 28,000	120
28,001 to 30,000	125
30,001 to 32,000	135
32,001 to 34,000	140
34,001 to 36,000	150
36,001 to 38,000	155
38,001 to 40,000	165
40,001 to 42,000	170
42,001 to 44,000	180
44,001 to 46,000	185
46,001 to 48,000	190
48,001 to 50,000	200
50,001 to 52,000	210
52,001 to 54,000	215
54,001 to 56,000	220
56,001 to 58,000	230
58,001 to 60,000	240
60,001 to 62,000	250
62,001 to 64,000	260
64,001 to 66,000	265
66,001 to 68,000	275
68,001 to 70,000	280
70,001 to 72,000	290
72,001 to 74,000	295
74,001 to 76,000	305
76,001 to 78,000	310
78,001 to 80,000	320
80,001 to 82,000	325
82,001 to 84,000	335
84,001 to 86,000	340
86,001 to 88,000	350
88,001 to 90,000	355
90,001 to 92,000	365
92,001 to 94,000	370
94,001 to 96,000	380
96,001 to 98,000	385
98,001 to 100,000	390
100,001 to 102,000	400
102,001 to 104,000	405
104,001 to 105,500	415

(11)(a) Motor vehicles with a registration weight of more than 8,000 pounds that are described in ORS 767.022, that are operated by a charitable organization as described in ORS 767.025 (15), that are certified under ORS 822.205 or that are used exclusively to transport mobile homes, as provided in the following chart:

Weight in Pounds	Fee
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(b) The owner of a vehicle described in paragraph (a) of this subsection must certify at the time of registration, in a manner determined by the division by rule, that the motor vehicle will be used exclusively to transport mobile homes or exclusively as described in ORS 767.022, 767.025 (15) or 822.210.

(12) Trailers registered under permanent registration, \$10.

(13) Fixed load vehicles as follows:

(a) If a certificate of weight described under ORS 803.435 is submitted establishing the weight of the vehicle at 3,000 pounds or less, \$30.

(b) If no certificate of weight is submitted or if the weight of the vehicle is in excess of 3,000 pounds, \$75.

(14) Trailers for hire that are equipped with pneumatic tires made of an elastic material and that are not travel trailers, mobile homes or trailers registered under permanent registration, \$15.

(15) Trailers under ORS 805.130, for a special five-year registration as follows:

(a) A \$15 fee for the first 12 months of the five-year period and a bond in such sum as the administrator deems reasonable and adequate in the circumstances with sufficient surety, conditioned that the owner will pay a \$15 fee at the beginning of each 12-month period; or

(b) A \$75 fee for the entire five-year period.

(16) Travel trailers, campers and motor homes as follows, based on length as determined under ORS 803.425:

(a) For lengths 6 to 10 feet, \$36.

(b) For travel trailers or campers over 10 feet in length, \$36 plus \$3 a foot for each foot of length over the first 10 feet.

(c) For motor homes over 10 feet in length, \$56 plus \$3 a foot for each foot of length over the first 10 feet.

(17) Special use trailers as follows, based on length as determined under ORS 803.425:

(a) For lengths 6 to 10 feet, \$30.

(b) For special use trailers over 10 feet in length, \$30 plus \$3 a foot for each foot of length over the first 10 feet.

(18) Fees for vehicles with proportional registration under ORS 768.007, or proportioned fleet registration under ORS 768.009, are as provided for vehicles of the same type under this section except that the fees shall be fixed on an apportioned basis as provided under the agreement established under ORS 768.005.

(19) For any vehicle that is registered under a quarterly registration period, a minimum of \$15 for each quarter registered plus an additional fee of \$1.

(20) In addition to any other fees charged for registration of vehicles in fleets under ORS 805.120, the division may charge the following fees:

(a) A \$2 service charge for each vehicle entered into a fleet.

(b) A \$1 service charge for each vehicle in the fleet at the time of renewal.

(21) The registration fee for vehicles with special registration for disabled veterans under ORS 805.100 is a fee of \$15.

(22) The registration fee for mobile homes is as provided in ORS 820.580.

(23) Subject to subsection (19) of this section, the registration fee for motor vehicles registered as farm vehicles under ORS 805.300 is as follows based upon the registration weight given in the certificate of weight submitted under ORS 803.435:

Weight in Pounds	Fee
8,000 or less	\$ 15
8,001 to 10,000	30
10,001 to 12,000	35
12,001 to 14,000	45
14,001 to 16,000	50
16,001 to 18,000	60
18,001 to 20,000	65
20,001 to 22,000	75
22,001 to 24,000	80
24,001 to 26,000	90
26,001 to 28,000	95
28,001 to 30,000	105
30,001 to 32,000	110
32,001 to 34,000	120
34,001 to 36,000	125
36,001 to 38,000	135
38,001 to 40,000	140
40,001 to 42,000	150
42,001 to 44,000	155
44,001 to 46,000	165
46,001 to 48,000	170
48,001 to 50,000	180
50,001 to 52,000	185
52,001 to 54,000	190
54,001 to 56,000	200
56,001 to 58,000	210
58,001 to 60,000	215
60,001 to 62,000	220
62,001 to 64,000	230
64,001 to 66,000	240
66,001 to 68,000	245
68,001 to 70,000	250
70,001 to 72,000	260
72,001 to 74,000	265
74,001 to 76,000	275
76,001 to 78,000	280
78,001 to 80,000	290
80,001 to 82,000	295
82,001 to 84,000	305
84,001 to 86,000	310
86,001 to 88,000	320
88,001 to 90,000	325
90,001 to 92,000	335
92,001 to 94,000	340
94,001 to 96,000	350
96,001 to 98,000	355
98,001 to 100,000	365
100,001 to 102,000	370
102,001 to 104,000	380
104,001 to 105,500	385

(24) The registration fee for school vehicles registered under ORS 805.050 is \$7.50. [1983 c.333 §226; 1985 c.16 §85; 1985 c.177 §2; 1985 c.189 §2; 1985 c.245 §2; 1985 c.253 §4; 1985 c.401 §6; 1985 c.547 §13; 1987 c.6 §2; 1987 c.25 §3; 1987 c.440 §3; 1987 c.750 §7; 1989 c.43 §23; 1989 c.723 §§8, 8a; 1989 c.864 §7; 1989 c.865

§§7, 7a, 7b, 7c, 7d, 7e, 7f; 1989 c.992 §§11, 11a, 11b, 11c; 1991 c.284 §17; 1991 c.497 §13; 1991 c.880 §10]

803.425 Vehicle length for fee determination. The following are the measurement points of the described vehicles for the purposes of determining registration fees under ORS 803.420:

(1) Special use trailers and travel trailers are measured from the foremost point of the trailer hitch to the rear extremity of the trailer body not including the spare tire, but including all ordinary equipment or appliances appropriate to the type of body such as stakes, curtains, hooks, skids, tailboard, chains, sides and roof.

(2) Campers are measured by overall length from the extreme front to the extreme rear.

(3) Motor homes are measured by overall length from front to rear extremities.

(4) Tent trailers are measured by overall length when folded for travel. [1983 c.338 §229; 1985 c.16 §86]

803.430 Registration weight for fee determination; methods of establishing; requirement. (1) Registration weight is established for the following purposes:

(a) The registration weight is the weight used in the certificate of weight under ORS 803.435 to determine the registration fees under ORS 803.420 for vehicles required to establish registration weight under this section.

(b) A vehicle that is required to establish registration weight by this section is in violation of ORS 803.315 if the vehicle is operated on a highway of this state at a weight in excess of the registration weight except when carrying a load:

(A) Under the provisions of ORS 376.305 to 376.390;

(B) Of over 105,500 pounds combined weight under a variance permit issued under ORS 818.200;

(C) Under a registration weight trip permit issued under ORS 803.600; or

(D) Consisting of towed motor vehicles required to be registered under the vehicle code.

(2) Registration weight is established at the time of registration and whenever the vehicle has been altered or reconstructed by furnishing a certificate of weight described under ORS 803.435 that contains a written declaration of the maximum combined weight at which the vehicle will be operated on the highways of this state except when carrying loads described under paragraph (b) of subsection (1) of this section. The maximum registration weight for any vehicle required

to establish a registration weight under this section is 105,500 pounds. Vehicles operating at weights above 105,500 pounds will operate under a variance permit issued under ORS 818.200.

(3) Except as provided in subsection (4) of this section, the following vehicles are required to establish a registration weight under this section:

(a) Any motor truck that will be operated on the highways at a combined weight of more than 8,000 pounds not including the weight of any camper or trailing vehicle described in subsection (5) of this section.

(b) Any truck tractor that will be operated on the highways at a combined weight of more than 8,000 pounds not including the weight of any camper or trailing vehicle described in subsection (5) of this section.

(c) An armored car, wrecker, tow vehicle, hearse or ambulance.

(d) Any other motor vehicle that will be operated on the highways at a combined weight of more than 8,000 pounds not including the weight of any camper or trailing vehicle as described in subsection (5) of this section.

(e) A self-propelled mobile crane.

(f) Any motor vehicle registered as a farm vehicle under ORS 805.300.

(4) A vehicle that is being registered under a specific provision of the vehicle code where fees are not based on weight or where registration weight is specifically not required is not required to establish registration weight under this section.

(5) The weight of a camper or the following trailing vehicles shall not be included in the registration weight:

(a) Trailers with a loaded weight of 8,000 pounds or less.

(b) Special use trailers, travel trailers, mobile homes and fixed load vehicles.

(c) Towed motor vehicles. [1983 c.338 §230; 1985 c.16 §87; 1985 c.71 §3; 1985 c.172 §6; 1989 c.723 §9; 1991 c.284 §18]

803.435 Certificate of weight for fee determination; contents. A certificate of weight required for purposes of complying with ORS 803.450 and for purposes of determining vehicle registration fees under ORS 803.420 shall contain the following:

(1) For vehicles required to establish a registration weight under ORS 803.430, the certificate shall contain the registration weight.

(2) For buses, the certificate shall contain the unloaded weight of the vehicle plus the unloaded weight of any bus trailer to be used in combination with the vehicle. The

certificate shall also indicate the number of persons, including the driver, to be carried in the vehicle, plus the number of persons to be carried on any bus trailer to be used in combination with the vehicle. For purposes of determining the fee for registration of the vehicle under ORS 803.420, the division shall determine the weight of the vehicle by adding the unloaded weight of the vehicle, plus the unloaded weight of any bus trailer to be used in combination with the vehicle, to a weight determined by multiplying the maximum seating capacity of the vehicle plus the maximum seating capacity of any bus trailer to be used in combination with the vehicle, including the driver's seat but excluding emergency seats, times 170 pounds, if the vehicle has a separate compartment for transporting baggage or express, or 150 pounds, if the vehicle has no separate compartment for transporting baggage or express. If the vehicle has a seating capacity that is not arranged for separate or individual seating, 18 lineal inches shall be deemed the equivalent of a passenger seat.

(3) For fixed load vehicles, the certificate shall contain the weight of the vehicle including the cab, chassis, frame and all appurtenances necessary for making the vehicle self-propelled including front bumpers, fenders, windshield, tire carrier and spare wheel, and including the fixed or permanent load of the vehicle but excluding the spare tire.

(4) For all vehicles not otherwise provided for by this section and for which a certificate is prepared or required, the certificate shall contain the registration weight of the vehicle. [1983 c.338 §231; 1985 c.16 §88; 1985 c.189 §3; 1989 c.723 §10; 1989 c.992 §12c]

803.440 Failure to submit certificate of weight; penalty. (1) A person commits the offense of failure to submit a certificate of weight if the person does not submit a certificate of weight for a vehicle described in this subsection when the person applies for registration of the vehicle or has the vehicle registered in the person's name and the vehicle has been altered or reconstructed. This section applies to the following vehicles:

- (a) Any vehicle required to establish registration weight under ORS 803.430.
- (b) Any commercial bus.
- (c) Any vehicle registered as a farm vehicle under ORS 805.300.
- (d) Any vehicle registered under the proportional registration provisions of ORS 768.007 or 768.009.

(2) The offense described in this section, failure to submit a certificate of weight, is a Class D traffic infraction. [1983 c.338 §232; 1989 c.43 §24; 1989 c.723 §11]

803.445 Authority of counties and districts to impose registration fees; maximum amount. (1) The governing body of a county may impose registration fees for vehicles as provided in ORS 801.041.

(2) The governing body of a district may impose registration fees for vehicles as provided in ORS 801.042.

(3) The division shall provide by rule for the administration of laws authorizing county and district registration fees and for the collection of those fees.

(4) Any registration fee imposed under this section shall be imposed in a manner consistent with ORS 803.420.

(5) No county or district may impose a vehicle registration fee that would by itself, or in combination with any other vehicle registration fee imposed under this section, exceed the amount of the fee imposed under ORS 803.420 (1). The owner of any vehicle subject to multiple fees under this section shall be allowed a credit or credits with respect to one or more of such fees so that the total of such fees does not exceed the amount of the fee imposed under ORS 803.420 (1). [1989 c.864 §2]

(Renewal)

803.450 Notice of pending expiration; exceptions; effect of failure to receive; records. (1) The division or the Public Utility Commission shall notify the registered owner of a vehicle registered by this state of the approaching expiration of the vehicle's registration. The notice required by this subsection shall comply with all of the following:

(a) The notice shall be mailed to the owner of the vehicle at the address shown on the vehicle registration file.

(b) The notice shall be mailed a reasonable time before expiration date of the registration.

(2) The division or the commission shall not be required to notify the registered owner of an approaching expiration if the division or the commission has reason to believe:

(a) The vehicle has been sold, wrecked or stolen;

(b) The registered owner is ineligible to renew the registration;

(c) There is a dispute with regard to the title of the vehicle; or

(d) The registered owner failed to notify the division of a change of address as required by ORS 803.220.

(3) Failure to receive notice of expiration from the division or the commission is not a

defense to a charge of driving with an expired vehicle registration. However, the court may dismiss the charge if the owner registers the vehicle before the scheduled court appearance.

(4) Division records concerning notice under this section are subject to ORS 802.210. [1983 c.338 §233; 1985 c.253 §5; 1989 c.43 §25]

803.455 Failure to renew; fee; penalty.

(1) A person commits the offense of failure to renew vehicle registration if the registration period for a vehicle registered in the person's name expires and the person does not pay the fee required for renewal of registration.

(2) This section does not apply if the vehicle is no longer required or qualified to be registered in this state when the registration period expires.

(3) The fee required to be paid for renewal of registration under this section is the same fee that is required for registration of the vehicle under ORS 803.420.

(4) The offense described in this section, failure to renew vehicle registration, is a Class D traffic infraction. [1983 c.338 §234; 1985 c.16 §89; 1985 c.305 §11]

803.460 Certification of compliance with financial responsibility requirements. The division shall not renew the registration of a motor vehicle unless the owner of the vehicle certifies compliance with financial responsibility requirements for the vehicle and certifies that the owner will remain in compliance with the requirements for the term of the registration or until the vehicle is sold. This section does not apply if a renewal of registration is accompanied by an application for transfer of title arising from the sale of the vehicle. Exemptions from this section are established in ORS 806.020. The form of certification required for this section shall be as required under ORS 806.180. [1983 c.338 §235; 1985 c.714 §7]

803.465 Proof of compliance with pollution control equipment requirements. The division shall not issue renewal of registration unless the division receives proof of compliance with pollution control equipment requirements under ORS 815.310. This section is not applicable to vehicles exempt from the requirements of this section by ORS 815.300 or to vehicles registered under the provisions of ORS 805.045 or 805.060. [1983 c.338 §236; 1985 c.16 §90; 1987 c.440 §4; 1989 c.22 §2]

803.470 [1983 c.338 §237; 1985 c.174 §3; repealed by 1991 c.459 §438L]

803.473 Effect of unpaid registration fees on issuance of duplicate or replacement certificate of title. On and after September 29, 1991, the Motor Vehicles Division

shall not refuse to renew registration, transfer the certificate of title or issue a duplicate or replacement certificate of title for a camper or travel trailer solely on the grounds that prior to September 29, 1991, the owner of the camper or travel trailer owed unpaid registration fees to the division. [1991 c.459 §438m]

Note: 803.473 was enacted into law by the Legislative Assembly but was not added to or made a part of ORS chapter 803 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

803.475 Odometer reading required.

The division shall not issue renewal of registration unless the division receives with the application for renewal of registration a completed odometer disclosure in a form determined by the division by rule pursuant to ORS 803.120, if a disclosure is required. The division shall retain the odometer information submitted under this section but need not print it on certificates of title or registration cards. [1985 c.251 §22; 1991 c.873 §16]

(Cards)

803.500 Registration card; contents; signature. (1) The division shall furnish for each vehicle and camper registered by the division, a registration card that shows all of the following information:

- (a) The name of the registered owner.
- (b) The owner's actual residence or business address and, if it differs from the residence or business address, the post-office address.
- (c) The name of the county in which the owner resides or conducts business.
- (d) The make.
- (e) The year model.
- (f) The vehicle identification number as denoted by the certificate of title issued for the vehicle or camper.
- (g) The number of the certificate of title issued for the vehicle or camper.
- (h) The registration or license number and date of issuance of the registration card.
- (i) The registration weight, if the vehicle is required to establish a registration weight. If the vehicle is not required to establish a registration weight, but is required to file a certificate of weight described under ORS 803.440, upon registration, the weight shown on the certificate of weight shall be shown on the registration card.
- (j) The mileage of the vehicle as reported to the division at the time the most recent title transfer was reported to the division, or the mileage reported to the division at the time the vehicle was initially titled in Oregon, whichever occurred last.

(k) The word "totaled" if the vehicle has been reported to the division as a totaled vehicle under the provisions of ORS 819.012 or 819.014, unless the reason for the report was theft and the vehicle has been recovered.

(L) Any other information required by the division.

(2) A registration card shall contain a blank space for the signature of the registered owner. A registration card issued by the division for a motor vehicle is not valid until the person registering the vehicle signs and dates a statement on the registration card certifying that, at the time of completion of registration, the vehicle for which the card is issued is in compliance with financial responsibility requirements. A person who falsely certifies compliance with financial responsibility requirements on the card is subject to the penalties under ORS 806.050. [1983 c.338 §254; 1985 c.251 §25; 1985 c.253 §6; 1985 c.668 §11; 1989 c.43 §26; 1991 c.820 §10; 1991 c.873 §16a]

803.505 Failure to carry card; penalty.

(1) The owner of a vehicle that is registered in this state commits the offense of failure to carry a registration card if, immediately upon receipt, the owner does not sign the card with ink in the blank provided on the card for that purpose and place and keep the card in or on the vehicle in a manner that makes it readily available for police inspection upon request.

(2) The following apply to the offense described in this section:

(a) The owner of a commercial vehicle is not in violation of this section if a photocopy of the card is used.

(b) In the case of a camper, the owner shall keep the registration card in the transporting vehicle.

(c) In the case of a snowmobile or Class I or Class III all-terrain vehicle, the registration card or certificate shall be in a place that is readily accessible whether or not the snowmobile or Class I or Class III all-terrain vehicle is in operation.

(3) The offense described in this section, failure to carry a registration card, is a Class C traffic infraction. [1983 c.338 §255; 1987 c.217 §3; 1989 c.991 §27]

803.510 Duplicate or replacement; fee.
The division may issue a duplicate or replacement registration card when:

(1) The division receives an application indicating the loss, mutilation or destruction of a registration card; and

(2) The fee for issuance of a duplicate or replacement card established under ORS 803.575 is paid to the division. [1983 c.338 §256; 1985 c.174 §4; 1985 c.253 §7a]

(Plates)

Note: Sections 1 to 3, chapter 572, Oregon Laws 1987, provide:

Sec. 1. Plate contest. The Oregon Transportation Commission shall conduct a contest for the design of new vehicle registration plates. The contest shall be conducted in the following manner:

(1) The commission shall conduct a statewide publicity campaign to inform people of the registration plate design contest.

(2) Designs submitted for the contest must:

(a) Contain the word "Oregon" and depict an aspect of Oregon, either graphically or in writing or both;

(b) Fit on a registration plate that is the same size as those currently in use; and

(c) Use no more than four colors.

(3) The commission shall choose a panel of seven judges for the contest. Of the members of the panel, two shall be artists or graphic artists and two shall be traffic officers employed by a police agency.

(4) The judges shall choose from among the entries five designs that they shall then forward to the commission. The commission shall choose the winning design from among the five forwarded to it by the panel of judges.

(5) The contest shall be concluded and the winning design chosen by January 30, 1988. The commission shall forward the winning design to the Motor Vehicles Division. [1987 c.572 §1]

Sec. 2. (1) As soon after receiving the winning design for registration plates as is feasible, the Motor Vehicles Division shall arrange for production of the plates. The division shall make rules for the orderly and efficient transition to use of the new series of plates. Such rules shall include, but need not be limited to, provisions specifying that:

(a) On and after July 1, 1988, upon initial registration of a vehicle described in ORS 803.420 (1) that is not a vehicle for which the registration applicant has applied for special plates and is not a vehicle for which the Motor Vehicles Division routinely issues special plates, plates from the series produced as provided in this Act shall be issued.

(b) On and after July 1, 1988, if the owner of a vehicle applies to replace registration plates as provided in ORS 803.530 because the plates have been illegally altered or have been lost, destroyed or mutilated, if the applicant has not applied for special plates and if the vehicle is not one for which the Motor Vehicles Division routinely issues special plates, the division shall issue plates from the series produced as provided in this Act.

(c) On and after July 1, 1988, the division may issue registration plates from the series produced as provided in this Act to a person who applies for the plates and submits the fee required by this section. Plates may be issued under this paragraph for vehicles that are not required by paragraph (a) or (b) of this subsection to have plates from the series produced as provided in this Act.

(d) The division may issue registration plates from the series produced as provided in this Act for vehicles that would otherwise receive special plates if the division determines that the design of the plates produced under this Act will not interfere with any identifying information on the special plates.

(2) In addition to any other fee authorized by law, if a person applies for plates as authorized by paragraph (c) of subsection (1) of this section, the division shall charge the following fee:

(a) If the person applies for the plates at the same time that the person renews the registration of the vehicle that will carry the plates, \$1.50.

(b) In all other circumstances, \$11. [1987 c.572 §2]

Sec. 3. The provisions of ORS 803.535 apply to all registration plates manufactured or contracted for after the effective date of those provisions and before the conclusion of the contest referred to in section 1 of this Act. Except as otherwise provided in this section, plates manufactured as a result of a contract entered into after the contest referred to in section 1 of this Act, that are manufactured to the specifications of the winning design in the contest, shall comply with the provisions of section 5 of this Act rather than with the provisions of ORS 803.535. Plates for vehicles that are not required to display plates manufactured to the specifications of the winning design in the contest may comply with either the provisions of ORS 803.535 or the provisions of section 5 of this Act, as determined by the division. [1987 c.572 §3]

803.520 Issuance; fees. The division shall issue and deliver to the owner registration plates according to the following:

(1) Registration plates shall be issued upon filing of application for registration and payment of the appropriate registration and registration plate fees unless the division has just cause for refusing to register a vehicle or unless otherwise provided in this section.

(2) If an application for title or registration is for a vehicle that is subject to the provisions of ORS 803.210, the division may issue a permit described under ORS 803.615 while the division is determining all facts relative to the applicant's right to receive a certificate of title and shall issue registration plates along with the certificate of title.

(3) Before issuance of registration plates, the division must receive the manufacturing and reflectorizing fee for the registration plates. If the registration plate is one of the special plates described under ORS 805.200, the fees for the registration plate issuance are as described in ORS 805.250.

(4) Except as described in ORS 805.200 and 803.537, registration plates issued shall be as described in ORS 803.535.

(5) The division shall issue the number of plates appropriate under ORS 803.525 and any stickers provided under ORS 803.555. [1983 c.338 §257; 1985 c.16 §99; 1987 c.146 §8; 1987 c.572 §6]

803.525 Number of plates issued. The division shall issue two registration plates for every vehicle that is registered in this state except as otherwise provided in this section. Upon renewal or when otherwise provided under ORS 803.555, the division may issue stickers in lieu of or in addition to registration plates. The following shall be issued plates as described:

(1) Only one registration plate shall be issued for a moped, motorcycle or any trailer registered by this state.

(2) Only one plate shall be issued for a camper that is registered. Stickers may be issued in lieu of a plate as provided in ORS 803.555.

(3) Mobile homes are as provided in ORS 820.500. [1983 c.338 §258; 1985 c.668 §12; 1989 c.43 §27]

Note: The amendments to 803.525 by section 28, chapter 407, Oregon Laws 1991, become operative January 1, 1993. See section 39, chapter 407, Oregon Laws 1991. The text that is operative on and after January 1, 1993, is set forth for the user's convenience.

803.525. The division shall issue two registration plates for every vehicle that is registered by the division except as otherwise provided in this section. Upon renewal or when otherwise provided under ORS 803.555, the division may issue stickers in lieu of or in addition to registration plates. The following shall be issued plates as described:

(1) Only one registration plate shall be issued for a moped, motorcycle or any trailer registered by the division.

(2) Only one plate shall be issued for a camper that is registered. Stickers may be issued in lieu of a plate as provided in ORS 803.555.

(3) Mobile homes are as provided in ORS 820.500.

803.530 Period of validity; transfer; replacement. Registration plates assigned to a vehicle by the division shall remain with the vehicle to which the plates are assigned and are valid only during the registration period for which the plates are issued except as provided in the following:

(1) The division may select and assign permanent registration plates that remain with a vehicle as long as the vehicle is required to be registered in this state. If the division selects and issues permanent registration plates under this subsection, the plates will be designed for the use of stickers described under ORS 803.555 that remain with the vehicle only for the registration period for which the stickers are issued.

(2) The division may allow registration plates to be transferred to another vehicle upon receipt of an application therefor together with payment of a plate transfer fee under ORS 803.575 in addition to the regular registration fee. The division shall refuse to transfer registration plates under this subsection if the division determines that the plates are not from a current issue of registration plates, are not customized registration plates described under ORS 805.240 or are so old, damaged, mutilated or otherwise rendered illegible as to be not useful for purposes of identification.

(3) The owner of a registered vehicle to which a plate is assigned may replace a registration plate that is illegally altered or that is lost, destroyed or mutilated in a manner that renders illegible any identification on the plate. The following apply to this subsection:

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(a) To replace a plate under this subsection, the owner must apply to the division for replacement of the damaged or lost plate upon forms prepared by the division and pay the replacement plate fee established under ORS 803.575.

(b) The application must state the facts of the damage, destruction or loss of the plate.

(c) The division, in lieu of replacement, may issue duplicate plates for the same fee as charged for replacements.

(d) The plates issued under this subsection are valid only for the period of the plates replaced.

(e) Provision for replacement of registration stickers is made under ORS 803.555.

(4) This section does not apply to special interest registration plates approved under ORS 805.210. [1983 c.338 §259; 1985 c.16 §100; 1985 c.174 §5; 1985 c.243 §3; 1985 c.570 §3; 1987 c.158 §163]

803.535 Size, form, material, color, design, contents. Subject to ORS 805.200 and the following, the division shall select registration plates it issues:

(1) Registration plates shall be in the size, form and arrangement and made of materials determined by the division subject to the following:

(a) The plates shall have a marked contrast between the color of the plates and that of the numerals, letters or characters thereon.

(b) If registration plates are issued, means shall be provided for identifying the vehicle from the front and rear by means of characters or numerals.

(c) All plates shall be made with a reflective material, so as to be a fully reflectorized safety plate. The reflectorized material shall be of such a nature as to provide effective dependable brightness in the promotion of traffic safety during the service period of the plate issued.

(d) All plates shall contain the distinctive number or characters assigned to the vehicle and the word "Oregon."

(e) Except as provided by ORS 805.200, registration plates shall bear the distinctive identification assigned to the vehicle by the division upon registration of the vehicle.

(f) When a pair of registration plates is issued, each plate shall bear the same identification as the other plate of the pair.

(2) The division may provide for designation of the registration period for which the registration is issued on the plate by means of stickers described under ORS 803.555 or any other method the division determines appropriate.

(3) The division may provide plates that may be used on a vehicle for successive registration periods when validated by one or more stickers described under ORS 803.555. [1983 c.338 §260; 1985 c.16 §101]

803.537 Design, size and material of plates chosen from contest entries; stickers. (1) Subject to ORS 805.200 and this section, the division shall select registration plates it issues.

(2) Registration plates shall be in the size and made of materials determined by the division.

(3) Except as otherwise provided in section 3, chapter 572, Oregon Laws 1987, and ORS 803.538, the design of the registration plates, including form, arrangement and color, shall be that chosen by the commission from entries in the contest held pursuant to section 1, chapter 572, Oregon Laws 1987.

(4) Except as provided by ORS 805.200, registration plates shall bear the distinctive identification assigned to the vehicle by the division upon registration of the vehicle.

(5) When a pair of registration plates is issued, each plate shall bear the same identification as the other plate of the pair.

(6) The division may provide for designation of the registration period for which the registration is issued on the plate by means of stickers described under ORS 803.555 or any other method the division determines appropriate.

(7) The division may provide plates that may be used on a vehicle for successive registration periods when validated by one or more stickers described under ORS 803.555. [1987 c.572 §5; 1989 c.742 §5]

803.538 Color of sky in graphic plates. Registration plates chosen by the commission pursuant to section 1, chapter 572, Oregon Laws 1987, shall have the colors chosen by the commission except that the sky shall be blue. [1989 c.742 §4]

803.540 Failure to display plates; exceptions; penalty. (1) A person commits the offense of failure to display registration plates if the person operates, on the highways of this state, any vehicle or camper that has been assigned registration plates by this state and the registration plates assigned to the vehicle or camper are displayed in a manner that violates any of the following:

(a) The plate must be displayed on the rear of the vehicle, if only one plate is required.

(b) Plates must be displayed on the front and rear of the vehicle if two plates are required.

(c) The plates must be in plain view and so as to be read easily by the public.

(d) The plate must not be any plate that does not entitle the holder thereof to operate the vehicle upon the highways.

(2) A person is not in violation of this section if the person is operating a vehicle or camper under and in accordance with the requirements for any of the following:

(a) A temporary application permit issued under ORS 803.615.

(b) An agent temporary registration permit issued under ORS 803.625.

(c) Provisions established under ORS 768.005, 768.007 or 768.009 for the display of registration plates or other evidence of registration on vehicles that are proportionally registered under ORS 768.007 or 768.009.

(3) The offense described in this section, failure to display registration plates, is a Class B traffic infraction. [1983 c.338 §261; 1985 c.668 §13; 1989 c.43 §28]

803.545 Failure to display out-of-state plates. (1) A person commits the offense of failure to display plates on an out-of-state vehicle if the person operates a vehicle that is registered in any jurisdiction other than this state and the person does not display the registration plates assigned to and furnished for the vehicle by the registering jurisdiction:

(a) For the current registration period in that jurisdiction; and

(b) Substantially as provided under ORS 803.540 for vehicles that are registered by this state.

(2) This section does not allow the display of out-of-state registration plates on a vehicle when the vehicle is required to be registered in this state by ORS 803.325.

(3) The offense described in this section, failure to display plates on an out-of-state vehicle, is a Class C traffic infraction. [1983 c.338 §262; 1985 c.16 §102; 1985 c.401 §8]

803.550 Illegal alteration or display of plates; prohibited; described; exceptions; penalty. (1) A person commits the offense of illegal alteration or display of a registration plate if the person knowingly does any of the following:

(a) Illegally alters a registration plate in a manner described in subsection (2) of this section.

(b) Operates any vehicle that is displaying a registration plate that is illegally altered in a manner described in subsection (2) of this section.

(c) Owns and causes or permits a vehicle to display a registration plate that is illegally

altered in a manner described in subsection (2) of this section.

(2) A registration plate is illegally altered for purposes of this section if the plate has been altered, modified, covered or obscured including, but not limited to the following:

(a) Any change of the color, configuration, numbers, letters or material of the plate.

(b) Any material or covering, other than a frame or plate holder, placed on, over or in front of the plate that alters the appearance of the plate.

(c) Any frame or plate holder that obscures the numbers, letters or registration stickers, so as to render them unreadable.

(3) This section does not apply to the following:

(a) Any placement of registration stickers described under ORS 803.555.

(b) Any public official who displays or performs any alteration of a registration plate in the course of official duties.

(c) Any special interest registration plate approved under ORS 805.210.

(4) The offense described in this section, illegal alteration or display of a registration plate, is a Class B traffic infraction. [1985 c.243 §2]

(Stickers)

803.555 Issuance; contents; number; size, color and design; replacement. (1) The following apply to the use of registration stickers:

(a) Upon renewal of registration, the division may issue registration stickers in lieu of new plates. The stickers may be for use with permanent registration plates described under ORS 803.530. Stickers described in this paragraph shall bear the last two numbers of the last year of the registration period for which issued.

(b) The division shall issue one registration sticker with the registration plate issued for a travel trailer and upon each renewal of registration of the travel trailer. The registration sticker issued under this paragraph shall be placed upon the plate.

(c) The division shall issue a registration sticker with the registration plate issued for a camper or may issue a registration sticker in lieu of the registration plate for the camper. The sticker must be placed on the rear of the camper in a place designated by the division.

(2) If the division uses registration stickers as a means for designation of the registration period of a vehicle, one or more stickers may be used to validate registration

plates for successive registration periods. If more than one sticker is used, one sticker shall bear the last two numbers of the last year of the registration period for which issued and another sticker shall bear information identifying the month of expiration. If only one sticker is used, the sticker shall bear the last two numbers of the last year of the registration period for which issued and information identifying the month of expiration. A sticker does not validate a registration plate for any registration period other than as indicated on the sticker.

(3) Registration stickers shall be of a size, color and design determined by the division and shall be displayed on registration plates in the manner determined by the division. A person who does not display the stickers as required by the division is subject to penalty under ORS 803.560.

(4) The owner of a registered vehicle to which registration stickers are assigned may replace a registration sticker that is lost, destroyed or mutilated in a manner that renders illegible any identification of the sticker. To replace a registration sticker under this subsection, the owner must apply to the division for a replacement of the damaged or lost sticker upon forms prepared by the division and pay the replacement sticker fee established under ORS 803.575. The application must state the facts of the damage, destruction or loss of the stickers. The stickers issued under this subsection are valid only for the period of the stickers replaced. Provision for replacement of registration plates is made under ORS 803.530. [1983 c.338 §267; 1985 c.16 §107; 1985 c.174 §6; 1989 c.76 §3]

803.560 Improper display; penalty. (1) A person commits the offense of improper display of validating stickers if the person owns or drives a vehicle on which the display of registration stickers described under ORS 803.555 provides proof of valid registration and:

(a) The stickers are not displayed in a manner required by the division under ORS 803.555; or

(b) The stickers are displayed on the vehicle after the registration period shown on the stickers.

(2) The offense described in this section, improper display of validating stickers, is a Class D traffic infraction. [1983 c.338 §268]

(Fees)

803.570 Plate manufacturing fee. Except as otherwise specifically provided by law, the division shall collect the fee described by this section each time the division issues a registration plate upon the registra-

tion of a vehicle or at other times when a registration plate is issued by the division. The following all apply to the fee established by this section:

(1) The fee shall be in addition to any other fee collected upon issuance of a registration plate.

(2) The fee for each registration plate issued and for each set of two plates issued shall be determined by the division and shall be established by the division by rule.

(3) The division shall establish the fee for a plate or a pair of plates under this section by determining the cost to manufacture, including but not limited to the cost to reflectorize, and rounding to the nearest higher half-dollar. If the difference between the cost to manufacture a single plate and the cost to manufacture a pair of plates would result in a difference in the fee established under this section, the division shall establish separate fees for issuance of single registration plates and pairs of registration plates. [1983 c.338 §269; 1985 c.16 §108]

803.575 Fees for cards, plates and stickers; issuance; replacement; transfer.

(1) The fee for issuance of a duplicate or replacement registration card under ORS 803.510 is \$5.

(2) The fee for issuance of a new registration card under ORS 803.220, indicating a change of address, is \$5.

(3) The fee for issuance of a replacement or duplicate registration plate under ORS 803.530 is the fee established under ORS 803.570, together with a fee of \$11.

(4) The fee for transfer of registration plate under ORS 803.530 or 803.590 is \$6.

(5) The fee for issuance of replacement registration stickers under ORS 803.555, is \$11.

(6) The fee for issuance of both replacement or duplicate registration plates and replacement registration stickers, when issued at the same time, is \$11, in addition to the fee established under ORS 803.570.

(7) The fee paid under subsections (3), (5) and (6) of this section includes the cost of any duplicate or replacement registration card issued. [1983 c.338 §271; 1985 c.16 §110; 1985 c.174 §8; 1985 c.736 §2; 1987 c.750 §8]

803.577 Fee for identification device for proportionally registered vehicle. Except as otherwise specifically provided by law, the Motor Vehicles Division shall collect the fee described by this section each time the division issues an identification device for the proportional registration of a vehicle. The following apply to the fee established by this section:

(1) The fee shall be in addition to any other fee collected upon issuance of a registration plate.

(2) The fee for each device issued shall be determined by the division and shall be established by the division by rule.

(3) The division shall establish the fees under this section based on cost. [1991 c.284 §26]

803.580 [1983 c.338 §220; repealed by 1987 c.750 §12]

803.585 Registration fees as substitute for taxes on vehicles; exemptions. (1) Except as otherwise provided in this section, ORS 801.041, 801.042 or 820.500, the registration fees under the vehicle code are in lieu of all other taxes and licenses, except municipal license fees under regulatory ordinances, to which such vehicles or the owners thereof may be subject. Fixed load vehicles are not exempt from ad valorem taxation by this section.

(2) Travel trailers subject to registration and titling under the vehicle code are not subject to ad valorem taxation except as provided in ORS 308.880. [1983 c.338 §221; 1989 c.864 §8; 1991 c.459 §438h]

(Miscellaneous)

803.590 Disposition of plates and refund of fees when certain vehicles are destroyed or withdrawn from service. (1) The owner of a vehicle described in this subsection shall be permitted to transfer the registration plates from the vehicle to a like vehicle to be similarly used if the vehicle is destroyed or permanently withdrawn from service within this state and if the registration fee for the vehicle was more than \$10. To make a transfer of registration under this section, the owner of the vehicle shall pay the division a registration transfer fee established under ORS 803.575, file a written statement indicating the withdrawal or destruction with the division and surrender the registration card for the vehicle. The division shall issue a registration card without payment of further fee. If the weight on the certificate of weight of the vehicle receiving the transferred registration exceeds that of the vehicle destroyed or withdrawn, the owner must pay registration fees on the increased weight. This subsection applies to the following vehicles:

(a) Motor trucks with a registration weight of more than 8,000 pounds.

(b) Truck tractors with a registration weight of more than 8,000 pounds.

(c) Commercial buses.

(2) If a vehicle described under this subsection is destroyed accidentally so as to be incapable of further operation, the person in

whose name the vehicle is registered is entitled to a refund of that portion of the fee applicable to the then unexpired portion of the registration period. The certificate of title, registration card and registration plates must be surrendered to the division for cancellation when application for refund is made under this section. Claims for refunds under this section shall be filed and paid as provided for refunds under ORS 802.110. To qualify for a refund under this section, a registration fee in excess of \$10 must have been paid for the vehicle, the vehicle must have been registered in this state and the vehicle must be one of the following:

(a) A motor truck with a registration weight of more than 8,000 pounds.

(b) A truck tractor with a registration weight of more than 8,000 pounds.

(c) A mobile home, travel trailer or camper. [1983 c.338 §219; 1985 c.253 §2; 1987 c.750 §9; 1989 c.43 §29; 1989 c.103 §1; 1989 c.723 §12]

VEHICLE PERMITS

803.600 Trip permits; authority granted; types; records; when not required. A trip permit grants authority to temporarily operate a vehicle on the highways of this state under circumstances where the operation would not otherwise be legal because the vehicle is not registered by this state or because provisions relating to the vehicle's registration do not allow the operation. The division shall provide for the issuance of trip permits in a manner consistent with this section. All of the following apply to permits issued under this section:

(1) The division shall issue the following types of trip permit to authorize the described type of operation and shall not issue trip permits for any other purpose:

(a) A heavy motor vehicle trip permit may be issued for a motor vehicle with a combined weight of more than 8,000 pounds or that is a fixed load motor vehicle, and that is not registered in this state. A permit described in this paragraph is valid for 10 consecutive days.

(b) A heavy trailer trip permit may be issued for a trailer that will be operated on the highways at a loaded weight of more than 8,000 pounds or that is a fixed load vehicle, and that is not registered to allow operation of the vehicle in this state. A permit described in this paragraph is valid for 10 consecutive days. This subsection does not apply to travel trailers, mobile homes or special use trailers.

(c) A light vehicle trip permit may be issued for a vehicle with a combined weight of less than 8,001 pounds that is not a fixed load vehicle and that is not registered to al-

low operation of the vehicle in this state. Permits described in this paragraph may be issued for periods of 10 days, 30 days, 60 days, 90 days or 120 days but no person may receive the authority granted under a light vehicle trip permit for more than 120 days in any 12-month period for any given vehicle. A person who applies for a light vehicle trip permit must certify that the person has not been granted permits that together authorize the person to exceed the maximum number of days of operation allowed by this paragraph and that the permit applied for would not, in conjunction with other permits received, authorize the person to exceed the maximum number of days of operation allowed by this paragraph.

(d) A registration weight trip permit may be issued for a vehicle that is registered in this state, to allow the vehicle to be operated with a greater combined weight than is permitted by the registration weight established for the vehicle or at a greater combined weight than is otherwise permitted under the registration for the vehicle if the vehicle is not required to establish a registration weight. A permit issued under this paragraph does not authorize movements or operations for which a variance permit is required under ORS 818.200. A permit issued under this paragraph shall show the maximum registration weight allowed for operation under the permit. A permit issued under this paragraph is valid for 10 consecutive days.

(e) A registered vehicle trip permit may be issued for a vehicle that is registered in this state to allow the vehicle to operate under conditions or in ways not permitted by the terms of the vehicle registration. The division shall determine by rule the kinds of operation for which permits may be issued under this paragraph. A permit issued under this paragraph is valid for 10 consecutive days.

(f) A mobile home trip permit may be issued to allow movement of a mobile home. Except movements of mobile homes by vehicle transporters permitted under ORS 822.310, all movements of mobile homes on the highways of this state shall be by trip permit. The provisions under ORS 820.560 and 820.570 apply to trip permits for mobile homes in addition to the requirements under this section. A permit issued under this paragraph is valid during the movement of the mobile home specifically authorized by the permit.

(2) The following requirements for records are established concerning permits issued under this section:

(a) Any carrier regulated by the Public Utility Commission shall maintain records of

heavy motor vehicle and heavy trailer trip permits and registration weight trip permits issued to the carrier as required by the commission by rule.

(b) The division is not required to keep records concerning heavy motor vehicle and heavy trailer trip permits, but shall provide the Public Utility Commission with the information from each such permit issued.

(c) Requirements for the division to maintain records concerning trip permits other than heavy motor vehicle and heavy trailer trip permits are established under ORS 802.200.

(3) An owner or operator of a vehicle may obtain a trip permit. The fees for issuance of trip permits are as provided under ORS 803.645.

(4) The division shall make the trip permits available to all field offices and agents maintained by the division and may make arrangements for the issuance of the permits by designated individuals, firms or associations for the convenience of the motoring public.

(5) The division may also sell heavy motor vehicle, heavy trailer and registration weight trip permits in advance of issuance to contractors, transportation companies and other users for issuance to their own vehicles or vehicles under their control.

(6) The division shall adopt rules for the issuance, sale and control of all trip permits.

(7) Trip permits are not required for the operation of unregistered vehicles other than mobile homes where such operation is permitted as follows:

(a) By vehicle dealers as permitted under ORS 822.040.

(b) By vehicle transporters as permitted under ORS 822.310.

(c) By towing businesses as permitted under ORS 822.210.

(8) Trip permits are not required for the operation of unregistered vehicles where such operation is permitted under ORS 803.305.

(9) Unregistered vehicles that are operated without a trip permit are subject to the prohibitions and penalties for operation of unregistered vehicles under ORS 803.300 or 803.315, as appropriate. Mobile homes that are moved on the highways without a trip permit, where a trip permit is required, are subject to penalty as provided under ORS 820.570.

(10) A trip permit may be issued to a school vehicle registered under ORS 805.050 for use of the vehicle for purposes not permitted under ORS 805.050. (1983 c.338 §27; 1985

c.16 §111; 1985 c.313 §4; 1985 c.547 §16; 1989 c.723 §13; 1991 c.284 §19; 1991 c.360 §4]

Note: The amendments to 803.600 by section 29, chapter 407, Oregon Laws 1991, become operative January 1, 1993. See section 39, chapter 407, Oregon Laws 1991. The text that is operative on and after January 1, 1993, is set forth for the user's convenience.

803.600. A trip permit grants authority to temporarily operate a vehicle on the highways of this state under circumstances where the operation would not otherwise be legal because the vehicle is not registered by this state or because provisions relating to the vehicle's registration do not allow the operation. The division shall provide for the issuance of trip permits in a manner consistent with this section. All of the following apply to permits issued under this section:

(1) The division shall issue the following types of trip permit to authorize the described type of operation and shall not issue trip permits for any other purpose:

(a) A heavy motor vehicle trip permit may be issued for a motor vehicle with a combined gross weight of more than 8,000 pounds or that is a fixed load vehicle, and that is not registered in this state. A permit described in this paragraph is valid for 10 consecutive days.

(b) A heavy trailer trip permit may be issued for trailers that will be operated on the highways at a loaded weight of more than 8,000 pounds or that is a fixed load vehicle, and that are not registered to allow operation of the vehicle in this state. A permit described in this paragraph is valid for 10 consecutive days. This subsection does not apply to travel trailers, mobile homes, special use trailers or any other trailer that does not register by weight.

(c) A light vehicle trip permit may be issued for a vehicle with a combined gross weight of less than 8,001 pounds that is not a fixed load vehicle and that is not registered in this state to allow operation of the vehicle in this state. Permits described in this paragraph may be issued for periods of 10 days, 30 days, 60 days, 90 days or 120 days but no person may receive the authority granted under a noncommercial vehicle trip permit for more than 120 days in any 12-month period for any given vehicle. A person who applies for a noncommercial permit must certify that the person has not been granted permits that together authorize the person to exceed the maximum number of days of operation allowed by this paragraph and that the permit applied for would not, in conjunction with other permits received, authorize the person to exceed the maximum number of days of operation allowed by this paragraph.

(d) A registration weight trip permit may be issued for a vehicle that is registered in this state to allow the vehicle to be operated with a greater combined gross weight than is permitted by the registration weight established for the vehicle or at a greater combined gross weight than is otherwise permitted under the registration for the vehicle if the vehicle is not required to establish a registration weight. A permit issued under this paragraph does not authorize movements or operations for which a variance permit is required under ORS 818.200. A permit issued under this paragraph shall show the maximum combined gross weight allowed for operation under the permit. A permit issued under this paragraph is valid for 10 consecutive days.

(e) A registered vehicle trip permit may be issued for a vehicle that is registered in this state to allow the vehicle to operate under conditions or in ways not permitted by the terms of the vehicle registration. The division shall determine by rule the kinds of operation for which permits may be issued under this paragraph. A permit issued under this paragraph is valid for 10 consecutive days.

(f) A mobile home trip permit may be issued to allow movement of a mobile home. Except movements of

mobile homes by vehicle transporters permitted under ORS 822.310, all movements of mobile homes on the highways of this state shall be by trip permit. The provisions under ORS 820.560 and 820.570 apply to trip permits for mobile homes in addition to the requirements under this section. A permit issued under this paragraph is valid during the movement of the mobile home specifically authorized by the permit.

(2) The following requirements for records are established concerning permits issued under this section:

(a) Any carrier regulated by the Public Utility Commission shall maintain records of heavy motor vehicle and heavy trailer trip permits and registration weight trip permits issued to the carrier as required by the commission by rule.

(b) The division is not required to keep records concerning heavy motor vehicle and heavy trailer trip permits, but shall provide the Public Utility Commission with the information from each such permit issued.

(c) Requirements for the division to maintain records concerning trip permits other than heavy motor vehicle and heavy trailer trip permits are established under ORS 802.200.

(3) An owner or operator of a vehicle may obtain a trip permit. The fees for issuance of trip permits are as provided under ORS 803.645.

(4) The division shall make the trip permits available to all field offices and agents maintained by the division and may make arrangements for the issuance of the permits by designated individuals, firms or associations for the convenience of the motoring public.

(5) The division may also sell heavy motor vehicle and heavy trailer trip permits in advance of issuance to contractors, transportation companies and other users for issuance to their own vehicles or vehicles under their control.

(6) The division shall adopt rules for the issuance, sale and control of all trip permits except those issued by the Public Utility Commission.

(7) Trip permits are not required for the operation of unregistered vehicles other than mobile homes where such operation is permitted as follows:

(a) By vehicle dealers as permitted under ORS 822.040.

(b) By vehicle transporters as permitted under ORS 822.310.

(c) By towing businesses as permitted under ORS 822.210.

(8) Trip permits are not required for the operation of unregistered vehicles where such operation is permitted under ORS 803.305.

(9) Unregistered vehicles that are operated without a trip permit are subject to the prohibitions and penalties for operation of unregistered vehicles under ORS 803.300 or 803.315, as appropriate. Mobile homes that are moved on the highways without a trip permit, where a trip permit is required, are subject to penalty as provided under ORS 820.570.

(10) A trip permit may be issued to a school vehicle registered under ORS 805.050 for use of the vehicle for purposes not permitted under ORS 805.050.

(11) The Public Utility Commission may issue heavy motor vehicle trip permits and registration weight trip permits. The division shall provide the permits to the Public Utility Commission.

803.602 Statement of insurance coverage for light vehicle trip permit. An applicant for a light vehicle trip permit for a motor vehicle must submit, at the time of application, a signed statement indicating that the vehicle that will be operated under

ATTACHMENT A-2

the permit is covered by an insurance policy that meets the requirements of ORS 806.080 and will continue to be covered by the policy for as long as the permit is valid. The statement shall include the name of the insurer and the policy number. The division shall refuse to issue a permit to a person who does not submit the statement required by this section. [1991 c.360 §2]

Note: 803.602 was added to and made a part of ORS chapter 803 by legislative action but was not added to any smaller series therein. See Preface to Oregon Revised Statutes for further explanation.

803.605 Erroneous issuance of trip permit; refund of fee. When the division determines that it has erroneously issued a trip permit to a person who did not require the permit, the division may refund to the person any fee the person paid for the permit. [1985 c.313 §6]

Note: ORS 803.605 was enacted into law by the Legislative Assembly but was not added to or made a part of ORS chapter 803 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

803.610 Reciprocity permits. A reciprocity permit is a vehicle permit that may be issued to identify vehicles operating under a reciprocal agreement established under ORS 802.500. When required by an agreement, the division shall provide for the issuance of reciprocity permits as authorized by the agreement. All of the following apply to the issuance of permits under this section:

(1) The issuance of permits shall comply with the agreement authorizing their issuance.

(2) Permits may be used to identify vehicles entitled to operate within the areas described in an agreement. [1983 c.338 §273; 1985 c.668 §16]

803.615 Temporary permit for registration applicant. The division may issue a temporary permit in a form determined by the division to an applicant for registration to permit the applicant to operate the vehicle while the division is determining all facts relative to the right of the applicant to receive a certificate of title, regular registration plates and regular registration. [1983 c.338 §276; 1985 c.16 §112; 1985 c.401 §10; 1987 c.146 §9]

803.620 [1983 c.338 §277; 1989 c.109 §2; repealed by 1989 c.43 §37]

803.625 Temporary registration permits issued by agents. (1) Persons designated by the division under ORS 802.030 to accept applications for the registration of vehicles are authorized to issue temporary permits for the operation of vehicles or the transporting of a camper pending the receipt of permanent registration plates from the division.

(2) Forms for temporary permits issued under this section shall be furnished and, subject to ORS 803.640, prescribed by the division.

(3) The division shall specify, by rule, the procedures to be followed by persons issuing and using temporary permits issued under this section. Persons violating rules established by the division under this subsection are subject to penalty under ORS 803.630 and 803.635. [1983 c.338 §278; 1985 c.284 §3]

803.630 Agent violation of temporary registration permit procedures; penalty. (1) A person commits the offense of agent violation of temporary registration permit procedures if the person is authorized to issue temporary registration permits under ORS 803.625 and the person violates any rules adopted by the division concerning the procedures for issuing the permits.

(2) The offense described in this section, agent violation of temporary registration permit procedures, is a Class B traffic infraction. [1983 c.338 §279]

803.635 Improper use of temporary registration permit; penalty. (1) A person commits the offense of improper use of temporary registration permit if the person is issued a temporary registration permit under ORS 803.625 and the person does any of the following:

(a) Violates any rule adopted by the division under ORS 803.625 concerning the use of the permit.

(b) Fails to keep the permit on and upon the vehicle during the period until the receipt of the permanent registration plates.

(c) Fails to remove the permit from the vehicle upon receipt of permanent registration plates.

(2) The offense described in this section, improper use of temporary registration permit, is a Class B traffic infraction. [1983 c.338 §280]

803.640 Prohibition on showing name and residence address on permit. (1) Vehicle permits issued under ORS 803.600 to 803.615 that are required to be displayed so as to be visible from the outside of a vehicle shall not show the name or residence address of the registered owner of the vehicle or of the person who has applied for registration or titling of the vehicle.

(2) The division may require that permits described in this section contain the driver license number of the registered owner or of the person who has applied for registration or titling of the vehicle displaying the permit and the name of the state that issued the driver license.

(3) If the division determines that the information authorized by subsection (2) of this section is not sufficient to identify the registered owner or person who has applied for registration or titling of a vehicle issued a permit described in this section, the division may require that the person operating the vehicle have in the person's possession any information the division determines is necessary for identification. Such information, if required, shall be on a form prescribed by rule by the division and may not be required to be displayed so as to be visible from outside the vehicle. [1985 c.284 §2]

803.645 Fees for trip permits. Fees for trip permits issued under ORS 803.600 are as follows:

- (1) For a heavy motor vehicle trip permit, \$21.
- (2) For a heavy trailer trip permit, \$10.
- (3) For a light vehicle trip permit:
 - (a) For 10 days, \$5.
 - (b) For 30 days, \$10.
 - (c) For 60 days, \$20.
 - (d) For 90 days, \$30.
 - (e) For 120 days, \$40.
- (4) For a registration weight trip permit, \$5.
- (5) For a registered vehicle trip permit, \$5.
- (6) For a mobile home trip permit, \$5. [1983 c.338 §281; 1985 c.16 §113; 1985 c.313 §5; 1985 c.400 §4; 1989 c.43 §30; 1989 c.109 §3; 1989 c.723 §14; 1991 c.284 §20; 1991 c.360 §3]

803.650 Placement of permits in vehicles. (1) A permit issued under ORS 803.600, 803.615 or 803.625 shall be placed on the left side of the rear window of the vehicle unless:

- (a) The vehicle has no rear window; or

(b) The design of the vehicle or of any equipment lawfully added to the vehicle is such that a permit placed as required by this section could not easily be seen from outside the vehicle.

(2) The division shall adopt rules for the placement of permits that cannot be placed on the left side of the rear window of a vehicle. [1987 c.166 §2]

803.655 Improper display of a permit; penalty. (1) A person commits the offense of improper display of a permit if the person is issued a permit under ORS 803.600, 803.615 or 803.625, and the person does not display the permit on the vehicle in the manner required by ORS 803.650 or as required by the division by rule.

(2) The offense described in this section, improper display of a permit, is a Class B traffic infraction. [1987 c.166 §4]

803.660 Color and size of permits. The color and size of the print on permits issued under ORS 803.600, 803.615 and 803.625 shall be such that the permits can easily be read. [1987 c.166 §3]

803.665 Towing commercial fishing boat without permit. Notwithstanding ORS 803.600, a person may tow the person's own commercial fishing boat without a trip permit and regardless of the weight permitted under the registration of the trailer if the combined weight of the towing vehicle, the trailer and the boat is 15,000 pounds or less. [1989 c.992 §12b]

CHAPTER 804

[Reserved for expansion]

graph (a) of subsection (4) of this section, or impose a lesser term of imprisonment, when the court expressly finds mitigating circumstances justifying such lesser sentence and sets forth those circumstances in its statement on sentencing. [1979 c.779 §2; 1985 c.552 §1; 1989 c.790 §72; 1989 c.839 §18; 1991 c.133 §3]

161.615 Prison terms for misdemeanors. Sentences for misdemeanors shall be for a definite term. The court shall fix the term of imprisonment within the following maximum limitations:

- (1) For a Class A misdemeanor, 1 year.
- (2) For a Class B misdemeanor, 6 months.
- (3) For a Class C misdemeanor, 30 days.
- (4) For an unclassified misdemeanor, as provided in the statute defining the crime. [1971 c.743 §75]

Note: Section 51, chapter 790, Oregon Laws 1989, as amended by section 9, chapter 830, Oregon Laws 1991, provides:

Sec. 51. (1) Notwithstanding the provisions of ORS 161.615, the maximum term of jail incarceration for a Class A misdemeanor committed on or after November 1, 1989, shall not exceed six months unless the sentencing judge finds on the record substantial and compelling reasons to impose a longer term.

(2) The provisions of subsection (1) of this section do not apply to sentences imposed for:

- (a) Violations of ORS 163.415, 163.435, 163.465, 163.575 or 813.010;
- (b) An attempt to commit a crime described in ORS 163.355, 163.385, 163.425 or 163.525; or
- (c) Any other sex crime that can be treated as a misdemeanor on sentencing.

(3) This section does not expand the scope of review in any appeal from a judgment of conviction as provided in ORS 138.040 or 138.050.

(4) ORS 138.222 does not apply in any appeal of a judgment of conviction that is subject to this section.

(5) This section is repealed November 1, 1993. [1989 c.790 §51; 1991 c.830 §9]

161.620 Sentences imposed upon remand from juvenile court. Notwithstanding any other provision of law, a sentence imposed upon any person remanded from the juvenile court under ORS 419.533 shall not include any sentence of death or life imprisonment without the possibility of release or parole nor imposition of any mandatory minimum sentence except that a mandatory minimum sentence under ORS 163.105 (1)(c) shall be imposed where the person was 17 years of age at the time of the offense. [1985 c.631 §9; 1989 c.720 §3]

Note: 161.620 was added to and made a part of ORS 161.615 to 166.685 by legislative action but was not added to any smaller series in that series. See Preface to Oregon Revised Statutes for further explanation.

161.625 Fines for felonies. (1) A sentence to pay a fine for a Class A, B or C felony shall be a sentence to pay an amount, fixed by the court, not exceeding \$100,000.

(2) A sentence to pay a fine for an unclassified felony shall be a sentence to pay an amount, fixed by the court, as provided in the statute defining the crime.

(3)(a) If a person has gained money or property through the commission of a felony, then upon conviction thereof the court, in lieu of imposing the fine authorized for the crime under subsection (1) or (2) of this section, may sentence the defendant to pay an amount, fixed by the court, not exceeding double the amount of the defendant's gain from the commission of the crime.

(b) The provisions of paragraph (a) of this subsection do not apply to the felony theft of a companion animal, as defined in ORS 164.055, or a captive wild animal.

(4) As used in this section, "gain" means the amount of money or the value of property derived from the commission of the felony, less the amount of money or the value of property returned to the victim of the crime or seized by or surrendered to lawful authority before the time sentence is imposed. "Value" shall be determined by the standards established in ORS 164.115.

(5) When the court imposes a fine for a felony the court shall make a finding as to the amount of the defendant's gain from the crime. If the record does not contain sufficient evidence to support a finding the court may conduct a hearing upon the issue.

(6) Except as provided in ORS 161.655, this section shall not apply to a corporation. [1971 c.743 §76; 1981 c.390 §1; 1991 c.837 §11]

161.635 Fines for misdemeanors and violations. (1) A sentence to pay a fine for a misdemeanor shall be a sentence to pay an amount, fixed by the court, not exceeding:

- (a) \$2,500 for a Class A misdemeanor.
- (b) \$1,000 for a Class B misdemeanor.
- (c) \$500 for a Class C misdemeanor.

(2) A sentence to pay a fine for an unclassified misdemeanor shall be a sentence to pay an amount, fixed by the court, as provided in the statute defining the crime.

(3) A sentence to pay a fine for a violation shall be a sentence to pay an amount, fixed by the court, not exceeding \$250.

(4) If a person has gained money or property through the commission of a misdemeanor or violation, then upon conviction thereof the court, instead of imposing the fine authorized for the offense under subsection (1), (2) or (3) of this section, may sentence the defendant to pay an amount fixed by the court, not exceeding double the amount of the defendant's gain from the commission of the offense. In that event, ORS 161.625 (4) and (5) apply.

(C) This section shall not apply to corporations. [1971 c.743 §77; 1981 c.390 §2]

161.645 Standards for imposing fines. In determining whether to impose a fine and its amount, the court shall consider:

(1) The financial resources of the defendant and the burden that payment of a fine will impose, with due regard to the other obligations of the defendant; and

(2) The ability of the defendant to pay a fine on an installment basis or on other conditions to be fixed by the court. [1971 c.743 §78]

161.655 Fines for corporations. (1) A sentence to pay a fine when imposed on a corporation for an offense defined in the Oregon Criminal Code or for an offense defined outside this code for which no special corporate fine is specified, shall be a sentence to pay an amount, fixed by the court, not exceeding:

(a) \$50,000 when the conviction is of a felony.

(b) \$5,000 when the conviction is of a Class A misdemeanor or of an unclassified misdemeanor for which a term of imprisonment of more than six months is authorized.

(c) \$2,500 when the conviction is of a Class B misdemeanor or of an unclassified misdemeanor for which the authorized term of imprisonment is not more than six months.

(d) \$1,000 when the conviction is of a Class C misdemeanor or an unclassified misdemeanor for which the authorized term of imprisonment is not more than 30 days.

(e) \$500 when the conviction is of a violation.

(2) A sentence to pay a fine, when imposed on a corporation for an offense defined outside the Oregon Criminal Code, if a special fine for a corporation is provided in the statute defining the offense, shall be a sentence to pay an amount, fixed by the court, as provided in the statute defining the offense.

(3) If a corporation has gained money or property through the commission of an offense, then upon conviction thereof the court, in lieu of imposing the fine authorized for the offense under subsection (1) or (2) of this section, may sentence the corporation to pay an amount, fixed by the court, not exceeding double the amount of the corporation's gain from the commission of the offense. In that event, ORS 161.625 (4) and (5) apply. [1971 c.743 §79]

161.665 Costs. (1) The court, only in the case of a defendant for whom it enters a judgment of conviction, may include in its sentence thereunder a provision that the convicted defendant shall pay as costs ex-

presses specially incurred by the state in prosecuting the defendant. Costs include a reasonable attorney fee for counsel appointed pursuant to ORS 135.045 or 135.050 and a reasonable amount for expenses approved under ORS 135.055. A reasonable attorney fee is presumed to be a reasonable number of hours at the hourly rate authorized by the State Court Administrator under ORS 151.430. Costs shall not include expenses inherent in providing a constitutionally guaranteed jury trial or expenditures in connection with the maintenance and operation of government agencies that must be made by the public irrespective of specific violations of law.

(2) The court, after the conclusion of an appeal of its initial judgment of conviction, may include in its final judgment or modify the judgment to include a requirement that a convicted defendant pay as costs a reasonable attorney fee for counsel appointed pursuant to ORS 138.500, including counsel who is the Public Defender established by ORS 151.280 or counsel who is under contract to provide services for the appeal pursuant to ORS 151.460, and other costs and expenses allowed by the appellate court under ORS 138.500 (4). A reasonable attorney fee is presumed to be a reasonable number of hours at the hourly rate authorized by the State Court Administrator under ORS 151.430.

(3) The court shall not sentence a defendant to pay costs unless the defendant is or may be able to pay them. In determining the amount and method of payment of costs, the court shall take account of the financial resources of the defendant and the nature of the burden that payment of costs will impose.

(4) A defendant who has been sentenced to pay costs and who is not in contemptuous default in the payment thereof may at any time petition the court which sentenced the defendant for remission of the payment of costs or of any unpaid portion thereof. If it appears to the satisfaction of the court that payment of the amount due will impose manifest hardship on the defendant or the immediate family of the defendant, the court may remit all or part of the amount due in costs, or modify the method of payment under ORS 161.675.

(5) All moneys collected or paid under this section shall be paid into the General Fund and credited to the Criminal Fine and Assessment Account. [1971 c.743 §80; 1981 s.s. c.3 §120; 1983 c.763 §12; 1985 c.710 §3; 1987 c.803 §26; 1989 c.1053 §11; 1991 c.460 §12; 1991 c.840 §1]

Note: Section 2, chapter 840, Oregon Laws 1991, provides:

Sec. 2. The amendments to ORS 161.665 by section 1 of this Act apply to all cases in which counsel is appointed on or after January 1, 1992. [1991 c.840 §2]

APPENDIX F

Vehicle Population In I/M Areas in 1992

Medford:

Passenger Cars, LDT1, LDT2	96,000
HDV (GVWR greater than 8500 lb)	3,500

Portland:

Passenger Cars, LDT1, LDT2	644,000
HDV (GVWR greater than 8500 lb)	22,900

STATE OF OREGONDEPARTMENT OF ENVIRONMENTAL QUALITYINTEROFFICE MEMO

TO: Ron Householder

DATE: June 29, 1983

FROM: Bill Jasper

SUBJECT: Update on License Survey

In the license survey recently completed, ³¹⁰397 entries of the 4,205 were unverifiable through phone company records as being correctly registered out of the MSD. This was 7.4% of the total sample. To follow up on that group, a random sample of 28 names were selected to cross reference the driver's license address with that shown on the vehicle registration.

Of those 28 individuals, 15 had listing showing the same address of residence on drivers and passenger car registration. Five individuals did not have driver's licenses. Two had licenses that were about several years expired. The remaining six appear to have a major difference in drivers license and residence address, possibly in an effort to avoid the inspection program requirement.

Specifically, the eight records, including the two expired licenses, are listed.

Shadwick, John Frank (D.O.B. 01/12/66)
 (ODL) 9605 S.E. 78th, Portland
 (P.C.R.) 34141 S.E. Gunderson Rd., Sandy
 1976 Chev (DQS018) was observed at Washington Square
 Last issue date of drivers license 1/12/82
 Last issue date of passenger car registration 5/07/82
 No phone company listing

Wronski, Robert Jules (D.O.B. 12/11/55)
 (ODL) 3620 S.E. 159th Ave., Portland
 (P.C.R.) 39645 Loundree Dr., Sandy
 1979 Chev (LQP005) was observed at the Fred Meyer @ 122nd & Division
 Last issue date of drivers license 12/22/81
 Last issue date of P.C. Registration 10/15/81
 Vehicle license records indicate expired plates
 Telephone book shows address of 14315 N.E. Alton Ct.

Update on License Survey

June 29, 1983

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Dompiar, Allen Mark (D.O.B. 3/20/53)
(ODL) 2247 N.E. Vine St., Roseburg
(P.C.R.) 2247 N.E. Vine St., Roseburg
1968 English Ford (ASC457) observed at Fred Meyer @ Beaverton Town Center
Last issue date drivers license 7/27/79 - Expired
Last issue date P.C. Registration 10/26/82
No phone company listing

Urverrich, Wayne Lester (D.O.B. 9/15/19)
(ODL) 2812 S.E. 34th, Portland
(P.C.R.) 22230 Gooseneck Rd., Sheridan
1977 Datsan (DKR489) observed at Fred Meyer @ 39th & Hawthorne
Last issue date of drivers license 9/14/81
License plates expired, April, 1983
Phone book lists address of 2812 S.E. 34th, Portland

McKnight, Robert Eugene (D.O.B. 2/28/39)
(ODL) 14548 S. Ironwood Rd., Oregon City
(P.C.R.) 15741 S. Gilchrist Rd., Mulino
1976 Datsan (CNP740) observed at work parking NE Columbia/Mallory
Last issue date drivers license 2/22/83
Last issue date P.C. Registration 4/4/83
No phone company listing

Hamerlynck, Gayneth Mae (D.O.B. 2/22/27)
(ODL) 890 Cumberland Pt., Lake Oswego
(P.C.R.) Rt. 2 Box 35D, Tidewater
1973 Chev (HGN250) observed at Safeway Store, Lake Oswego
Last issue date drivers license 2/10/83
Car license expired August '82
No phone listing

Cameron, Rodney Scott (D.O.B. 3/3/46)
(ODL) 83225 N. Rogers Rd., Creswell
(P.C.R.) 2798 Canterbury St., Springfield
1974 Chev (JRR267) observed 4th & Washington parking lot
Last issue date drivers license 3/6/72 - license expired
Last issue date P.C. Registration 7/15/82
Phone book address listing, 12701 S.E. King Rd., Portland

Dalzell II, Donald Edgard (D.O.B. 2/3/44)
(ODL) 937 S.E. 180th, Portland
(P.C.R.) PLR 125 Berratta Way, Prineville
1967 Chev (ECD508) observed at FMC parking area NW Front Avenue
Last issue date of drivers license 1/29/82
Last issue date of P.C. Registration 8/27/82
Phone book address listing 3040 N. Melrose Dr., Portland

Update on License Survey
June 29, 1983
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From this check, the results of the recent survey can be modified as follows:

Percent of vehicles observed with out of area registration	14.6%
Percent verified as having correct out of area registration	App. 11 %
Percent suspect of mis-registration	App. 3.6%
Percent of inquiries unable to be located in MVD records	4.6%

There are several alternatives to consider for those individuals listed above.

- 1) Contact them by a letter which indicates that the discrepancies have been found in a computer check with a follow up for inspection requirements, etc.
- 2) Forward the information to the proper authorities for follow up.
- 3) Do nothing, since only six to eight individuals have been identified.

A proposed draft of a follow up letter is attached.

J:a
Attachment
A3512

Dear _____:

During a recent computer check of Motor Vehicle passenger car registration records with drivers license records, certain discrepancies were noted. Specifically, the address in your passenger car registration shows your residence as being outside of the Metropolitan Service District and not subject to the DEQ inspection requirements while your drivers license lists your residence within the Portland Metropolitan area.

Oregon law ORS 481.190 requires that all residents of the Metropolitan Service District must comply with the inspection program requirements in order to register or re-register their vehicle. The Attorney General's office has indicated that individuals falsifying the Motor Vehicle registration information could be subject to criminal prosecution.

You should take the necessary action to see that your vehicle(s) are properly registered at your full time residence, and make sure that you comply with the Oregon law. If you have any questions, please contact this office.

Sincerely,

\$(SIGNER)
\$(TITLE)
\$(DIVISION)

\$(AUTHOR'S INITIALS):\$(TYPIST'S INITIALS)

ATTACHMENT A-2

MEMO

TO: Ron Householder

DATE: July 29, 1987

FROM: Bill Jasper



SUBJECT: ESTIMATE OF EFFECTS OF MISSING VEHICLES IN JACKSON COUNTY

I have been working with Ted Wacker to document the number of vehicles going through the inspection in Medford that did not return to be re-inspected and pass. The purpose of the study was to determine the status of the vehicle's registration -- as to whether the vehicle has been re-registered, has a change of address (to outside of the I/M boundaries), or is in an unregistered status. In the past, a variety of explanations have been offered as to what was happening, but using the baseline data which was purchased from Motor Vehicles prior to the start up of the I/M program, we can document what has happened to these vehicles.

To accomplish this task, the data from the Rogue Valley station was divided into monthly categories. These categories consisted of the vehicle records that passed and those that failed. The failed group was put into monthly batches, while the passed vehicles were grouped together from the start of the data period until the run date (mid-June/July). Computer matching of those vehicles that failed and did not return to pass was then made. This group of vehicles that has yet to pass was then matched against the Jackson county vehicle registration file for 1985. This resulted in two final groups of failed vehicles that did not return -- those vehicles that were originally registered in Jackson county in 1985 and those that were not.

Vehicle listings for those vehicles originally registered in Jackson County that did not pass the I/M test were then sent to MVD for look up. There were a few problems in getting that tape read by MVD, but we have finally got the initial results for January 1987.

There is a brief summary of the January 1987 results. Look ups were done on 318 vehicle licenses. MVD records indicated that 142 of those vehicles had been re-registered. That is about 45% of the total. That also means that 55% of the vehicles have not been re-registered, and can be considered to have expired registrations. Of the vehicles that have been re-registered, 37 of them (26%) appear to be properly registered. Thirty-one of the vehicles that passed (22%) were not in the original data base. Re-registered vehicles to new owners counted 41 (29%), and 24 vehicles (17%) had new resident addresses within Jackson County. Nine of the re-registered vehicles (6%), were re-registered to addresses outside of Jackson County. Two of those were to businesses.

The results from the checking of the February and March batch of vehicles that initially failed the inspection test have been received back from MVD. This data indicates that a higher than expected percentage of individuals are avoiding the inspection

program requirements, either by not bothering to register their vehicles or by other means. The data was reviewed with the purpose of obtaining an estimate of the amount of vehicles that appeared to have been registered out-of-area for the apparent purpose of avoiding compliance with the inspection.

Over the past four months, February through June, almost 13% of the vehicles that failed the inspection test in Medford have failed to come back through to get the certificates. That rate varied from 11-13%. Of these vehicles, about half were from out of area. The other half could be found on the historical record of Jackson County registrations (Dec 1985). When the vehicles that were on the historical file, had registration follow up with MVD, Over about 40% had obtained current registrations. The remaining 60% of initially failed vehicles appear to be operating without current or valid registration or under temporary registration.

Of those vehicles that were re-registered, about 20% of the total sample, or 44% of the vehicles re-registered, showed a registration address that is out of the inspection program area. That was divided fairly evenly, for the case of Jackson County vehicles, between those registering in the county, but out of the AQMA, and those registering out of the county. Motor Vehicle Division indicates that it does not keep any records of the filings of the form 1400 and 1402 -- those forms for declaring exemption from the inspection requirements. I do not have an estimate of the number of vehicles that might have avoided the inspection requirements without having an initial test.

What we have now is better documentation of the amount of I/M program avoidance that is occurring in the Jackson County area. The original samples from parking lot surveys, indicated that for both Portland and Medford, about 5-10% was a good guess of the amount of this activity. The rate now appears to be nearer the 10% level, rather than the 5% figure.

As an example of a vehicle that appears not to have been re-registered is the vehicle owned by Mr. Mason. Mr. Mason was the individual who had been earlier referred to the Department by Sen. Hannon. In that case, Mr. Mason had an older pickup truck, that is in need of major engine repair. From the license look up, it would appear that Mr. Mason is choosing to operate the vehicle either by using "trip tickets" or by just allowing the registration to remain expired. Mr. Mason may also have chosen to have the vehicle garaged, and is not operating it at all.

Registering vehicles out of area has been one of those activities that has been known about for some time, but documenting the extent of the problem has been difficult. Often times these registrations are at beach or mountain second residences. In other instances they are at the homes of friends or relatives.

The "lost" vehicle rates for the sample periods was considerably higher. If the levels of program avoidance, either through out of area registration, or not bothering to register the car remain at high levels the air quality impact by this activity will be much higher than we have been estimating. Enforcement on this part of the registration system has historically been viewed

by us as the responsibility of the Motor Vehicles Division. MVD on the other hand, has had other priorities on which they focus their attentions. The reality is that neither agency is equipped to handle enforcement or documenting the truthfulness of registration information provided by motorists. Because of the ongoing nature of this activity and our ability to better document both the extent of the problem and its air pollution impact, other ways of obtaining enforcement need to be considered.

One area of improvement in enforcement that should be explored is to improve the dialog with local governmental officials. By opening communication with local officials, they can be made aware of the possible lost revenues from the highway gas tax monies that the individual counties in the I/M areas are loosing. As an example, the highway fund revenues for 1987 are about \$800,000,000.00. Counties in Oregon receive 20% of that amount based upon the vehicle population count percentage for December 31 of each year. Cities in Oregon receive 12% of the fund, based upon people population. If for example, Jackson County had 113,000 vehicles out of the state wide total of 2,025,000 vehicle population, then Jackson County would receive almost \$9,000,000 in highway gas tax monies for road construction and repair. If because of improper registrations, the vehicle count was reduced by 5%, the revenue to Jackson County would be reduced by about \$446,000. If the out of area registrations were at the 10% level, the revenue loss to Jackson County would be about \$900,000.

When estimating the loss to the tri-county area, the following figures are developed. The tri-county area has about 35% of the state's vehicle population. The total highway fund revenue to the three counties is \$56,000,000. A 5% loss in registration counts costs the Portland area counties \$2,800,000. A 10% loss in vehicle count costs these counties \$5,600,000. The financial beneficiaries of this activity are the 29 non-I/M Oregon counties.

One thing that the Department can do is to encourage local governments to start enforcing, with more rigor, the State's vehicle registration laws. Police agencies in I/M areas should be encouraged to cross reference vehicle owners' driver's licenses with their registration address, and cite for incorrect information as part of their normal duties. This could be accomplished by having either the Director or the Commission contact the local County Commissions and advise them of their potential loss in gas tax revenues, as well as the adverse air quality impact on their local areas. If you concur, I will begin to prepare a Commission report on this subject. The local County Commissions could then use their position to gain the cooperation of the local police agencies. To be effective the local County Commissions would need to followed up with the local courts, encouraging the courts to provide that I/M area residents obtain the Certificate of Compliance that the owner was apparently seeking to avoid. The result would be improved air quality which would result from the additional participation in the I/M program. Counties which have the I/M program operating, would benefit by receiving the full measure of road repair funds due to them.

Their costs of enforcement would be covered through the revenue generated by the fines imposed by the courts. And the Department's I/M program would be more fully utilized, and I/M revenue shortfalls would be reduced.

What can we do about this? As indicated, we need to enlist the support of the county governments, because it is these bodies, that are losing their share of the gas tax monies. With the proposed increase in the gas tax, their share becomes more important. In addition, there are a variety of actions that we can take right now to try and improve our capture rate.

The first of these is to begin working with MVD to increase their enforcement efforts, including having them follow through on the "flagged" vehicles that are reported to them by their field offices. The second thing that MVD can start to do is to keep a record of the number of exemptions (1400 and 1402 forms) including the "flagging" of those vehicles that have the out of state exemption filed.

DEQ can consider the addition of a couple of items for better I/M program operation. The most visible item would be the use of window stickers (already authorized in statute) in addition to the Certificate of Compliance. This would visibly identify vehicles that passed the inspection test. If window stickers were used refund policy would need to be modified. DEQ can initiate discussions with the various counties that encompass the testing regions, to request that law enforcement officials begin enforcement of registration laws in addition to citing for the offense that was the reason for a traffic stop. The counties can urge that the courts in their counties provide that evidence of a valid Certificate of Compliance be an appropriate part of the penalty that can be imposed on individuals that plead guilty to registration violations.

Because about half of the avoidance in Jackson County appears to be within the County as well as outside of the County, consideration should be given to requesting that the Commission change the boundaries of the inspection area to the entire county. Having a county wide program was part of the original SIP plan, was part of Jackson County's original county operated I/M program and was the recommendation of the majority of the persons testifying before the Commission's Hearing Officer when I/M rules were adopted. The political consideration of inconveniencing the minimum amount of people through the I/M requirement, while well intended, appears to have promoted some of the Jackson County citizens to bend the law to avoid the program.

For the future, the Department should prepare a legislative decision package for the next session of the legislature that would expand the boundaries of the inspection program in the Portland area to be consistent with county boundaries, rather than the current Metropolitan Service District. It seems to me that after the number of years that this program has operated, people in the inspection program area would support county wide areas of inspection, as opposed to the "you're in or you're out" type of program now operating.

To facilitate the enforcement of improved I/M operations, the Department should consider proposing specific legislation that

would allow for random roadside inspection, either directly by DEQ teams or in conjunction with Police efforts.

07/29/87

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMO

TO: Ron Householder

DATE: June 14, 1983

FROM: Bill Jasper

SUBJECT: License Survey 1983

A license survey was recently conducted to measure the extent of out of area registrations. The method that was followed was to select at random approximately 1% of the vehicles observed operating in the Metropolitan area. The license numbers from these vehicles were recorded and sent to MVD for look-up. The output from MVD was reviewed and divided into 4 major categories. 1) The address is in the Metropolitan Service District, 2) The address is outside the MSD but phone company records indicate that it is the correct address, 3) The address is outside the MSD and phone company records do not show a listing for that name in that town, and 4) Records flagged by Motor Vehicle Division as having been sold or some other similar reference.

The overall results of the survey are listed in Table 1. The data indicates that on an overall basis, about 14% of the observed Oregon registered vehicles were registered outside of the Metropolitan Service District. About half of those vehicles might be considered to be incorrectly registered, because no address verification could be found in the local area phone books, 310 vehicles which fall in this category. Of those 310, eighty-seven similar names were noted in the local Portland area phone books. The overall category for listing as sold, title of transfer in process, unable to locate, was 4.0%.

This type of survey has been done in the past. Several years ago, about 10% of the vehicles were listed as out of area vehicles, and about 5% were suspect. Record irregularities accounted for about 2-3%.

Three general categories of sampling locations were chosen - work areas, shopping malls, and grocery centers. The sites selected were distributed around the MSD. High levels of out of area use were observed in border areas as Oregon City.

Tables 2 and 3 list the individual sites, listing first the raw data and then the data in normalized form. In reviewing the normalized data, the spread and scatter is apparent. Out of area registrations ranged from 3% to 28%, depending on the site. Most high out of area registrations were observed at locations where it would not be unexpected. The median value was 11.7%.

Verified out of area registrations ranged from 0 to 17.4%. The median level was 5.3%. Suspect out of area registration ranged from 1.3 to 14.0% with a median level of 5.8%. For vehicle owners in this category, a check of local phone books for names of similar listing was made. Similar listings ranged from 0 to 7% for the various sites with a median 1.5%. Discrepancies associated with the MVD records, sold "flags", and other "noise" varied from 1.8% to 8.9% for the various sample sites. The median level of "noise" was 3.2% for all sample sites.

As a final means of comparison, the data was then compared on the basis of whether the site was a "work", "shopping", or "grocery" site. Table 4 lists those findings. "Shopping" sites, such as the regional shopping centers, had the highest level of outside area registrations, followed by "work" sites, then "grocery" sites.

From this sample and project, one could conclude that:

- 1) Motor Vehicle Division records indicate that about 15% of the Oregon registered motor vehicles are registered outside of the Metropolitan Service District.
- 2) About half of those observed in the sample as outside the MSD can be verified through the telephone book as having the same out of area address as listed on the vehicle registration.
- 3) About half of those observed in the sample cannot be verified through the telephone book.
- 4) About 2% of the sample falls into a category where their registration indicates an out of MSD address that cannot be verified through the telephone book, and persons with the same or similar name are listed as inside the MSD through the telephone listings.
- 5) About 4% of the sample was "noise" where good records could not be obtained.
- 6) "Shopping Centers" have a higher observed incidence of out of area registrations than either "work" or "grocery" locations.

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TABLE 1

SUMMARY OF LICENSE SURVEY - APRIL - MAY 1983

Overall Sample Size	4205
Percent of Vehicles Registered Outside M.S.D.	14.6%
Percent of Vehicles Verified	7.2%
Percent of Vehicles Unable to be Verified as Being Outside M.S.D.	7.4%
Percent of Vehicles for Which Current Records Unavailable	4.0%

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TABLE 2

DATA FROM LICENSE SURVEY, APRIL - MAY 1983

Location	Sample Size	Registered Outside MSD	Verified Outside MSD	Not Found At Registered Address	Similar Name Found	Other
C. Lot	176	27	11	16	8	13
yd Center	138	20	12	8	3	10
. NE Union	84	6	3	3	-	4
tzen Beach	146	27	11	16	4	13
ds	84	6	3	3	1	4
. N. Lombard	145	14	6	8	1	6
. SE 82nd	195	23	6	17	8	14
okamas Town Center	199	52	26	26	5	12
. 207	99	15	6	9	7	4
on City Shopping Center	98	22	14	8	1	7
Ore. City	171	48	24	24	1	8
way - Mil.	123	5	3	2	1	7
SE Division	170	10	5	5	2	4
185/Stark	170	21	7	14	3	5
E. Burnside	218	57	38	19	8	7
Rose City	74	3	2	1	-	6
Hollywood	98	3	-	3	1	2
Hawthorne	171	13	7	6	2	4
39/Belmont	74	7	1	6	3	2
ay - L.O.	81	11	7	4	-	1
vs - .O.	41	3	1	2	1	1
4/Wash.	297	32	18	14	6	6

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ATTACHMENT A-2

TABLE 2 (Continued)

DATA FROM LICENSE SURVEY, APRIL - MAY 1983

Location	Sample Size	Registered Outside MSD	Verified Outside MSD	Not Found At Registered Address	Similar Name Found	Other
Garage 4/Morrison	120	23	14	9	3	6
Garage 3/Morrison	66	7	4	3	1	2
59th/Columbia	94	10	5	5	-	4
Columbia/Mallory	106	8	4	4	-	3
Tektronix/Beav.	401	59	24	35	11	8
F.M. Beaverton	226	30	11	19	1	7
Safeway 185/TV	72	5	0	5	2	2
Safeway Hills.	60	13	10	3	2	1
Washington Square	198	35	22	13	1	4
TOTAL	4205	615	305	310	87	167
	1343	190	94	16	2	37
	4395	615	305	310	87	177

TABLE 3

LICENSE SURVEY APRIL - MAY 1983

NORMALIZED DATA

Location	% Registered Outside MSD	% Verified Outside MSD	% Not Verified	% Similar	% Other
F.M.C. Lot	15.0	6.2	9.0	4.5	7.3
Lloyd Center	14.5	8.6	5.8	2.1	7.2
F.M. NE Union	7.1	3.5	3.5	-	4.7
Jantzen Beach	18.4	7.5	10.9	2.7	8.9
Wards	7.1	3.5	3.5	1.2	4.7
F.M. N. Lombard	9.6	4.1	5.5	0.7	4.1
F.M. SE 82nd	11.7	3.0	8.7	4.1	7.1
Clackamas Town Center	26.1	13.0	13.0	2.5	6.0
Mall 205	15.0	6.0	9.0	7.0	4.0
Ore. City Shopping Center	22.0	14.2	8.1	1.0	7.1
F.M. Ore. City	28.0	14.0	14.0	0.6	4.7
Safeway - Mil.	4.0	2.4	1.6	0.8	5.6
F.M. SE Division	5.8	2.9	2.9	1.2	2.3
F.M. 185/Stark	12.3	4.1	8.2	1.7	2.9
F.M. E. Burnside	26.1	17.4	8.7	3.6	3.2
F.M. Rose City	4.0	2.7	1.3	-	8.0
F.M. Hollywood	3.0	-	3.0	1.0	2.0
F.M. Hawthorne	7.6	4.0	3.5	1.1	2.3
Alb. 39/Belmont	9.4	1.3	8.1	4.0	2.7
Safeway - L.O.	13.5	8.6	4.9	-	1.2

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TABLE 3 (Continued)
 LICENSE SURVEY APRIL - MAY 1983

NORMALIZED DATA

Location	% Registered Outside MSD	% Verified Outside MSD	% Not Verified	% Similar	% Other
Kienows - L.O.	7.3	2.4	4.8	2.4	2.4
Garage 4/Wash.	10.7	6.0	4.7	2.0	2.0
Garage 4/Morrison	19.1	11.6	7.5	2.5	5.0
Garage 3/Morrison	10.6	6.0	4.5	1.5	3.0
59th/Columbia	10.6	5.3	5.3	-	4.2
Columbia/Mallory	7.5	3.7	3.7	-	2.8
Tektronix/Beav.	14.7	5.9	8.7	2.7	1.9
F.M. Beaverton	13.2	4.8	8.4	0.4	3.0
Safeway 185/TV	6.9	-	6.9	2.7	2.7
Safeway Hills.	21.6	16.6	5.0	3.3	1.6
Washington Square	17.6	11.1	6.5	0.5	2.0

TABLE 4

COMPARISON OF NORMALIZED DATA ON BASIS OF CATEGORY

<u>Category</u>	<u>% Out of Area Observed</u>
Work-Related	12.6
Shopping Center	17.2
Grocery	11.7

APPENDIX H

Policies + Procedures

Issue Date: 07/01/94
Replaces Issue of: 10/28/93

State of Oregon
Department of Environmental Quality
Vehicle Inspection Program
Operating Policies and Procedures

INDEX

<u>Number</u>	<u>Title</u>	<u>Dated</u>
000. -	INSPECTION STATION POLICY	
001.00	Use of State Telephone System	03/26/80
100. -	STANDARDS & DIRECTOR'S CHANGES	
100.00	Standards Change	01/09/81
102.00	1981 Luv Pickups Trucks	01/14/83
103.01	Twenty Year Old Car Exemption	08/22/83
105.04	Noise Standards Change	10/06/87
106.00	1985 and Newer Heavy Duty Gas Powered Trucks with Two Air Pumps *Attachment (Hansen memo)	04/16/87
200. -	TEST PROCEDURES	
201.04	Aftermarket Turbocharger Installations/Modifications	08/22/83
202.01	Diluted Exhaust Sample Readings	09/16/91
203.00	Air Pre-Heat System Modifications with Header Systems	04/22/81
204.04	Replacement of Original Engine	09/23/91
205.00	Liquified Petroleum Gas in Dual Fuel Conversion System	07/31/80
206.01	Unleaded Fuel Restrictors	12/23/82
207.02	Non-Conforming Imported Vehicles *Attachments 1-9 & EPA Fact Sheet	06/04/86
208.00	Noise Testing Procedures	02/26/85
209.01	Testing Assembled, Reconstructed and Replica Vehicles *Attachments (2 DMV forms)	08/20/90

200. - (cont.)

210.00	Underhood Inspection Procedures - Thermal Air Cleaners	11/07/88
211.00	Key Off/Restart Procedure	11/13/91
212.00	Chevrolet Caprice - Fresh Air Inlet	01/10/90
213.00	Light Duty Diesel Tampering Inspection	06/14/90
214.00	Aftermarket Catalysts	10/10/90
215.00	Applying Wheel Chocks to Vehicles	11/13/91
216.00	BMW, Peugeot and Volvo w/ZF Trans.	12/09/91
217.00	Motorhome/Van Underhood Inspection	12/13/91
218.00	Nissan Spark Plug Switching Control	02/03/92
219.00	Chrysler Corp. Vehicles with 3.0L Engine	02/03/92
220.00	1983 & 1984 VW Vacuum Connections	04/15/92

300. - CERTIFICATE AND MONEY HANDLING PROCEDURES

301.01	Acceptance of Personal Checks	07/31/92
302.00	Duplicate Certificates of Compliance	10/21/91
303.00	Registration of Oregon Licensed Vehicles Temporarily Out of State	05/02/94

400. - STATION MANAGEMENT RESPONSIBILITY

401.01	Waiting Time Surveys *Attachment (Survey form)	07/08/80
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500. - PERSONNEL RULES

501.02	Uniforms	09/23/91
502.00	Mileage Reimbursement	09/16/91

600. - SCHEDULING

601.01	Vacation Scheduling	09/16/91
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700. - ANALYZERS AND EQUIPMENT

700.04	Procedures for Maintenance of ESP Vehicle Testing System	04/22/94
702.02	OEA '75 Exhaust Gas Analyzer Calibration Schedule	01/21/82
703.00	Equipment "Down" Memos	04/14/80
704.02	Interscan CO Monitor Operations	03/02/84
706.00	MSA Model 521 CO Monitor Operation	03/26/84

700. - (cont.)

707.00	OEA '75 Exhaust Gas Analyzer Cold Temp.	12/12/89
708.00	Calibration Gas Naming Procedure	01/31/90
709.00	Quality Assurance Procedures	04/22/94
710.00	Testing and Calibration Procedures	04/22/94

800. - SAFETY

800.02	Smoking Policy	10/01/91
802.00	Workplace CO Monitor Alarm Response Procedures	06/24/80
803.00	Wearing of Safety Glasses	01/14/93
804.00	Position of Inspector During Raised RPM	04/15/92
807.00	Inspector/Customer Safety Interactions	07/19/93
808.00	Crawling Under Vehicles or Using a Creeper To Go Under Vehicles	10/28/93

900. - DISCIPLINARY POLICIES

None issued.

ADDENDUMS CALIFORNIA AIR RESOURCES BOARD EXECUTIVE ORDERS

PERMITTED MODIFICATION TO MOTOR VEHICLE
ENGINE AND EMISSION CONTROL SYSTEMS
PREPARED BY: SPECIALTY EQUIPMENT MARKET ASSOCIATION

NOTE: SEMA provides this document as a courtesy to its members, however, SEMA accepts no responsibility in the accuracy of the enclosed addendums. Any questions regarding applicability of specific EOs should be directed to the product manufacturer.

INFORMATION COMPILED SINCE RECEIVING ARB LIST JULY 1992
DATED: APRIL, 1994

F-4

ADDENDUM
ARB EXEMPTIONS FROM VEHICLE
CODE SECTION 27156

NON- MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
1		B-14-8 (3/16/94) NEW	Algas Carburetion (A Division of Precision General)	Refer to manufacturer	
1		B-34 (9/27/93)	Mesa Environmental	Refer to manufacturer	
1		B-4-44 (2/8/94)	Impco Technologies, Inc.	Refer to manufacturer	
1		B-4-45 (2/8/94)	Impco Technologies, Inc.	Refer to manufacturer	
1		0-5-2 (8/10/93)	Hypermax Engineering, Inc.		
1		D-19-10 (11/23/92)	Jacobs Electronics "Nitrous Mastermind"	Refer to manufacturer	
1		D-19-11 (3/10/93)	Jacobs Electronics "Energy Pak-Led Model 370XOY"	Refer to manufacturer	
1		D-19-12 (3/10/93)	Jacobs Electronics, Inc. "Energy Team"	1992 and older model-year vehicles having single coil ignition system and with negative ground.	
1		D-19-13 (5/17/93)	Jacobs Electronics, Inc. "Ultra Coil"	Refer to manufacturer.	
1		D-19-14 (12/16/93)	Jacobs Electronics, Inc. "Omni-Pak"	1993 and older vehicles excluding vehicles equipped with distributor-less or multi- coil ignition systems.	
1		D-40-13 (7/6/93)	Autotronics Controls Corp. "02 Fuel Control II, P/N 4046"	Refer to manufacturer	

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NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
1		D-69-7 (8/17/93)	Condensator, Inc. "The Condensator Model DX Device"	1993 and older model-year diesel fueled vehicles with engine displacements greater than 3.2 liters.	
	1	D-70-10 (9/30/92)	Hallory, Inc. "Super-Mag Transformer" Part # 28900A, 28900	Refer to manufacturer	
	1	D-70-11 (9/30/92)	Hallory, Inc. "Chrome Coil" Part # 29216, 29217	Refer to manufacturer	
	1	D-70-12 (9/30/92)	Hallory, Inc. "Promaster Coil" Part # 28720, 29440, 29625 & 28880	Refer to manufacturer	
	1	D-70-13 (9/30/92)	Hallory, Inc. "Voltmaster Coil" Part # 28675	Refer to manufacturer	
	1	D-70-14 (12/15/92)	Hallory, Inc. "HEI Performance Coil" Part # 29215	Refer to manufacturer	
	1	D-70-15 (12/23/92)	Hallory, Inc. "Hyfire Inductive Storage Ignition Systems" Part Nos. 629, 630, 29026, 29028, 29029 & 29037	Refer to manufacturer	
	1	D-70-16 (12/23/92)	Hallory, Inc. "Hyfire Capacitive Discharge Ignition Systems" Part Nos. 667, 692, 697 and 697H	Refer to manufacturer	
	1	D-70-17 (12/23/92)	Hallory, Inc. "Unilite Breakerless Conversion Kits" Part # 501, 502, & 503	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E. O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-70-18 (12/23/92)	Mallory, Inc. "Breakerless Conversion Kits with Magnetic Triggering" Parts # 540 and 550	Refer to manufacturer	
		1 D-70-19 (12/23/92)	Mallory, Inc. "RPM Limiter Accessories" Part #s 641-4, 641-6, 641-8, 642-4, 643-6, 644-8, & 619L	Refer to manufacturer	
		1 D-70-20 (3/30/93)	Mallory, Inc. "Super-Mag Transformer" Part #s 28900A, 28900	Refer to manufacturer	
		1 D-70-21 (3/30/93)	Mallory, Inc. "Chrome Coil" Part #s 29216, 29217	Refer to manufacturer	
		1 D-70-22 (3/30/93)	Mallory, Inc. "Promaster Coil" Part #s 28720, 29440, 29625 & 28380	Refer to manufacturer	
		1 D-70-23 (3/30/93)	Mallory, Inc. "Voltmaster Coil" Part # 28675	Refer to manufacturer	
		1 D-70-24 (3/30/93)	Mallory, Inc. "HEI Performance Coil" Part # 29215	Refer to manufacturer	
		1 D-70-25 (3/30/93)	Mallory, Inc. "Hyfire Inductive Storage Ignition Systems" Part #s 629, 630, 29026, 29026A, 29028, 29029 & 29037	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-70-26 (3/30/93)	Mallory, Inc. "Hyfire Capacitive Discharge Ignition Systems" Part #s 667, 692, 697 and 697M	Refer to manufacturer	
		1 D-70-27 (3/30/93)	Mallory, Inc. "Unilite Breakerless Conversion Kits" Part #s 501, 502 & 503	Refer to manufacturer	
		1 D-70-28 (3/30/93)	Mallory, Inc. "Breakerless Conversion Kits" Part #s 540 & 550	Refer to manufacturer	
		1 D-70-29 (3/30/93)	Mallory, Inc. "RPM Limiter Accessories" Part # 641-4, 641-6, 641-8, 642, 643, 644 and 619L	Refer to manufacturer	
		1 D-70-30 (8/23/93)	Mallory, Inc. "Timing Control Ignition System" Part # 631, 618-1 & 618-3	Refer to manufacturer	
		1 D-70-31 (8/23/93)	Mallory, Inc. "Power Cell Model 611"	Refer to manufacturer	
		1 D-70-32 (8/23/93)	Mallory, Inc. "Ignition Coil" Pts # 29214 & 29215"	Refer to manufacturer	
1		D-134-2 (9/16/92)	National Fuelsaver Corporation "Platinum Gasaver"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
	1	D-134-3 (11/30/92)	National Fuelsaver Corporation "Platinum Vapor Injection"	Refer to manufacturer	
	1	D-136-1 (9/16/92)	E-Z Fill Corporation, Inc. "Insert Nozzle Auto Gas Cap"	Refer to manufacturer	
	1	D-140-26 (9/15/92)	Spearco Performance Products, Inc. "375 HP Twin Turbo System"	1986 to 1992 Ford Mustangs equipped with a 5.0L V8 gasoline engine	
	1	D-140-27 (2/8/93)	Spearco Performance Products, Inc. "450 HP Twin Turbo System"	Refer to manufacturer	
	1	D-140-28 (4/5/93)	Spearco Performance Products, Inc. "Intercooler System"	1993 model year Hyundai equipped with a 1.5 liter turbocharged engine.	
	1	D-161-29 (10/26/92)	Gale Banks Engineering "Wastegate Turbo Upgrade"	Refer to manufacturer	
	1	D-161-30 (10/6/92)	Gale Banks Engineering "Turbocharger System 6.9F"	1988-93 model year Ford Motor Company vehicles powered by Navistar 7.3 liter heavy-duty diesel engines.	
	1	D-161-31 (10/6/92)	Gale Banks Engineering "Turbocharger System 6.2G"	1982-1993 model year Chevrolet-GMC 6.2L heavy-duty diesel vehicles	
	1	D-161-32 (10/6/92)	Gale Banks Engineering "Power Pack System for 7.4 Liter P-30 Motorhomes"	1990-93 model year motorhomes with gross vehicle weight (GVW) of 14,000 lbs. or greater powered by a GM 7.4L (454 CID) gasoline engine and utilizing the P-30 chassis	
	1	D-161-33 (12/18/92)	Gale Banks Engineering "Ram-Air Intake"	Refer to manufacturer	

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NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-161-34 (12/18/92)	Gale Banks Engineering "Exhaust System (Less Manifolds)"	Refer to manufacturer	
		1 D-161-36 (3/4/93)	Gale Banks Engineering "Sidewinder Turbo Models S73 and S73W"	1983-1993 model year Ford trucks equipped with 6.90 or 7.3 liter Navistar diesel engines	
		1 D-161-37 (8/10/93)	Gale Banks Engineering "Intercooler System"	1989-93 model year Dodge vehicles powered by a 5.9 liter Cummins 6BT heavy-duty diesel engine.	
		1 D-161-38 (8/10/93)	Gale Banks Engineering "Power Pack System for 7.5 liter Ford or Oshkosh Chassis Motorhomes	Refer to manufacturer	
		1 D-161-39 (2/24/94)	Gale Banks Engineering "Add-on Air-to Air Intercooler Kit"	1989-94 model-year Dodge vehicles powered by a 5.9 liter Cummins 6BT heavy-duty diesel engine.	
		1 D-165-1 (10/20/92)	Downey Off Road Manufacturing "Exhaust Header # 17410-F6"	1973-80 model year Toyota Landcruiser FJ40 and FJ55 models equipped with F or 2F engines.	
		1 D-165-2 (12/18/92)	Downey Off Road Manufacturing "EFI Air Cleaner Assembly"	Refer to manufacturer	
		1 D-167-7 (1/24/94)	Hedman Manufacturing, Inc. "Hedman Hedders"	Refer to manufacturer	
		1 D-167-8 (1/24/94)	Hedman Manufacturing, Inc. "Hedman Tubular Exhaust Manifold System"	Refer to manufacturer	
		1 D-167-9 (2/3/94)	Hedman Manufacturing, Inc. "Hedman Elite Hedders"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-171-6 (3/22/93)	Advanced Turbo Systems, Inc. "Turbocharger Kit Model 7.3L"	1988-92 model-year Ford Motor Company vehicles powered by a 7.3L Navistar International heavy-duty diesel engine.	
		1 D-171-7 (6/8/93)	Advanced Turbo Systems, Inc. "6.9/7.3 L Ford Diesel Turbocharger System"	1993 and older model-year Ford vehicles powered with a Navistar 6.9/7/3L diesel engine.	Refer to manufacturer
1		D-174-3 (1/29/93)	The Magnetizer Group, Inc. "Fuel Energizer" Model AFE-1"	Refer to manufacturer	
1		D-174-4 (1/26/94)	The Magnetizer Group, Inc. "Fuel Energizer" Model AFE-1	Refer to manufacturer	
		1 D-175-4 (10/6/92)	Hypermax Engineering, Inc. "Turbocharger Kit"	1992 model year Ford Motor Company powered by a 7.3L Navistar International heavy-duty diesel engine.	
		1 D-175-5 (1/25/93)	Hypermax Engineering, Inc "Air-to-Air Intercooler Kit"	1983-93 turbocharged Ford Motor Company heavy-duty vehicles powered by a 6.9L/7.3L Navistar International heavy-duty diesel engine.	
		1 D-175-6 (1/25/93)	Hypermax Engineering, Inc. "Turbocharger Kit"	1992-93 model year Ford Motor Company vehicles powered by a 7.3L Navistar International heavy-duty diesel engine.	
		1 D-175-7 (8/10/93)	Hypermax Engineering, Inc. "Turbocharger Kit"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
	1	D-175-8 (8/10/93)	Hypermax Engineering, Inc. "Turbocharger Kit"	Refer to manufacturer	
	1	D-176-5 (10/28/92)	Dinan Performance Engineering "Performance Chips"	Refer to manufacturer	
	1	D-176-6 (10/28/92)	Dinan Performance Engineering "M-Car Stroker Engine"	1984 to 1988 BMW M5 & M6, and 1991 BMW M5 sports cars equipped with a 3.5L gasoline engine.	
	1	D-180-17 (10/21/92)	The Turbo Shop, Inc. "1988-93 model year Ford Motor Co. vehicles powered by a 7.3L Navistar International heavy-duty diesel engine"	1988-93 model-year Ford Motor Co. vehicles powered by a 7.3L Navistar International heavy-duty diesel engine.	
	1	D-180-18 (12/14/92)	The Turbo Shop "Air to Air Intercooler Kit for Cummins 6BT Engine"	1989-93 model year turbocharged vehicles powered by a Cummins 5.9L 6BT heavy-duty diesel engine.	
	1	D-180-19 (12/14/92)	The Turbo Shop "Air to Air Intercooler Kit for 7.3L Ford/Navistar"	1988-93 model year Ford Motor Company heavy duty vehicles powered by a 7.3L Navistar diesel engine.	
	1	D-180-20 (5/27/93)	The Turbo Shop, Inc. "EPI Header System"	Refer to manufacturer	
	1	D-182-9 (12/14/92)	Walker Manufacturing "Oxidation (OC) Catalytic Converter"	Refer to manufacturer	
	1	D-182-10 (8/23/93)	Walker Manufacturing "Two-Way, Three-Way. and Three-Way Plus Oxidation Catalytic Converters"	Refer to manufacturer	

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NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
	1	D-182-11 (9/22/93)	Walker Manufacturing "Two-Way, Three-Way, and Three-Way Plus Oxidation Catalytic Converters"	Refer to manufacturer	
	1	D-182-12 (10/1/93)	Walker Manufacturing "Three-Way Catalytic Converter"	Refer to manufacturer	
1		D-183-3 (10/28/92)	Perfection Automotive Products Corp. "3-Way Catalytic Converter Part #s 23032, 23035, 23037, 23038"	Refer to manufacturer	
1		D-183-4 (2/10/93)	Perfection Automotive Products Corp. "3-Way Catalytic Converter" Part Nos. 23002, 23005, 23007, 23008, 23032, 23035, 23037, 23038	Refer to manufacturer	
1		D-183-8 (1/7/94)	Perfection Automotive Products Corp. "New Aftermarket Catalytic Converters"	Refer to manufacturer	
1		D-183-5 (4/22/93)	Perfection Automotive Products Corp. "Three-Way Plus Oxidation Catalytic Converter"	Refer to manufacturer	
1		D-183-6 (4/26/93)	Perfection Automotive Products Corp. "Three-Way Plus Oxidation Catalytic Converter used as Oxidation Catalytic Converter"	Refer to manufacturer	
1		D-183-7 (10/20/93)	Perfection Automotive Products Corp. "New Aftermarket Catalytic Converters"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
1		D-185-1 (9/24/92)	Carbon Eliminator Systems, Inc. "Top Eliminator Fuel Treatment"	Refer to manufacturer	
	1	D-186-7 (2/8/93)	HKS U.S.A., Inc. "HKS Sport Turbo Upgrade System"	Refer to manufacturer	
	1	D-186-8 (3/18/93)	HKS U.S.A., Inc. "HKS Electronic Valve Controller" EVC & EVC II	Refer to manufacturer	
	1	D-186-9 (3/13/93)	HKS U.S.A., Inc. "HKS Sport Turbo Upgrade"	Refer to manufacturer	
	1	D-186-10 (5/20/93)	HKS USA, Inc. "Power Flow Air Filter System"	Refer to manufacturer	
	1	D-186-11 (10/1/93)	HKS USA, Inc. "HKS Sport Turbo Upgrade"	Refer to manufacturer	
	1	D-186-12 (10/25/93)	HKS USA, Inc. "Power Flow Air Filter System"	Refer to manufacturer	
	1	D-186-13 (3/7/94) NEW	HKS USA, Inc. "Power Flow Air Filter System"	Refer to manufacturer	
	1	D-186-14 (4/5/94) NEW	HKS USA, Inc. "HKS Twin Power Ignition Amplifier Systems" Part # 4046EC-9000X, 4047EC-9000X, 4048EC-9000X, and 4049EC-9000X"	1994 & older model-year vehicles, except those equipped with On-Board Diagnostic II (OBD II) system	
1		D-188-2 (3/31/94) NEW	Tri-D Industries, Inc. "Three-Way Plus Oxidation Catalytic Converter"	Refer to manufacturer	
	1	D-195-11 (3/10/93)	Paxton Products, Inc. "Supercharger Kit", Model Nos. SN-89 & SN-92	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-195-12 (4/7/93)	Paxton Products, Inc. "Supercharger Kit Model Model # SN-89 & SN-92	Refer to manufacturer	
		1 D-200-15 (4/15/93)	Doug Thorley Headers, Inc. "Exhaust Headers"	Refer to manufacturer	
		1 D-200-16 (4/15/93)	Doug Thorley Headers, Inc. "Exhaust Headers"	Refer to manufacturer	
		1 D-200-17 (4/5/94) NEW	Doug Thorley Headers, Inc. "Exhaust Headers"	Refer to manufacturer	
1		D-204-4 (12/14/92)	Coast Filtration, Inc. "Fuel Enhancer/Catalytic Fuel Reactor"	Refer to manufacturer	
1		D-204-5 (11/3/93)	Coast Filtration, Inc. "Fuel Enhancer"	Refer to manufacturer	
1		D-205-2 (4/6/93)	J. A. Lance Company, Inc. "Fuel Energizer/Fuel Charger"	Refer to manufacturer.	
		1 D-213-7 (4/8/93)	Vortech Engineering, Inc. "V-1 Gearcharger" Model #s 214255, 224255, 21458 & 224258	Refer to manufacturer.	
		1 D-213-8 (9/18/93)	Vortech Engineering, Inc. "A-Trim V-1 Gearcharger System"	Refer to manufacturer.	
1		D-214-2 (8/19/93)	Universal Diesel Products, Inc. "Universal Diesel Liquefier"	1994 & older model-year heavy-duty diesel fueled engines rated up to 600 horsepower	

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NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
	1	D-215-4 (11/24/92)	Edelbrock Corporation "Tubular Exhaust System"	Refer to manufacturer	
	1	D-215-5 (1/1/93)	Edelbrock Corporation "Camshafts"	1987 & older GM vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
	1	D-215-6 (4/15/93)	Edelbrock Corporation "Performer Aluminum Cylinder Heads"	1993 & older General Motors vehicles with a 262 to 400 CID V-8 gasoline engines.	
	1	D-215-7 (5/25/93)	Edelbrock Corporation "Performer Aluminum Cylinder Heads"	1993 and older Ford Motor Company vehicles with either a 289, 302, or 351 CID V-8 gasoline engine.	
	1	D-215-8 (10/27/93)	Edelbrock Corporation "Performer ECU Calibration Chip"	Refer to manufacturer	
	1	D-215-9 (10/19/93)	Edelbrock Corp. "Tubular Exhaust System"	Refer to manufacturer	
	1	D-215-10 (11/16/93)	Edelbrock Corporation "Performer 600 Series Emission Carburetor, Pat # 1400"	1980 and older non-feedback GM vehicles equipped with a V8 gasoline engine.	
	1	D-215-11 (12/22/93)	Edelbrock Corporation "Throttle Body & EGR Plate"	1994 and older Ford, Lincoln and Mercury vehicles with a fuel-injected 5.0L V8 gasoline engine.	
	1	D-215-12 (11/16/93)	Edelbrock Corporation Camshaft, P/N 313702	1987 and older GM vehicles equipped with 267 to 400 CID V-8 carbureted gasoline engine.	

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	1	D-216-8 (3/4/93)	J. Bittle American, Inc. "TFS Cylinder Heads"	Refer to manufacturer	
	1	D-216-9 (3/4/93)	J. Bittle American, Inc. "1.7 Roller Rocker"	Refer to manufacturer	
	1	D-216-10 (3/4/93)	J. Bittle American, Inc. "Shorty Headers"	Refer to manufacturer	
	1	D-216-11 (2/17/94)	Automotive Engineered Products, Inc. "Shorty Headers"	Refer to manufacturer	
	1	D-216-12 (2/17/94)	Automotive Engineered Products, Inc. "1.7 Ratio Roller Rocker"	1994 and older Ford Motor Company vehicles with a 289, 302, & 351 CID engine.	
	1	D-216-13 (2/17/94)	Automotive Engineered Products, Inc. "T.F.S. Cylinder Heads"	1994 and older Ford Motor Company vehicles with a 289, 302, & 351 CID engine.	
	1	D-219-1 (4/1/93)	Fuel Tool, Inc. "Fuel-Cat Tool"	Refer to manufacturer	
	1	D-219-2 (9/16/93)	Fuel-Cat, Inc. "Fuel Cat"	Refer to manufacturer	
	1	D-220-1 (4/13/93)	Mecrom USA, Inc. "Fuel EZ Gas Cap"	1993 and older model-year motor vehicles equipped with screw or cam type gas caps.	
	1	D-221-15 (3/10/93)	Automotive Controls Corp. "Accel 51000 Series Breakerless Dist."	Refer to manufacturer	
	1	D-225-22 (9/25/92)	Crane Cams, Inc. "Compucam 2000 Series Camshafts"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-225-23 (10/7/92)	Crane Cams, Inc. "Compucam 2000 Series Camshafts"	1993 & older Chrysler vehicles equipped with a 273 to 360 CID V-8 gasoline engine with either conventional, feedback conventional, or throttle body injection carburetion.	
		1 D-225-24 (10/5/92)	Crane Cams, Inc. "Compucam 2000 Series Camshafts"	1991-93 Ford Trucks with either a 5.0 or 5.8 liter gasoline engine, engine families MFM5.8T5HZCO, NFM5.8T5HZC1, & PFM5.8T5HZD4	
		1 D-225-25 (10/6/92)	Crane Cams, Inc. "Compucam 2000 Series Camshafts"	1987 & older General Motors vehicles with a 262 to 400 CID V-8 gasoline engine with a conventional or feedback controlled carburetor.	
		1 D-225-26 (10/19/92)	Crane Cams, Inc. "Ford Interceptor II Downstream Engine Management System," Part # 70201	1990-93 Ford Mustangs powered by a 302 CID (5.0L) V-8 gasoline engine.	
		1 D-225-27 (1/23/93)	Crane Cams, Inc. "High Intensity Variable Duration Hydraulic Lifters"	"1991 and older GM vehicles that are powered by a 262 to 400 CID gasoline engine and originally equipped with flat tappet hydraulic lifters."	
		1 D-225-28 (2/8/93)	Crane Cams "HI8000 Capacitive Discharge Ignition System"	Refer to manufacturer	
		1 D-225-29 (2/8/93)	Crane Cams "HI9000 Resonant Converter Ignition System"	Refer to manufacturer	
		1 D-225-30 (2/8/93)	Crane Cams "DEC9000 Engine Timing Retard & Rev Limiter System"	1993 & older model year non-computerized vehicles with magnetic pickup and distributor-type ignition, except those with odd firing engines.	

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NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
	1	D-225-31 (2/8/93)	Crane Cams "PS-91 Ignition Coil"	1993 and older model-year vehicles equipped with distributor-type ignition using an electronic ignition model.	
	1	D-225-32 (3/4/93)	Crane Cams, Inc. "HMV Series Camshafts"	Refer to manufacturer	
	1	D-225-33 (4/15/93)	Crane Cams, Inc. "Ford Interceptor II Downstream Engine Management System"	1986 to 1993 Ford Trucks powered by a 302 or 351 CID V-88 gasoline engine	
	1	D-225-34 (5/19/93)	Crane Cams, Inc. "Commander, Compucam, and HMV Series Shafts"	Refer to manufacturer	
	1	D-225-35 (8/17/93)	Crane Cams, Inc. "PS-92 Ignition Coil"	1993 & older vehicles equipped with capacitive discharge & resonant converter ignition systems.	
	1	D-225-36 (8/17/93)	Crane Cams, Inc. "PS-92P Ignition Coil"	1993 & older vehicles equipped with capacitive discharge and resonant converter ignition systems.	
	1	D-225-37 (1/13/94)	Crane Cams, Inc. "Crane Cams HI-6 Capacitive Discharge Ignition System"	Refer to manufacturer	
	1	D-225-38 (1/13/94)	Crane Cams, Inc. "Crane Cams HI 5000 Points Triggered Ignition"	Refer to manufacturer	
	1	D-225-39 (1/5/94)	Crane Cams, Inc. "Crane Cams HI-7 Capacitive-Discharge Ignition System"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-225-40 (1/5/94)	Crane Cams, Inc. "Crane Cams HI-8 Resonant Converter Ignition System"	Refer to manufacturer	
		1 D-225-44 (3/31/94) NEW	Crane Cams, Inc. HI2000 Module Trigger Ignition Amplifier	Refer to manufacturer	
		1 D-227-1 (3/23/93)	Emissions Technology, Inc. "Ecolizer Device" (Models PS, PH and PL)	Refer to manufacturer	
		1 D-228-1 (5/11/93)	Autothority Performance Engineering "Performance Software Chips"	Refer to manufacturer	
		1 D-231-3 (3/29/93)	Whipple Industries, Inc. "Supercharger Kits"	Refer to manufacturer	
		1 D-231-4 (5/27/93)	Whipple Industries, Inc. "Calibration Prom"	1991-93 GM G20 or G30 heavy-duty trucks powered by a 5.7L or 7.4L V8 V8 gasoline engine and a 4L80E transmission	
		1 D-231-5 (9/27/93)	Whipple Industries, Inc. "GM Superchargr Kits"	Refer to manufacturer	
		1 D-231-6 (1/25/94)	Whipple Industries, Inc. "Calibratoin Prom"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-234-2 (4/15/93)	Jones Electronic Technologies "J.E.T. Performance Chips"	Refer to manufacturer	
		1 D-234-3 (10/25/93)	Jones Electronic Technologies "Powertech 6 Pak Chip"	Refer to manufacturer	
1		D-236-4 (9/27/93)	Automotive Performance Systems, Inc. "Neuspeed P-Flo Air Filter Kit"	1993 & 1994 Volkswagens powered by a 2.8L gasoline engine.	
1		D-236-5 (9/27/93)	Automotive Performance Systems, Inc. "Neuspeed Throttle-Body VR-6"	1993-94 Volkswagens powered by a 2.8L gasoline engine	
		1 D-241-3 (3/23/93)	H.A.C. Products "Shorties & Stubbie Headers"	Refer to manufacturer	
1		D-244-3 (10/21/92)	Jim Wolf Racing "Pop-Charger Filter System"	Refer to manufacturer	
1		D-245-1 (10/22/92)	BBK Performance, Inc. "Equal-Length Shorty Header"	Refer to manufacturer	
1		D-245-2 (1/27/93)	BBK Performance, Inc. 65MM (P/N 1517), 70MM (P/N 1501) & 75MM (P/N 1503) "Throttle Bodies"	1993 & older model-year Ford, Lincoln and Mercury passenger cars equipped with a 5.0 liter electronic fuel-injected engine.	
1		D-245-3 (12/22/93)	BBK Performance, Inc. "Throttle Body & EGR Plate"	Refer to manufacturer	

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NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-246-1 (10/21/92)	Nelson Enterprises "Supercharger Kit" Model # SN-89, Part # 11N004	Refer to manufacturer	
		1 D-246-2 (7/30/93)	Nelson Enterprises "Supercharger Kit Model # SN-92, Part # 11N004"	1990-93 model-year Mazda MX-5 Miatas powered by a 1.6 liter gasoline engine equipped with Multipoint Fuel Injection	
		1 D-250-1 (3/10/93)	Air Research Company "Aluminum Street Head"	1993 & older vehicles with a 262 to 400 CID V-8 gasoline engine.	
1		D-253-1 (4/1/93)	Fuel Efficiency Systems, Inc. "Thermal-Charger"	1993 and older model year heavy-duty diesel powered motor vehicles.	
		1 D-256-1 (12/9/92)	Weiland Automotive Industries, Inc. "Supercharger Kit" Model 6510	Refer to manufacturer	
		1 (D-256-2) (1/11/93)	Weiland Automotive Industries, Inc. "Supercharger Kit for Small Block Chevrolet"	Refer to manufacturer	
		1 D-260-1 (12/2/92)	Hypertech, Inc. "Street Runner Power Chips"	Refer to manufacturer	
		1 D-260-2 (12/1/92)	Hypertech, Inc. "Thermo-Master Prom Chips"	Refer to manufacturer	
		1 D-260-3 (10/19/93)	Hypertech, Inc. "Street Runner Power Chips Thermo Master Power Chips, & Power Modules"	Refer to manufacturer	

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NON-MEMBER	SEMA MEMBER	E. O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
	1	D-261-2 (1/13/93)	Engine Management Systems "Fuel Pilot", Model M20-C	1993 and older model-year light-duty trucks, medium-duty vehicles and heavy-duty engines operating on compressed natural gas and utilizing Impco or an Impco-compatible feedback controlled conversion systems.	
	1	D-261-3 (3/18/93)	Engine Management Systems "EMS AFTC-12 Timing Controller"	Refer to manufacturer	
	1	D-261-4 (2/10/93)	Engine Management Systems "Fuel Pilot, Model M-20-L	1993 and older model-year vehicles operating on liquefied petroleum gas and utilizing Impco or an Impco-compatible feedback controlled conversion system.	
	1	D-261-5 (3/31/94) NEW	Engine Management Systems "Fuel Pilot, Model M20-C"	Refer to manufacturer	
	1	D-261-6 (3/31/94) NEW	Engine Management Systems "EMS AFTC-12 Timing Controller"	Refer to manufacturer	
	1	D-261-7 (3/31/94) NEW	Engine Management Systems "Fuel Pilot, Model M20-L"	Refer to manufacturer	
	1	D-263 (7/22/92)	Righetti Enterprises "RE-1 Aneroid System"	1974 and older model-year Cummins turbocharged heavy-duty diesel engines equipped with a PTG fuel pump.	
	1	D-263-1 (1/25/93)	Righetti Enterprises "RE-2 Aneroid Systems"	Refer to manufacturer	
	1	D-265-2 (3/17/93)	Hopar Performance "Sbec Computer"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-265-3 (8/10/93)	Hopar Performance "SBEC Computer"	Refer to manufacturer	
		1 D-265-4 (3/23/94) NEW	Hopar Performance "SBEC Computer"	Refer to manufacturer	
		1 D-266-1 (10/19/92)	Nitrous Oxide Systems, Inc. "Nitrous Oxide Injection Kit" # 5170 & # 5170-II	Refer to manufacturer	
		1 D-266-2 (8/23/93)	Nitrous Oxide Systems, Inc. "Nitrous Oxide Injection Kit" Pt # 5115, 5115-II, 5172, 5174, & 5175	Refer to manufacturer	
1		D-267-1 (12/22/93)	KIDC Amerca/Cyclone, Inc. "Cyclone Device"	Installation on 1993 model-year and older motor vehicles.	
		1 D-269-1 (11/23/92)	K & N Engineering, Inc. "K & N Filtercharger Injection Performance Kit"	Refer to manufacturer	
		1 D-269-2 (12/15/92)	K & N Engineering, Inc. "K & N Filtercharger Injection Performance Kit"	Refer to manufacturer	
		1 D-269-3 (12/15/92)	K & N Engineering, Inc. "K & N Filtercharger Injection Performance Kit"	Refer to manufacturer	
		1 D-269-4 (7/7/93)	K & N Engineering, Inc. "K & N Filtercharger Injection Kit"	Refer to manufacturer	
		1 D-269-5 (10/25/93)	K & N Filtercharger Injection Kit "K & N Filtercharger Injection Kit"	Refer to manufacturer	

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NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	MANUFACTURER "PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-271-1 (2/2/93)	Kenne Bell Performance Products "TS2000 Twin Screw Supercharger Kit"	1986-1993 model-year Ford Mustangs and 1986 Mercury Capris with 5.0 liter gasoline engines.	
		1 D-271-2 (3/2/93)	Kenne Bell Inc. "Intercooler Mode KB99070BS"	1986-87 model year Buick Grand National, T-Type, and GNX vehicles equipped with 3.8 liter turbocharged V6 engines.	
		1 D-271-3 (3/4/93)	Kenne Bell, Inc. "Intercooler" Model KB8093	1990-93 model year GM Sylone and Typhoon light duty trucks equipped with 4.3 liter turbocharged V6 engines.	
		1 D-271-4 (11/9/93)	Kenne Bell Performance Products TS1000 Twin Screw Supercharger Kit	1986-93 model-year Ford Mustangs and 1986 Mercury Capris with 5.0 liter gasoline engines.	
		1 D-272-1 (4/25/93)	Baytech Corporation "NGV Link"	Refer to manufacturer	
1		D-273-1 (3/10/93)	Midway Industries, Inc. "Distributors"	1966-70 model-year vehicles equipped with incompatible NOx devices.	
1		D-273-2 (3/10/93)	Midway Industries, Inc. "Stinger I Ignition"	V-8 engines except vehicles equipped with electronic ignition or 1966-70 model year vehicles equipped with incompatible NOx devices.	
1		D-273-3 (3/10/93)	Midway Industries, Inc. "Stinger S4 Ignition"	V-8 engines except vehicles equipped with electronic ignition or 1966-70 model year vehicles equipped with incompatible NOx devices.	
		1 D-274-2 (11/23/92)	Nutek Incorporated/Firepower Ignitions "Ecid Ignition System" P/N 1031	1993 and earlier model year vehicles equipped with Magnetic or Hall Effect P/U distributors.	
		1 D-275 (8/24/93)	Ignition Specialties "Performance C"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-276-1 (2/10/93)	Borla Performance Industries "Ford Stainless Steel Header Systems"	Refer to manufacturer	
		1 D-277-1 (3/10/93)	B & H Automotive Products "Supercharger Kit" Model 92200	1987-1993 model-year Chevrolet/GMC TBI pickup trucks; powered by 5.0-5.7L (305-350 CID) gasoline engines.	
		1 D-277-2 (2/17/94)	B & H Automotive Products "Supercharger Kit, Model # 92200"	1987-94 General Motors trucks equipped with a 5.0 or 5.7 liter throttle-body injected engine.	
1		D-278 (2/2/93)	Chevrolet Raceshop "5.7L H.O. Camaro Performance Package"	1982-87 Camaros originally equipped with an IG4 or L69 5.0L engine and a 700R4 automatic transmission.	
		1 D-279-1 (10-1-92)	Competition Cams, Inc. "Pure Energy Camshaft" P/N 12-305-4	1987 and older GM vehicles powered with a 278 COD (4.4L) to 350 CID carbureted V-8 gasoline engines	
		1 D-279-2 (12/9/92)	Competition Cams, Inc. "Rocker Arms"	Refer to manufacturer	
		1 D-279-3 (12/22/92)	Competition Cams, Inc. "Pure Energy Camshaft" (P/N 12-305-2)	1987 and older General Motor vehicles powered with a 267 CID (4.4L) to 350 CID (5.7L) carbureted V-8 gasoline engines.	
		1 D-279-5 (3/11/93)	Competition Cams, Inc. "Pure Energy Camshafts"	1987 and older General Motors vehicles powered with a 267 CID (4.4L) to 350 CID (5.7L) carbureted V-8 gasoline engines.	

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NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
	1	D-280-1 (3/31/94) NEW	Airtek, Inc. "New Aftermarket Catalytic Converters"	Refer to manufacturer	
	1	D-283 (10/5/92)	The Marknet Group, Inc. "Fuel Buddy"	Refer to manufacturer	
	1	D-284 (10/7/92)	Trust Company, Ltd. "Greddy Intercooler Kit"	1990-92 model year Toyota MR2 Turbo vehicles equipped with a 3S-GTE 2.0 Liter 4 cylinder engine.	
	1	D-276-2 (9/13/93)	Borla Performance Industries "Chevrolet 350 P/U Header System" "Ford Stainless Steel Header Systems"	Refer to manufacturer	
	1	D-285 (10/20/92)	Brodie Brittain Racing "Miata Hx-5 Turbo Kit"	Refer to manufacturer	
	1	D-286 (12/9/92)	Nu Way Products, Inc. "Insert Nozzle Auto Gas Cap"	Refer to manufacturer	
	1	D-287 (12/15/92)	Automotive Digital Systems "Super Chips"	Refer to manufacturer	
	1	D-288 (1/25/93)	Transfer Flow, Inc. "Replacement Fuel Storage Systems"	Refer to manufacturer	
	1	D-288-1 (5/6/93)	Transfer Flow, Inc. "Replacement Fill Neck Kit"	Refer to manufacturer	
	1	D-289 (1/5/93)	Camshaft Machine Company "Camshafts"	1987 and older General Motors vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
	1	D-289-1 (11/16/93)	Camshaft Machine Company "Camshaft P/N 115932"	1987 and older GM vehicles equipped with a 267 to 400 CID V-8 carbureted gasoline engine.	

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NON- MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
	1	D-290 (1/5/93)	Dana Corporation "Camshafts"	1987 & older GM vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
		1 D-290-1 (6/25/93)	Dana Corporation "Camshafts"	1987 & older General Motors vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
		1 D-290-2 (11/16/93)	Dana Corporation "Camshaft, P/N 2292212"	1987 & older GM vehicles equipped with a 267 to 400 CID V-8 carbureted gasoline engine.	
	1	D-291 (1/5/93)	Elgin Industries "Camshafts"	1987 & older GM vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
	1	D-292 (1/5/93)	Federal Mogul Corporation "Camshafts"	1987 & older GM vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
	1	D-293 (1/5/93)	Hi-Tech "Camshafts"	1987 & older GM vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
		1 D-293-1 (6/25/93)	Hi-Tech "Camshafts"	1987 and older General Motors vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
		1 D-293-2 (2/14/93)	Hi-Tech "Camshaft, P/N 101024"	1987 and older GM vehicles equipped with a 267 to 400 CID V-8 Carbureted gasoline engine.	
	1	D-294 (1/5/93)	McQuay Norris "Camshafts"	1987 and older GM vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-295 (1/5/93)	Helling Tool Company "Camshafts"	1987 and older GM vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
1		D-296 (1/5/93)	Huskegon Products "Camshafts"	1987 & older GM vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
1		D-296-1 (6/25/93)	Huskegon Products "Camshafts"	1987 and older General Motors vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
		1 D-297 (1/5/93)	Sealed Power Corporation "Camshafts"	1987 & older GM vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
		1 D-297-1 (6/25/93)	Sealed Power Corporation "Camshafts"	1987 and older General Motors vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
		1 D-297-2 (11/16/93)	Sealed Power Corporation "Camshaft, P/N CS1107R"	1987 & older GM vehicles equipped with a 267 to 400 CID V-8 carbureted gasoline engines.	
		1 D-298 (1/5/93)	TRW, Inc "Camshafts"	1987 & older GM vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
		1 D-299 (1/5/93)	Wolverine/Blue Racer "Camshafts"	1987 & older GM vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
		1 D-299-1 (2/8/93)	Wolverine/Blue Racer "Camshafts and Camshaft Kits"	1987 and older General Motors vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
		1 D-299-2 (2/24/93)	Wolverine/Blue Racer "Rocker Arms"	1993 and older General Motors vehicles powered with a 267 CID (4.4L) to 454 CID (7.4L) gasoline engines.	
		1 D-299-3 (6/24/93)	Wolverine/Blue Racer "Cam Sprocket Lock Plate"	1987 and older General Motors vehicles powered with a 267 CID (4.4L) to 400 CID (6.6L) carbureted gasoline engines.	
		1 D-299-4 (10-27/93)	Wolverine Gear & Parts Co. "Cylinder Heads Part #s WG-9901 & WG-9902"	1987 & older GM vehicles equipped with a 267 to 400 CID V-8 gasoline engine.	
1		D-300 (12/21/92)	Klean Burn "Klean Burn 2100"	Refer to manufacturer	
		1 D-301 (1/21/93)	Arizona Speed & Marine, Inc. "TPI Runners"	1985-1992 GM Corvettes, Camaros, and Trans Ams that are powered by a electronic port fuel injected 5.7L gasoline engine.	
1		D-302 (2/10/93)	Azaka Company "Polarion-X"	Refer to manufacturer	
1		D-303 (2/2/93)	Tecnagen Industries "Gascan 360 D"	Refer to manufacturer	
1		D-304 (2/10/93)	Applied Technologies an Research, Inc. "RP333A Dual Stage Stainless Hush Headers"	1986-87 model-year Buick Grand National Regal Turbo and GNX passenger cars equipped with a V6 250 CID turbocharged	
1		D-304-1 (10/25/93)	Applied Technologies & Research, Inc. "HP115 RAM Air System, HP142-B Stage IIIA Turbocharger Upgrade, RP360A Air/Air Intercooler & INJ-7B 7th Interjector System"	Refer to manufacturer	
1		D-304-2 (9/29/93)	Applied Technologies & Research, Inc. "Pit Bull"	1986-87 General Motors vehicles equipped with a 231 CID V6 turocharged engine	

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NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
1		D-305 (2/10/93)	Vi-Tech Manufacturing "Vitalizer Device"	Refer to manufacturer	
1		D-306 (2/25/93)	Pollution Control Systems, Inc. "Air Valve/PCV Enhancer"	Refer to manufacturer	
1		D-307 (3/29/93)	EM Cat, Inc. "Powertech 2000"	Refer to manufacturer	
1		D-307-1 (9/4/93)	EM Cat, Inc. "Powerteck 2000/Emission Panther"	Refer to manufacturer	
1		D-307-2 (2/3/94)	EM Cat, Inc. "Emissions Eliminator-Fuel Booster"	Refer to manufacturer	
1		D-308 (4/6/93)	Ford Motor Company Special Vehicle Operations-"Hi-Flow Shorty Header"	Refer to manufacturer	
1		D-309 (3/18/93)	Alan V. Aric Enterprises "The Gas Saver Device - Model A1"	1993 and older model year gasoline and compressed natural gas (CNG) powered vehicles.	
1		D-310 (3/11/93)	Fuel Logistics, Inc. "Fuelmaster"	Refer to manufacturer	
1		D-311 (3/11/93)	Environ Research Corp. "Turbobeam 2000"	Refer to manufacture	
1		D-312 (8/10/93)	Iraal, Inc. "Hydro Power Pak Model # 1200T"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
	1	D-313 (3/24/93)	Superchips International, Inc. "Eco-Flow"	Refer to manufacturing	
	1	D-314 (3/22/93)	Fuelsaver Overseas Limited "Fuelsaver"	Refer to manufacturing	
	1	D-315 (4/22/93)	Hatch & Kirk, Inc. "Meca High Pressure Natural Gas Engine Fuel Regulator"	1993 and older model-year passenger cars, light-duty trucks, medium-duty vehicles and heavy-duty engines operating on compressed natural gas and utilizing an	
	1	D-315-1 (5/12/93)	Hatch & Kirk, Inc. "Meco High Pressure Natural Gas Engine Fuel Regulator" (Part # 9820)	1993 & older model-year passenger cars, light-duty trucks, medium-duty vehicles and heavy-duty engines operating on compressed natural gas and utilizing an Impco conversion system.	
	1	D-315-2 (12/7/93)	American Gas Equipment, Inc. "Teacom High Pressure Natural Gas Engine Fuel Regulator"-PN# 20-1032-2915	Refer to manufacturer	
	1	D-316 (4/13/93)	New Dimensions, Inc. "Stage I & Stage II Turbocharger Kits"	1985-87 Volkswagen Golf GTI and Jetta GLI vehicles	
	1	D-317 (4/1/93)	MAR-TEC, Inc. "Fuel Enhancement Device"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
1		D-318 (4/29/93)	J & S Electronics "Digital Safeguard"	1993 and older vehicles that use a single coil, even firing, spark ignited piston engine, including those engines used in Mazda Miatas & RX 7x.	
	1	D-319 (5-6-93)	Callaway Cars, Inc. "Callaway Supernatural LT1"	1992-93 Corvettes equipped with a 5.7L engine.	
	1	D-319-1 (12/23/94)	Callaway Cars, Inc. "Callaway Supernatural LT-1"	Refer to manufacturer	
1		D-320 (6/2/93)	Exhaust Aid Company "Exhaust Aid Device"	Refer to manufacturer	
1		D-322 (7/29/93)	International Ticker Tape Resources Ltd. "Econogreen"	Refer to manufacturer	
1		D-323 (8/17/93)	DR Motorsports "ZR-1 Engine Package"	1990-93 Corvettes equipped with a 5.7L ZR-1 gasoline engine	
1		D-323-1 (1/5/94)	DR Motorsports "ZR-1 Engine Package, 450 & 475 HP"	Refer to manufacturer	
1		D-324 (8/4/93)	Extrude Hone Abrasive Flow Machining "Extrade Hone Abrasive Flow Machining Process"	Refer to manufacturer	
1		D-325 (7/12/93)	Best Products, Inc. "Pro M Mass Air Flow Sensor" Models Pro M77-19, M77-SC & M77-2.3	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
	1	D-326 (8/19/93)	Saveco Environmental Products, Inc. "Gasbooster"	Refer to manufacturer	
	1	D-327 (8/12/93)	Power Makers Limited USA "Fuel Cat"	Refer to manufacturer	
	1	D-328 (8/31/93)	R.C.I. Purifier DE Mexico "R.C.I. Purifier"	Refer to manufacturer	
	1	D-328-1 (3/7/94) NEW	RCI Purifier West "RCI Purifier"	Refer to manufacturer	
	1	D-329 (8/23/93)	Clean 'N Save, Inc. "Clean Economizer"	Refer to manufacturer	
	1	D-330 (9/16/93)	Superchips, Inc. "Superchip"	1989-1993 Ford Mustang equipped with a 5.0L engine	
	1	D-331 (9/8/93)	Qwiksilver II, Inc. "Qwiksilver II Carburetor"	1993 and earlier model year Harley Davidson motorcycles with up to 1388 cc engines.	
	1	D-332 (9/13/93)	Accel Motorcycle Products "Accel Super Coil - PN 140406 & 14047"	Refer to manufacturer	
	1	D-333 (9/27/93)	Lingenfelter Performance Engineering "Lingenfelter 383 CID LT-1 Engine"	1992-93 Corvettes equipped with a 5.7L LT-1 gasoline engine.	
	1	D-333-1 (8/24/94)	Lingenfelter Performance Engineering "Lingenfelter 383 CID LT-1 Superram Engine"	1992-93 Corvettes equipped with a 5.7L LT-1 gasoline engine.	
	1	D-334 (11/1/93)	Powerdyne, Inc. "Model # BD-10 Supercharging System"	1986-93 model-year Ford Motor Co. vehicles equipped with 5.0 liter (302 CID) or 5.8 liter (351 CID) electronic fuel injected engines.	

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NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
1		D-335 (10/6/93)	Vortex Company "Air cleaner Devices"	Refer to manufacturer	
1		D-336 (10/20/93)	Enviro-Mag Manufacturing, Inc. "Kynetik Power Pack"	Refer to manufacturer	
1		D-337 (10/20/93)	Ecology Pure Air International, Inc. "CEH Catalyst"	Refer to manufacturer	
	1	D-338 (10/13/93)	Harley Davidson Motor Company "Performance Coil, P/N 31620-88"	1983-1994 model year Harley Davidson motorcycles equipped with electronic ignitions.	
	1	D-338-1 (12/16/93)	Harley Davidson Motor Company "Performance Ignition" P/N 32420-86A, 32421-85A & 32421-94	Refer to manufacturer	
	1	D-338-2 (1/27/94)	Harvey Davidson Motor Company "Performance Ignition" P/N 32420-87B, 32421-85B and 32421-94	Refer to manufacturer	
1		D-339 (12/15/93)	American Technologies Group, Inc. "Clean Air Pac/The Force/Car Cure"	Refer to manufacturer	
1		D-340 (10/17/93_)	Global Guardian, Inc. "Maxemiser Device"	Refer to manufacturer	
1		D-342 (10/24/93)	Econogreen Environmental Systems, Inc. "Econogreen"	Refer to manufacturer	
	1	D-343 (1/3/94)	World Products, Inc. "Windsor & Windsor Jr. Cylinder Heads"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
	1	D-344 (12/23/93)	Jackson Racing "Cold Air Induction System"	Refer to manufacturer	
1		D-345 (12/16/93)	Automotion, Inc. "Shift Rite Device"	Refer to manufacturer	
	1	D-346 (2/1/94)	Electromotive, Inc. "4.2L Jeep Fuel Injection Conversion Kit"	Refer to manufacturer	
1		D-347 (1/24/94)	Kleen Wheels Corporation "Permacap II"	1993 and older model-year motor vehicles equipped with screw or cam type gas caps.	
1		D-348 (1/13/94)	General Magnetics Corporation "GMX Model 400"	Refer to manufacturer	
1		D-349 (1/24/94)	Bell Engineering Group, Inc. "IHI & Aerodyne Turbocharger Kits"	1990 to 1993 model-year Mazda Miatas with a 1.6L gasoline engine.	
1		D-350 (1/13/94)	TF Purifiner, Inc. "TF Purifiner Mobile Oil Refiner"	Refer to manufacturer	
1		D-351 (3/5/94) NEW	M.C. Ignitions Co., Inc. (4/5/94) NEW	1970-94 Harley-Davidson motorcycles that are factory equipped with magnetic or points type ignition systems.	
1		D-352 (1/20/94)	Advanced Power Systems International, Inc. "Fitch Fuel Catalyst"	Refer to manufacturer	
1		D-353 (2/5/94)	Miller Catalyzer Corporation "Used Aftermarket Catalytic Converters"	Refer to manufacturer	

NON-MEMBER	SEMA MEMBER	E.O. NUMBER (DATE)	"PRODUCT" (MODEL/KIT NO.)	VEHICLE APPLICATIONS	MODIFICATION ALLOWED
	1	D-354 (2/17/94)	Racing Sport Akimoto "Intake System"	Refer to manufacturer	
	1	D-355 (3/7/94) NEW	S & S Cycle, Inc. "S & S Super E Carburetor Kit"	Refer to manufacturer	
	1	D-356 (3/17/94) NEW	Engine Electronics, Inc. "Compu-Fire CF-1000"	1993 and older non-computer controlled vehicles with breaker point ignition systems.	
	1	D-357 (3/23/94) NEW	Helmark Corporation "Commercial Fuel Treatment Device"	Refer to manufacturer	
	1	D-358 (4/5/94) NEW	Brodix, Inc. "Aluminum Cylinder Heads"	1994 and older General Motors vehicles with either a 305 or 350 CID V-8 gasoline engine.	
TOTAL NON-MEMBERS	TOTAL MEMBERS	GRAND TOTAL 303 FROM 1/29/92 TO 4/94			
120	183	UPDATED 4/20/94			

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STATE OF CALIFORNIA
AIR RESOURCES BOARD

MODIFICATIONS TO MOTOR VEHICLE ENGINE AND EMISSION CONTROL SYSTEMS
EXEMPTED UNDER VEHICLE CODE SECTION 27156

January, 1992

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STATE OF CALIFORNIA
AIR RESOURCES BOARD

MODIFICATIONS TO MOTOR VEHICLE ENGINE AND EMISSION CONTROL SYSTEMS
EXEMPTED UNDER VEHICLE CODE SECTION 27156

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Accel Blueprint Distr. Part No. 9109	Automotive Controls Corporation	Modified Distributor	D-221-1	09
Accel Dual Point Conv. Kit Part No. 31040E	Automotive Controls Corporation	Distributor Modification	D-221-3	09
Accel HEI Control Module Part Nos. 35361 35362 and 35263	Automotive Controls Corporation	Ignition Module	D-221-4	18
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Accel HEI Super Coil Part Nos. 140003 and 140005	Automotive Controls Corporation	Ignition Coil Modification	D-221-6	18
Accel Laser II Capacitive Discharge Ignition Module Part No. 49002	Automotive Controls Corporation	Ignition Module	D-221-5	18
Accel Super Stock Ignition Coil Part Nos. 7796C, 8140, 8140C, 140001 and 140008	Automotive Controls Corporation	Ignition Coil	D-221	18
Acculite Electronic	Superior Ind., Inc.	Electronic Ignition	D-60-2 D-60-3	12
Advanced Turbo Systems Turbocharger Kit	Advanced Turbo Systems	Turbocharger	D-171-5	23
AES-3000 Fuel Saving	Engineering Systems Corp.	Air Bleed	D-85	1
AFR Control Valve	Ecotroleum, Inc.	Air Bleed	D-119-1	1
Air Conditioning Cut-Out System	Mancini Machine Corp.	Air Conditioning Cut-Out	D-82	3
Air-Flo-Matic	H. D. Winton	Air Bleed	Res. 72-1	1
Air-Flo-Needle	Riverside Performance Products	Air Cleaner Modification	D-42	2
Air Jet	Albano Enterprises	Air Bleed	D-14-3	1
Air-to-Air Intercooler System Series 5010EC	HKS USA, Inc.	Intercooler	D-186-3	19

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or E.O. No.</u>	<u>Sect.</u>
Air-to-Air Intercooler Kits	Allied Signal	Intercooler	D-173	19
Airstep	Walker Engineering Co.	Blowby Oil Separator	D-81	6
Allison Opto- Electric Ignition System	Allison Automotive	Electronic Ignition	D-47-2 D-47-3	12 12
A-OK Fuel System	Innovationeering, Inc.	Vapor Injector	D-178	25
APO Mark II Vapor Injector	APO International	Vapor Injector	D-26-3 D-26-4 D-26-5	25
Art Linkletter	Tanner Electronic	Electronic Ignition	D-46-1	12
Autech AT-2000	Autech	Anti-Theft System	D-65-1	5
Auto Jet Heater	Freedom Products	Fuel Heater	D-109-1	17
Automotive Performance System	The Klane Corp.	Steam Injector	D-92	25
BAE Turbocharger	BAE Turbosystems	Turbocharger	D-97-1 D-97-7 D-97-16 D-97-17	23
BAE Turbocharger	BAE Turbosystems	Turbocharger	D-97-18 D-97-19 D-97-20 D-97-21	23
Ball-Matic	Ball-Matic Corp.	Air Bleed	D-9-3 D-9-5 D-9-6	1
BC & L	BC & L Ind., Inc.	Air Bleed	D-28	1

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or E.O. No.</u>	<u>Sec</u>	<u>n</u>
BID	Prestolite Accel Gulf Oil Automatic Trans. Parts Echlin Conoco Ford Motorcraft CO-OP IHC Fleetrite Montgomery Ward Rite Line Shell Oil Wards Wells	Electronic Ignition	D-54-5 D-54-6 D-54-8 D-54-9 D-54-10 D-54-11	12	
Blackjack Exhaust Header	Mr. Gasket Company	Exhaust Headers	D-170	15	
Blizzard I Intercooler	Omni-Cool Corp.	Intercooler	D-138	19	
Borg Warner Electronic	Superior Ind., Inc.	Electronic Ignition	D-60-2	12	
Breakerless Ignition	Fairchild Semiconductor	Electronic Ignition	D-44-2 D-44-3	12	
Bubblizerapor Injector	Mileage Clinic, Inc.	Vapor Injector	D-108	25	
Cagle Automatic Fuel Regulator	Cagle Corp.	Fuel Pressure Regulator	D-75-12	18	
Carbonflo	Carbonflo Sales America Limited	Fuel Line Insert	D-199	17	
Carburetor Fuel and Pulsation Control	Starlight Products Corp.	Fuel Line Pulsation Damper	D-78	17	
Catalytic Fuel Conditioner	Coast Filtration, Inc.	Fuel Line Insert	D-204	17	
CDS 84	American Ecologenics Corp.	Electronic Ignition	D-16	12	
Clean Air Valve/PCV Enhancer	Ventures Unlimited, Inc.	PCV Modification	D-208-1	6	
Clytron	Clytronics Corp.	Electronic Ignition	D-12	12	
Compucam 2000 Series 2010, 2020, 2030	Crane Cam, Inc.	Camshaft	D-225	13	
Compucam 2000 Series 2021	Crane Cam, Inc.	Camshaft	D-225-2	13	

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or E.O. No.</u>	<u>Section</u>
Compusensor	C. A. Jacobs	Electronic Ignition	D-19-3	12
Compu-Spark	Gaylord Electronics	Electronic Ignition	D-10	12
Condensator	Condensator, Inc.	Crankcase Vapor/ Liquid Separator	D-69 D-69-1 D-69-5	6
Controlled Vapor Injector	Mr. R. Watters	Vapor Injector	Res. 71-28-A	25
Crankcase Liquid Emission Controller	W. E. White	Blowby Separator	Res. 71-49-A	6
Cue Package	General Motors Corp.	Engine Modification	D-126	13
Cummins Injector P/N 3026074	Cummins Engine Co., Inc.	Fuel Injector	D-142	16
Cummins Turbochargers	Cummins Engine Co., Inc.	Turbocharger	D-142-1	23
Cyclone Exhaust Header	Mr. Gasket Company	Exhaust Headers	D-170-1	15
Diesel Research and Development Corp. Turbocharger Kit No. 4B2	Diesel Research and Development Corp.	Turbocharger	D-135	23
Dinan Engineering, Inc. Turbocharger/ Intercooler Kit	Dinan Engineering, Inc.	Turbocharger/ Intercooler	D-176	23
Dodge 440 Motorhome System	BAE	Turbocharger	D-97	23
Doug Thorley Exhaust Header	Doug Thorley, Inc.	Exhaust Headers	D-200	15
Doug Thorley Exhaust Cross-Over Pipe	Doug Thorley, Inc.	Cross-Over Pipes	D-200-1	15
Doug Thorley Exhaust Header Model No. 248Y	Doug Thorley Headers	Exhaust Headers	D-200-2	15
Downey Off Road Exhaust Header	Downey Off Road Mfgr.	Exhaust Headers	D-165	15
DualFill Device	Sagebrush Industries, Inc.	Fuel Tank Connector	D-191-1	17

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>E.O. No.</u>	<u>Sect</u>
Eagle Exhaust Header	Mr. Gasket Company	Exhaust Headers	D-170-2	15
Ecolizer	Emissions Technology Inc	Fuel Line Insert	D-227	17
Econo-Mist	F.A.P. Corp.	Vapor Injector	D-29	25
Econo-Needle	Trans World Marketing	Air Bleed	Res. 71-58	1
EGR Restrictor Plate	BAE Turbosystems	EGR System	D-97-22	10
Electro-Ignition Computer	Consumers Automotive Research	Electronic Ignition	D-25-1	5
Electronic Engine Fuelizer	Fuelizer Corp.	Ignition Bridge	D-52	18
Electronic Fuel Injection	Airsensors, Inc.	Fuel Injectors	D-163	16
Electronic Ignition System	Perma-Tune, Inc.	Electronic Ignition	D-210	12
Electronition Electronic	Superior Industries, Inc.	Electronic Ignition	D-60-2 D-60-3	12
Emergency Starter	Intercontact Corporation	Ignition Switch	D-240	14
Empower Plus Systems Models 1-A, 1-B, 1-C and D	Energy Efficiency, Inc.	PCV Modification	D-224	6
Energy Coil	Jacobs Electronics	Coil Modification	D-19-5	18
Energy Pak, Mileage Maker, Pro-8, Pro-10	Jacobs Electronics	Electronic Ignition	D-19-4	12
Energy Plus Catalyst	Supreme Automotive Manufacturing Co.	Under-Carburetor Screen	D-35-5	24
Engine Knock Eliminator	ACF Industries, Inc. (Carter Automotive Division)	Electronic Ignition	D-137-1	12
Engine Saver	Mr. Stanley Chial	Blowby Oil Separator	D-123	6
Environmental Fuel Saver	VK Mfg., Inc.	Under-Carburetor Screen	D-84	24
Equalizer	Contignitron Co.	Electronic Ignition	D-1 thru D-1-5	12

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<u>vice</u>	<u>Mfg.</u>	<u>Type</u>	<u>Reg. or E.O. No.</u>	<u>Section</u>
Equal-Length Shorty Header	BBK Performance Specialists	Exhaust Headers	D-245	15
Ermie Immerso Ent. Exhaust Headers	Ermie Immerso Ent.	Exhaust Headers	D-166	15
Exhaust Headers	Doug Thorley Headers Inc.	Exhaust Headers	D-200-3 thru D-200-13	15
Fairchild Ignition System	Fairchild Semi-Conductor	Electronic Ignition	D-44-1	12
Filkotronic	Filko Div. of F & B	Electronic Ignition	D-11-3 D-11-4	12
Filter King	Tech Import Ltd.	Fuel Pressure Regulation	D-79-3	17
Filt-O-Reg	Alondra, Inc.	Fuel Pressure Regulator	D-66	17
Fireball Cylinder Head	Crane Cam, Inc.	Cylinder Head	D-225-3	13
Firewell	Firewell Products Corp.	Electronic Ignition	D-15	12
Flamethrower	C. A. Jacobs	Electronic Ignition	D-19-2	12
Frantz Vapor Injector	Sky Corp.	Vapor Injector	Res. 71-26-A	25
Fuel-Cat Tool	Fuel Tool, Inc,	Fuel Line Insert	D-219	17
Fuel Charger	J. A. Lance	Fuel Line Insert	D-205	17
Fuel Charger Model nos. XL 750 and XL 755	J. A. Lance	Fuel Line Insert	D-205-1	17
Fuel Dominator	Internal Energy Mgt. Corp.	Fuel Line Insert	D-98-1	17
Fuel-Energizer Model AFE-1	The Magnetizer Group Inc.	Fuel Line Insert	D-174-2	17
Fuel Enhancer	Coast Filtration, Inc.	Fuel Line Insert	D-204-1	17
Fuel Enhancer/ Catalytic Fuel Reactor	Coast Filtration Inc.	Fuel Line Insert	D-204-3	17

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or E.O. No.</u>	<u>Section</u>
Fuel EZ Gas Cap	Mecrom USA, Inc.	Gasoline Cap	D-220	17
Fuel Injection/ Throttle Body System	Holley Replacement Parts Division Colt Industry Operating	Throttle Body Injection	D-115-2	21
Fuel King	Tradex International	Fuel Line Insert	D-232	17
Fuel Miser	Western Carbide Corp., Inc.	Water Injector	D-116	26
Fuel Saver	Zemco, Inc.	Engine Shut-Off	D-106-1	14
Fuel Stretcher Device	Fuel Stretchers, Inc.	Fuel Line Insert	D-217	17
Fueltron Fuel Vap.	Fueltronics Corp.	Fuel Vaporizer	D-132	17
Gale Banks Turbocharger Kit	Gale Banks Engineering	Turbocharger	D-161-17 D-161-7 D-161-4 D-161-18	23
Gale Banks Exhaust Cross-Over Pipes	Gale Banks Engineering	Exhaust Cross-Over Pipes	D-161-19	15
Gas Energizer	Energy Innovations	Ignition Bridge	D-36	18
Gas Miser	Gas Miser, Inc.	Electronic Coil	D-41	16
Gasmizer	Env. Gas Miser, Inc.	Air Bleed	D-30	1
Gas Saver	Donald la Vallee dba Gas Saver	Air Bleed	D-45	1
Gasaver-Platinum Injection	National Fuelsaver	Vapor Injector	D-134-1	25
Gas Tank Restrictor	United Auto Dismantling, Inc.	Fill Pipe Restrictor	D-223	17
General Motors Timing & Idle Adjustment	General Motors Corp.	Distributor Modification	Res. 70-84-A	9
Goldspark	Tanner Electronics	Electronic Ignition	D-46	12
Goodman System	The Goodman System Co., Inc.	Water Injector	D-129	26
Grand Prix II	Gulf and Western	Electronic Ignition	D-58-3 D-58-4	12
Gregman	Stevens Assoc.	Electronic Ignition	D-71-1	12

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or E.O. No.</u>	<u>Section</u>
G. R. Valve	NC Industries	Air Bleed	D-31	1
Hall Effect Ignition Module P/N HI6200	Allison Performance Electronics/Crane Cams	Ignition Module	D-222-1	18
Harlo Motor Klean Fuel System	Motor Klean, Inc.	Vapor Injector	D-48	25
Hays Breakerless Ignition System	Hays Sales	Electronic Ignition	D-11-3	12
Headman Header	Headman Header	Exhaust Headers	D-167	15
Heat Riser Adapter System	RND Enterprise	Exhaust Headers	D-148	15
Heathkit	Heath Products	Electronic Ignition	D-5-1	12
High Tech Perf. Valve	Sumari Engineering, Inc.	Air Bleed	D-95-1	1
HKS Performance Package P/N SR71XX-90000X	HKS U.S.A., Inc.	Performance Package	D-186-2	13
HKS Power Flow Air Filter System	HKS U.S.A., Inc.	Air Filter	D-186-4	2
Holley Open-Loop Carburetor System	Colt Industries Operating Corp.	Carburetor	D-115-1	7
Holley Water Injection System	Colt Industries Operating Corp.	Water Injector	D-115	26
Hooker Super Competition Header	Hooker Industries	Exhaust Headers	D-164	15
Hot Pipes	Crager Industries, Inc.	Exhaust Headers	D-67	15
HP Air Injector	Albano Enterprises	Air Bleed	D-14-1	1
Hurst/Airhart	Tanner Electronics	Electronic Ignition	D-46	12
H ₂ Vapor Injector	Dis-Aut Ent.	Vapor Injector	D-39	25
Hydro-Air Water Injection	Anderson-Harren	Water Injector	D-103	26
Hydropower Water Injection System	PatRon, Inc.	Water Injector	D-125	26

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or E.O. No.</u>	<u>Section</u>
Hyfire	Mallory Electric Co.	Electronic Ignition	D-70-7 D-70-8	12
Hypermax Turbocharger Kit	Hypermax Engineering, Inc.	Turbocharger	D-175-1	23
Hypermax Turbocharger System	Hypermax Engineering, Inc.	Turbocharger	D-175-2	23
Ignition Coil	Allison Performance Electronics/ Crane Cams	Ignition Coil	D-222-6 thru D-222-9	18
Ignition Performance Loop	Walter D. Anderson	Ignition Bridge	D-72	18
Injectronic Electronic Liquid Injection	Spearco Performance Products, Inc.	Water Injector	D-105	26
Insert Nozzle Gas Cap. Model CF-107	EZ Fill Corp.	Fuel System Modifications	D-136	17
Intended Acceleration Audi Computer Mod.	Intended Acceleration	Computer Mod.	D-238	11
Intercooler System	Gale Banks Engineering	Intercooler	D-161-21	19
Ionizer	James Turner & Assoc.	Ignition Bridge	Res. 71-90	18
Jam Engineering Holley	Jam Engineering Corp.	Carburetor	D-157-2	7
J. C. Miler Fuel Saver	Cox and Associates	Vapor Injector	D-32-1	25
Jet Blast	BC & L Ind., Inc.	Air Bleed	D-28-1	1
Jet Pak	Breakway & Assoc.	Vapor Injector	D-32	25
Jet Power Ring R-14	TMS Records	Air Bleed	D-104	1
Judson Magneto	Judson Research	Ignition Coil Mod.	D-43	18
KV Electronic Ignition	Fairchild Semiconductor	Electronic Ignition	D-44-1	12
Kane Soft Particle Inductor	International Research and Development	Fuel Line Insert	D-229	17
Kynetik-SHD	H. K. Research and Development, Inc.	Fuel Line Insert	D-192-1	17
Legend Turbo	Legend Turbo, Inc.	Turbocharger	D-155	23

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or S.O. NO.</u>	<u>Section</u>
Lift Fuel Efficiency System	Enicar International	Vapor Injector	D-201	25
Lindberg Combustion Control	Lindberg International Corp.	Steam Injector	D-121-1	25
Lumenition	Lumenition Limited	Electronic Ignition	D-156-1	12
Lumenition	TRW Automotive	Electronic Ignition	D-62	12
Magna Charger Model Number MC10A	B & D Research and Development	Fuel Line Insert	D-212	17
Magna-Pulse	Hays Enterprises Ignition	Electronic Ignition	D-21	12
Magnetic Ignition Module	Allison Performance Electronics/Crane Cams	Ignition Module	D-222	18
Magnitron	Gulf and Western	Electronic Ignition	D-58-3 D-58-4	12
Main Cat. Converter and Pre-Cat System Series 300/500	Car Sound Exhaust System, Inc.	Catalytic Converter	D-193-6	08
Mallory Unilite	Mallory Electric Co.	Electronic Ignition	D-70 D-70-1 D-70-6 D-70-9	11
Manfredi Fuel Booster	Manfredi Enterprises, Inc.	Vapor Injector	D-27	25
Manfredi Power & Fuel	Charles Kolton Ent.	Vapor Injector	Res. 72-99	25
Manhandler	Manhandler, Inc.	Throttle Lockout System	D-34	22
Mark Ten	Delta Products, Inc.	Electronic Ignition	D-5-2	12
Martek	Martek Products, Inc.	Electronic Ignition	D-101-1	12
Martin Turbo	Martin Turbo Eng.	Turbocharger	D-114-4	23
Max-25 Supercharger	K. F. Ind., Inc.	Supercharger	D-150-1 D-150-2	20
MBI Precombustion	Mo-Bile Ind.	Under-Carburetor Screen	D-35-2	24
Megatron Ceramic Engine Descaler	Megatron Products	Fuel Line Insert	D-211	17

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>E.O. No.</u>	<u>Section</u>
Mercedes-Benz Truck Co., Inc. Engine Modification Kit	Mercedes-Benz Truck Co., Inc.	Engine Modification Kit	D-179	13
Methanol/Water Vapor Injector	Vapor Jet Co.	Vapor Injector	D-51-1	25
Micro-Plus Ignition Electronics Micro-Start	Edelbrock Corporation Superior Ind., Inc.	Add-On Computer Chip Electronic Ignition	D-107-1 D-60-3 D-60-4	11 12
Mighty Electronic	Gulf and Western	Electronic Ignition	D-58-3 D-58-4	12
Mileage Maker	D & S Enterprises	Fuel Heater/ Pressure Regulator	D-139	17
Mileage Maker	Olde Worlde, Inc.	Fuel Modification	D-130	17
Mileage Master	Ideal, Inc.	Air Bleed	D-83	1
Mileage Minder	Mileage Minder Co.	Fuel Pressure Regulator	D-80	17
Miller Fuel Saver and Engine Cleaner	Gillard and Gillard	Vapor Injector	D-110	25
Mini-Jector	Oxford Automotive	Fuel Supply Regulator	D-37	17
Mini Turbocharger	Albano Enterprises	Air Bleed	D-14-2	1
Mobelec Electronic	Mardek Corp.	Electronic Ignition	D-50 D-50-1	12
Module Trigger Ignition Amplifier	Allison Performance Electronics/Crane Cams	Ignition Modification	D-222-4	18
Moleculator	Internal Energy Management Corp.	Fuel Energizer	D-98	17
Monitor Gasaver	Palmco Eng., Co.	Fuel Pressure Regulator	D-63	17
Morrison (Carb II) Gas Saver	MGS, Inc.	Vapor Injector	D-118	25
Motorola Ignition	Motorola, Inc.	Electronic Ignition	D-61 D-61-1	12
Mr. Gas Mizer	R. C. Enterprises	Water Injector	D-118	26
Mr. Mizer	R. C. Enterprises	Water Injector	D-118	26

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Reg. or E.O. No.</u>	<u>Section</u>
MSD Blue Ribbon Coil	Autotronic Control Corp.	Ignition Coil	D-40-11	1.
MSD Coil, Blaster 2, Blaster 2F, Blaster 3	Autotronic Controls Corp.	Ignition Coil	D-40-7	18
MSD-2 Ignition	Autotronic Controls Corp.	Electronic Ignition	D-40-1	12
MSD Ignition Blue Ribbon Commerical Ignition Module	Autotronic Control Corp.	Electronic Ignition	D-40-9	12
MSD Ignition Blue Ribbon Commerical RPM Module	Autotronic Control Corp.	Electronic Ignition	D-40-10	12
MSD Ignition MSD 6A	Autotronic Controls Corp.	Electronic Ignition	D-40-2	12
MSD Ignition MSD 6AL	Autotronic Controls Corp.	Electronic Ignition	D-40-3	12
MSD Ignition MSD 6T	Autotronic Controls Corp.	Electronic Ignition	D-40-4	12
MSD Ignition RPM Module Kit	Autotronic Controls Corp.	Electronic Ignition	D-40-6	12
MSD Ignition Soft Touch Rev Control Part No. 8738	Autotronic Controls Corp.	Electronic Ignition	D-40-5	12
MSD Ignition Soft Touch Rev Control Part No. 8728	Autotronic Controls Corp.	Electronic Ignition	D-40-8	12
Neuspeed Throttle Body	Automotive Performance Systems, Inc.	Throttle Body Injection	D-236	21
New Aftmkt Catalytic Converter Series 7000 and 8000	Products for Power	Catalytic Converter	D-177-5	8
New Aftmkt 2-way Catalytic Converter	ABX Corporation	Catalytic Converter	D-233	8
New Aftmkt Catalytic Converter	Car Sound Exhaust Systems, Inc.	Catalytic Converter	D-193	8
New Aftmkt 3-Way Plus Oxidation Catalytic Converter	Car Sound Exhaust Systems, Inc.	Catalytic Converter	D-193-1	8
New Aftmkt 3-Way and 2-Way Cat. Converter	Car Sound Exhaust Systems, Inc.	Catalytic Converter	D-193-2	8

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or E.O. No.</u>	<u>Section</u>
New Aftmkt 3-Way Plus Oxidation Catalytic Converter	Car Sound Exhaust Systems, Inc.	Catalytic Converter	D-193-3	8
New Aftmkt Series HD 900 3-Way Plus OC Catalytic Converter	Car Sound Exhaust System, Inc.	Catalytic Converter	D-193-4	8
New Aftmkt 3-Way Series 900 HD Catalytic Converter	Car Sound Exhaust System, Inc.	Catalytic Converter	D-193-5	8
New Aftmkt 3-Way Series 200 HD Catalytic Converter	Car Sound Exhaust System, Inc.	Catalytic Converter	D-193-6	8
New Aftmkt 2-Way, 3-Way and 3-Way Plus Oxidation Catalytic Converter	Walker Manufacturing Co.	Catalytic Converter	D-182-5	8
New Aftmkt 3-Way Cat. Converter	Maremont Corporation	Catalytic Converter	D-184-3	8
New Aftmkt Oxidation Catalytic Converters	Maremont Corporation	Catalytic Converter	D-184-4	8
New Aftmkt Catalytic Converter	Maremont Corporation	Catalytic Converter	D-184-5	8
New Aftmkt 3-Way Catalytic Converter	Maremont Corporation	Catalytic Converter	D-184-6	8
New Aftmkt 2-Way and 3-Way Plus Oxidation Catalytic Converter	Midas International Corp.	Catalytic Converter	D-181-2	8
New Aftmkt 3-Way Plus Oxidation Catalytic Converter	Midas International Corp.	Catalytic Converter	D-181-3	8
New Aftmkt Catalytic Converters	Perfection Automotive	Catalytic Converter	D-183-1	8
New Aftmkt 3-way Plus Oxidation Catalytic Converter	Walker Manufacturing	Catalytic Converter	D-182-6	8
New Aftmkt 3-Way + OC Used as OC Catalytic Converter	Perfection Automotive	Catalytic Converter	D-183-2	8

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>E.O. No.</u>	<u>Section</u>
New Aftmkt 3-Way + OC Catalytic Converter	Camet Company	Catalytic Converter	D-218	8
Nordskog Industries Datsun Engine Conversion Kit	Nordskog Ind., Inc.	Engine Conversion Kit	D-76	13
Nu-Charge System	Nutronics Corporation	Alternator Disconnect	D-198	4
Octameter Injection System	EPM Ind., Inc.	Vapor Injector	D-127	25
Oettinger/Okrasa Modification Kit	Power Haus Products, Inc.	Engine Conversion Kit	D-102-1	13
Oil Master	Oil Master Ltd.	Oil Filter	D-94	6
OPTO Ignition System	Allison Performance Electronics/Crane Cams	Ignition System	D-222-2	18
Opto Ignition System Part No. XR3000	Allison Performance Electronics/ Crane Cams	Electronic Ignition	D-222-5	12
Opto Timer	Jacobs Electronics, Inc.	Ignition Coil Mods.	D-19-2	18
Oscillator Unit	Controllable Energy Products	Electronic Ignition	D-53	17
Paser 500	Corona Marketing	Electronic Ignition	D-23 D-23-1	12
Paser-Magnum	REI Industries	Ignition Bridge	Res. 71-25-A	17
Pass Master	Harlem Industries	Air Conditioning Cut-Out	D-96-2	3
P & D Electronic	Superior Ind., Inc.	Electronic Ignition	D-60-2	12
Performance Chip	Autothority Performance Engineering	Computer Chip	D-228	11
Performance Chip	Dinan Engineering, Inc.	Computer Chip	D-176-2	11
Performance Chip	Jones Electronic Technologies Performance Engineering	Computer Chip	D-234	11
Per-Lux Ignitor	Per-Lux, Inc.	Electronic Ignition	D-57 D-57-1	12
Perma Tune	Aero Design Prod.	Electronic Ignition	D-7-1	12

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or S.O. NO.</u>	<u>Section</u>
Petro-Miser MKI	P & M Research and Development Laboratory	Fuel Line Insert	D-100	17
Phase III Phoenix	C. A. Jacobs Oil Master Ltd.	Electronic Ignition Oil Filter	D-19-2 D-94	12 6
Platinum Vapor Injector	Technologies, LTD.	Vapor Injector	D-189	25
Points Trigger Ignition Module P/N HI5000	Allison Performance Electronics/Crane Cams	Ignition Module	D-222-3	18
Polarion-X	AZ Industries, Inc.	Fuel Line Insert	D-131	17
Power Air Booster	Adriot Products, Inc.	Air Cleaner Modification	D-13	2
Power Cell	Mallory Electric Co.	Electronic Ignition	D-70-5	12
Power Gap	Engine Acces. Mfg.	Ignition Bridge	Res. 72-14	18
Power Pack	Cragex Industries	Electronic Ignition	D-17	12
Powerpack System for Class "A" 7.4 Liter P-30 Motorhomes	Gale Banks Engineering		D-161-22	15
Power-Pak	Breakway & Assoc.	Vapor Injector	D-32	25
Poweready	Gulf and Western	Electronic Ignition	D-58-3 D-58-4	12
Power Steamer	Kinsey of Calif., Inc.	Steam Injector	D-73	25
Power-up Plus	BCS International	Fuel Line Insert	D-230	17.
Pre-Combustion Catalyst	Hydro-catalyst Corp.	Under-Carburetor Screen	D-35	24
Preheat Duct Tube	Custom Products Speed and Marine	Heat Riser	D-149	15
Prelin Electric Oil Refiner	Prelin Industries	Blowby Separator	Res. 72-26	6
Presca Diesel Fuel Saver	Crossett and Son, Inc.	Diesel Fuel Heater	D-141-2	17
Products for Power New Aftmkt 3-Way Cat. Conv.	Products for Power	Catalytic Converter	D-177-2	8
Products for Power New Aftmkt 3-Way Plus	Products for Power	Catalytic Converter	D-177-1	8

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or P.O. no.</u>	<u>Quantity</u>
Products for Power New Aftmkt 2-Way and 3-Way Plus Oxidation Catalytic Converter	Products for Power	Catalytic Converter	D-177-4	8
Protector '7' Device	Energy Innovations U.S.A., Inc.	Crankcase Emission Filter	D-36-1	6
Pulsar	C. A. Jacobs	Electronic Ignition	D-19-2	12
Pure Power	Air Quality Prod.	Electronic Ignition	D-8-1 D-8-2	12
RAC Electronic Ignition	Tanner Electronics	Electronic Ignition	D-46	12
Rapid-Fill Gas Cap	Rapid-Fill, Inc.	Gasoline Cap	D-239	17
Ram Jet Mini Charger	Almquist Manufacturing, Ltd.	Air Bleed	D-77	1
Raybin Magnetic Discharge	M. W. Raybin	Electronic Ignition	D-3	12
Reactor	John & Associates, Ltd.	Air Bleed	D-88	1
Reducer	Sumari Engineering, Inc.	Air Bleed	D-95-2	1
Remaco Emi	Remaco, Inc.	Under-Carburetor Screen	D-35-4	24
Robert Bosch Breakerless Transistorized Ignition System	Robert Bosch Corp.	Electronic Ignition	D-74	12
Rocker Arms	Crane Cams, Inc.	Rocker Arms	D-225-1	13
Rocket Racing Products	Tanner Electronics	Electronic Ignition	D-46	12
Rosco	Four Star Marketing	Blowby Oil Separator	D-86	6
Roto-Master Turbo	Roto-Master, Inc.	Turbocharger	D-89	23
R.V. Turbocharger	RV Turbo (aka Turbo Internat'l.)	Turbocharger	D-90	23
Safeguard Gas Booster	Kar Auto Mfgr.	Under-Carburetor Screen	D-35-3	24
Scat Pac	Breakway & Assoc.	Vapor Injector	D-32	25

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<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or E.O. No.</u>	<u>Section</u>
Scotsman Fuel Energizer	Dealer Tool Systems, Inc.	Under-Carburetor Screen	D-55	24
Scover Energy System	Automotive Energy Systems	Exhaust Gas Recirculation	D-93	10
SCR Impulse	Tanner Electronics	Electronic Ignition	D-46	12
SCR Powered	RoInCo	Electronic Ignition	D-33-1	12
Sears Penske CD	Sears, Roebuck and Co.	Electronic Ignition	D-49 D-49-1	12
Sentry	Western Select, Inc.	Electronic Ignition	D-25	12
Shorty header, Model No. 1620	J. Bittle American, Inc.	Exhaust Header	D-216	15
Shorty Header, Model No. 1621	J. Bittle American, Inc.	Exhaust Header	D-216-1	15
Shorty Header Model Nos. 1627 & 1628	J. Bittle American, Inc.	Exhaust Header	D-216-2	15
Shorty Header, Model No. 1633	J. Bittle American, Inc.	Exhaust Header	D-216-3	15
Shorty Header, Model No. 1620, 1624, 1627, and 1628	J. Bittle American, Inc.	Exhaust Header	D-216-4	15
Silver Beauty	Superior Ind., Inc.	Electronic Ignition	D-60-2 D-60-3	12
Sixshooter Diesel Fuel Metering Barrel	Fuel Conservation	Fuel Injector	D-113	16
SLP Package	SLP Engineering, Inc.	Performance Package	D-187	15
SLP Intake Manifold Runners	SLP Engineering, Inc.	Intake Manifold Runners	D-187-1	15
SLP Tubular Exhaust Manifolds	SLP Engineering, Inc.	Exhaust Manifolds	D-187-2	15
SLP Engine Calibration Software EPROM	SLP Engineering, Inc.	Add-On Computer Chip	D-187-3	11
Softron Model #100 Fluid Conditioner	Softron International	Fuel Line Insert	D-203-1	17
Softron Model # 3050 Fluid Conditioner	Softron International	Fuel Line Insert	D-203-2	17

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>E.O. No.</u>	<u>Section</u>
Solar Volt	Solar Volt Co.	Modified Distributor Rotor	D-38	9
Spearco Intercooler	Spearco Performance Products, Inc.	Intercooler	D-140-10 D-140-17 D-140-18 D-140-19 D-140-22 D-140-24 D-140-25	19
Spearco Turbocharger	Spearco Performance Products, Inc.	Turbocharger	D-140-14 D-140-21	23
Speedatron	General Nucleonics	Electronic Ignition	D-4	12
Spitfire II	Synetic	Electronic Ignition	D-22	12
SSP Stage II	Solid State Prod.	Electronic Ignition	D-6	12
SST-W	Tri-Star Corp.	Electronic Ignition	D-20-3	12
Stage 1 Turbocharger Kit	Dinan Engineering, Inc.	Turbocharger	D-176-1	23
Staglo G2e	Staglo Efficiency Systems, Inc.	Fuel System	D-147	17
Stampede	RoInCo	Electronic Ignition	D-33	12
Starlite Self-Cleaning Crankcase Smog Control	Starlite Products Co.	PCV Modification	D-78-1	6
Stevens (Sig-101)	Stevens Assoc.	Electronic Ignition	D-71	12
Stubbie Header Model No. 9028690	M.A.C. Products	Exhaust Header	D-241	15
Supercharger Kit Model No. SN-89	Paxton Products, Inc.	Supercharger	D-195-7	20
Supercharger Kit Model No. SN-89	Paxton Products, Inc.	Supercharger	D-195-8	20

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or E.O. No.</u>	<u>Section</u>
Supercharger Kit No. W1-TEC-72	Whipple Industries	Supercharger	D-231	20
Superior Mileage Maker	Ectroleum, Inc.	Air Bleed	D-119-1	1
Sure Safe	S & S Research and Electronics	Anti-Theft System	D-65	5
T.P.I.S Adjustable Fuel Pressure Regulator	Tuned Port Induction Specialties Inc.	Fuel System Mods.	D-235-2	17
T.P.I.S Fast-Pak	Tuned Port Induction Specialties Inc.	Fuel System Mods.	D-235	17
T.P.I.S Throttle Body Air-Foil	Tuned Port Induction Specialties Inc.	Fuel System Mods.	D-235-1	17
TAF Performance Valve	Sumari Engineering, Inc.	Air Bleed	D-95	1
Tank Sentry	Pollution Control Auto Parts	Fill Pipe Restrictor	D-154-1 D-154-2 D-154-3 D-154-4	17
TD-6000 Cat. Converter	TRI-D and Associates	Catalytic Converter	D-188	8
TD-Oxidation Catalytic Converter	TRI-D and Associates	Catalytic Converter	D-188-1	8
The Miser	Rodew International, Inc.	Fuel Heater	D-87	17
Thermal Spark Ignition System	Edelbrock-Hadley Corp.	Electronic Ignition	D-56	12
Thermotronic	Thermo King Corp.	Electronic Ignition	D-11-3	12
The Turbo Shop Air-to- Air Intercooler Kit	The Turbo Shop	Intercooler	D-180-8	19
The Turbo Shop Air-to- Air Intercooler Kit	The Turbo Shop	Intercooler	D-180-9	19
The Turbo Shop Turbocharger Kit	The Turbo Shop	Turbocharger	D-180-6 D-180-7	23
Throttle Body Injection	Holley	TBI	D-115-4	21
Thunderbolt Mag.	Superior Ind., Inc.	Electronic Ignition	D-60-3	12
Tiger Max	Tri-Star Corp.	Electronic Ignition	D-20-4	12

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. 02 E.O. No.</u>	<u>Section</u>
Tiger SST	Tri-Star Corp.	Electronic Ignition	D-20-2	12
Tiger 500	Tri-Star Corp.	Electronic Ignition	D-20-4	12
Tri-Act	John W. Dabrio	Air Bleed	D-88-1	1
Top Eliminator	Top Eliminator, Inc.	Fuel Line Insert	D-185	17
Tubular Exhaust Headers	S & S Headers, Inc.	Exhaust Headers	D-237	15
Tubular Exhaust Manifold System, Model No. 89461	Hedman Manufacturing	Exhaust Header	D-167-1	15
Tubular Exhaust System	Edelbrock Corp.	Exhaust Header	D-215-1	15
Tungsten Hydro-Catalyst	Tungsten Contact	Under-Carburetor Screen	D-35-1	24
Turbo Auto Intercooler	Turbo Auto Int'l.	Intercooler	D-152	19
Turbo Auto Intercooler	Turbo Auto Int'l.	Intercooler	D-152-1	19
Turbo Int'l.	Turbo International	Turbocharger	D-112-1 D-112-2	23
Turbo Master Device	Environmental Products, Inc.	Air Bleed	D-207	1
Turbocharger Kit No. 60-0002/4HD	The Turbo Shop	Turbocharger	D-180-11	23
Turboflow 360	Turbonetics, Inc.	Turbocharger	D-99 D-99-1	23
Turbolator	Exhaust Technologies Inc	Exhaust Modification	D-226	15
Turbotronic Turbocharger System	Turbonetics, Inc.	Turbocharger	D-99-1	23
Turbo Vapor Injector	TVI Marketing, Inc.	Vapor Injector	D-2-3	25
Turbo-X	Power Dynamics Co.	Air Bleed	D-111	1
Unimag	Mallory Electric Co.	Electronic Ignition	D-70-3 D-70-4	12
Universal Diesel Liquefier	Universal Diesel Products, Inc.	Fuel Heater	D-214	17

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<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or E.O. No.</u>	<u>Sect</u>
Universal Fuel Fill Pipe Restrictor	Advanced Emission Technology	Fill Pipe Restrictor	D-160-1	17
Used Afttrmkt 2-Way, 3-Way and 3-Way OC	Tested Products, Inc.	Catalytic Converter	D-190	8
Vap-Air	Plastic Signs, Inc.	Vapor Injector	D-59	25
Vapco	Jamco, Inc.	Vapor Injector	Res. 71-78-B	25
Vaporizer/Regulator Model X-1	OHG, Inc.	Fuel System Modification	D-143-14	17
Vapor-Jet, Methanol/ Water Injector	Vapor Jet Co.	Vapor Injector	D-51-1	25
Vara-Jection	Edelbrock Corp.	Water Injector	D-107	26
Vari-Flow Water Injector	MPG Performance Products	Water Injector	D-117	26
V.C. Meter	Albano Enterprises	Air Bleed	D-14	1
V.C. Meter	Energy Products, Inc.	Air Bleed	D-14-5	1
V.C. Meter Model 000-2	Energy Products, Int'l.	Air Bleed	D-14-6	1
Vic 500 Vapor Injector	Vic Chemicals, Inc.	Vapor Injector	Res. 72-36	25
Vista Jacobs	C.A. Jacobs	Electronic Ignition	D-19-2	12
Vitalizer	P.A.C.E. Setters of America	Fuel Line Insert	D-197-1	17
Voltronix	Gulf and Western, Inc.	Electronic Ignition	D-18	12
Vortech Model V-1 Supercharger	Vortech Engineering, Inc.	Supercharger	D-213-1	20
Vortech Model V-1 460 CID Supercharger	Vortech Engineering, Inc.	Supercharger	D-213-2	20
Water Vapor Power Energizer	Plastic Signs, Inc.	Vapor Injector	Res. 72-80	25
W/A Waag Injection	Waag Enterprises	Water Injector	D-91	26
Weber Carburetor Model 32/36 DGA 3B-03B	Jam Engineering	Carburetor	D-157	7

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<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or E.O. No.</u>	<u>Section</u>
Weber Carburetor Model 40 IDA 3C	Porsche Mailorder	Carburetor	D-144	7
Weber Carburetor Model 40 IDA 3C(1)	Porsche Mailorder	Carburetor	D-144-1	7
Weber Carburetor Model 32/34 DFT	Redline, Inc.	Carburetor	D-133 D-133-9	7
Weber Carburetor Model 32/34 DFT 9A	Redline, Inc.	Carburetor	D-133-1 D-133-7 D-133-8	7
Weber Carburetor Model 32/34 DFT 9A/11A and 32/36 DGAV 33B1	Redline, Inc.	Carburetor	D-133-10A	7
Weber Carburetor Model 32/34 DFT 9A and 32/34 DFT11	Redline, Inc.	Carburetor	D-133-11	7
Weber Carburetor Model 32/34 DFT 9A and 32/34 DFT11A	Redline, Inc.	Carburetor	D-133-12 D-133-13	7
Weber Carburetor Model 32/32 DGAV 5E	Redline, Inc.	Carburetor	D-133-14	7
Weber Carburetor Model 32/36 DGAV 33B1	Redline, Inc.	Carburetor	D-133-15	7
Weber Carburetor Model 32/36 DGAV 33B1	Redline, Inc.	Carburetor	D-133-6 D-133-10B	7
Weber Carburetor Models 32/36 DGAV 33B1 32/36 DGEV 33B1	Redline, Inc.	Carburetor	D-133-2	7
Weber Carburetor Model 32/36 DGV 5A	Redline, Inc.	Carburetor	D-133-3	7
Weber Carburetor Model 32/36 DGEV 33B1	Redline, Inc.	Carburetor	D-133-4 D-133-5	7
Weber Carburetor Model 32/36 DGV	Swedeparts, Inc.	Carburetor	D-145	7
Wellstronic	Superior Ind., Inc.	Electronic Ignition	D-60-3	12
Western Controls	Western Controls	Electronic Ignition	D-11-3 D-11-4	12

<u>Device</u>	<u>Mfg.</u>	<u>Type</u>	<u>Res. or E.O. No.</u>	<u>Secti</u>
Zenith	Gulf and Western	Electronic Ignition	D-58-3 D-58-4	12
6V-92TA Heavy-Duty Diesel Engine Rebuild	Detroit Diesel Corporation	Engine Conversion	D-202	13
460 EFI Header System	The Turbo Shop, Inc.	Exhaust Header	D-180-10	15
855 CID Diesel Engine	Cummins West, Inc.	Engine Conversion	D-120	13
8060.24 Heavy-Duty Diesel Engine Design Modification Package	Iveco Trucks of North America, Inc.	Engine Conversion	D-206	13
0.82 A/R Turbine Housing, Stage I and II Upgrade and Stage I and II Performance Turbocharger	Turbonetics, Inc.	Turbocharger	D-99-2	23

AIR BLEEDS

<u>E.O. or Res. Number</u> <u>(Date)</u>	<u>Manufacturer "Product"</u> <u>(Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-104 (10/31/80)	TMS Records "Jet Power Ring R-14"	80 and older vehicles with 14 mm tapered spark plugs	
D-111 (3/31/81)	Power Dynamics Co. "Turbo-X"	81 and older, except: (1) Vehicles with three-way catalyst (2) Vehicles with closed loop system (3) Vehicles with variable venturi carburetor	
D-119-1 (5/26/83)	Ecotroleum, Inc. "AFR Control Valve" "Superior Mileage Maker"	80 and older vehicles with engine \geq 2500cc	
D-207 (9/18/90)	Environmental Products, Inc. "Turbo Master Device"	90 and older carbureted non-turbocharged and non-supercharged gasoline vehicles	

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AIR BLEEDS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
71-58 (9/15/71)	Trans World Marketing "Econo-Needle"	69 and older with engine > 140 CID	
72-1 (1/19/72)	H. D. Winton "Air-Flo-Matic"	70 and older with engine > 140 CID	
D-9-3 (11/4/75)	Ball-Matic Corporation "Ball-Matic Air Injector"	76 and older	
D-9-5 (10/20/77)	Ball-Matic Corporation "Ball-Matic Air Injector"	78 and older, except: (1) Chrysler with lean burn (2) Volvo with three-way catalyst (3) Bosch Jetronic fuel injected (4) Ford with variable venturi carburetor	
D-9-6 (11/13/78)	Ball-Matic Corporation "Ball-Matic Air Injector"	79 and older, except: (1) Three-way catalyst using feedback vehicles (2) Fuel injected (3) Ford with variable venturi carburetor	
D-14 (10/19/73)	Albano Enterprises "V.C. Meter"	71 and older	
D-14-1 (1/8/74)	Albano Enterprises "HP Air Injector"	71 and older	
D-14-2 (1/8/74)	Albano Enterprises "Mini-Turbocharger"	71 and older	
D-14-3 (4/9/74)	Albano Enterprises, Inc. "Air Jet"	72-74 with engine > 140 CID	
D-14-5 (8/19/74)	Energy Products, Inc. "V.C. Meter"	72-75 with engine > 140 CID	
D-14-6 (8/27/76)	Energy Products Int'l. "V.C. Meter Model 000-2"	76 and older with engine > 140 CID	
D-28 (4/19/74)	BC & L Industries, Inc. "BC & L"	74 and older with engine > 140 CID	
D-28-1 (8/13/74)	BC & L Industries, Inc. "Jet Blast"	74 and older with engine > 140 CID	
D-30 (4/19/74)	Environmental Gas Mizer, Inc. "Gasmizer"	74 and older	

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AIR BLEEDS

<u>E.O. or Res. Number</u> (Date)	<u>Manufacturer "Product"</u> (Model/Kit No.)	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-31 (4/19/74)	NC Industries "G.R. Valve"	74 and older, except: (1) VW (2) Diesel powered vehicles (3) Fuel injected vehicles (4) Supercharged vehicles	
D-45 (11/21/74)	Donald LaVallee DBA Gas Saver "Gas Saver"	74 and older	
D-77 (10/20/77)	Almquist Manufacturing, Ltd. "Ram Jet Mini-Charger"	77 and older, except: (1) Vehicles with engine < 140 CID (2) VW (3) Fuel injected vehicles (4) Diesel or supercharged vehicles (5) Chrysler lean burn (6) Volvo with three-way catalyst (7) Ford with variable venturi carburetor	
D-83 (8/15/78)	Ideal, Inc. "Mileage Master"	78 and older, except: (1) Fuel injected vehicles (2) Vehicles with engine < 140 CID	
D-85 (10/17/78)	Engineering Systems Corp. "AES-3000 Fuel Saving"	78 and older with 6 and 8 cylinders	
D-88 (3/12/79)	John and Associates, Ltd. "Reactor"	79 and older, except: (1) Vehicles with engine under 140 CID (2) Three-way catalyst with feedback vehicles (3) Fuel injected vehicles (4) Vehicles with variable venturi carburetor (5) Chrysler Lean Burn Engines	
D-88-1 (6/18/87)	John W. Dabrio "Tri-Act"	1987 and older gasoline-powered vehicles except: (1) Vehicles with engine under 140 CID (2) Three-way catalyst with feedback vehicles (3) Fuel injected vehicles (4) Vehicles with variable venturi carburetor (5) Chrysler Lean Burn Engines	
D-95, 1, 2 (11/14/80)	Sumari Engineering, Inc. "TAF Performance Valve" "High Tech Performance Valve" "The Reducer"	79 and older, except: (1) Diesel powered vehicles (2) Fuel injected vehicles (3) Chrysler lean burn (4) Three-way catalyst equipped vehicles	

AIR CLEANER MODIFICATIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-13 (6/15/83)	Adriot Products, Inc. "Power Air Booster"	66-72 AMC, Chrysler, Ford, GM (except Vega) with non-heated inlet air.	
D-42 (11/5/74)	Riverside Performance Products Co. "Air-Flow Needle"	69 and older with engine > 140 CID	
D-186-4 (1-28-92)	HKS USA, Inc. "Power Flow Air Filter System" Model No. 3333EC	76864K 86-89 1.6L Acura Integra 76965N 90-91 1.8L Acura Integra 47373N 90-91 2.0L Eagle Talon/ Plymouth Laser/Mitsubishi Eclipse 36564M 88-91 1.6L Honda CRX/Civic 58182K 87-88 1.3L Mazda RX-7 58182N 88-89 1.3L Mazda RX-7 58686M 88-89 1.6L Mazda 323 GT & GTX 59087P 90-91 1.6L Mazda MX-5 Miata 58886P 91 1.6L Mercury Capri 47573P 91 2.0L Mitsubishi Galant VR-4 24751P 90-91 3.0L Nissan 300ZX 24552N 89-90 2.4L Nissan 240ZX 11025L 86-91 3.0L Toyota Supra 11026L 87-91 3.0L Toyota Supra Turbo 11327P 91 2.2L Toyota MR-2 11328P 91 2.0L Toyota MR-2 Turbo 11333M 88-89 1.6L Toyota MR-2	

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AIR CONDITIONING CUT-OUT SYSTEMS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-82 (8/1/78)	Mancini Machine Corp. "Air Conditioning Compressor Cut-Out System"	78 and older	
D-96-2 (8/9/83)	Harlem Industries, Inc. "Pass Master" (PM-3, 4, 6, and 8)	83 and older	

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ALTERNATOR CUT T SYSTEMS

E.O. or Res.
Number
(Date)

Manufacturer
"Product"
(Model/Kit No.)

Vehicle Applications

Modifications Allowed

D-198
(2/20/90)

Nutronics Corporation
"Nu-Charge System"

89 and older vehicles equipped with
a 12-volt charging system

ANTI-THEFT SYSTEMS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-65 (5/28/76)	S&S Research and Electronics "Sure Safe"	All	
D-65-1 (7/29/77)	Autech "Autech AT-2000"	All	

BLOWBY OIL SEPARATORS, OIL FILTERS, PCV MODIFICATIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
71-49-A (10/20/71)	W. E. White "Crankcase Liquid Emission Controller"	71 and older	
72-26 (2/15/72)	Prelin Industries "Prelin Electric Oil Refiner"	72 and older	
D-36-1 (8/2/88)	Energy Innovations U.S.A., Inc. "Protector '7' Device"	72-88 model-year vehicles	
D-69 (9/27/76)	Condensators, Inc. "Condensator" (Model A) (Model B)	76 and older With engine > 140 CID With engine < 140 CID	
D-69-1 (6/28/78)	Condensator, Inc. "Condensator" (Model B)	78 and older, excluding: (1) Fuel injected vehicles (2) Vehicles with three-way catalyst and oxygen sensors	
D-69-5 (7/11/89)	Condensator, Inc. "Condensator" (Model A) (Model B) (Model C)	1991 model-year and older: (1) Model A for vehicles with engine displacement greater than 2.3L (140 CID) and not equipped with catalytic converter or feedback system. (2) Model B for vehicles not equipped with either feed-back system or catalytic converter (3) 1991 model-year and older vehicles	
D-78-1 (2/6/84)	Starlite Products Co. "Starlite Self-Cleaning Crankcase Smog Control"	74 and older	
D-81 (7/12/78)	Walker Engineering Co. "Airstep"	78 and older	
D-86 (12/1/78)	Four Star Marketing, Inc. "Rosco"	63-79, except: (1) Air conditioned vehicles (2) Fuel injected vehicles	
D-94 (12/17/79)	Oil Master Limited "Oil Master" "Phoenix"	71 and older 4 cylinders	
D-123 (3/15/82)	Mr. Stanley Chial "Engine Saver"	82 and older	

BLOWBY OIL SEPARATORS, OIL FILTERS, PCV MODIFICATIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed*</u>
D-208-1 (4/18/91)	Ventures Unlimited, Inc. "Clean Air Valve/ PCV Enhancer"	91 and older	
D-224 (6/11/91)	Energy Efficiency, Inc. "Empower Plus System Models 1-A, 1-B, 1-C, 1-D and D"	91 and older	

CARBURETORS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed*</u>
D-115-1 (9/7/82)	Colt Industries "Holley Open Loop System" (34-101-1) (34-102-1) (34-107-1) (34-109-1)	66-74 Fords with a Motorcraft 2100 75-78 Fords with a Motorcraft 2150 66-67 Fords with a Motorcraft 4100 or 4300 66-74 Chevrolets with a Rochester 4MV 67-71 Pontiacs with a Rochester 4MV 67-72 Chevrolets/GMC with a Rochester 4MV	
D-133 (7/14/83)	Redline, Inc. "Weber" (32/34 DFT)	72-73 Datsun 610 73-74 Datsun 710, 620 P/U 73-76 Datsun 610 74-76 Datsun 710, 620 P/U	BCDD disconnected and EGR delay valve installed
D-133-1 (3/30/84)	Redline, Inc. "Weber" (32/34 DFT 9A)	78-79 Datsun 510 77-79 Datsun 620 P/U, 200 SX 79-80 Datsun 720 P/U 77 Datsun 710	BCDD disconnected
D-133-2 (3/11/85)	Redline, Inc. "Weber" (32/36 DGAV 33B1)	75-80 Toyota Celica, Corona, 2 & 4 WD P/U 81-83 Toyota Celica 81-84 Toyota 2 & 4 WD P/U	
D-133-3 (5/8/85)	Redline, Inc. "Weber" (32/36 DGV 5A)	70-73 Datsun 240Z 74 Datsun 260Z	BCDD disconnected, OEM AC replaced with open type AC and EGR delay valve installed on 73-74 vehicles
D-133-4 (9/10/85)	Redline, Inc. "Weber" (32/36 DGEV 33B1)	68-74 MGBs with 1.8L "B" engine	OEM AC replaced with open type AC and delay valve added to gulp valve
D-133-5 (10/22/85)	Redline, Inc. "Weber" (32/36 DGAV 33B1)	68-72 Volvos with a B18, B20, B20B engine	OEM AC replaced with open type AC
D-133-6 (5/8/86)	Redline, Inc. "Weber" (32/36 DGAV 33B1)	72-76 BMW 2002 vehicles originally equipped with Solex 32/35 DIDTA carburetor	Throttle positioner is removed, electric assist choke is disconnected, and thermo-starter valve is removed.
D-133-7 (5/20/86)	Redline, Inc. "Weber" (32/34 DFT9 A)	72-80 Ford Courier 71-78 Mazda B1600 & B1800 79-84 Mazda B2000	Throttle positioner, throttle opener control system, deceleration control valve and accelerator microswitch may be disconnected or removed.

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CARBURETORS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed*</u>
D-133-8 (5/27/86)	Redline, Inc. "Weber" (32/34 DFT9 A)	80-81 Datsun 510 81-82 Datsun 720 Pick-Up	BCDD and altitude compensator disconnected, and delay valve added to vacuum advance control line.
D-133-9 (5/27/86)	Redline, Inc. "Weber" (32/34 DFT)	75-76 Volkswagen Rabbit and Scirocco vehicles	
D-133-10A (7/14/86)	Redline, Inc. "Weber" (32/36 DGAV 33B1) (32/34 DFT 9A/11A)	75-78 Datsun B210 74-79 and earlier Toyotas with a 2TC engine 70-74 Toyotas with an SRC or 18RC engine	The fuel shut-off vacuum switch, throttle positioner or dashpot, throttle valve switch, throttle opener control system, altitude compensator, mixture ratio control valve, auxiliary accelerator pump, choke breaker, and secondary fuel cut solenoid, on vehicles so equipped, may be disconnected or removed.
D-133-10B (8/5/86)	Redline, Inc. "Weber" (32/36 DGAV 33B1)	79-82 Datsun 210	The fuel shut-off vacuum switch, throttle positioner or dashpot, throttle valve switch, throttle opener control system, altitude compensator, and mixture ratio control valve may be disconnected or removed.
D-133-11 (8/4/86)	Redline, Inc. "Weber" (32/34 DFT9 A or 32/34 DFT11)	68-73 Datsun 510 70-72 Datsun P/U (521)	The BCDD, deceleration control valve, and throttle switch may be disconnected or removed.
D-133-12 (9/8/86)	Redline, Inc. "Weber" (32/34 DFT9 A or 32/34 DFT11 A)	77-80 Ford Courier	The throttle positioner or dashpot, deceleration control valve (coasting richer valve), and accelerator microswitch may be disconnected or removed.
D-133-13 (10/16/86)	Redline, Inc. "Weber" (32/34 DFT9 A or 32/34 DFT11 A)	72-79 Chevrolet LUV 1.8L pick-up trucks	The throttle positioner or dashpot, deceleration control valve (coasting richer valve), and throttle switch may be disconnected or removed.

CARBURETORS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed*</u>
D-133-14 (12/29/86)	Redline, Inc. "Weber" (32/32 DGAV 5E)	70-74 Datsun 1200 & B210	The throttle positioner or dashpot, and altitude corrector may be disconnected or removed.
D-133-15 (8/26/87)	Redline, Inc. "Weber" (32/36 DGAV 33B1)	68-74 Opel Kadette, Manta, GT with coolant or electrically heated choke 70-74 Audi 100 Models, Fox	The throttle positioner or dashpot may be removed. The vacuum hose routing may be changed as specified in the installation instructions.
D-144 (12/6/83)	Porsche Mailorder "Weber" (40 IDA 3C)	69-73 Porsche 911E, S, & T with mechanical fuel injection 2.0 E and S, 2.2 E and S, 2.4 E, S and T	K&N AC may be used in place of the OEM AC
D-144-1 (2/25/86)	Porsche Mailorder "Weber" (40 IDA 3C(1))	69-71 Porsche 911T with 2.2T engine	
D-145 (1/23/84)	Swedeparts, Inc. "Weber" (32/36 DGV)	68-72 Volvos with 1.8L or 2.0L engine	OEM AC replaced with open-type AC and install PCV
D-157-2 (5/9/86)	Jam Engineering Corp. "Holley" (Kit No. C-550/List No. 8677)	73-79 Mercedes-Benz 280, 280c & 280a	Throttle positioner removed, electric assist water operated choke is replaced with an electric choke, vacuum operated float chamber valve vent is replaced with a mechanical float chamber vent valve.
D-157-3 (8/11/86)	Jam Engineering Corp. "Weber" (32/36 DGAV 03B or 32/36 DGAV 44K1)	72-76 BMW 2002	

BCDD: boost controlled deceleration device
AC: air cleaner

*Other allowed modifications, such as changes to vacuum hose connection, PCV routing, high altitude compensation, etc., are shown in detailed diagrams of the installation instructions for each conversion kit.

CATALYTIC CONVERTERS

<u>E.O. or Res. Number</u> <u>(Date)</u>	<u>Manufacturer "Product"</u> <u>(Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-177-1 (7/6/88)	Products for Power "New Aftermarket Three-Way Plus Catalytic Converter" (series 6000)	5.0L or less and 3750 GVW or less	
D-177-2 (7/11/88)	Products for Power "New Aftermarket Three-Way Catalytic Converter" (series 5000)	3.8L or less and 3625 GVW or less	
D-177-4 (9/14/89)	Products for Power "New Aftermarket Two-Way, Three-Way and Three-Way + OC"	2-Way, 5.7L or less and 4000 GVW or less (series 4000) 3-Way + OC (as 3-Way), 3.8L or less and 4250 GVW or less (series 5000) 3-Way + OC, 5.0L or less and 3750 GVW or less (series 6000)	
D-177-5 (11-14-91)	Products for Power "New Aftermarket Catalytic Converter Series 7000 and 8000	OC Series 7000 up to 7.4L and 6000 GVW TWC Series 8000 up to 5.7L and 6000 GVW TWC + OC Series 8000 up to 5.9L and 6000 GVW	
D-181-2 (9/21/89)	Midas International Corporation "New Aftermarket Two-Way, Three-Way and Three-Way Plus Catalytic Converters"	2-Way, 5.7L or less and 4000 GVW or less (series 35100) 3-Way + OC, 3.8L or less and 4250 GVW or less (series 35200) 3-Way + OC (as 3-Way), 3.8L or less and 4250 GVW or less (series 35300)	
D-181-3 (4/10/90)	Midas Interantional Corporation "New Aftermarket Three-Way Plus Oxidation Catalytic Converters"	3-Way + OC, 5.0L or less and 4250 GVW or less (series 35208, 35209, 35210)	
D-183-2 (8/16/90)	Perfection Automotve Products "Three-Way plus Oxidation Catalytic Converter Used as Oxidation Catalytic Converter"	3-Way + OC as OC, 7.5L or less and 7000 GVW or less (series 23075, 23077, 23078, 23079, 23088, 23089)	

GVW: Gross Vehicle Weight
OC: Oxidation Catalyst

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CATALYTIC CONVERTERS

<u>E.O. or Res. Number Date</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-182-5 (6/14/90)	Walker Manufacturing Company "New Aftermarket Three-Way Plus Oxidation, Three-Way and Oxidation Catalytic Converter"	3-Way + OC, 5.0L or less and 4000 GVW or less (series 15133, 15134, 15138 15504, 15507, 15512, 15514, 15521, 15522 15524, 15525, 15526, 15532) OC, 6.6L or less and 4500 GVW or less (series 15111, 15112) 3-Way, 3.8L or less and 3750 GVW or less (series 15126, 15127) OC, 6.6L or less and 4500 GVW or less (series 15113-15115, 15118, 15501, 15502, 15503, 15509, 15510, 15513, 15515, 15518, 15519, 15520, 15530)	
D-182-6 (9-5-91)	Walker Manufacturing "New Aftermarket Three-Way Plus Oxidation Catalytic Converter"	Fuel Injected vehicles up to 5.7L and 5,500 GVW Part No. 15140, 15141, 15142, 15143, 15546, 15556	
D-184-3 (8/9/89)	Maremont Corporation "New Aftermarket Three-Way Catalytic Converter"	3-Way, 5.7 or less and 4000 GVW or less (series 28801) fuel injection vehicle only	
D-184-4 (8/29/89)	Maremont Corporation "New Aftermarket Two-Way Catalytic Converters"	2-Way, 6.6L or less and 5000 GVW or less (series 28711-28712)	
D-184-5 (9/14/89)	Maremont Corporation "New Aftermarket Catalytic Converters"	2-Way, 5.7L or less and 4500 GVW or less (series 28701-28703, 28705) 3-Way (as OC), 5.7L or less and 4000 GVW or less (series 28801) 3-Way + OC (as OC), 3.8L or less and 4500 GVW or less (series 28811-3, 28901-3, 28905) 3-Way + OC (as 3-Way), 3.8L or less and 4500 GVW or less (series 28811-3, 28901-3, 28905) 3-Way + OC, 5.0L or less and 4500 GVW or less (series 28901-28903, 28905)	
D-184-6 (11/7/90)	Maremont Corporation "New Aftermarket Three-Way Catalytic Converter"	3-Way, 5.7L or less and 6000 GVW or less (Series 28802, 28833, 28834)	
D-188 (3/7/89)	TRI-D Industries, Inc. "New Aftermarket Catalytic Converters"	3-Way, 3.8L or less and 3750 GVW or less (series TD-6000) 3-Way + OC, 5.7L or less and 4000 GVW or less (series TD-6000)	

GVW: Gross Vehicle Weight
OC: Oxidation Catalyst

CATALYTIC CONVERTERS

<u>E.O. or Res. Number</u> (Date)	<u>Manufacturer "Product"</u> (Model/Kit No.)	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-188-1 (9/21/89)	TRI-D Industries, Inc. "New Aftermarket Two-Way Catalytic Converters"	2-Way, 5.7L or less and 5250 GVW or less (series TD-2000) 2-Way, 3.8L or less and 3750 GVW or less (series TD-4000) 2-Way, 5.7L or less and 4000 GVW or less (series TD-6000)	
D-190 (5/19/89)	Tested Products, Inc. "Used Aftermarket Two-Way, Three-Way and Three-Way Plus OC Catalytic Converters" (series TBD)	Same application as OEM	
D-193 (7/25/89)	Car Sound Exhaust System, Inc. "New Aftermarket Catalytic Converters"	Converter Series 500: 3-Way, 2.0L or less and 3000 GVW or less OC, 2.0L or less and 3000 GVW or less Converter Series 600: OC, 5.7L or less and 4000 GVW or less Converter Series 700: 3-Way, 3.8L or less and 4000 GVW or less Converter Series 800: 3-Way + OC, 5.0L or less and 4000 GVW or less Converter Series 900: OC, 7.5L or less and 5500 GVW or less 3-Way, 5.0L or less and 5500 GVW or less	
D-193-1 (9/13/89)	Car Sound Exhaust System, Inc. "New Aftermarket Three-Way Plus Oxidation Catalytic Converter"	3-Way + OC, 5.0L or less and 5500 GVW or less (series 900)	
D-193-2 (1/22/90)	Car Sound Exhaust System, Inc. "New Aftermarket Three-Way Plus Oxidation Catalytic Converter"	3-Way + OC, 5.0L or less and 4000 GVW or less (series 700)	
D-193-3 (4/27/90)	Car Sound Exhaust System, Inc. "New Aftermarket Three-Way Plus Oxidation Catalytic Converter"	3-Way + OC, 5.2L or less and 5500 GVW or less (series 300/500, 2 warm-up and 1 main catalyysts)	
D-193-4 (6/29/90)	Car Sound Exhaust System, Inc. "New Aftermarket Three-Way Plus Oxidation Catalytic Converter"	3-Way + OC, 5.8L or less and 5500 GVW or less (series 900 HD)	

GVW: Gross Vehicle Weight
OC: Oxidation Catalyst

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CATALYTIC CONVERTERS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-193-5 (10/22/90)	Car Sound Exhaust System, Inc. "Series 900 HD New Aftermarket Three-Way Catalytic Converter"	3-Way + OC as 3-Way, 5.7L or less and 5500 GVW or less (series 900 HD)	
D-193-6 (4/4/91)	Car Sound Exhaust System, Inc. "Main Catalytic Converter and Precatalyst System Series 300/500"	3-Way + OC, 5.0L or less and 5500 GVW or less (Series 304/504, 2 warm-up and 1 main catalyts)	
D-193-7 (1/8/92)	Car Sound Exhaust System, Inc. "New Aftermarket Three-Way Plus Oxidation Catalytic Converter Series 200HD"	3-Way + OC, 5.0L or less and 4000 GVW or less	
D-218 (4/4/91)	Camet Company "New Aftermarket Three-Way Plus Oxidation Catalytic Converter"	3-Way + OC, 5.0L or less and 4500 GVW (series 5800)	
D-233 (11-14-91)	ABX Corporation "New Two-Way Aftermarket Catalytic Converter"	Part No. 100 and 101 for vehicles up to 5.7L and 4500 GVW.	

GVW: Gross Vehicle Weight
OC: Oxidation Catalyst

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DISTRIBUTOR MODIFICATIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
70-84-A (10/20/71)	General Motors Corp. "General Motors Timing & Idle Adjustment"	70 and older	
D-38 (8/29/74)	Solar Volt Co. "Solar Volt"	66-74 V8	
D-221-1 (4/22/91)	Automotive Controls Corp. "Accel Blueprint Distributor P/N 9109"	80-86 Chevrolet and Pontiac vehicles equipped with a V8	
D-221-3 (4/22/91)	Automotive Controls Corp. "Accel Dual Point Conversion Kit P/N 31040E"	74 and older GM vehicles equipped with a V8	

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EGR SYSTEM MODIFICATIONS

E.O. or Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-43 (9/28/79)	Automotive Energy Systems, Inc. "Scover Energy System"	79 and older, except: (1) 77-79 Chrysler and Porsche (2) Chrysler lean burn (3) Feedback systems vehicles (4) Three-way catalyst vehicles	Retard timing 50% on pre-75 vehicles requiring premium fuel
D-97-22 (11/17/83)	BAE Turbosystems "EGR Restrictor Place"	81-82 Allen Coach Works Limo powered by a Ford 302 CID	

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ELECTRONIC CONTROL UNIT (ECU)

<u>E.O. or Add. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-107-1 (6/21/88)	Edelbrock Corporation "Micro-Plus Ignition Electronics"	82-86 GM passenger cars with 5.0L V8 4-barrel carbureted engines with engine codes LG4 and VIN code H	
D-187-3 (1/27/89)	Street Legal Performance Engineering, Inc. "Engine Calibration Software EPROM"	85-88 GM F-body vehicles with 5.0L/5.7L tuned port engines	
D-176-2 (5/13/91)	Dinan Engineering, Inc. "Performance Chip"	90-91 BMW 318i 1.8L OEM ECU 0-261-200-175 (P/N D900-1833) 85-87 BMW 325e 2.7L OEM ECU 0-261-200-027 (P/N D900-2711) 87-88 BMW 325i 2.5L OEM ECU 0-261-200-153 (P/N D900-2531) 89-91 BMW 325i 2.5L OEM ECU 0-261-200-173 (P/N D900-2532) 89-91 BMW 325i 2.5L OEM ECU 0-261-200-380 (P/N D900-2533) 88-91 BMW M-3 2.3L OEM ECU 0-261-200-071 (P/N D900-2321) 89-91 BMW 525i 2.5L OEM ECU 0-261-200-173 (P/N D900-2532) 89-91 BMW 525i 2.5L OEM ECU 0-261-200-524 (P/N D900-2534) 85-87 BMW 528e 2.7L OEM ECU 0-261-200-027 (P/N D900-2711) 84 BMW 533i 3.2L OEM ECU 0-261-200-008 (P/N D900-3311) 85-87 BMW 535i 3.4L OEM ECU 0-261-200-059 (P/N D900-3521) 88 BMW 535i 3.4L OEM ECU 0-261-200-059 (P/N D900-3522) 89-91 BMW 535i 3.4L OEM ECU 0-261-200-179 (P/N D900-3532) 84-88 BMW M-5 3.5L OEM ECU 0-261-200-055 (P/N D900-3420) 87-88 BMW M-5 3.5L OEM ECU 0-261-200-079 (P/N D900-3421) 90-91 BMW M-5 3.6L OEM ECU 0-261-200-350 (P/N D900-3631) 84 BMW 633csi 3.2L OEM ECU 0-261-200-008 (P/N D900-3311) 85-87 BMW 635csi 3.4L OEM ECU 0-261-200-059 (P/N D900-3521) 88 BMW 635csi 3.4L OEM ECU 0-261-200-150 (P/N D900-3531) 89 BMW 635csi 3.4L OEM ECU 0-261-200-179 (P/N D900-3532) 84-88 BMW M-6 3.5L OEM ECU 0-261-200-055 (P/N D900-3420) 87-88 BMW M-6 3.5L OEM ECU 0-261-200-079 (P/N D900-3421) 84 BMW 733i 3.2L OEM ECU 0-261-200-008 (P/N D900-3311) 85-87 BMW 735i 3.4L OEM ECU 0-261-200-059 (P/N D900-3521) 88 BMW 735i 3.4L OEM ECU 0-261-200-150 (P/N D900-3531) 89-91 BMW 735i 3.4L OEM ECU 0-261-200-179 (P/N D900-3532) 88-91 BMW 750i1 5.0L OEM ECU 0-261-200-156 (P/N D900-5031)	

D-228
(7-25-91) Autothority Performance Engineering
"Performance Chip"

<u>Part Numbers</u>	<u>Description</u>
Porsche	
911.020.100.20	1984 to 1987 911
911.020.200.20	1988 to 1989 911
928.020.100.20	1985 to 1986 928S 32 Valve
928.020.200.20	1987 to 1990 928S4
944.020.100.20	1983 to 1985 944
944.020.150.20	Early 1985 only, with plug in chip
944.020.200.20	1985/2 to 1987 944
944.020.300.20	1988 944
944.020.350.20	1989 944
944.020.400.20	1987 to 1988 944S
944.020.500.20	1989 to 1991 944S2
951.020.100.20	1986 to 1987 944T
951.020.105.20	1986 to 1987 944T
951.020.110.20	1988 944T

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ELECTRONIC CONTROL UNIT (ECU)

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
		951.020.115.20	1988 944T
		951.020.130.20	1988 to 1989 Turbo S
		951.020.135.20	1988 to 1989 Turbo S
		951.020.300.20	1988 to 1989 Turbo S
		964.020.100.20	1989 to 1990 Carrera 2/4
		BMW	
		12.14.1.250.100	1984 to 1987 325e/528e
		12.14.1.240.100	1982 to 1984 "e" with Brain Conversion
		12.14.1.280.100	1988 325e/528e
		12.14.1.255.100	1987 to 1988 325i, iS, iX
		12.14.1.259.100	1989 to 1990 325i, iS, iX/525
		12.14.1.300.100	1987 to 1989 M3
		12.14.1.330.100	1982 to 1984 5/6/733i with plug-in chip
		12.14.1.335.100	1982 to 1984 5/6/733i with conversion
		12.14.1.350.100	1985 to 1988 535i,
			1985 to 1987 635Csi/735i
		12.14.1.355.100	1989 to 1990 535i,
			1988 to 1990 635Csi/735i
		12.14.1.400.100	1985 to 1986 European M5/M6
		12.14.1.500.100	1987 to 1989 M5/M6
		12.14.1.550.100	1990 M5
		Volkswagen	
		037.020.100	1990 to 1991 Corrado
D-234 (10-3-91)	Jones Electronic Technologies Performance Engineering "Performance Chip"	1987 to 1991 GM Light-duty Trucks equipped with 305CID thru 454 CID Engines	
D-238 (12-1-91)	Intended Acceleration "Intended Acceleration Audi Computer Modification"	1981-1992 model-year Audi vehicles powered by a 2.2 liter turbocharged gasoline engine	

ELECTRONIC IGNITIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-1 (11/16/72)	Contignitron Co. "Equalizer Mod 4-8"	66-70	
D-1-2 (2/28/75)	Contignitron Co. "Model 4-8"	66-70 with engine 50 to 140 CID, except: VW with CD	
D-1-3 (5/12/75)	Contignitron Co. "Model 46, 48 and 48C"	66-70 with engine > 200 CID, except CD	
D-1-4 (5/30/75)	Contignitron Co. "Equalizer Model 4 (Mod IV)"	74 and older, except: (1) VW and Honda (2) Vehicles with CD and TI (3) Vehicles with special coil (4) 66-70 vehicles with NOx retrofit using electronic speed sensor	
D-1-5 (8/6/75)	Contignitron Co. "Equalizer Mod 4-V"	74 and older, except: (1) Vehicles with "+" ground and 6V system (2) Vehicles with CD and TL (3) Vehicles with special coil (4) Vehicles without centrifugal advance	
D-3 (3/30/73)	M.W. Raybin "Raybin Magnetic Discharge"	66-73	
D-4 (3/30/73)	Gen. Nucleonics "Speedatron"	66-73	
D-5-1 (6/6/75)	Heath Co. "Heathkit CP-1060"	66-73	
D-5-2 (10/8/75)	Delta Products, Inc. "Mark Ten, Mark Ten B & C"	75 and older, except vehicles with CD or HEI	
D-6 (3/30/73)	Solid State Products, Inc. "SSP Stage II"	66-73	
D-7-1 (1/22/75)	Aero Design Products, Inc. "Perma Tune"	74 and older, except: (1) 74 HEI (2) 66-70 with NOx retrofit using electronic speed sensor	
D-8-1 (2/6/74)	Air Quality Products "Pure Power"	55-74, except: (1) Vehicles with OE electronic ignition (2) 66-70 vehicles equipped with incompatible NOx devices	

ELECTRONIC IGNITIONS

<u>E.O. or Res. Number</u> (Date)	<u>Manufacturer "Product"</u> (Model/Kit No.)	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-8-2 (3/26/74)	Air Quality Products "66-70 Pure Power"	66-70 with engines > 50 CID	
D-10 (1/29/74)	Gaylord Electronics, Inc. "Compu-Spark"	66-74, except: (1) Vehicles with OE ignition systems (2) Vehicles 66-70 with Carter or Dana NOx devices	
D-11-3 (4/30/76)	Western Controls, Inc. (B12S, 1051, B12P, 1052, 1001, 1002)	74 and older, except: (1) Vehicles with electronic ignition systems (2) 66-70 vehicles with Dana or Carter NOx devices	
	Filko (FI-100, FI-125, FI-101, FI-126)		
	Hays (CD-2041, HP-CD2042)		
	Thermotronic (80-4001, 80-5001, 80-4002, 80-5002)		
D-11-4 (7/16/76)	Western Controls, Inc. (1058 TR, 1008 TR)	75 and older, except: (1) GM 4 cylinder (2) GM, AMC, Checker, IH 6 cylinder (3) Chrysler 4, 6, 8 cylinder (4) Vehicles with electronic ignition system or dual-point distributor	
	Filko (FI-150 TR)	(5) 66-70 vehicles with NOx devices (6) Mazda & Fiat vehicles	
	Hays (TR-2048 TR)		
D-12 (6/25/73)	Clytronics Corp. "Clytron"	66-73	
D-15 (8/27/73)	Firewell Products Corp. "Firewell"	66-73	
D-16 (8/27/73)	American Ecogenics Corp. "CDS 84"	66-73	
D-17 (8/27/73)	Cragar, Inc. "Power Pack"	66-73	
D-18 (8/27/73)	Gulf & Western, Inc. "Voltronix"	66-73	

ELECTRONIC IGNITIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-19-3 (5/15/90)	C. A. Jacobs "Pulsar" "Phase III" "Flamethrower" "Vista Jacobs" "Compusensor" "Energy Pak" "Energy Team" "C. A. Jacobs"	66-73	
D-19-4 (1/3/91)	Jacobs Electronics "Energy Pak" "Mileage Maker" "Pro-8" "Pro-10"	91 and older with spark-ignited, single coil, 6 or 12 volt engines	
D-20-2 (6/20/74)	Tri-Star Corp. "Tiger SST"	74 and older, except: (1) 73-74 Mercedes-Benz, Mazda, Audi, Porsche (2) GM with coil integrated into distributor (3) 66-70 vehicles with Dana or Carter NOx device	
D-20-3 (9/30/75)	Tri-Star Corp. "STT-W C-D Ignition"	74 and older, except: (1) 73-74 Mercedes-Benz, Mazda, Audi, Porsche (2) GM with coil integrated into distributor (3) 66-70 vehicles with Dana or Carter NOx device	
D-20-4 (3/8/76)	Tri-Star Corp. "Tiger 500" "Tiger Max"	74 and older, except: (1) 73-74 Mercedes-Benz, Mazda, Audi, Porsche (2) GM with coil integrated into distributor (3) 66-70 vehicles with Dana or Carter NOx device	
D-21 (1/11/74)	Hays Enterprises, Inc. "Magna-Pulse"	66-74 AMC, Ford, GM V8, except: (1) Vehicles with OE electronic ignition (2) 66-70 vehicles with NOx device	
D-22 (1/29/74)	Synetics "Spitfire II"	66-74, except: (1) Vehicles with OE electronic ignition system (2) 66-70 vehicles with Carter or Dana NOx device	

ELECTRONIC IGNITIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-23 (1/22/74)	Corona Marketing Corp. "Paser 500"	74 and older	
D-23-1 (3/26/74)	Amerimex Ind., Inc. "Paser 500 Perf. Economy"	76 and older, except HEI	
D-25 (3/1/74)	Western Select, Inc. "Sentry"	74 and older, except: (1) Vehicles with OE electronic ignition system (2) 66-70 vehicles with Dana or Carter NOx device	
D-25-1 (9/12/74)	Consumers Auto Research Co. "Electro-Ignition Computer"	74 and older, except: (1) Vehicles with OE electronic ignition system (2) 66-70 vehicles with Dana or Carter NOx device	
D-33 (5/31/74)	RoInCo "Stampede"	74 and older, except: (1) Vehicles with OE electronic ignition system (2) 66-70 vehicles with Dana or Carter NOx device	
D-33-1 (10/3/74)	RoInCo "SCR Powered Electronic Ignition"	74 and older, except: (1) Vehicles with OE electronic ignition system (2) 66-70 vehicles with Dana or Carter NOx device	
D-40-1 (1/14/75)	Autotronic Controls Corp. "MSD-2"	75 and older, except vehicles with Carter or Dana NOx device	
D-40-2 (7-25-91)	Autotronic Controls Corp. "MSD Ignition MSD 6A" Part No. 6200 and 6246	1991 and older model-year vehicles with up to 16-cylinder spark ignited engine, a 12 volt negative ground electrical system, an internal or external ignition coil and a spark ignition distributor.	
D-40-3 (7-25-91)	Autotronic Controls Corp. "MSD Ignition MSD 6AL" Part No. 6420	1991 and older model-year vehicles with up to 16-cylinder spark ignited engine, a 12 volt negative ground electrical system, an internal or external ignition coil and a spark ignition distributor.	
D-40-4 (7-25-91)	Autotronic Controls Corp. "MSD Ignition MSD 6T" Part No. 6400 and 6446	1991 and older model-year vehicles with up to 16-cylinder spark ignited engine, a 12 volt negative ground electrical system, an internal or external ignition coil and a spark ignition distributor.	

ELECTRONIC IGNITIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-40-5 (7-25-91)	Autotronic Controls Corp. "MSD Ignition Soft Touch Rev Control" Part No. 8738	1991 and older model-year vehicles equipped with the MSD Ignition MSD 6T	
D-40-6 (7-25-91)	Autotronic Controls Corp. "MSD Ignition RPM Module Kits" Part No. 8743 thru 8752	1991 and older model-year vehicles with MSD Ignition MSD 6AL Part No. 6420 or MSD Rev Control Part No. 8732	
D-40-7 (7-25-91)	Autotronic Controls Corp. "MSD Coil, Blaster 2 (Part No. 8202 and 8203), Blaster 2F (Part No. 8205), Blaster 3 (Part No. 8223)"	1991 and older model-year vehicles with up to 16-cylinder spark ignited engine, a 12 volt negative ground electrical system, an internal or external ignition coil and a spark ignition distributor.	
D-40-8 (7-25-91)	Autotronic Controls Corp. "MSD Ignition Soft Touch Rev Control" Part No. 8728	1991 and older model-year vehicles with up to 16-cylinder spark ignited engine, a 12 volt negative ground electrical system, an internal or external ignition coil and a spark ignition distributor.	
D-40-9 (7-25-91)	Autotronic Controls Corp. "MSD Ignition Blue Ribbon Commerical Ignition Module" Part Nos. 5475, 5476, 5477, and 5478.	1991 and older model-year vehicles with up to 16-cylinder spark ignited engine, a 12 volt negative ground electrical system, an internal or external ignition coil and a spark ignition distributor.	
D-40-10 (7-25-91)	Autotronic Controls Corp. "MSD Ignition Blue Ribbon Commerical RPM Module" Part Nos. 8831, 8832, 8833, and 8834.	1991 and older model-year vehicles equipped with MSD Blue Ribbon Commerical Ignition Part Nos. 5475, 5476, 5477, or 5478	
D-41 (10/3/74)	Gas Mizer, Inc. "Gas Mizer"	74 and older, except: (1) Vehicles with OE electronic ignition (2) 66-70 vehicles with Dana or Carter NOx device	
D-44-1 (2/27/75)	Fairchild Semiconductor "KV Electrnic Ignition System Model E100" & "Fairchild SH4211B"	74 and older, excluding vehicles with OE electronic ignition system	
D-44-2 (10/30/75)	Fairchild Semiconductor "Breakerless Ignition System" (KV-E300)	74 and older 6 or 8 cylinder, except: (1) Vehicles with OE electronic ignition system (2) Vehicles with dual point distributors (3) 66-70 vehicles with retrofit NOx device	I 1 2 -1

ELECTRONIC IGNITIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-44-3 (7/19/76)	Fairchild Semiconductor "Breakerless Ignition System" (E-400)	76 and older 4 cylinder, except: (1) VW and other vehicles using Bosch distributors with unequal cams (2) GM 4 cylinder (3) Vehicles with OE electronic ignition (4) Vehicles with dual point distributors (5) 66-70 vehicles with NOx retrofit device	
D-46 (12/2/74)	Tanner Electronic Systems Tech., Inc. "Hurst/Airheart SCR Electronic Ignition" "RAC Electronic Ignition #796" "Rocket Racing Product #7710" "SCR Impulse Ignition" "Goldspark Electronic Ignition"	74 and older, except: (1) Vehicles with OE electronic ignition (2) Mazda rotary engine	
D-46-1 (2/25/76)	Tanner Electronic Systems Tech., Inc. "Art Linkletter Electronics Ignition"	76 and older	
D-47-2 (5/10/83)	Allison Automotive Co. "Allison Opto-Electric Ignition System" (No. 17, 27, and XR-700)	75 and older	
D-47-3 (5/23/83)	Allison Automotive Co. "Allison Opto-Electric Ignition System" (No. XR-700)	75-83 4, 6, and 12 cylinder vehicles with Lucas ignition 74-83 4 and 6 cylinder vehicles with Hitachi ignition 77-83 4 and 6 cylinder vehicles with Nippondenso ignition 75-83 4 and 6 cylinder vehicles with Bosch ignition	
D-49 (2/20/75)	Sears, Roebuck and Co., "Sears Penske CD ignition System" (No. 8205 and 8206)	74 and older, except those with OE electronic ignition	
D-49-1 (9/19/76)	Sears, Roebuck and Co. "Sears CD Ignition System" (No. 8204)	74 and older	
D-50 (3/28/75)	Mardek Corp. "Mobelec Electronic Ignition System"	74 and older GM, AMC and foreign vehicles with conventional ignition systems	
D-50-1 (12/29/75)	Mardek Corp. "Mobelec Electronic Ignition System"	74 and older Ford	

ELECTRONIC IGNITIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-54-5 (4/30/76)	Prestolite Electrical Division Wards Rite-Line Co-Op Wells Echlin Accel Conoco (Dynamlife) Automatic Transmission Parts Gulf Oil (Cruisemaster) Ford (Motorcraft) Shell Oil IHC Fleetrite "BID"	76 and older, except: (1) Vehicles with OE electronic ignition (2) Vehicles with dual point distributor (3) 66-70 vehicles with NOx retrofit device	
D-54-6 (10/28/76)	Prestolite Electrical Division Ford Motorcraft "BID"	76 and older, except: (1) Vehicles with OE electronic ignition (2) Vehicles with dual point distributor (3) 66-70 vehicles with NOx retrofit device	
D-54-8 (10/18/77)	Prestolite Electrical Division Co-Op Rite-Line Gulf Ford Motorcraft Wells Echlin Echlin-Accel "BID"	71-73 Ford Pinto vehicles with a 1.6L engine	
D-54-9 (6/30/78)	Prestolite Electrical Division Rite-Line Montgomery Wards "BID"	68-77 Datsun 4 cylinder, except: (1) B-210 models (2) Vehicles with dual point distributor	
D-54-10 (5/21/79)	Prestolite Electrical Division "BID" (70-44) (70-45) (70-49) (70-50) (70-52)	79 and older motorcycles Honda 750 Honda GL-1000 Kawasaki 900 & 1000 Kawasaki 650 Kawasaki 900 & 1000	
D-54-11 (12/26/79)	Prestolite Electrical Division "BID" (70-54)	79 and older motorcycles Suzuki 550, 750, 850 & 1000	

ELECTRONIC IGNITIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-56 (9/22/75)	Edelbrock-Hadley Corp. "Thermal Spark" (No. 9200)	74 and older, except vehicles with OE electronic ignition	
D-57 (8/13/75)	Per-Lux, Inc. "Per-Lux Ignitor"	75 and older, except: (1) Chrysler 6 and 8 cylinder (2) GM electronic ignition (3) Vehicles with dual point distributor (4) 66-70 vehicles with NOx retrofit device	
D-57-1 (11/3/83)	Per-Lux, Inc. "Per-Lux Ignitor"	83 and older, excluding Chrysler vehicles	
D-58-3 & 4 (9/11/76 & 11/30/76)	Gulf and Western "Grand Prix II" "Magnition" "Poweready" "Zenith Electronic Ignition" "Mighty Electronic Ignition"	74 and older, excluding vehicles with OE electronic ignition	
D-60-2 (4/27/76)	Superior Industries, Inc. "Electronition Electronic Ignition System" "Acculite Electronic Retrofit Ignition System" "P&D Electronic Ignition System" "Borg Warner Electronic Ignition System" "Silver Beauty MSW Solid State" "Micro Start Solid State"	76 and older, except: (1) Vehicles with OE electronic ignition (2) Vehicles with dual point distributor	
D-60-3 (7/12/76)	Superior Industries, Inc. "Acculite II" "Electronition Magnetic Retrofit Ignition System" "Silver Beauty MSW Magnetic" "Micro-Start Magnetic" "Wellstronic Magnetic" "Thunderbolt Magnetic"	76 and older, except: (1) Chrysler 6 and 8 cylinder (2) GM, AMC, Checker 6 cylinder (3) 72 and older Ford 6 and 8 cylinder (4) Vehicles with OE electronic Ignition (5) 66-70 vehicles with NOx retrofit device	
D-61 (10/14/75)	Motorola, Inc. "Breakerless Electronic Ignition System Kit" (Models 6SK2027A, 6SK2026A)	74 and older	
D-61-1 (3/8/76)	Motorola, Inc. "Breakerless Electronic Ignition" (Models 6SK2028, 6SK2029)	74 and older	

ELECTRONIC IGNITIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-62 (10/29/75)	TWR Automotive Electronics "Lumenition Breakerless Ignition"	74 and older	
D-70 (9/16/76)	Mallory Electric Co. "Mallory Unilite" (Model 501)	57-74 vehicles with Delco 8 cylinder distributor, except: (1) Vehicles with OE electronic ignition (2) 66-70 vehicles with NOx retrofit device	
D-70-1 (10/28/76)	Mallory Electric Co. "Mallory Unilite" (Model 502)	72-76 Ford 8 cylinder, excluding vehicles with OE electronic ignition	
D-70-3 (8/9/77)	Mallory Electric Co. "Unimag" (Model 550)	76 and older 4 cylinder, excluding: (1) VW and other vehicles using Bosch distributors with unequal cam (2) GM vehicles (3) Vehicles with OE electronic ignition (4) Vehicles with dual point distributor (5) 66-70 vehicles with NOx device	
D-70-4 (4/20/78)	Mallory Electric Co. "Unimag" (Model 540)	74 and older 6 and 8 cylinder, excluding: (1) Vehicles with OE electronic ignition (2) Vehicles with dual point distributors (3) 66-70 vehicles with NOx device	
D-70-5 (6/13/78)	Mallory Electric Co. "Power Cell" (Model 611)	78 and older GM, Ford and Chrysler	
D-70-6 (8/28/81)	Mallory Electric Co. "Unilite"	79 and older Ford, excluding: (1) Vehicles with 4 cylinder engine (2) Vehicles using EEC II (3) Vehicles with vacuum retard	
D-70-7 (1/6/83)	Mallory Electric Co. "Hyfire Ignition"	82 and older vehicles without closed-loop carburetion system	
D-70-8 (2/4/83)	Mallory Electric Co. "Hyfire III Ignition"	82 and older vehicles without closed-loop carburetion system	
D-70-9 (7/3/84)	Mallory Electric Co. "Unilite"	84 and older GM HEI non closed-loop carburetion system	
D-71 (10/28/76)	Stevens Associates "Stevens" (Model SIG-101)	76 and older, excluding: (1) Vehicles with OE electronic ignition (2) 66-70 vehicles equipped with AQP NOx device	

ELECTRONIC IGNITIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-71-1 (2/21/80)	Stevens Associates "Gregman" (Model SIG-101)	76 and older, excluding: (1) Vehicles with OE electronic ignition (2) 66-70 vehicles equipped with AQP NOx device	
D-74 (5/31/77)	Robert Bosch Corp. "Robert Bosch Breakerless Transistorized Ignition" (TCI-h)	72-76 4 cylinder vehicles with Bosch distributor	
D-101 (6/17/80)	Martek Products, Inc. "Martek 440 Electronic Ignition"	78-79 Honda, Kawasaki, Suzuki motorcycles	
D-101-1 (5/22/81)	Martek Products Inc. "Martek JC100"	73-79 Honda automobiles	
D-137-1 (6/6/84)	ACF Industries, Inc. "Engine Knock Eliminator"	84 and older, excluding: (1) GM with "odd firing" V6 231 CID (2) Vehicles with rotary engine (3) Vehicles with more than 1 ignition coil	
D-156-1 (7/26/85)	Lumenition Ltd. "Lumenition"	81 and older 4 and 6 cylinders	
D-210 (11/7/90)	Perma-Tune, Inc. "Electronic Ignition System"	82-85 Mercedes-Benz 380 (Model 142) 84-85 Mercedes-Benz 500 SEC (Model 142) 84-85 Mercedes-Benz 500 SEL (Model 142) 73-75 Mercedes-Benz 450 (Model 524) 79-81 BMW 528i (Model 125) 78-81 BMW 633csi (Model 125) 78-81 BMW 733i (Model 125)	
D-222-5 (7-9-91)	Allison Performance Electronics/Crane Cams "Opto Ignition System" Part No. XR3000	1991 and older non-computer controlled vehicles equipped with magnetic pick-up, points or hall-effects distributor.	

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ENGINE CONVERSION AND INTERNAL KITS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-76 (10/20/77)	Nordskog Industries, Inc. "Nordskog Industries Datsun Engine Conversion Kit"	70-73 Datsun 240Z automatic, 74 Datsun 260Z automatic	
D-102-1 (12/23/81)	Power Haus Products, Inc. "Oettinger/Okrasa Volkswagen Engine Modification Kit"	76-82 VW Rabbit, Scirocco, Dasher, Golf and Audi Fox	
D-120 (1/13/82)	Cummins West, Inc. "855 CID Diesel Engines"	74 and older California & 78 and older Federal Cummins 855 CID 6 cylinder engines	
D-126 (6/25/82)	General Motors Corp. "Cue Package"	75-81 8V - 92TA DDAD 76-81 6V - 92TA DDAD	
D-179 (6/2/88)	Mercedes-Benz Truck Co., Inc.	model OM366LA in Mercedes-Benz heavy-duty diesel engine family HBD5.96FPC2	
D-186-2 (4/10/91)	HKS U.S.A., Inc. "HKS Performance Package"	90-91 Nissan 300ZX 3.0L Twin Turbo (P/N SR71XX-90000X)	
D-202 (7/11/90)	Detroit Diesel Corporation "6V-92TA Heavy-Duty Diesel Engine Rebuild"	79-84 6V - 92TA	
D-206 (10/12/90)	Iveco Trucks of North America "8060.24 Heavy-Duty Diesel Engine Design Modification Package"	83 model-year 8060.24 Iveco Trucks heavy-duty diesel engine	Replace the fuel injector and spring valve caps. Retard the static injection timing from 17 degrees to 15 degrees BDC and the low fuel pump will be reset from 40.5 to 32.7 cc/1000 strokes.
D-225 (7-25-91)	Crane Cams, Inc. "Compucam 2000 Series 2010, 2020, and 2030"	1987 and older model-year GM vehicles powered with 267 CID to 350 CID V-8 gasoline engines.	
D-225-1 (9-25-91)	Crane Cams, Inc. "Rocker Arms"	1991 and older model-year GM vehicles powered with 262 CID to 454 CID V-8 gasoline engines.	
D-225-2 (9-25-91)	Crane Cams, Inc. "Compucam 2000 Series 2021"	1991 and 1992 federally-certified Ford trucks sold in California equipped with 302 CID (5.0L) or 351 CID (5.8L) V-8 gasoline engines, engine families MFM5.8T5HZCO & NFM5.8T5HZC1, with multipoint fuel injection.	

ENGINE CONVERSION AND INTERNAL KITS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-225-3 (1-8-92)	Crane Cams, Inc. "Fireball Cylinder Head"	1992 and older GM vehicles equipped with 262 CID (4.2L) to 400 CID (6.6L) V-8 gasoline engines.	

ENGINE SHUT-OFF AND STARTER SYSTEMS

E.O. or Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-106-1 (1/15/82)	Zemco, Inc. "Fuel Saver"	81 and older, except: (1) Diesel-powered vehicles (2) Vehicles without electric engine starters	
D-240 (12-11-91)	Intercontact Corp. "Emergency Starter"	1992 and older model-year vehicles equipped with an external ignition coil.	

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EXHAUST HEADERS & CROSSOVER PIPES, HEAT RISERS AND INTAKE MANIFOLDS

E.O. or Res. Number <u>(Date)</u>	Manufacturer "Product" <u>(Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-245 (1-30-92)	BBK Performance Specialists "Equal-Length Shorty Header"	1985-1986 model-year Mercury Capri vehicles, 1985-1992 model-year Ford Mustangs and 1986-1992 model-year Lincoln Mark VII vehicles equipped with a 5.0L engine	

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EXHAUST HEADERS & CROSSOVER PIPES, HEAT RISERS AND INTAKE MANIFOLDS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-215-1 (12-23-91)	Edelbrock Corporation "Tubular Exhaust System"	87-92 GM passenger cars with 5.0L or 5.7L gasoline engine 88-92 GMC LDT equipped with 4.3L V-6, 5.0L V-8, 5.7L V-8, and 7.4L gasoline engine See EO for applications	
D-216 (4/22/91)	J. Bittle American, Inc. "Short Header Model 1620"	86-91 Ford Mustangs with 5.0L V8 EFI	
D-216-1 (5/8/91)	J. Bittle American, Inc. "Shorty Header Model 1621"	85 Ford Mustangs with 5.0L gasoline engines	
D-216-2 (7-7-91)	J. Bittle American, Inc. "Short Header Model 1627 and 1628"	85-91 Ford light-duty trucks with 5.0L or 5.8L V-8 gasoline engine	
D-216-3 (9-9-91)	J. Bittle American, Inc. "Shorty Header Model 1633"	1990-1992 model-year Ford and Mazda light-duty trucks powered by a 4.0L V-6 gasoline engine	
D-216-4 (1-16-92)	J. Bittle American, Inc. "Shorty Header Model 1620, 1624, 1627 and 1628"	1985-1992 model-year Ford 5.0L or 5.8L gasoline light-duty trucks engines 1986-1992 model-year 5.0L Mustangs 1990-1992 model-year 5.0L Thunderbird engine family MFM5.OV5FXFX 1986-1992 model-year 5.0L Lincoln LSC equipped with EEC-4 ECU and sequential EFI 1984-1985 model-year 5.0L LTD LX equipped with EEC-4 ECU and central EFI 1979-1984 model-year 4.2L & 5.0L V-8 Mustang with EEC-4 ECU 1980 model-year 5.0L Crown Victorias and Lincolns equipped with EEC-3 ECU and Variable Venturi 1982-1983 5.0L Crown Victorias and Lincolns equipped with EEC-3 ECU	
D-226 (7-1-91)	Exhaust Technologies, Inc. "Turbolator"	1991 and older model-year vehicles	
D-237 (11-21-91)	S & S Headers, Inc. "Tubular Exhaust Headers"	1987-1988 model-year Volkswagon Rabbit and Scirocco with a 1.6L engine	
D-241 (12-5-91)	M.A.C. Products "Stubbie Header, Model No. 9028690"	1986-1992 model-year Ford Mustangs powered by a 5.0L V-8 gasoline engine	

EXHAUST HEADERS & CROSSOVER PIPES, HEAT RISERS AND INTAKE MANIFOLDS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-200-9 (11-13-91)	Doug Thorley Headers, Inc. "Exhaust Headers" Part Nos. 106Y, 106Y-S, 114Y, 114Y-S, 153, 153-S	1975-1981 model-year Plymouth/Dodge van equipped with a 273-360 CID engine 1975-1981 model-year Dodge Ramcharger, Dodge pickup and Plymouth Trail Duster equipped with a 273-360 CID engine 1975-1976 model-year Dodge Dart and Plymouth Valiant/Scamp equipped with a 273-360 CID engine 1976-1979 model-year Dodge Aspen/Diplomat and Plymouth Volare equipped with a 273-360 CID engine	
D-200-11 (11-13-91)	Doug Thorley Headers, Inc. "Exhaust Headers" Part Nos. 215, 225, 230, 265	1977-1979 model-year Ford 4WD pickup equipped with a 351M or a 400M CID engine 1980-1981 model-year Ford 2WD pickup equipped with a 351M or a 400M CID engine 1980-1981 model-year Ford 2WD/4WD pickup and van with a 351M or a 400M CID engine 1977-1979 model-year Ford 4WD pickup with a 351M or a 400M 1975-1976 model-year Mercury Cougar with a 351C or a 351M or a 400M engine 1975-1978 model-year Ford Torino/Fairlane or Mercury Montego/Cyclone with a 351C or a 400M engine	
D-200-12 (11-13-91)	Doug Thorley Headers, Inc. "Exhaust Headers" Part Nos. 203, 210, 211Y, and 264	1975-1976 model-year Ford 2WD pickup equipped with a 360-428 CID engine 1975-1979 model-year Ford 2WD pickup equipped with a 429-460 CID engine 1975-1981 model-year Ford 2WD van equipped with a 429-460 CID engine 1975-1976 model-year Ford 4WD pickup equipped with a 360-428 CID engine	
D-200-13 (11-13-91)	Doug Thorley Headers, Inc. "Exhaust Headers" Part Nos. 245Y, 245Y-S, 248Y, 263	1978-1981 model-year Ford Courier pickup equipped with a 2.3L engine 1980-1981 model-year Ford 2WD/4WD Bronco 2WD/4WD pickup and van equipped with a 302W or a 351W engine 1975-1977 model-year Ford 2WD/4WD Bronco equipped with a 289 or a 302W engine	

EXHAUST HEADERS & CROSSOVER PIPES, HEAT RISERS AND INTAKE MANIFOLDS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-200-4 (8-7-91)	Doug Thorley Headers, Inc. "Exhaust Headers" Part Nos. 315Y	1975-1981 model-year GMC Light-duty trucks /medium-duty vans and mini-motorhomes equipped with open-loop 283-400 CID engine	
D-200-5 (10-24-91)	Doug Thorley Headers, Inc. "Exhaust Headers" Part Nos. 303Y-SO, 303Y-DA08, 388Y-SO, 354Y-SO, 354Y-DAO, 392Y-SO, and 399Y-SO.	1987-1992 model-year GM vehicles powered by a closed-loop 6.6-7.4L engine	
D-200-6 (11-6-91)	Doug Thorley Headers, Inc. "Exhaust Headers" Part Nos. 405Y, 405Y-S, 410Y, 410Y-S, 450Y, and 450Y-S	1975-1979 model-year Datsun/Nissan pickups equipped with a L20B or a Z20E engine 1975-1977 model-year Datsun/Nissan pickups equipped with a L18E engine 1980-1983 model-year Datsun/Nissan pickups equipped with a Z20E or a Z22E engine.	
D-200-7 (11-6-91)	Doug Thorley Headers, Inc. "Exhaust Headers" Part Nos. 502Y, 502Y-S, 510, 513Y, 542Y, and 542Y-S	1975-1980 model-year Toyota Celica equipped with a 20R or a 22R engine 1975-1979 model-year Toyota Landcruiser equipped with a F (3.9L) or a 2F (4.2L) engine 1975-1980 model-year Toyota 2WD pickup equipped with a 20R or a 22R engine 1978-1980 model-year Toyota 4WD pickup equipped with a 20R or a 22R engine.	
D-200-8 (11-13-91)	Doug Thorley Headers, Inc. "Exhaust Headers" Part Nos. 605Y, 605Y-S, 610, 610-S, 615Y, 615Y-S, 625, 625-S.	1975-1982 model-year AMC Jeep CJ5, CJ6, CJ7, and CJ8 equipped with a 304-401 CID engine 1975-1982 model-year AMC Jeep CJ5, CJ6, CJ7, and CJ8 equipped with a 232-258 CID engine 1975-1979 model-year AMC Jeep pickup, Wagoneer and Cherokee equipped with a 304-401 CID engine 1980-1982 model-year AMC Jeep pickup, Wagoneer and Cherokee equipped with a 304-401 CID engine	

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EXHAUST HEADERS & CROSSOVER PIPES, HEAT RISERS AND INTAKE MANIFOLDS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-180-10 (5/24/91)	The Turbo Shop, Inc. "460 EFI Header System"	87-91 Ford heavy-duty vehicles with 460 CID (7.5 liter) fuel injected engines.	
D-187 (1/27/89)	Street Legal Performance Engineering, Inc. "Performance Package"	85-88 GM F-body vehicles with 5.0L/5.7L tuned port injection engines	
D-187-1 (1/27/89)	Street Legal Performance Engineering, Inc. "Intake Manifold Runners"	85-88 GM F-body vehicles with 5.0L/5.7L tuned port injection engines	
D-187-2 (1/27/89)	Street Legal Performance Engineering, Inc. "Tubular Exhaust Manifolds" (TRI - Y)	85-88 GM F-body vehicles with 5.0L/5.7L tuned port injection engines	
D-200 (5/15/90)	Doug Thorley Headers "Exhaust Header Part No. 300Y"	74-80 GM trucks and Blazer/Jimmy's equipped with an engine displacement between 283 CID and 400 CID	
D-200-1 (5/15/90)	Doug Thorley Headers "Exhaust Header Part No. 300Y CO"	74-80 GM trucks and Blazer/Jimmy's equipped with an engine displacement between 283 CID and 400 CID	
D-200-2 (12/6/90)	Doug Thorley Headers "Exhaust Header Model No. 248Y"	80 model-year mini motor homes, trucks vans, and Broncos equipped with a Ford 302-351 CID engines, excluding those with feedback control	
D-200-3 (8-7-91)	Doug Thorley Headers, Inc. "Exhaust Headers" Part Nos. 350, 375Y, and 308	1975-1979 model-year Chevrolet Corvette equipped with a 283-400 CID engine 1975-1977 model-year Chevrolet Nova (excluding Malibu) equipped with a 283-400 CID engine 1975-1979 model-year Chevrolet Camaro/Z28 and Chevelle/El Camino/Monte Carlo equipped with a 283-400 CID engine 1978-1979 model-year Pontiac Grand Prix/Buick Regal Cutlass equipped with a 305 CID engine 1975-1979 model-year Chevrolet Camaro/Z-28 equipped with a 283-400 CID engine 1975-1977 Chevrolet Chevelle/El Camino/Malibu equipped with a 283-400 CID engine	

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EXHAUST HEADERS & CROSSOVER PIPES, HEAT RISERS, AND INTAKE MANIFOLDS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-67 (7/28/76)	Cragar Industries, Inc. "Hot Pipes"	75-76 Catalyst equipped vehicles excluding those with backpressure modulated EGR	Chrysler heat control valve and GM early fuel evaporative valve may be removed
D-148 (10/16/84)	R.N.D. Enterprises "Heat Riser Adapter"	74 and older equipped with heated air and retrofitted with exhaust headers	
D-149 (11/16/84)	Custom Speed and Marine "Preheat Duct Tube"	74 and older equipped with heated air and retrofitted with exhaust headers	
D-161-19 (10/25/90)	Gale Banks Engineering "Exhaust Crossover Pipes" (P/N 52702-STD & (P/N 52702-HO)	82-91 model-year V-8 powered Chevrolet Camaros and Pontiac Firebirds	
D-161-22 (8-7-91)	Gale Banks Engineering "Powerpack System for Class "A" 7.4 liter P-30 Motorhomes"	1990 and 1992 model-year Class "A" motorhomes with gross vehicle weight (GVW) of 14,000 lbs. or greater powered by a General Motors P-30 7.4 liter (454 CID) gasoline engine	
D-164 (5/13/86)	Hooker Industries "Hooker Super Competition Header" (P/N 2838)	75-82 Chevrolet/GMC trucks and Blazer/Jimmy's vehicles with an engine of displacement between 305 and 400 CID, except catalyst equipped vehicles using feedback controls	
D-165 (5/27/86)	Downey Off Road Mfgr. "Exhaust Header" (No. 17410-R79S)	79-80 Toyota 2 & 4 WD pick-up	
D-166 (6/6/86)	Ermie Immerso Enterprises "Exhaust Header" (P/N 4644)	79-80 Toyota 2-WD and 4-WD pick-up trucks with a 2OR engine	
D-167 (7/3/86)	Hedman Header "Exhaust Header" (P/N 69097)	78-82 Chevrolet 2-WD pick-up trucks powered by a 305 or 400 CID	
D-167-1 (11-13-91)	Hedman Header "Exhaust Header" (P/N 89461)	1987-1992 model-year Ford trucks powered by a 7.5L EFI V-8 gasoline engine	
D-170 (10/29/86)	Mr. Gasket Company "Blackjack Exhaust Header" (P/N 3021-S)	77-79 Chevrolet Camaro with a 305 or 350 CID engine	
D-170-1 (10/29/86)	Mr. Gasket Company "Cyclone Exhaust Header" (P/N 10512-S)	77-79 Chevrolet Camaro with a 305 or 350 CID engine	
D-170-2 (10/29/86)	Mr. Gasket Company "Eagle Exhaust Header" (P/N 1021-S)	77-79 Chevrolet Camaro with a 305 or 350 CID engine	

FUEL INJECTORS

Vehicle Applications

Modifications Allowed

E.O. of Res. Manufacturer
Number "Product"
(Date) (Model/Kit No.)

D-113 Fuel Conservation Systems
(6/30/81) "Sixshooter Diesel Fuel
Metering Barrel"

D-142 Cummins Engine Co., Inc.
(11/4/81) "Cummins Injector"
(P/N 3026074)

D-163 Airsensors, Inc.
(5/9/81) "Electronic Fuel Injection"
(Model No. N-8A-HD)

Cummins NTC engines with injector timing between 0.030" and 0.049" and using PTD or PTD Top Stop injectors

79 Cummins heavy-duty engine family
172C, CPL 0434

86 and older Chevrolet/GMC 454 CID
heavy-duty gasoline engines

Carburetor bowl vent hose disconnected and plugged at carbon canister, OEM air cleaner and heated air intake are replaced with Airsensor air cleaner, and automatic choke and carburetor are removed.

FUEL SYSTEM MODIFICATIONS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-37 (10/16/74)	Oxford Automotive Products "Mini-Jector Fuel Control"	74 and older	
D-63 (1/7/75)	Palmco Engineering Co. "Monitor Gasaver"	76 and older	
D-66 (6/28/76)	Alondra, Inc. "Filt-O-Reg"	76 and older	
D-75-1 (5/8/80)	Cagle Corp. "Cagle Automatic Fuel Regulator"	88 and older	
D-78 (7/6/77)	Starlight Products Corp. "Carburetor Fuel and Pulsation Control Device"	79 and older, except: (1) Diesel vehicles (2) Fuel injected vehicles	
D-79-3 (4/2/81)	Techimport Limited "Filter King" (Models 4 and 5)	81 and older	
D-80 (4/17/78)	Mileage Minder Co. "Mileage Minder"	78 and older	
D-87 (11/29/78)	Rodew International, Inc. "The Miser"	78 and older	
D-98 (3/25/80)	Internal Energy Mgmt. Corp. "Moleculator Fuel Energizer"	79 and older	
D-98-1 (11/20/81)	Internal Energy Mgmt. Corp. "Fuel Dominator"	81 and older	
D-100 (4/11/80)	P&M Research & Development Lab. "Petro-Mizer MK1 (TM)"	All gasoline carbureted vehicles	
D-109-1 (4/17/81)	Freedom Products, Inc. "Auto Jet Heater"	78 and older, except: (1) Vehicles with three-way catalyst (2) Vehicles with sealed idle adjustment screws	
D-130 (4/19/83)	Olde Worlde, Inc. "Mileage Maker"	80 and older GM, Ford, Chrysler vehicles powered by a 6 or 8 cylinder, except three-way catalyst with closed-loop system	
D-131 (6/28/83)	AZ Industries, Inc. "Polarion-X"	82 and older	

FUEL SYSTEM MODIFICATIONS

E.O. of Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
104 D-132 (6/20/83)	Fueltronics Corp. "Fueltron Fuel Vaporizer"	83 and older	
D-136 (2/23/83)	E-Z Fill Corp. "Insert Nozzle Auto Gas Cap" (Model CF-701)	75-83 GM Buick, Cadillac, Chevrolet, Oldsmobile, El Camino, Sprint, Pontiac 79-83 GM Vans, Pick-Up, Blazer, Jimmy 81-83 Ford Mustang, EXP, Escort, LN-7, Lynx, Ranger 82-83 Ford Fairmont, Granada, T-Bird, Cougar XR-7, Zephyr, Continental 78-83 Chrysler, Dodge, Plymouth 81-83 Chrysler K Car, Pick-Up	
D-139 (10/13/83)	D & S Enterprises "Mileage Maker"	83 and older gasoline-powered, except: (1) Fuel injected vehicles (2) Turbocharged vehicles	
D-141-1 (12/31/87)	Crossett and Son, Inc. "Presca Diesel Fuel Saver"	88 and older diesel powered vehicles	
D-143 (11/17/83)	OHG, Inc. "Vaporizer/Regulator" (Model X-1)	84 and older, except: (1) Vehicles with closed-loop carburetion (2) Fuel injected vehicles (3) Vehicles with unconventional engines (4) Turbocharged vehicles	
D-147 (9/19/84)	Staglo Efficiency Systems, Inc. "Staglo G2e Unit"	84 and older diesel powered vehicles	
D-154-1 (7/11/86)	Pollution Control Auto Parts "Tank Sentry" (Model No. 150)	75 and newer GMC and AMC passenger cars and light-duty trucks with screw-in type filler caps	
D-154-2 (12/1/86)	Pollution Control Auto Parts "Tank Sentry" (Model No. 278)	75 and newer Ford vehicles with stepped-in diameter fill pipes	
D-154-3 (2/2/87)	Pollution Control Auto Parts "Tank Sentry" (Model No. 150)	On limited Chrysler Corporation passenger cars and light-duty trucks with screw-in and twist-on type filler caps; on limited Ford Motor Company passenger cars and light-duty trucks with screw-in type filler caps only	

FUEL SYSTEM MODIFICATIONS

E.O. or Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	Vehicle Applications	Modifications Allowed
D-154-4 (6/9/87)	Pollution Control Auto Parts "Tank Sentry" (Model No. 225)	(1) Chrysler Corporation vehicles with "funnel" shaped gas filler pipes (2) Ford Motor Company vehicles that do not have "stepped" in diameter or double flange filler pipe (3) 1976-1980 AMC; Jeep CJ5 and CJ7, Cherokee and Wagoneer (4) 1979-1983 Mazda: B2000 and 1977-1981 Mazda Courier	
D-160-1 (6/10/88)	Advanced Emission Tech. "Universal Fuel Fill Pipe Restrictor"	All Vehicles	
D-174-2 (10-10-91)	The Magnetizer Group Inc. "Fuel-Energizer" Model AFE-1	1992 and older model-year vehicles powered with gasoline or diesel engines	
D-185 (10/7/89)	Top Eliminator, Inc. "Top Eliminator"	88 and older	
D-191-1 (8/30/89)	Sagebrush Industries, Inc. "DualFill Device"	Model DF2002 for 73-78 GM 1/2 to 1 ton trucks only Model DF3002 for 79-81 GM 1/2 to 1 ton trucks only Model DF4002 for 82-90 GM 1/2 to 1 ton trucks only Model DF6002 for 82-87 GM 1/2 to 1 ton trucks only	
D-192 (6/5/87)	H.K. Research and Development "Kynetik-5HD" "MHD 5" "Fuelex" "Pesco 5HD" "HK Super 12"	89 and older	
D-197-1 (5/8/90)	P.A.C.E. Setters of America "Vitalizer"	91 and older	
D-199 (3/14/90)	Carbonflo Sales of Amrca, Ltd. "Carbonflo"	90 and older	
D-203-1 (7/31/90)	Softron International "Softron Model #100 Fluid Conditioner"	90 and older	
D-203-2 (11/1/90)	Softron International "Softron Model #3050 Fluid Conditioner"	91 and older	

FUEL SYSTEM MODIFICATIONS

E.O. or Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-204 (7/16/90)	Coast Filtration, Inc. "Catalytic Fuel Conditioner"	90 and older	
D-204-1 (9-25-91)	Coast Filtration Inc. "Fuel Enhancer/Catalytic Fuel Reactor" Part Nos. GD-1, GD-2, GD-10	1991 and older passenger cars, light, medium, and heavy duty trucks with gasoline and diesel engines	
D-205 (7/20/90)	J. A. Lance Company, Inc. "Fuel Charger Model #'s XL100 XL200, and XL400"	90 and older	
D-205-1 (2/6/91)	J. A. Lance Company, Inc. "Fuel Charger Model #'s XL750 and XL755"	91 and older heavy-duty vehicles	
D-211 (11/20/90)	Megatron Products "Megatron model #'s 100, 200 and 300 Ceramic Engine Descaler"	91 and older	
D-212 (12/13/90)	B & D Research and Development "Magna Charger Model MC10A"	90 and older light-duty vehicles	
D-214 (2/7/91)	Universal Diesel Products, Inc. "Universal Diesel Liquefier"	90 and older heavy-duty diesel with engine rating to 600HP	
D-217 (3/20/91)	Fuel Stretchers, Inc. "Fuel Stretcher"	91 and older gas or diesel excluding Ford 460 CID vehicles (model FS-200 and FS-300)	
D-219 (6/19/91)	Fuel Tool, Inc. "Fuel-Cat Tool"	90 and older gasoline or diesel	
D-220 (6/12/91)	Mecrom USA, Inc. "Fuel EZ Gas Cap"	91 and older vehicles with screw or cam type gas caps	

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FUEL SYSTEM MODIFICATIONS

E.O. or Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	Vehicle Applications	Modifications Allowed
D-223 (8/7/91)	United Auto Dismantling, Inc. "Gas Tank Restrictor" (Models 201, 202, 203)	Model # 201 - GM, Ford, AMC Chrysler vehicles with "screw-in" type fuel filler caps and Chrysler vehicles with "twist-on" type fuel filler caps. All other foreign and domestic vehicles with pipe diameter of 1.80 to 1.95 inches.	
		Model # 202 - Foreign vehicles with stepped double flange on inside tube. All other foreign and domestic vehicles with pipe diameter of 2.00 to 2.09 inches.	
		Model # 203 - Chrysler vehicles with "funnel" shaped gas filler neck with an inside diameter exceeding 2.095 inches and Ford vehicles' gas filler necks without stepped diameter or double flange. All other foreign and domestic vehicles with pipe diameter of 2.10 to 2.25 inches.	
D-227 (7-9-91)	Emissions Technology Inc. "Ecolizer"	1991 and older motor vehicles	
D-229 (8-15-91)	International Research and Development. "Kane Soft Particle Inductor"	1991 and older gasoline and diesel vehicles	
D-230 (8-7-91)	BCS International "Power-up Plus" Model Nos. PS, PM, and PL	1991 and older model-year vehicles powered with gasoline and diesel engines.	
D-232 (3-28-91)	Tradex International "Fuel King"	1991 and older model-year diesel-powered vehicles	
D-235 (11-13-91)	Tuned Port Induction Specialties Inc. "T.P.I.S. Fast-Pak" Part Nos. 100-111, 100-112, 100-113, 100-114, 100-115, 100-116	1985-1991 Chevrolet Corvette 1985-1991 GM Camaro and Firebird equipped with 305/350 CID engines with Throttle Body Fuel Injection	
D-235-1 (11-13-91)	Tuned Port Induction Specialties Inc. "T.P.I.S. Throttle Body Air-Foil" Part No. 100-001	1985-1991 Chevrolet Corvette 1985-1991 GM Camaro and Firebird equipped with 305/350 CID engines with Throttle Body Fuel Injection	
D-235-2 (11-13-91)	Tuned Port Induction Specialties Inc. "T.P.I.S. Adjustable Fuel Pressure Regulator" Part No. 100-002	1985-1991 Chevrolet Corvette 1985-1991 GM Camaro and Firebird equipped with 305/350 CID engines with Throttle Body Fuel Injection	
D-239 (12-20-91)	Rapid-Fill, Inc. "Rapid-Fill Gas Cap"	1992 and older motor vehicles with screw or cam type gas caps	

IGNITION BRIDGES, IGNITION COIL MODIFICATIONS

<u>P.O. or Res. Number</u> (Date)	<u>Manufacturer "Product"</u> (Model/Kit No.)	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
I 71-258 (4/21/71)	REI Industries "Paser-Magnum"	74 and older	
71-90 (10/2/71)	James Turner & Assoc. "Ionizer"		
72-14 (2/16/72)	Engine Acces. Mfg. "Power Gap"	71 and older	
D-19- (1/3/71)	Jacobs Electronics "Energy Coil"	91 and older vehicles with spark-ignited, single coil, six or twelve volt engines except GM with HEI or internal coil distributor	
D-19- (12-1-91)	Jacobs Electronics, Inc. "Opto Timer"	1992 and older model-year vehicles having single coil ignition system with negative ground	
D-36 (8/29/74)	Energy Innovations "Gas Energizer EI-100"	74 and older, except: (1) Vehicles with OE electronic ignition system (2) 66-70 vehicles with Dana or Carter NOx device	
D-40-1 (7-25/91)	Autotronic Controls Corp. "MSD Blue Ribbon Coil" Part No. 8206	1991 and older model-year vehicles with up to 16-cylinder spark ignited engine, a 12 volt negative ground electrical system, an internal or external ignition coil and a spark ignition distributor.	
D-43 (10/2/74)	Judson Research and Mfg. Co. "Judson Electronic Magneto" (No. 74B)	74 and older	
D-52 (5/30/75)	The Fuelizer Corp. "Electronic Engine Fuelizer"	75 and older, except vehicles with oversized ignition wires	
D-53 (4/18/75)	Controllable Energy Products "Oscillator Unit"	75 and older	
D-72 (10/28/76)	Walter D. Anderson "Ignition Performance Loop"	76 and older, except HEI	
D-221 (4/2/91)	Automotive Controls Corp. "Accel Super Stock Ignition Coil"	Applicable for vehicles equipped with 12 volt battery, standard ignition coil and negative ground ignition system except for GM with HEI P/N 7796C, 80 and older P/N 8140 or 8140C, 91 and older P/N 140001, 91 and older P/N 140008, 82-91 Ford and GM vehicles	
D-221-2 (4/22/91)	Automotive Controls Corp. "Accel HEI Intensifier Kit"	P/N 12100E, 74-91 GM with V8 P/N 12101E, 74-91 GM with V6	

IGNITION BRIDGES, IGNITION COIL MODIFICATIONS

E.O. or Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	Vehicle Applications	Modifications Allowed
D-221-1 (4/22/91)	Automotive Controls Corp. "Accel HEI Control Module"	P/N 35361, 75-80 GM with high energy ignition systems P/N 35362 or 35363, 81-91 GM V6 and V8	
D-221-5 (4/22/91)	Automotive Controls Corp. "Accel Laser II Capacitive Discharge Ignition Module Part No. 49002"	80 and older vehicles equipped with a 12 volt battery, standard ignition coil and negative ground ignition systems except for vehicles with electronic spark timing control	
D-221-6 (4/22/91)	Automotive Controls Corp. "Accel HEI Super Coil P/N's 140003 and 140005"	74-91 GM vehicles with high energy ignition systems	
D-222 (4/30/91)	Allison Perf. Elct/Crane Cams "Magnetic Ignition Module P/N's HI6300, HI6500 and HI700"	91 and older non-computer controlled vehicles equipped with magnetic pick-up distributors.	
D-222-1 (4/30/91)	Allison Perf. Elct/Crane Cams "Hall Effect Ignition Module P/N HI6200"	80-85 Audi 81-82 Porsche 924 79-85 Volkswagen	
D-222-2 (4/30/91)	Allison Perf. Elct/Crane Cams "OPTO Ignition System P/N HI6000"	75 and older vehicles equipped with points-type distributors	
D-222-3 (4/30/91)	Allison Perf. Elct/Crane Cams "Points Trigger Ignition Module P/N HI5000"	91 and older vehicles equipped with points-type distributors	
D-222-4 (4/30/91)	Allison Perf. Elct/Crane Cams "Module Trigger Ignition Amplifier P/N HI2000"	91 and older computer controlled vehicles	
D-222-6 (7-21-91)	Allison Performance Electronics/Crane Cams "Ignition Coil" Part No. 730-0100	1991 and older model-year vehicles	
D-222-7 (7-21-91)	Allison Performance Electronics/Crane Cams "Ignition Coil" Part No. 730-0040	1991 and older model-year vehicles.	
D-222-8 (7-21-91)	Allison Performance Electronics/Crane Cams "Ignition Coil" Part No. 730-0020	1991 and older model-year vehicles	
D-222-9 (7-21-91)	Allison Performance Electronics/Crane Cams "Ignition Coil" Part No. 730-0015	1991 and older model-year vehicles	

INTERCOOLERS

<u>E.O. Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
0 1 I D-138 (10/31/83)	Omni-Cool Corp. "Blizzard I Intercooler" (87V1000) (87D1000) (87M1000) (87M2000) (87B1000) (87B1200)	81-83 Volvo GL 81-83 Datsun 280Z 81-84 Saab 900 83-85 Ford Thunderbird 2.3L 84 Ford Mustang 2.3L 84 Mercury Capri 2.3L 84-85 Mercury Cougar 2.3L 84 Dodge/Plymouth Colt 1.6L 85 Colt/Mirage	
D-140-10 (12/31/85)	Spearco Perf. Products, Inc. "Intercooler Kit for Ford 6.9L I.H. HD Diesel"	83-86 Ford HD powered by a 6.9L I.H. diesel engine	Recalibrate fuel pump for a 12% increase in fuel delivery (1500 rotation)
D-140-17 (3/4/85)	Spearco Perf. Products, Inc. "Intercooler Kit" (K/N 99684 & K/N 99685)	84-86 Maserati Bi-Turbo powered by a 2.5L engine	
D-140-18 (3/5/85)	Spearco Perf. Products, Inc. "Air-to-Air Intercooler System"	84-87 3.0L Nissan 300 ZX 84-87 1.8L Nissan 200 SX 84-87 2.2L Chrysler Laser/Dodge Daytona, LeBaron and Dodge 600 84-85 2.6L Mitsubishi Plymouth and Dodge Conquest 83-85 Mitsubishi Starion 83-86 2.3L Ford T-Bird, Mustang, and Cougar 86 2.2L Omni Shelby/GLH Charger 85-87 2.3L Ford Merkur	
D-140-19 (1/14/87)	Spearco Perf. Products, Inc. "Air-to-Air Intercooler System" (Model Nos. 2-135 & 2-138)	84-85 3.8L Buick Regal 85-87 Toyota pick-up trucks with 22RE engines	
D-140-22 (2/26/88)	Spearco Perf. Products, Inc. "Air-to-Air Intercooler System"	87-88 Intercooled Toyota Turbo Supra vehicles powered by a 3.0L engine	
D-140-24 (12/7/88)	Spearco Perf. Products, Inc. "Air-to-Air Intercooler Upgrade System" (Part Nos. 07-0102C, 2-173 and 2-174)	89 Ford Probe 2.2L Turbo and 88-89 Mazda MX-6 2.2L	
D-140-25 (2/21/89)	Spearco Perf. Products, Inc. "Intercooler Kit" (Kit No.07-0102)	85-89 2.3L Ford Merkur vehicles with OEM turbocharger	

INTERCOOLERS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>																																																																																																																			
D-152 (2/13/85)	Turbo Auto International "Intercooler Kit" (No. 9301200)	83-84 Ford T-Bird and Cougar with a 2.3L engine																																																																																																																				
D-152-1 (3/23/86)	Turbo Auto International "Intercooler Kit" (No. 9301303)	83-86 Chrysler with a 2.2L engine																																																																																																																				
D-161-1 (7-3-91)	Gale Banks Engineering "Intercooler System"	1989-1991 model-year Dodge vehicles with 5.9L Cummins 6BT heavy-duty diesel engine built before February 1, 1991																																																																																																																				
D-173 (10/16/87)	Allied Signal "Air-to-Air Intercooler Kits"	85-87 2.4L OEM turbocharged Toyota trucks 87 2.0L OEM turbocharged Pontiac Grand AM																																																																																																																				
D-180-1 (4/22/91)	The Turbo Shop "Air-to-Air Intercooler Kit"	83-87 Ford vehicles powered by a 6.9L Nav. Intern'l heavy-duty diesel engine and 88-91 Ford vehicles powered by a 7.3L Nav. Intern'l heavy-duty diesel engine																																																																																																																				
D-180-1 (4/22/91)	The Turbo Shop "Air-to-Air Intercooler Kit"	89-91 Dodge vehicles powered by a 5.9L Cummins 6BT Heavy-Duty Diesel Engine, production date must be prior to 2/1/91																																																																																																																				
D-186-1 (6/23/89)	HKS U.S.A., Inc. "Air-to-Air Intercooler System" (series 5010EC)	<table border="1"> <thead> <tr> <th><u>HKS Part# (5010EC-)</u></th> <th><u>Model Years</u></th> <th><u>Make</u></th> <th><u>Model/Engine</u></th> <th><u>Disp. (L / c.i.)</u></th> </tr> </thead> <tbody> <tr><td>11026L</td><td>87-91</td><td>Toyota</td><td>Supra/7MGT</td><td>3.0 / 183</td></tr> <tr><td>24046M</td><td>88</td><td>Nissan</td><td>300ZX / VG30ET</td><td>3.0 / 181</td></tr> <tr><td>24751P</td><td>90-91</td><td>Nissan</td><td>300ZX / VG30DETT</td><td>3.0 / 181</td></tr> <tr><td>58182K</td><td>86-88</td><td>Mazda</td><td>RX-7 / 13BT</td><td>1.3 / 80</td></tr> <tr><td>58182N</td><td>89-91</td><td>Mazda</td><td>RX-7 / 13BT</td><td>1.3 / 80</td></tr> <tr><td>58985M</td><td>88-91</td><td>Mazda</td><td>MX-6 / F2T</td><td>2.2 / 134</td></tr> <tr><td>58985M</td><td>88-91</td><td>Ford</td><td>Probe / F2T</td><td>2.2 / 134</td></tr> <tr><td>12721J</td><td>85-87</td><td>Toyota</td><td>4WD PU Turbo / 22R-TE</td><td>2.4 / 144</td></tr> <tr><td>12821J</td><td>85-87</td><td>Toyota</td><td>4 Runner Turbo / 22R-TE</td><td>2.4 / 144</td></tr> <tr><td>12221J</td><td>85-87</td><td>Toyota</td><td>2WD PU Turbo / 22R-TE</td><td>2.4 / 144</td></tr> <tr><td>24046H</td><td>84-86</td><td>Nissan</td><td>300ZX Turbo / VG30ET</td><td>3.0 / 181</td></tr> <tr><td>24046L</td><td>87</td><td>Nissan</td><td>300ZX Turbo / VG30ET</td><td>3.0 / 181</td></tr> <tr><td>24447H</td><td>84-86</td><td>Nissan</td><td>200SX Turbo / CA18ET</td><td>1.8 / 110</td></tr> <tr><td>24243E</td><td>81-83</td><td>Nissan</td><td>280ZX Turbo / L28ET</td><td>2.8 / 168</td></tr> <tr><td>47070G</td><td>83</td><td>Mitsub</td><td>Starion Turbo / G54BT</td><td>2.6 / 156</td></tr> <tr><td>47070H</td><td>84-87</td><td>Mitsub</td><td>Starion ES/LE / G54BT</td><td>2.6 / 156</td></tr> <tr><td>47070H</td><td>84-87</td><td>Dodge/ Plymth/ Chrysler</td><td>Conquest Turbo / G54BT</td><td>2.6 / 156</td></tr> <tr><td>47171J</td><td>85-86</td><td>Mitsub</td><td>Mirage Turbo / G32BT</td><td>1.6 / 98</td></tr> <tr><td>47171J</td><td>85-86</td><td>Dodge/ Plymth</td><td>Colt Turbo / G32BT</td><td>1.6 / 98</td></tr> <tr><td>47171L</td><td>87-88</td><td>Mitsub</td><td>Mirage Turbo / G32BT</td><td>1.6 / 98</td></tr> <tr><td>47171L</td><td>87-88</td><td>Dodge/ Plymth</td><td>Colt Turbo / G32BT</td><td>1.6 / 98</td></tr> <tr><td>58383K</td><td>86-87</td><td>Mazda</td><td>626 GT Turbo / FE Turbo</td><td>2.0 / 122</td></tr> </tbody> </table>	<u>HKS Part# (5010EC-)</u>	<u>Model Years</u>	<u>Make</u>	<u>Model/Engine</u>	<u>Disp. (L / c.i.)</u>	11026L	87-91	Toyota	Supra/7MGT	3.0 / 183	24046M	88	Nissan	300ZX / VG30ET	3.0 / 181	24751P	90-91	Nissan	300ZX / VG30DETT	3.0 / 181	58182K	86-88	Mazda	RX-7 / 13BT	1.3 / 80	58182N	89-91	Mazda	RX-7 / 13BT	1.3 / 80	58985M	88-91	Mazda	MX-6 / F2T	2.2 / 134	58985M	88-91	Ford	Probe / F2T	2.2 / 134	12721J	85-87	Toyota	4WD PU Turbo / 22R-TE	2.4 / 144	12821J	85-87	Toyota	4 Runner Turbo / 22R-TE	2.4 / 144	12221J	85-87	Toyota	2WD PU Turbo / 22R-TE	2.4 / 144	24046H	84-86	Nissan	300ZX Turbo / VG30ET	3.0 / 181	24046L	87	Nissan	300ZX Turbo / VG30ET	3.0 / 181	24447H	84-86	Nissan	200SX Turbo / CA18ET	1.8 / 110	24243E	81-83	Nissan	280ZX Turbo / L28ET	2.8 / 168	47070G	83	Mitsub	Starion Turbo / G54BT	2.6 / 156	47070H	84-87	Mitsub	Starion ES/LE / G54BT	2.6 / 156	47070H	84-87	Dodge/ Plymth/ Chrysler	Conquest Turbo / G54BT	2.6 / 156	47171J	85-86	Mitsub	Mirage Turbo / G32BT	1.6 / 98	47171J	85-86	Dodge/ Plymth	Colt Turbo / G32BT	1.6 / 98	47171L	87-88	Mitsub	Mirage Turbo / G32BT	1.6 / 98	47171L	87-88	Dodge/ Plymth	Colt Turbo / G32BT	1.6 / 98	58383K	86-87	Mazda	626 GT Turbo / FE Turbo	2.0 / 122	
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SUPERCHARGERS

<u>E. O. C. Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-150-1 (11/7/85)	K. F. Industries, Inc. "Max-25 Supercharger"	85 and older Chevrolet/GMC light-duty trucks and 86 and older AMC light-duty trucks powered by a GMC 2.8L V6 carbureted engine	Control module is added to control spark timing and fuel metering
D-150-2 (3/18/87)	K. F. Industries, Inc. "Max-25 Supercharger"	86-88 Chevrolet/GMC light-duty trucks powered by a GMC 2.8L V6 gasoline fuel-injected engine	Replace fuel-injectors with GM part #17111694, replace ECM PROM with K. F. Industries #KF-18 PROM, and addition of a spring loaded door to the OEM air-cleaner assembly.
D-195-1 (10-1-91)	Paxton Products, Inc. "Supercharger Kit" Model SN-89, Part Nos. 1102000, 1103000, and 1104000	1986-1992 model-year Ford heavy-duty trucks equipped with a 460 CID gasoline engine with multipoint fuel injection 1990-1992 Ford and Mazda trucks with multipoint fuel injection	
D-195-2 (10-1-91)	Paxton Products, Inc. "Supercharger Kit" Model SN-89, Part Nos. 10019, 10018, 2608789, 1101903, 1105000, 1213800, 1213900, 1214000	1986-1992 model-year Ford trucks equipped with a 5.0L or 5.8L EFI engine 1986-1992 Ford passenger cars with a 5.0L EFI engine 1985-1992 GM vehicles with 5.0 or 5.7 liter TPI/TBI engine 1988-1992 GM trucks with 4.3 liter TBI engine 1988-1992 GM trucks with 7.4 liter TBI engine 1988-1992 BMW 735i with 3.4 liter EFI engine 1989-1992 BMW 535i with 3.4 liter EFI engine 1988-1989 BMW 635csi with 3.4 liter EFI engine	
D-213-1 (6/19/91)	Vortech Engineering, Inc. "Model V-1 Supercharger"	86-91 Ford passenger cars with 302 CID (5.0L) EFI engine	
D-213-2 (4/4/91)	Vortech Engineering, Inc. "Model V-1 460 CID Supercharger"	87-90 Ford vehicles with 460 CID (7.5L) EFI engine	
D-231 (10-8-91)	Whipple Industries "Supercharger Kit #W1-TEC-72"	1989-1991 model-year Chevrolet and GMC 1/2 and 3/4 ton light-duty trucks with a 350 CID fuel injected engine	Spark timing is retarded up to 5 degrees to prevent detonation

THROTTLE BODY INJECTION

E.O. or Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-115-4 (7/18/8)	Holley "Throttle Body Injection"	82-86 Chevrolet, Buick, Pontiac Oldsmobile with a 2.5L engine 83-86 Chevrolet, Cadillac, Buick, Oldsmobile with a 2.0L engine 82-86 Buick, Pontiac, Oldsmobile with a 1.8L engine	
D-236 (11-6-9)	Automotive Performance Systems, Inc. "Neuspeed Throttle Body" Part Nos. 3-65.10.01, 3-65.10.02, and 3-65.10.30	1980-1984 model-year Volkswagen Rabbit GTI and Jetta equipped with 1.7 and 1.8 liter engines 1980-1989 model-year Volkswagen Cabriolet equipped with 1.7 and 1.8 liter engines 1980-1988 model-year Volkswagen Scirocco equipped with 1.7 and 1.8 liter engines 1987-1990 model-year Volkswagen Fox equipped with a 1.8 liter engine	Idle speed

THROTTLE LOCKOUT SYSTEM

E.O. or Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
I D-34 (7/23/74)	Manhandler, Inc. "Manhandler"	71-74 Chrysler with 4BBL Carter Thermo-Quad carburetor 66-74 GM with 4BBL Rochester Quadra-Jet carburetor 72-74 Ford with 4BBL carburetor 63-74 Vehicles with 4BBL Holley carburetor designated as OE replacements	

TURBOCHARGERS

E.O. c Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	Vehicle Applications	Modifications Allowed
4-115 D-89 (4/24/79)	Roto-Master, Inc. "Roto-Master Turbocharger Kit"	75-76 Mercedes-Benz 240D	Adjustment to fuel pump for proper fuel delivery: (1) 1 turn for manual (2) 1 1/2 turn for automatic
D-90 (9/20/79)	RV Turbo, Inc. "RV Turbo Model No. 440-1" (Rayjay turbo)	79 and older HD vehicles with Chrysler 440 CID engine	Install water injector, ignition timing set to 12°-14° BTDC, and install 0.100" (primary) & 0.148" (secondary) jets
D-97 (5/5/81)	BAE "Dodge 440 Motorhome System" (No. 9-0000)	79 and older HD vehicles with Chrysler 440 CID engine	Install water injector, install 0.143" (secondary) jets, ignition timing set to 12°-14° BTDC, install modified distributor or Jacob's ignition system
D-97-1 (10/3/80)	BAE "BAE Turbocharger Kit" (No. 28-0000C)	80 VW Rabbit, Scirocco, and Jetta with manual transmission	Install water injector
D-97-7 (10/17/81)	BAE "Turbocharger Kit" (No. 3-0000W1)	80-81 BMW 633i and 733i	Install fuel enrichment control module and delay valve on vacuum advance
D-97-11 (1/24/83)	BAE Turbosystems "Turbocharger Kit" (No. 3-0012)	82-83 BMW 633i and 733i 83 BMW 533i	Install fuel enrichment control module and delay valve on vacuum advance
D-97-3 (2/7/81)	BAE Turbosystems "Turbocharger Kit" (No. 2-0000-1)	80-83 BMW 320i	Disconnect and plug vacuum advance
D-97-21 (5/20/83)	BAE Turbosystem "Turbocharger Kit" (No. 32-0000-1)	81-83 VW Rabbit, Dasher, Jetta, and P/U powered by a 97 CID diesel engine	
D-97-12 (5/20/83)	BAE Turbosystems "Turbocharger Kit" (No. 28-0000-3)	81-83 VW Rabbit, Dasher, Jetta P/U and Audi 4000 powered by a 105 CID engine	Install delay valve on vacuum retard mechanism
D-97-20 (7/29/83)	BAE Turbosystems "Turbocharger Kit" (No. 60-0002/4 HD)	83 GMC HD vehicles powered by a 6.2L diesel engine	Connect EGR tube into exhaust housing
D-97-21 (8/9/83)	BAE Turbosystems "Turbocharger Kit" (No. T04B M2)	81-83 Airstream motorhome powered by a HD Isuzu diesel engine	

TURBOCHARGERS

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<u>E.O. Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-99 (2/29/80)	Turbonetics, Inc. "Turboflo 360"	79 and older vehicles powered by a Chrysler HD 360 CID engine	AC housing is relocated to remote location near front of vehicle, OE vacuum advance is replaced with dual diaphragm type, vacuum signal to distributor is changed from ported to ported/manifold vacuums with aid of tee
D-99-1 (11/17/86)	Turbonetics, Inc. "Turbotronic Turbocharger System" (Model No. 454 TCI-HD)	87 and older Chevrolet/GMC 454 CID gasoline engine	The carburetor bowl vent hose is disconnected and port on the carbon canister plugged, air cleaner and heated air intake replaced with the Airsensor air cleaner, vacuum hose routing changed as per installation instructions, automatic choke and carburetor is removed, and exhaust system may be changed to 3 inch diameter.
D-99-2 (12-25-91)	Turbonetics, Inc. "0.82 A/R Turbine Housing Stage I and Stage II Performance Turbocharger Assembly Components"	1986-1987 model-year Buick Regal Grand National / T-Type and the Pontiac Turbo Trans Am with 3.8L V-6 turbocharged, intercooled, and fuel injected engine	Relocate PCV breather connection on passenger-side valve cover to a self-contained breather assembly installed in place of the original valve cover connecting line.
D-11-1 (2/5/82)	Turbo International "Turbocharger Kit" (No. 301-E)	82 and older Chevrolet vehicles powered by a 305 or 350 CID engine and equipped with automatic transmission	Install water injector
D-11-2 (7/27/83)	Turbo International "Turbocharger Kit" No. 4500)	77-83 GM medium-duty and heavy-duty vehicles powered by a 454 CID engine	Replace OEM metering rods with P/N 52P & AX, install water injection and EGR P/N PF7041427
D-11-4 (5/27/85)	Martin Turbo Engr., Inc. "Turbocharger Kit" (No. 301 E10)	85 and older GM 305 CID and 82 and older GM 350 CID	Replace secondary metering rods with P/N CJ, install water injection
D-135 (8/11/83)	Diesel Research & Development Corp. "Turbocharger Kit" (No. 4B2)	83 and older Mercedes-Benz 240D diesel vehicles	

TURBOCHARGERS

E.O. or Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	Vehicle Applications	Modifications Allowed
I D-140-14 (12/20/85)	Spearco Perf. Products, Inc. "Turbocharger Kit" (No. 9898) (No. 9899) (No. 9900) (No. 9909) (No. 9910) (No. 9909-A) (No. 9909-B)	Vehicles as shown below: 82 Supra 83 Supra 83 Cressida 82-84 Supra (intercooled) 83-84 Cressida (intercooled) 85 Supra and Cressida (intercooled) 86 Supra and Cressida (intercooled)	
D-140-11 (9/18/87)	Spearco Perf. Products, Inc. "Turbocharger Kit"	87 and older Toyota with a 2.4 L fuel injected engine	Install fuel enrichment device and an electronic spark retard module
D-142-1 (12/19/83)	Cummins Engine Co., Inc. "Turbocharger" (P/N 3029513, 4 and 5)	75-79 Cummins heavy-duty 092, 092A 093E	
D-155 (4/5/85)	Legend Turbo, Inc. "Turbocharger System" (Model VW-34)	84-85 VW Jetta, Rabbit, Scirocco powered by a 1.8L fuel injected engine	Static ignition timing is set to 3° BTDC, add check valve to PCV
D-161-1 (12/1/86)	Gale Banks Engineering "Turbocharger Kit" (Kit No. 6.9FR)	83-87 Ford heavy-duty vehicles powered by a I-H 6.9L diesel engine	Air cleaner assembly is replaced, and muffler and exhaust pipe is changed to 3 inch diameter.
D-161-18 (9/26/91)	Gale Banks Engineering "Turbocharger Kit" (Kit No. 6.2G)	82-91 Chevrolet/GMC heavy-duty vehicles powered by a 6.2L diesel engine	Air cleaner assembly is replaced, and muffler and exhaust pipe is changed to 3 inch diameter
D-161-14 (9/26/90)	Gale Banks Engineering "Turbocharger Kit" (Kit No. 6.9F)	83-87 Ford heavy-duty vehicles powered by a I-H 6.9L diesel engine 88-91 Ford heavy-duty vehicles powered by a I-H 7.3L diesel engine	Air cleaner assembly is replaced and muffler and exhaust pipe is changed to 3 inch diameter
D-171-5 (3/7/91)	Advanced Turbo Systems "Turbocharger Kit" (Kit No. ATS 6.9L/7.3L)	83-87 Ford heavy-duty vehicles powered by a I-H 6.9L diesel engine 88-91 Ford heavy-duty vehicles powered by a I-H 7.3L diesel engine	Air cleaner assembly is replaced, and exhaust system is changed to 3 inch diameter OEM crankcase depression regulator is replaced.
D-175 (11/1/87)	Hypermax Engineering, Inc. "Turbocharger System"	83-87 Ford heavy-duty vehicles powered by a 6.9L diesel engine	Replacement of OEM exhaust system with a 3" diameter exhaust system.
D-175-1 (4/26/88)	Hypermax Engineering, Inc. "Turbocharger Kit" (Model 7.3L/6.9L)	83-87 Ford vehicles powered by a 6.9L Nav. Intern'l heavy-duty diesel engine and 88 Ford vehicles powered by a 7.3L Nav. Intern'l heavy-duty diesel engine	

TURBO CHARGERS

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11-H

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-175-1 (2/21/89)	Hypermax Engineering, Inc. "Turbocharger System"	83-87 Ford heavy-duty vehicles powered by a 6.9L Nav. Intern'l heavy-duty diesel engine and 88-89 Ford vehicles powered by a 7.3L Nav. Intern'l heavy-duty diesel engine	Replacement of OEM exhaust system with a 3 1/2" diameter exhaust system
D-176 (1/6/88)	Dinan Engineering, Inc. "Turbocharger/Intercooler Kit No. 35-567-9"	85-87 BMW 535i, 635i, 735i, 88 BMW 535i	A fuel injection computer P/N 35-567-750 is added to the OEM computer. The O ₂ sensor is moved from the catalytic converter to the exhaust manifold. The OEM fuel pressure regulator is replaced by P/N 0260 150 226-5
D-176-1 (4/4/81)	Dinan Engineering, Inc. "Stage 1 Turbocharger Kit"	89-91 BMW 535i, 88-89 BMW 635CSi, and L6 88-91 BMW 735i and 735iL	Modifies the length of the PCV tubing due to location of new intake plumbing, replacement of the air cleaner assembly and relocation of the oxygen sensor from the catalytic converter to the exhaust manifold
D-180-7 (4/22/81)	The Turbo Shop "Turbocharger Kit" (Model 6.9L/7.3L)	83-87 Ford vehicles powered by a 6.9L Nav. Intern'l heavy-duty diesel engine 88-91 Ford vehicles powered by a 7.0L Nav. Intern'l heavy-duty diesel engine	Replacement of the air cleaner assembly and replacement of OEM exhaust system with a 3" diameter exhaust system.
D-180-11 (7-2-81)	The Turbo Shop "Turbocharger Kit No. 60-0002/4 HD	1983-1991 GMC vehicles powered by a 6.2L GMC heavy-duty diesel engine	

UNDER CARBURETOR SCREENS

211- H	E.O. Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
	D-35 (8/1/74)	Hydro-catalyst Corp. "Precombustion Catalyst - California Design"	74 and older	
	D-35-1 (8/1/74)	Tungsten Contact Mfgr. Co., Inc. "Tungsten Hydro Catalyst - California Design"	74 and older	
	D-35-2 (8/1/74)	Mo-Bile Industries "MBI Precombustion Unit - California Design"	74 and older	
	D-35-3 (8/1/74)	KAR Automotive Mfgr. Co. "Safeguard Gas Booster - California Design"	74 and older	
	D-35-4 (8/1/74)	Remaco, Inc. "Remaco Emi-California Design"	74 and older	
	D-35-5 (8/1/74)	Supreme Automotive Mfg. Co. "Energy Plus Catalyst - California Design"	74 and older	
	D-55 (7/30/75)	Dealer Tool Systems, Inc. "Scotsman Fuel Energizer"	75 and older	
	D-84 (9/5/78)	VK Manufacturing, Inc. "Environmental Fuel Saver"	78 and older	

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VAPOR/STEAM INJECTORS

<u>F.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
71-28 A (10/28/71)	Mr. R. Watters "Controlled Vapor Injector"	70 and older with engine > 250 CID	
71-26 A (10/28/71)	Sky Corp. "Frantz Vapor Injector"	70 and older with engine > 140 CID	
71-78 B (10/28/71)	Jamco, Inc. "Vapco"	70 and older with engine > 140 CID	
72-36 (4/19/72)	Vic Chemicals, Inc. "Vic 500 Vapor Injector"	70 and older	
72-80 (7/21/72)	Plastic Signs, Inc. "Water Vapor Power Energizer"	70 and older	
72-99 (6/21/72)	Charles Kolton Enterprises "Manfredi Power & Fuel"	70 and older with engine > 200 CID	
D-2-3 (11/4/75)	TVI Marketing, Inc. "Turbo Vapor Injector" (CA-03 & VA-04)	76 and older	
D-26-3, 4 & 5 (3/6/80)	APO International, Inc. "APO Mark II Vapor Injector"	79 and older, except: (1) Vehicles with three-way catalyst (2) Fuel injected vehicles (3) Chrysler lean burn	
D-27 (5/31/74)	Manfredi Enterprises, Inc. "Manfredi Fuel Booster"	74 and older vehicles with engines. 200 CID	
D-29 (4/19/74)	F.A.P. Corp. "Econo-Mist"	73 and older	
D-32 (5/18/74)	Breakaway & Associates "Scat Pak" "Jet Pak" "Power Pak"	74 and older	
D-32-1 (6/9/81)	Cox and Associates "J.C. Miler Fuel Saver"	80 and older	
D-39-1 (7/30/80)	Dis-Aut Enterprises "H ₂ O Vapor Injector"	80 and older	
D-48 (1/31/75)	Motor Klean, Inc. "Harlo Motor Klean Fuel Saver" (1000 Series)	69-74	

VAPOR/STEAM INJECTORS

<u>E.O. or Res. Number (Date)</u>	<u>Manufacturer "Product" (Model/Kit No.)</u>	<u>Vehicle Applications</u>	<u>Modifications Allowed</u>
D-51-1 (11/17/77)	Vapor Jet Co. "Methanol/Water Vapor Injector" "Vapor-Jet Methanol/Water Injector"	74 and older	
D-59 (8/28/75)	Plastic Signs, Inc. "Vap-Air"	75 and older	
D-73 (1/23/77)	Kinsey of California, Inc. "Power Steamer"	75 and older	
D-92 (9/26/79)	The Klane Corp. "Automotive Performance System"	79 and older V8 vehicles, except: three-way catalyst equipped vehicles	
D-108 (1/28/81)	The Mileage Clinic "The Bubblizer Vapor Injector"	80 and older, except closed-loop system	
D-110 (3/20/81)	Gillard and Gillard "Miller Fuel Saver and Engine Cleaner"	80 and older	
D-121 1 (10/1/83)	Lindberg International Corp. "Lindberg Combustion Control"	83 and older	
D-122 (2/16/82)	M.G.S., Inc. "Morrison (Carb II) Gas Saver"	82 and older	
D-134 1 (7/9/80)	National Fuelsaver Corp. "Gasaver-Platinum Injection"	90 and older gasoline powered	
D-127 (9/23/82)	EPM Ind., Inc. "Octameter Injection System"	82 and older gasoline and propane vehicles	
D-178 (4/26/88)	Innovationeering, Inc. "A-OK Fuel System"	88 and older	
D-189 (4/1/89)	Technologies, Ltd. "Platinum Vapor Injector"	89 and older	
D-203 (7/11/90)	Enicar International, Inc. "Lift Fuel Efficiency System"	90 and older	

WATER INJECTORS

E.O. or Res. Number (Date)	Manufacturer "Product" (Model/Kit No.)	Vehicle Applications	Modifications Allowed
D-91 (10/8/79)	Waag Enterprises "W/A Waag Injection"	79 and older, except: (1) Diesel powered vehicles (2) Vehicles with rotary engines (3) Fuel injected vehicles (4) Vehicles with 4 cylinder engines	
D-10 (7/1/80)	Anderson-Harren Development Co. "Hydro-Air Water Injection"	80 and older, except: (1) Vehicles with three-way catalyst (2) Diesel powered vehicles	
D-10 (10/1/80)	Spearco Perf. Products, Inc. "Injectronic Electronic Liquid Injection"	80 and older	
D-10 (12/1/80)	Edelbrock Corp. "Vara-Jection"	80 and older	
D-11 (7/2/81)	Holley "Holley Water Injection System"	81 and older	
D-11 (10/10/81)	Western Carbide Corporation, Inc. "Fuel Miser"	81 and older	
D-11 (7/2/81)	MPG Performance Products "Vari-Flow Water Injector"	80 and older vehicles with engine ≤ 140 CID	
D-11 (8/4/81)	R.C. Enterprises, Inc. "Mr. Miser" "Mr. Gas Miser"	81 and older	
D-11 (3/1/83)	PatRon, Inc. "Hydropower Water Injection System"	83 and older, except: (1) Diesel powered vehicles (2) Fuel injected vehicles	
D-11 (5/1/83)	Goodman System Co., Inc. "The Goodman System"	83 and older, except: (1) Diesel powered vehicles (2) GM variable displacement 8-6-4 (3) Vehicles which are not normally equipped with an air injection pump (4) Vehicles with closed-loop system	



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 13 1991

OFFICE OF
AIR AND RADIATION

To whom may it concern:

As you know, the Clean Air Act was amended on November 15, 1990. Several of the changes in the Amendments affect the automotive repair/service industry directly. These changes include the expansion of the tampering prohibition to include private individuals and the prohibition against the manufacture, installation, sale or offering for sale of any part or component used on any motor vehicle or motor vehicle engine where a principal effect is to bypass, defeat, or render inoperative any emission control device or element of design of any emission control system.

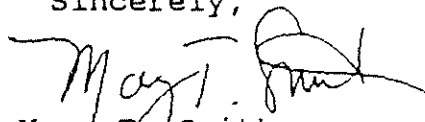
The enclosed Fact Sheet: Exhaust System Repair Guidelines has been revised to conform to the new provisions of the Clean Air Act and represents a change in our enforcement policy with regard to exhaust repair. This change is effective immediately.

Essentially, the changes in these guidelines reflect EPA's position that any pipe used to replace the section of exhaust where the catalytic converter should be, would be considered illegal under the revised Clean Air Act. Therefore, any work in this area of the exhaust system must include proper converter replacement.

Other informational materials will be revised to reflect the Clean Air Act Amendments and will be distributed and made available when they are completed. These other materials include pamphlets on the tampering prohibition, revised engine switching fact sheet, and possibly a revision of our enforcement policy statement (Memorandum 1A) and/or guidance on which parts EPA considers to be illegal.

We would appreciate you informing your employees, members and/or associates about these changes. If there are questions or concerns, or if you have any suggestions concerning these issues, please let us know. Our phone number is (202) 382-2640.

Sincerely,


Mary T. Smith
Director

Field Operations and Support Division

Enclosure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 13 1991

OFFICE OF
AIR AND RADIATION

FACT SHEET: EXHAUST SYSTEM REPAIR GUIDELINES

The EPA has prepared this fact sheet to answer some of the most commonly asked questions about the types of exhaust work a repair shop can legally perform. If you need any further information about the EPA's tampering policy, please call (202) 382-2640.

Question 1.

Under what conditions or circumstances can a catalytic converter be removed from a vehicle and a converter replacement pipe be installed?

Answer 1.

Under federal law, catalytic converters may not be removed and replaced with "converter replacement pipes" by any person. The 1990 Clean Air Act Amendments even prohibit private individuals from installing "converter replacement pipes" on their own vehicles. Anyone who installs such pipes would violate section 203(a)(3)(A) and (B) of the Clean Air Act (Act).

In addition to federal law, forty-five out of the fifty States also have statutes or regulations which prohibit tampering with the pollution control equipment on motor vehicles or driving or selling such vehicles. Thus, vehicle owners who tamper with their own vehicles may be subject to substantial penalties under both federal and State law.

The only circumstances in which a person would be allowed to remove a converter is if the vehicle is being shipped overseas to an area where unleaded gasoline is not generally available. (Vehicles traveling to Canada or Mexico are not eligible for this exemption.) In this instance the vehicle owner must have a letter from the EPA specifically authorizing the converter removal from the vehicle in question.

Question 2.

Can I remove a converter from a vehicle that is used only for "off-road" driving?

Answer 2. No. The tampering prohibition discussed in Answer #1 applies to this situation as well. The federal tampering prohibition pertains to "motor vehicles," which are defined by section 216(2) of the Act as "any self-propelled vehicle[s] designed for transporting persons or property on a street or highway." A light-duty vehicle manufacturer certifies an engine-chassis configuration as meeting the applicable emissions standards for motor vehicles manufactured in a given model year, and it is not legal for anyone to "de-certify" a motor vehicle for "off-road" use.

Question 3.

A vehicle that has had its engine replaced is brought into a muffler shop. The owner says the new engine is pre-1975 and the vehicle no longer needs a converter. Is it tampering to remove the converter?

Answer 3. Yes. Again, the tampering prohibition in Answer #1 applies. A motor vehicle must be maintained in a proper certified engine-chassis configuration. In the case of engine switching, the resulting engine-chassis configuration must be identical in all material respects to one that was certified by the manufacturer for the same model year as the chassis or newer. It is not legal for anyone to change a vehicle into one that matches an older configuration than was certified by the manufacturer. Thus, removing the converter would be a violation of the law.

Question 4.

If a vehicle is brought into a muffler shop with a missing converter and a replacement pipe already installed, is it tampering to install a new replacement pipe?

Answer 4. Yes. Section 203(a)(3)(B) makes it illegal for any person to sell or to install any part where a principal effect would be to bypass, defeat, or render inoperative any device or element of design of a vehicle's emission control system. A principal effect of a replacement pipe is to defeat or bypass the catalytic converter system as it was designed by the manufacturer. It is, therefore, a prohibited act to install a replacement pipe in any situation. It is also a prohibited act to replace the entire exhaust pipe without replacing the catalytic converter. In

addition, a repair facility should consult with the State to determine if the State has a similar policy towards this type of repair work or how State laws may affect the legality of its actions.

Question 5.

If a converter-equipped vehicle is brought to a muffler shop with the converter already removed by the owner, is it tampering to install a section of pipe in the space left vacant by the converter's removal?

Answer 5. Yes. The installation by a muffler shop of a section of pipe in the void left where the vehicle owner removed the converter is considered by the Agency to be part of the act of tampering. It is a violation of section 203(a)(3)(A) for a vehicle owner to remove a converter from his own vehicle. Section 203(a)(3)(A) clearly prohibits all individuals from removing or rendering inoperative any emission control device or element of design. If a repair facility completes, assists, or participates in any way in this act of tampering begun by someone else, it has also acted in violation of section 203(a)(3)(A) of the Act and by installing a defeat device has violated section 203(a)(3)(B).

Question 6.

If a converter-equipped vehicle is brought into a muffler shop with no exhaust system past the exhaust manifold or headers, is it tampering to install a non-stock or dual exhaust system?

Answer 6. Yes. The answer to Question #5 applies. The repair facility would be completing the act of tampering in this situation by manufacturing, installing and selling an emission control defeat device.

Question 7.

Is it tampering to install a dual exhaust system on a vehicle originally equipped with a single exhaust?

Answer 7. Yes. The general rule is that a motor vehicle emission control system (which includes the exhaust configuration) may not be changed from an EPA certified configuration without subjecting the repair shop to liability for violating the federal tampering prohibition. The exhaust system configuration, including the location of the converters, and exhaust pipe diameter and length, are items specified by the manufacturer because engines and some of the associated emissions systems are generally affected by the exhaust system

backpressure, which subsequently affects vehicle emissions. The installation of a dual exhaust system with two converters would, therefore, be considered tampering. The Agency will not, however, require a repair shop to restore a vehicle which has a non-stock dual exhaust system to a single exhaust configuration. A shop may, therefore, replace sections of pipes on such a system, except for that portion of the pipes where the original catalytic converter would have been located. It would not be considered tampering to install a dual exhaust system with two converters if the vehicle manufacturer certified an identical engine-chassis configuration for the vehicle model year or newer that includes such an exhaust configuration.

Question 8.

Are there any general guidelines for muffler shops about the kind of exhaust work that can be legally performed on a previously tampered vehicle?

Answer 8. As the answers to the previous questions indicate, the Agency's authority to enforce against tampering violations has been greatly expanded. Individuals are now prohibited from tampering. Repair shops, therefore, must now restore vehicles' exhaust systems to their original catalyst configuration if they work on that part of the exhaust system. The Agency will not pursue enforcement action against repair shops that perform repairs on one part of a vehicle's exhaust system where tampering has occurred in another part of the system. **The Agency does require, however, that when working on a vehicle where the catalytic converter has been removed, the repair shop must replace the catalytic converter if the section of pipe where the original converter should have been, needs to be replaced.** This would also include situations where the entire exhaust pipe is replaced. Repair shops must install a catalytic converter when replacing the entire exhaust pipe.

We urge you to approach repair work cautiously and to consult with State officials concerning applicable State law. We have enclosed a chart that briefly summarizes the issues discussed in this fact sheet for use by any repair shop.

You should also be aware of the installation requirements applicable to aftermarket catalytic converters which comply with our August 5, 1986 interim policy. A copy of these requirements can be obtained by calling the phone number listed at the beginning of this fact sheet.

EXHAUST SYSTEM REPAIR GUIDELINES

Can the vehicle leave the shop in the following conditions?

Condition of exhaust vehicle entering shop	Stock exhaust with converter	Stock exhaust with test pipe	Dual exhaust with converters	Dual without converters
Stock exhaust with converter	Yes	No	No	No
Stock exhaust, no converter, test pipe in its place	Yes	No	No	No
Stock exhaust, no converter, gap in exhaust system (no test pipe)	Yes	No	No	No
No exhaust system past manifold or headers	Yes	No	No	No
Dual non-stock exhaust with no converters	Yes	No	Yes***	No
Dual non-stock exhaust with converters	Yes	No	Yes***	No

*** The Agency has exercised its enforcement discretion by not pursuing enforcement action against facilities for this type of repair work, although it could be considered tampering. Please consult with State officials regarding applicable State laws. Shops are encouraged to convince the vehicle owner to restore the exhaust system back to its original configuration.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 15 1991

OFFICE OF
AIR AND RADIATION

TO ALL TAMPERING INSPECTORS,

The following letter has been prepared to serve as the Agency's notification to the regulated industry on the Clean Air Act Amendment prohibiting emission control defeat devices. The letter should be distributed during tampering inspections to notify facility owners on the Agency's policy regarding this prohibition.

The prohibition is intended to cover more than catalytic converter replacement pipes. However, the Agency has not completed policy formulation on the extent of this coverage. Until further notice this letter will serve as the official Agency fact sheet on the defeat device policy.

Sincerely yours,

A handwritten signature in cursive script that reads "Marc R. Hillson".

Marc R. Hillson
Chief, Investigations and
Enforcement Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

4-12-91

FEB 14 1991

OFFICE OF
AIR AND RADIATION

Dear Automotive Parts Manufacturer, Distributor,
Retailer or Installer:

On November 15, 1990, the Clean Air Act was amended to include a new prohibition which affects you. The Clean Air Act now prohibits any person from manufacturing, selling, offering for sale, or installing any part or component intended for use with, or as part of, any motor vehicle, where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design, and where the person knows or should know the part or component is being put to such use. A civil penalty of up to \$2,500 may be imposed for each violation of this defeat device prohibition.

EPA has determined that a catalytic converter replacement pipe, also known as a converter "test pipe," is a part or component intended for use with a motor vehicle for which a principal effect is to bypass, defeat, or render inoperative a vehicle's catalytic converter. As a result, EPA believes it is illegal for any person to manufacture, sell, offer for sale or install a catalytic converter replacement pipe. Moreover, this prohibition is not restricted to catalyst replacement pipes, but applies also to any device whose principal effect is to bypass, defeat, or render inoperative an emission control device or element design installed on a motor vehicle. The penalty for violations is up to \$2,500 for each such device which is manufactured, sold, offered for sale or installed on a motor vehicle.

If you have been involved in the manufacture, sale or offering for sale, or installation of defeat devices, we suggest you immediately stop manufacturing, selling or installing defeat devices, and document that you properly disposed of any such devices.

Because tampering with motor vehicles by installing defeat devices is very harmful to the air we breathe, we intend to aggressively enforce this new defeat device prohibition. We intend to focus our enforcement efforts not only on the manufacturers of these defeat devices, but also on auto parts houses and repair facilities who stock, sell or install such devices.

Sincerely yours,


Mary J. Smith
Director

Field Operations and Support Division



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 7 1980

OFFICE OF
AIR AND RADIATION

U.S. VERSION VEHICLES DRIVEN OVERSEAS - FACT SHEET

The use of leaded fuel in a vehicle equipped with a catalytic converter will affect the ability of the catalyst to effectively reduce emissions. In many overseas countries unleaded fuel is not yet widely available. Because your vehicle's catalytic converter and oxygen sensor (if applicable) play an important part in reducing the emissions of your vehicle, EPA must ensure that their effectiveness has not been impacted by the use of leaded gasoline.

NOTE: DIESEL-FUELED VEHICLES ARE NOT SUBJECT TO THE REQUIREMENTS IN THIS FACT SHEET.

I. Protecting Your Converter

If you are contemplating exporting your U.S. version vehicle from North America, you may obtain a waiver to have the catalytic converter and oxygen sensor (if your vehicle was manufactured with one) removed prior to shipment. When returning your vehicle to the U.S., the catalytic converter and the oxygen sensor will only have to be reinstalled, rather than replaced. For more information concerning a waiver, call EPA at (202) 382-2635.

II. EPA's Policy

Vehicles which were originally equipped with a catalytic converter or a catalytic converter and oxygen sensor, and were originally built to meet U.S. emission requirements (i.e., covered by a certificate of conformity) but have been driven outside the United States, Canada, Mexico, or Japan, may be imported by any individual. However, these vehicles are subject to import restrictions.

Generally, EPA's regulations require that the catalytic converter, or catalytic converter and oxygen sensor (certain 1978 and newer models are equipped with both a catalytic converter and oxygen sensor), be replaced on vehicles which may have been contaminated with leaded gasoline overseas.

Vehicles manufactured prior to the 1974 model year (i.e., 1973 model year vehicles and earlier) were not equipped with a catalytic converter. 1976 and later model year vehicles which were equipped with a catalytic converter may be identified by the word "Catalyst" found either on the underhood tune-up label or on the door jamb adjacent to the DOT safety label. The vehicle's fuel filler inlet restrictor will also have to be replaced if it has been removed or disabled. This requirement is necessary because unleaded gasoline is still not widely available in all areas outside North America, and use of leaded fuel can damage these components.

III. Demonstrating Compliance with Federal Requirements

A. Bonded Entries

EPA requires an importation bond to assure that components which are vital to reducing emissions are fully operational after use overseas. The size of the bond is determined by Customs and is commonly three times the value of the vehicle. To enter a vehicle into the U.S., you must file an EPA Form 3520-1 with Customs using category 14F. This form may be obtained from either your bonding company or Customs. After an entry has been made with Customs, you have 120 days to bring your vehicle into compliance with EPA requirements. You must choose one of the following options in order to gain EPA release of your bond:

1) Replace the catalytic converter and oxygen sensor (if applicable) and verify the functional ability of the fuel filler inlet restrictor. Have the work performed by a qualified mechanic using new original equipment parts. If the work was performed overseas prior to shipment, you must provide proof that you no longer had possession of the vehicle after the work was performed. Submit to EPA (address provided below) a clear copy of the paid invoice from the facility where the work was done along with a completed EPA form 3520-9 "Application for Final Admission of a Catalytic Converter and Oxygen Sensor Equipped Vehicle" (copy attached). This form must be signed by both you and the mechanic who performed the work.

2) If you had your catalytic converter and oxygen sensor (if applicable) removed prior to going overseas, new parts replacement will not be necessary when the vehicle is returned to the U.S. However, the original parts must be reinstalled by a qualified mechanic according to the manufacturers instructions. The mechanic must also verify that your vehicle's fuel filler inlet restrictor is operational and has not been tampered with. Submit to EPA (address provided below) clear copies of the paid invoices showing that the parts were removed prior to export and reinstalled after returning to the U.S. along with a completed EPA Form 3520-9 "Application for Final Admission of a Catalytic Converter and Oxygen Sensor Equipped Vehicle." This form must be signed by both you and the mechanic who performed the work.

3) If your vehicle was driven only on unleaded gasoline, you may verify this by having your vehicle tested for the presence of lead. THIS OPTION IS ONLY AVAILABLE FOR VEHICLES DRIVEN OVERSEAS IN THE FOLLOWING COUNTRIES: Portugal, Spain, France, Italy, Greece, Austria, West Germany, Belgium, Netherlands, Luxembourg, Switzerland, Sweden, Norway, Denmark, Finland, United Kingdom, and Ireland.

Verification of unleaded gasoline usage must be made as follows:

a. The test must be performed by a certified mechanic in the United States according to the instructions provided with the attached "Plumbtesmo Test Report Form."

b. You must complete your portion of the form and take the vehicle along with the enclosed packet of test paper to the mechanic for testing. CAUTION: CARE MUST BE TAKEN TO AVOID CONTAMINATION OF THE TEST PAPER. Keep the packet of test paper dry, out of direct sunlight and do not open until the test is to be performed.

c. Upon completion of the test, the mechanic must sign the form to verify that the test was performed according to EPA's instructions.

d. As the instructions indicate, if the test results are positive (indicating leaded fuel usage) or the inspection reveals that the fuel filler inlet restrictor was tampered with, your catalytic converter and oxygen sensor (if applicable) must be replaced with original equipment parts. You must provide EPA with a completed EPA Form 3520-9 (copy attached) along with a paid work invoice documenting that the parts were replaced.

e. If the test results are negative, the test report form (with the Plumbtesmo paper strip attached) must be mailed to EPA for confirmation.

f. If EPA determines that the test results are satisfactory, EPA will release its obligation on the Customs importation bond. Component replacement will not be necessary for your vehicle.

NOTE: The results of a state emission test do not prove that the vehicle complies with Federal emission requirements since this test was designed to detect automobiles with excessively high emissions and does not measure for some Federally regulated pollutants.

B. Unbonded Entries

YOU WILL NOT NEED TO POST A BOND! The importation of U.S. version vehicles equipped with a catalytic converter or a catalytic converter and oxygen sensor from countries other than Canada, Mexico, or Japan will not be subject to bonding in the following cases:

1) Vehicles participating in Department of State, Department of Defense (DOD), or Panama Canal Commission (PCC) programs approved by EPA. For more information regarding DOD's program you should contact the DOD POV Action Officer at (202) 756-1711; for the Department of State program you should contact the General Services Officer at (202) 647-3658; and for the PCC program you should contact the Assistant to the Secretary for Commission Affairs at (202) 634-6441. An EPA Form 3520-1 is not required for these vehicles.

2) Any vehicle which is equipped with a catalytic converter or a catalytic converter and oxygen sensor and participates in one of the EPA approved catalyst control programs on the attached list.

IV. ADDITIONAL INFORMATION/SUBMISSIONS

If you have any questions that are not answered by this fact sheet, you may contact the Investigations/Imports Section by telephone at (202) 382-2504 or by mail (regular, certified or registered) at:

U.S. Environmental Protection Agency
Manufacturers Operations Division
Investigations/Imports Section
401 M Street, S.W.
Washington, D.C. 20460

For delivery by a courier service (e.g., Federal Express, Airborne, etc.) only, use the following address:

U.S. Environmental Protection Agency
Manufacturers Operations Division (EN-340F)
Investigations/Imports Section
499 South Capitol Street, S.W., 2nd Floor
Washington, D.C. 20024

H-135



United States Environmental Protection Agency
Washington, DC 20460

Application for Final Admission of a Catalytic Converter and Oxygen Sensor Equipped Vehicle

Form Approved
OMB No. 2060-0095
Approval Expires 10-31-97

Warning: Any person who knowingly furnishes any false or fraudulent statement or conceals a material fact shall be fined not more than \$250,000 or imprisoned not more than 5 years, or both. 18 United States Code 1001.

1. Port Code	2. Entry Date (mo/day/yr)	3. Entry Number	4. Vehicle ID No. or Heavy-Duty Engine No.
5. Model Year	6. Original Vehicle Manufacturer		7. Vehicle Model

8. Declaration Code Letter (See box 8 on EPA Form 3520-1)

Names, Addresses, and Telephone Numbers of Relevant Parties

9. Vehicle Owner (Name and Address)	10. Vehicle Storage Location (No P.O. Boxes)
-------------------------------------	--

Telephone Number	Taxpayer ID No. (SSN)	Telephone Number
------------------	-----------------------	------------------

11. I certify that the vehicle identified on this form (Place an 'X' in one box only):

Was originally equipped with an oxygen sensor as part of the emission control system or was modified with an oxygen sensor after a previous importation under the import regulations.

Was not originally equipped with an oxygen sensor as part of the emission control system and was not modified with an oxygen sensor after a previous importation under the import regulations.

Signature of Owner	Date
--------------------	------

12. I certify that I am a qualified mechanic, that the catalytic converter and oxygen sensor, if applicable (see box 11 on this form), have been replaced with new original equipment, or with equivalent to new original equipment, or with equipment certified by EPA, or with the original catalytic converter and oxygen sensor which were removed prior to exportation from the U.S. The replaced catalytic converter and oxygen sensor (if applicable) are functioning properly on the vehicle identified on this form. A copy of the invoice for parts and labor is attached to this form. (Mechanics should be familiar with Federal Register Vol. 51, No. 150, Tuesday, August 5, 1986, 28116 - 28119.) I have read and understand the warning above regarding the submission of false or fraudulent statements or concealing a material fact, and I have read and understand 40 CFR 85.1513 regarding the prohibited acts enumerated there; and I certify that the information I have provided is correct.

Signature of Mechanic	Date
-----------------------	------

13. I have read and understand the warning above regarding the submission of false or fraudulent statements or concealing a material fact, and I have read and understand 40 CFR 85.1513 regarding the prohibited acts enumerated there; and I certify that the information I have provided is correct.

Signature of Importer	Date
-----------------------	------

Mailing Instructions

Mail this form to the following address when using certified, U.S. Express Mail, or regular mail:

For delivery by a courier service (e.g., Federal Express, DHL, etc.) ONLY, use the following address:

U.S. Environmental Protection Agency
Manufacturers Operations Division (EN-340F)
Washington, DC 20460
202-382-2504

U.S. Environmental Protection Agency
Manufacturers Operations Division (EN-340F)
2nd Floor
499 South Capitol St., SW
Washington, DC 20024
202-382-2504

Privacy Act Statement

Collection of the information on this form is authorized by the Clean Air Act, 42 USC 7401 et seq. (see 40 CFR 85.1501 et. seq., Importation of Motor Vehicles and Motor Vehicle Engines). The Environmental Protection Agency (EPA) uses this information to determine compliance of noncomplying imported vehicles with U.S. emission requirements and for investigations with respect to EPA's import regulations.

Disclosure of this information may be made to other Federal, State, or local law enforcement agencies when there is a violation of civil or criminal law.

Furnishing the information on this form, including your Social Security Number, is voluntary, but failure to do so may result in disapproval of the importation of the vehicle identified on this form.

H-136

United States Environmental Protection Agency
Washington, D.C. 20460

Staple test
paper results
here

WARNING: Any person who knowingly makes any false or fraudulent statement or conceals a material fact shall be fined not more than \$250,000 or imprisoned not more than 5 years or both. 18 United States Code 1001

1. Port of Entry	2. Entry Date	3. Entry Number	4. Vehicle Identification Number (VIN)
5. Vehicle Make		6. Vehicle Model	7. Vehicle Model Year

Names, Addresses, and Telephone Numbers of Relevant Parties

8. Vehicle Owner (name/address)		9. Vehicle Storage Location (No P.O. Boxes)	
Telephone Number	Taxpayer ID# (SSN)	Telephone Number	

10. I certify under penalty of perjury that my privately owned vehicle was driven overseas on unleaded fuel exclusively and at no time was leaded fuel introduced into this vehicle. I understand that I could be subject to civil and/or criminal prosecution if I knowingly make a false or fraudulent statement or conceal a material fact. I certify that the information I have provided is correct.

Signature of Importer/Owner	Date
-----------------------------	------

11. I certify under penalty of perjury that I have conducted the EPA approved test for detection of leaded fuel usage in accordance with the attached instructions and have attached the results above. All test procedures and guidelines were adhered to. Furthermore, I confirm that the fuel filler inlet restrictor is either operational or has been replaced according to the attached instructions. I have read and understand the warning regarding the submission of false or fraudulent statements or concealing material fact, and I have read and understand 40 CFR 85.1513 regarding the prohibited acts enumerated there, and I certify that the information I have provided is correct.

Signature of Certified Mechanic	Date
---------------------------------	------

MAILING INSTRUCTIONS

Mail this form to the following address when using certified, U.S. Express Mail, or regular mail:

U.S. Environmental Protection Agency
Manufacturers Operations Division (EN-340F)
401 M Street, S.W.
Washington, DC 20460 (202) 382-2504
Attn: Catalyst Replacement

For delivery by a courier service (e.g., Federal Express, DHL, etc.) ONLY, use the following address:

U.S. Environmental Protection Agency
Manufactures Operations Division (EN-340F)
499 South Capitol Street, S.W., 2nd Floor
Washington, DC 20024 (202) 382-2504
Attn: Catalyst Replacement

PRIVACY ACT STATEMENT

Collection of the information on this form is authorized by the Clean Air Act, 42 USC 7401 et. seq. (see 40 CFR 85.1501 et. seq., Importation of Motor Vehicles and Motor Vehicle Engines). The Environmental Protection Agency (EPA) uses this information to determine compliance of nonconforming imported vehicles with U.S. emission requirements and for investigations with respect to EPA's import regulations.

Disclosure of this information may be made to other federal, state, or local law enforcement agencies when there is a violation of civil or criminal law.

Furnishing the information on this form, including your social security number, is voluntary, but failure to do so may result in disapproval of the importation of the vehicle identified on this form.

MECHANICS INSTRUCTIONS - PLUMBTESMO TEST

1. Do not clean or wipe inside the tailpipe prior to testing.
2. Make sure hands are cleaned before handling plumbtesmo test paper.
3. Apply 3 to 5 drops of distilled water to one strip of test paper. The paper should never be moistened such that water drips from it.
4. Press moistened strip to an area inside the tailpipe with a screwdriver (or other suitable tool) for 2 to 5 minutes.
5. Lay strip on a clean surface and let dry for 15 minutes.
6. If any shade of pink or red is indicated on the strip, the catalytic converter and oxygen sensor must be replaced. Replacement parts must be original equipment.
7. Inspect the fuel filler inlet restrictor. Using a nozzle gauge with an outside diameter of 0.930 inches (2.363 cms) which is the size of a leaded fuel nozzle, verify that the fuel filler inlet restrictor has not been tampered with. If the nozzle gauge fits into the inlet restrictor (which indicates leaded fuel usage), the catalytic converter, oxygen sensor, and fuel filler inlet restrictor must be replaced (regardless of the plumbtesmo test results).

NOTE: It is not necessary to have the engine running while performing this test.

AIR RESOURCES BOARD

AGEN-SMIT LABORATORY

38 TELSTAR AVENUE

EL MONTE, CA 91731-2990

PHONE: (818) 575 6800



December 1, 1988

TO: ALL INTERESTED PARTIES

SUBJECT: Approved LPG and CNG Conversion Systems

Attached is an updated list of "Approved LPG and CNG Conversion Systems", revised December 1, 1988.

If you should have any questions regarding this list, please contact Mr. Jerry Wendt, Manager, Aftermarket Parts Section, at (818) 575-6848.

A handwritten signature in cursive script, appearing to read 'Norman Kayne'.

Norman Kayne, Acting Chief
New Vehicle Programs Branch

Attachment

STATE OF CALIFORNIA
AIR RESOURCES BOARD

Approved LPG and CNG CONVERSION SYSTEMS

December 1, 1988

AIR RESOURCES BOARD

Approved LPG and CNG Conversion Systems

December 1, 1988

The California Air Resources Board requires manufacturers of liquefied petroleum gas (LPG) and compressed natural gas (CNG) conversion systems to obtain approval of these systems before they can be sold or installed in California vehicles. Once a system is approved for a given class of vehicles, anyone may install the system without further approval provided the installer follows the manufacturer's installation instructions. Manufacturers are required to update their approvals if they wish to include newer model-year vehicles.

Vehicle classes are defined as follows:

"Passenger Car" (PC) means any motor vehicle designed primarily for transportation of persons and having a design capacity of 12 persons or less.

"Light-duty Trucks" (LDT) means any motor vehicle rated at 6,000 lbs. GVW or less which is designed primarily for purposes of transportation of property or is a derivative of such vehicle, or is available with special features enabling off-street or off-highway operation and use.

"Medium-duty Vehicles" (MDV) means heavy-duty vehicles having a manufacturer's GVW rating of 8,500 pounds or less (manufacturers may elect to certify vehicles up to 10,000 pounds as medium-duty vehicles).

"Heavy-duty Vehicles" (HDV) means any motor vehicle having a manufacturer's GVW rating greater than 6,000 pounds, except passenger cars.

The Air Resources Board does not verify compliance of LPG and CNG conversion systems with applicable federal and State safety regulations. Compliance with safety laws and regulations remains the responsibility of the conversion system manufacturer.

The following modifications are allowed to the vehicles emission control system when the approved LPG and CNG conversion systems are installed.

1. The heated air intake system may be removed.
2. The original air cleaner may be removed and replaced by a new one.
3. The carbon canister may be removed on straight LPG/CNG fueled conversions.

Other modifications are listed in the Remarks/Modifications Allowed column of the attached tables which list the systems (LPG and CNG) approved as of December 1, 1988.

Abbreviations of fuel conversion type are as follows:

DF: dual fuel (either gasoline/LPG or gasoline/CNG)

LPG: straight LPG only conversion

CNG: straight CNG only conversion

BOTH: both DF and straight LPG or CNG

VV: variable venturi carburetor

FI: fuel injected

TWC-CL: three-way catalyst with closed loop

List of Manufacturers
of Fuel Conversion Systems

Compressed Natural Gas Conversions

BEAM PRODUCTS MANUFACTURING COMPANY

3040 Rosslyn Street
Los Angeles, CA 90065

CENTURY PRODUCTS

(formerly Vialle Autogas Systemen)
9101 Ely Road
Pensacola, FL 32514

DUAL FUEL SYSTEMS, INC.

Subsidiary of PACIFIC LIGHTING
CORPORATION

1120 Maple
Montebello, CA 90640

ESSEX CRYOGENICS

8007 Chivvis Drive
St. Louis, MO 63123

IMPCO CARBURETION, INC.

16916 Gridley Place
Cerritos, CA 90701

VIALLE U.S.A., INC.

(formerly Vialle Autogas Systemen)
9101 Ely Road
Pensacola, FL 32514

List of Manufacturers
of Fuel Conversion Systems

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Liquefied Petroleum Gas Conversions

ADVANCED LP SYSTEMS, INC.
5327-U Jacuzzi Street
Richmond, CA 94804

OHG, INC.
10065A Greenleaf Avenue
Santa Fe Springs, CA 90670

ALGAS INDUSTRIES, INC.
Box 20794
2657 Andjon Drive
Dallas, TX 75220

TOYO RED CAB LPG CONVERSION
16609 South Halldale Avenue
Gardena, CA 90247

BEAM PRODUCTS MANUFACTURING COMPANY
3040 Rosilyn Street
Los Angeles, CA 90065

VIALLE U.S.A., INC.
(Formerly Viaille Autogas Systemen)
9101 Ely Road
Pensacola, FL 32514

CENTURY PRODUCTS
(formerly Viaille Autogas Systemen)
9101 Ely Road
Pensacola, FL 32514

HOLLEY REPLACEMENT PARTS DIVISION
COLT INDUSTRIES OPERATING CORPORATION
11955 East Nine Mile Road
Warren, MI 48090

IMPCO CARBURETION, INC.
16916 Gridley Place
Cerritos, CA 90701

LANDI-HARTOG, U.S., INC.
3208 South Hutchison Avenue
Los Angeles, CA 90034

LPE CARBURETION, INC.
P.O. Box 522
Hutchinson, KA 67501

MARVEL SCHEBLER/TILLOTSON
Division of Borg Warner Corporation
2195 South Elwin Road
Decatur, IL 62625

MANUFACTURER	MODEL YEAR	PC	LDT	MDV	HDV	CONV. SYSTEM		FUEL CONV TYPE	ENG SIZE (CID)	E.O. #	REMARKS/ MODIFICATIONS ALLOWED
						CARB #	REGULATOR				
Advanced LP Systems, Inc. (LPG)	1979 & Older	*	*				63	DF	*	B-7	Approved only for Datsun and Toyota vehicles equipped with a four-cylinder carbureted engine.
Algas Industries, Inc. (LPG)	1981 & Older			ALL	All	M500	250	DF	250 & over	B-3-1A	Also approved for LDT with VV systems.
	1974 & Older	ALL	ALL	ALL	ALL	PCA 500C	C250A-4	LPG	0-140	B-3	
		ALL	ALL	ALL	ALL	PCA 500C	C250A-4	LPG	200-300	B-3	
		ALL	ALL	ALL	ALL	PCA 500C	C250A-3	DF	251-300	B-3	
Beam Products Mfg. Co. (CNG)	1974 & Older	ALL	ALL	ALL	ALL	5C-60N	400AV	DF	201-300	B-1-2	
	1973 & Older	ALL	ALL	ALL	ALL	51CN	400AV	DF	Over 200	B-1-1	
Beam Products Mfg. Co., (LPG)	1974 & Older	ALL	ALL	ALL	ALL	5C-60	450	DF	201-300	B-1-2	
	1973 & Older	ALL	ALL	ALL	ALL	51C	450	DF	Over 200	B-1-1	
Century Products (CNG)	1987 & Older		ALL	ALL	ALL	3C705-L	M-6	CNG	Under 300	B-10-12	Also approved for vehicles with I systems.
			ALL	ALL	ALL	3C705-DTL	M-6	CNG	Over 200	B-10-12	
Century Products (LPG)	1987 & Older		ALL	ALL	ALL	3C705-L	M-6	LPG	Under 300	B-10-12	Also approved for vehicles with I systems.
			ALL	ALL	ALL	3C705-DTL	M-6	LPG	Over 200	B-10-12	

*See Remarks/Modifications Allowed column.

MANUFACTURER	MODEL YEAR	PC	LDI	MDV	HDV	CONV. SYSTEM		FUEL CONV TYPE	ENG SIZE (CID)	E.O. #	REMARKS/ MODIFICATIONS ALLOWED
						CARB #	REGULATOR				
IMPCO Carburation, Inc. (LPG)	1979 & Older	ALL		ALL	ALL	CA425	E	LPG	Over 200	B-4-5	
				ALL	ALL	CA425	E	LPG	Over 250		
	1976 & Older		ALL	ALL	ALL	CA425	E	BOTH	Over 200	B-4-1	The EGR system may be disconnected if the EC-1 valve is used.
Landi-Hartog, U.S. Inc. (LPG)	1980 & Older	ALL	ALL		ALL	1000-U.S.	JHdehh	DF	Over 300	B-8	
LPF Carburation, Inc. (LPG)	1981 & Older		ALL	ALL	ALL	L-50	T	DF	Over 250	B-11-1	
Marvel-Schebler/ Tillotson Division of Borg Warner (LPG)	1981 & Older			ALL	ALL	M-S/T2569	M-S/TM-4 or M-6	DF	Over 300	B-5-3	
	1976 & Older	ALL	ALL	ALL	ALL	3C-705-LE	-	LPG	0-250	B-5-1	On Chrysler and Ford 6 cylinder engines the vacuum amplifier for EGR valve may be replaced by a Century delay control valve and vacuum advance diaphragm on engines using single diaphragm distributors may be disconnected.
	ALL	ALL	ALL	ALL	3C-706-LE	-	LPG	201-300	B-5-1		
	1976 & Older	ALL	ALL	ALL	ALL	3C or 3CG 705-DTLE	-	LPG	over 250	B-5-1	
		ALL	ALL	ALL	ALL	3C or 3CG 706-DTLE	-	LPG	Over 300	B-5-1	
NOTE: The Marvel-Schebler/Tillotson carburetor is aka "Century".											
OHG, Inc. (LPG)	1988 & Older		ALL	ALL	ALL	X-450 X-450FB	X-1	LPG	300-460	B-13-3	The gasoline fuel line and gas line pump may be removed.

MANUFACTURER	MODEL YEAR	PC	LDT	MDV	HDV	CONV. SYSTEM		FUEL CONV TYPE	ENG SIZE (CID)	E.O. #	REMARKS/ MODIFICATIONS ALLOWED
						CARB #	REGULATOR				
Toyo Red Carb LPG Conversion (LPG)	1979	ALL	ALL		ALL	1000	V-3	DF	0-300	B-9	
	& Older	ALL	ALL		ALL	2000	V-3	DF	301-360		
		ALL	ALL		ALL	3000	V-3	DF	Over 360		
Vialle U.S.A., Inc. (CNG)	1984		*	*	*	C-5	-	DF	300	B-10-5	Approved only for Ford 300 CID with or without TWC-CL.
	& Older										
	1988		ALL	ALL	ALL	D-5	-	Both		B-10-14	Also approved for vehicles with TWC-CL and fuel systems.
	& Older										
Vialle U.S.A., Inc. (LPG)	1980	ALL	ALL		ALL	C-4	-	DF	Over 250	B-10-1	Also approved for vehicles with VV system.
	& Older		ALL	ALL	ALL	C-5	-	DF	ALL	B-10-14	Also approved for vehicles with TWC-CL, and fuel systems.
		ALL					C-5	-	DF	ALL	B-10-14

*See Remarks/Modifications Allowed column.

E-1-15

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM

Number: 001

Operating Policies and Procedures

Supersedes: Memo of 3/31/76

Originating Section: Program Operations

Page 1 of 1

SUBJECT Use of State Telephone System

PURPOSE: To define the program's policy pertaining to the use of state of Oregon telephone system.

POLICY:

While it is recognized that an occasional personal local telephone call on the station phones may be necessary, these must be kept to an absolute minimum. Personal long distance calls, placed only when absolutely necessary, must not be charged to the state of Oregon telephone.- Such calls must be placed through the telephone company operator and charged to your home telephone number, personal telephone credit card, or placed collect.

Unnecessary busy signals not only disturb and irritate a person trying to contact the station, but important calls are delayed or sometimes lost when the lines are occupied with personal calls. Telephone booths in the area of testing stations were placed there so that you and our customers can make calls without tying up our business line.

When answering the phone, it is necessary for you to identify both your name and the name of the station.

Approved

[Handwritten Signature]

Date

[Handwritten Date]

VEHICLE INSPECTION PROGRAM
Operating Policies and Procedures
Originating Section: Engineering

Number: 100.00
Supersedes:
Page 1 of 1

SUBJECT Standards Change

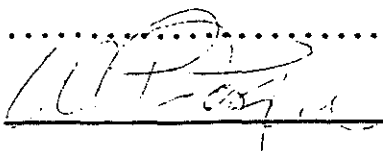
PURPOSE: To change Program Standards for 1976 Scirocco Fuel Injected Only

POLICY: In accordance with the provision of OAR Chapter 340, Section 24-330(4), the following standards have been established and added to OAR Chapter 340, Section 24-330(1).

VOLKSWAGEN: 1976 Scirocco Fuel Injected Only base standard 2% idle CO enforcement tolerance 0.5.

The above has been signed by the Department Director in accordance with the operating regulations and is on file in the Inspection Program Office.

Approved



Date

JAN - 9 1981

4-149

VEHICLE INSPECTION PROGRAM
Operating Policies and Procedures
Originating Section: Engineering

Number: 102.00
Supersedes:
Page 1 of 1

SUBJECT 1981 Luv Pickup Trucks

PURPOSE: To clarify correct idle emission cutpoints for 1981 Luv pickup trucks.

REFERENCE:

1981 Luv pickup trucks were manufactured with unleaded fuel requirement, but without catalytic convertors in the federal configuration. This class of vehicles also falls under the 207(b) Warranty Provisions. The correct emission standards for this vehicle are:

At Idle	0.5% CO	175 ppm HC
At 2500 rpm	0.5% CO	175 ppm HC

W. R. Jozan

Date Jan 14, 1983

4-10-83

Department of Environmental Quality

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: VEHICLE INSPECTION PROGRAM
: Operating Policies and Procedures
: Originating Section: Engineering
:

Number: 103.01
Supersedes: -
Page 1 of 1

: SUBJECT Twenty-year old car exemption
:

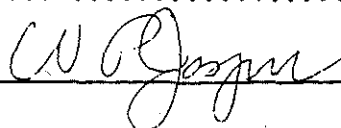
PURPOSE: To provide for implementation of SB509

REFERENCE: SB509 1983 Regular Legislative Session

Senate Bill 509 was passed by the Legislature and signed into law by the Governor. The effective date of this legislation is October 15, 1983. The legislation which amends ORS 481.190 states that no inspection is required for registration renewal for "A motor vehicle with a model year that predates by more than twenty years the year in which registration or renewal of registration is required."

For the purposes of the program, this means that on October 15, 1983 all 1962 and earlier model year motor vehicles need no longer produce a certificate of compliance to obtain a registration from the Motor Vehicles Division. After January 1, 1984, 1963 model year motor vehicles would be included in that category and on January 1 of each subsequent year the next model year group of vehicles would be included.

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Approved _____



Date _____

Aug 22-83

STATE OF OREGON
Department of Environmental Quality

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: VEHICLE INSPECTION PROGRAM Number: 105.04
: Operating Policies and Procedures Supersedes: 105.03 of
: 06/17/87
: Originating Section: Engineering Page 1 of 2
:
: SUBJECT Noise Standards Change
:

PURPOSE: To list the changes to the Noise Standards for selected vehicle classes.

REFERENCE: In accordance with the provision of OAR Chapter 340-24-337(3) the following standards have been established and added to OAR 340-24-337.

<u>Vehicle:</u>	<u>Limit</u>	<u>Date Authorized</u>
XKE Jaguar through 1974 model year	96 dBA at 2500 RPM	06/12/85
Corvette with Factory Original Side-Mounted Type Exhaust System		06/09/86
a. 1966 with L72 (427 CID and 425 Hp) Engine	106 dBA at 2500 RPM	
b. 1967 with L71 (427 CID and 435 Hp) and L89 (Aluminum Cylinder Heads with L71) Engines	106 dBA at 2500 RPM	
c. All others, 1966, 1967 or 1969 Corvettes with factory original side- mounted exhaust system.	100 dBA at 2500 RPM	
Ford Pantera 1972, 1973 and 1974 model years.	101 dBA at 2500 RPM	03/10/86
Ford De Tomaso - 1969 through 1974.	101 dBA at 2500 RPM	03/10/86

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Approved *Jim Houscholtz* Date 10/6/87

H-152

STATE OF OREGON
Department of Environmental Quality

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VEHICLE INSPECTION PROGRAM	Number: 105.04
Operating Policies and Procedures	Supersedes: 105.03 of 06/17/87
Originating Section: Engineering	Page 2 of 2

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SUBJECT Noise Standards Change

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PURPOSE: To list the changes to the Noise Standards for selected vehicle classes.

REFERENCE: In accordance with the provision of OAR Chapter 340-24-337(3) the following standards have been established and added to OAR 340-24-337.

<u>Vehicle:</u>	<u>Limit</u>	<u>Date Authorized</u>
Pontiac Firebird TransAm Model Years 1970, 1971, 1972, and 1973 with 455 CID engines.	99 dBA at 2500 RPM	04/22/87
Ferrari, 12 cylinder Model years 1968-1974 GTB, GTC, and GTS with 4390 cc engines.	102 dBA at 2500 RPM	09/01/87

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Approved *Ron Housholder* Date 10/6/87

STATE OF OREGON
Department of Environmental Quality

11-103

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: VEHICLE INSPECTION PROGRAM Number: 106.00
: Operating Policies and Procedures Supersedes: -
: Originating Section: Engineering Page 1 of 1
:
: SUBJECT 1985 and Newer Heavy Duty Gasoline Powered Trucks With Two Air Pumps
:

PURPOSE: To provide guidance to inspection personnel to correctly assess dilution readings.

APPLICATION: 1985 and newer heavy duty gasoline powered trucks originally built with two air pumps.

REFERENCE: OAR 340-24-325(1)

Some 1985 and later heavy duty gasoline trucks have been manufactured with two air pumps for emission control. Because of the large volume of air that these pumps generate and the general cleanliness of these engines, the CO plus CO₂ factor will sometimes fall below the 8% cutpoint established in the rule. Pending the next period where the test rules will be reviewed, the appropriate Co+CO₂ cut point is established at 6%. This change has been made as provided for by OAR 340-24-335.

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Approved

Don Louscholsky


Date

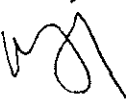
9/16/87

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMO

TO: Fred Hansen through Ron Hopperholder  DATE: April 14, 1987

FROM: Bill Jasper 

SUBJECT: Proposed CO+CO₂ Change for 1985 and newer heavy duty trucks.


Ford and Chevrolet have begun manufacturing a small volume of heavy duty trucks (greater than 8500 lbs GVWR) that are equipped with two air pumps. The effect of this manufacturing change is to build a vehicle that when tested by the DEQ I/M test procedure sometimes gives an incorrect failure for the dilution reading. This production change first came to our attention this last fall. At that time contact was made with the manufacturers regarding the observations by the inspection staff.

Equipping the truck engines with two air pumps causes the amount of CO+CO₂ to drop below the 8% value stipulated in the rule. This type of event happened once before, in 1975-76, when the Japanese vehicle manufacturers started to use a larger displacement air pump on some vehicle models. The only way to deal with the problem was to change the test criteria.

I have discussed this with Ford, GMC, and EPA engineers. Ford confirms that proper CO+CO₂ levels on their trucks can be as low as 6 1/2%. EPA officials indicated that the use of the two air pumps by Ford was in response to a design problem. It will be necessary to use 2 air pumps on catalytic convector equipped heavy duty trucks in order to maintain catalyst operating efficiencies.

Changing the value of the dilution check from 8% CO+CO₂ to 6 1/2% CO+CO₂ for these effected vehicles will not adversely affect the program stringency and appears to be a good near term solution. This issue will be reviewed during the next rules review project. In the interim it is necessary to request the discretionary test provisions provided for in the rules. The use of a revised test standard will adequately and fairly treat individuals whose vehicles might be affected.

In consideration of the above, and pursuant to OAR 340-24-335, we recommend that you authorize a 6% dillution factor for 1985 and newer heavy duty gasoline powered trucks equipped with two air pumps.

Approved: 

Fred Hansen
Director

STATE OF OREGON

Department of Environmental Quality

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• VEHICLE INSPECTION PROGRAM Number: 201.04

• Operating Policies and Procedures Supersedes: 201.03 of 3/16/82

• Originating Section: Engineering Page 1 of 2

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• Subject Aftermarket Turbocharger Installations/Modifications

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PURPOSE: To identify and list authorized aftermarket turbocharger installations and modifications.

REFERENCE: OAR 340-24-320(4)(b), Memos of May 24, 1979, and October 26, 1979, California VC 27156 list of July 27, 1983.

POLICY:

The following aftermarket turbocharger installations/modifications are now authorized within the limitations listed below:

1. Roto-Master Turbocharger Kit: 1975 and 1976 Mercedes-Benz 240D with OM616 diesel engine.
2. RV Turbocharger System Model No. 440-1: 1979 and older heavy duty vehicles equipped with a Chrysler 440CID engine and M-400 or M-500 chassis.
3. BAE Dodge 440 Motorhome System 9-000 (turbocharger): 1979 and older Dodge 440 heavy duty only.
4. BAE Volkswagen: Kit No. 28-000C 1980 gasoline powered VW Rabbit, Scirocco, and Jetta passenger cars with manual transmission and three-way catalyst.
5. Turboflow 360: 1979 and older Chrysler 360 heavy duty.
6. BAE Model T04B M2: 1981 and 1982 Airstream 28 ft. motorhome with Isuzu QD-6 diesel engine.
7. BAE Kit No. 3-0000W1: 1980 and 1981 BMW 320i, 633i and 733i with 195.9 CID engine.
8. BAE Kit No. 2-0000-1: 1980, 1981, 1982 and 1983 BMW 320i with 107 CID engine.

Approved W.P. Jasper

Date Aug 22-83

partment of Environmental Quality

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. VEHICLE INSPECTION PROGRAM Number: 201.04 .

. Operating Policies and Procedures Supersedes: 201.03 of 3/16/82 .

. Originating Section: Engineering Page 2 of 2 .

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. Subject Aftermarket Turbocharger Installations/Modifications .

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9. BAE Kit No. 28-0000-3: 1981 through 1983 VW and Audi 4000 having 105 CID engine and 3-way catalyst.
10. BAE Kit No. 32-0000-1: 1980 through 1983 VW with 97 CID diesel engine.
11. Turbo International Turbo Kit 301-E: 1982 and older Chevrolet 305 and 350 CID gasoline engines with automatic transmission.
12. Martin Turbocharger Kit 301 E10: 1983 and older Chevrolet 305 or 350 CID gasoline engines with automatic transmissions.
13. BAE Kit No. 3-0012: 1982 and 1983 BMW 633i and 733i models 1983 model year BMW 533i with 195.9 CID engine.
14. BAE Kit No. T04BM2: 1981 through 1983 Airstream powered by 1981 or 1982 Isuzu LG heavy duty diesel engine with automatic transmission.

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A. red W. Jensen

Date Aug 22 83

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM Number: 202.01
Operating Policies & Procedures Supersedes: 106.00 & 202.00

Originating Section: Program Operations Page 1 of 2

SUBJECT: Diluted Exhaust Sample Readings

PURPOSE: To outline the additional steps to be followed when a vehicle's exhaust sample is diluted below the minimum requirements.

REFERENCE: Oregon Administrative Rule 340-24-320 (1) and Oregon Administrative Rule 340-24-325 (1)

No vehicle emission control test shall be considered valid if the vehicle exhaust system leaks in such a manner as to dilute the exhaust gas being sampled by the gas analytical system.

LIGHT DUTY VEHICLES

For the purpose of emission control tests conducted at state facilities, except for diesel vehicles, tests will not be considered valid if the exhaust gas is diluted to such an extent that the sum of carbon monoxide (CO) and carbon dioxide (CO₂) concentrations recorded from an exhaust outlet during the idle speed reading is 8 percent or less, and on 1975 and newer vehicles with air injection systems 7 percent or less.

HEAVY DUTY VEHICLES

For the purpose of emission control tests conducted at state facilities, tests will not be considered valid if the exhaust gas is diluted to such an extent that the sum of the carbon monoxide (CO) and carbon dioxide (CO₂) concentrations recorded from an exhaust outlet during the idle speed reading is 8 percent or less.

Some 1985 and newer heavy duty gasoline trucks have been manufactured with two air pumps for emission control. Because of the large volume of air these pumps generate and the general cleanliness of these engines, the CO + CO₂ factor will sometimes fall below the 8% cutpoint established in this rule. As such, a 6% dilution factor is established for 1985 and newer heavy duty gasoline powered trucks equipped with two air pumps.

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 202.01

Supersedes: 106.00 & 202.00

Originating Section: Program Operations

Page 2 of 2

SUBJECT: Diluted Exhaust Sample Readings

PROCEDURE:

I. Satisfactory Exhaust System.

A. Insertion of Probe.

1. The probe is to be inserted into the exhaust outlet in the normal testing manner.
2. Wrap the probe with a silicone or fiberglass rag, thereby creating a sleeve-like arrangement around both the tailpipe and the sample probe. Record the exhaust reading at this time.

II. Defective Exhaust System.

A. Insertion of Probe.

1. Only when it is safe and possible to do so, place the silicone or fiberglass rag over the exhaust system hole or place the probe in the hole of the exhaust system. Record the exhaust readings at this time.
2. The silicone or fiberglass rag is not to restrict the exhaust gas from leaving the tailpipe. It must act as a valve letting exhaust out and keeping air from entering the pipe.
3. Do not plug a tailpipe exhaust as it may slow the engine abnormally or restrict the operation of the air pump and thereby create false readings.

Approved



Date

9/16/91

VEHICLE INSPECTION PROGRAM
Operating Policies and Procedures
Originating Section: Engineering

Number: 203.0
Supersedes:
Page 1 of 3

SUBJECT Air Pre-Heat System Modifications with Header Systems

PURPOSE: To define allowable modifications to the air pre-heat tube of a thermal air cleaner system.

REFERENCE: ORS 483.825, OAR 340-24-320, OAR 340-24-325, CARB Exec. Order D-67

A thermal air cleaner is an important element of the motor vehicle pollution control system. The purpose of having a thermal air cleaner is to provide warm air to the engine during cold operating conditions. This reduces the amount of time that the engine is operating on choke, and thus reduces emissions.

A thermal air cleaner has three main elements:

- 1) a temperature sensor and control mechanism for the air cleaner,
- 2) a heat duct,
- 3) and a collector.

The control mechanism and temperature sensor, which usually consists of a vacuum line and vacuum motor or a thermal-mechanical mechanism, controls a door which opens and closes to let warm air into the air cleaner. This controls the temperature of the incoming air charge.

The heat duct, usually a hose-like affair, allows the air that has been warmed by flowing over the exhaust manifold, to be transferred up to the air cleaner. This tube is manufactured of high temperature resistive materials, sometimes flexible and sometimes rigid.

The collector is a device which forces the air flowing over the exhaust manifold into the heat duct and up to the air cleaner. In factory-stock systems it is usually associated with a configuration, similiar to a kitchen range hood, which funnels the air over the warmed exhaust manifold facilitating heat transfer.

Some motorists have modified their vehicles' exhaust system by the addition of exhaust headers. Exhaust headers are basically thin wall tubing that allows for decreased resistance to the flow of exhaust gases

Approved

[Signature]

Date

April 15 1981

H-160

VEHICLE INSPECTION PROGRAM
Operating Policies and Procedures
Originating Section: Engineering

Number: 203.0
Supersedes:
Page 2 of 3

SUBJECT Air Pre-Heat System Modifications with Header Systems

from the engine. The claimed benefits from the installation of exhaust headers is improved performance and fuel economy. Headers are available that are compatible with air pump and EGR systems.

When exhaust header installations are made, often the original factory stock collector system may be incompatible with the chosen exhaust header. In such cases it is necessary to provide an alternative method of collection so that the thermal air cleaner system will still function as intended.

Tests were conducted at the California Air Resources Board laboratory on exhaust header modifications. These tests compared stock systems with modified system. The results of those tests indicated that the rate of temperature increase in the air cleaner was comparable between the factory system and one with a modified collector.

The collector is necessary for the system to function. The heat transfer characteristics of the thin wall tubing, however, provide a quicker heat transfer when compared to the original cast iron manifold. As the tests indicated, it is not necessary to have as complicated a collector system on exhaust headers. The key elements for a collector for exhaust headers are that it be made of metal, that it have an air inlet so that the air passes over the exhaust header tube, and that it be firmly attached to exhaust header tube. Common methods of attachment include hose clamps and welding. A drawing of a typical system is attached.

If a vehicle has exhaust headers installed and has a modification as described above to the thermal air cleaner system, such system is adequate to comply with the requirements for the underhood inspection.

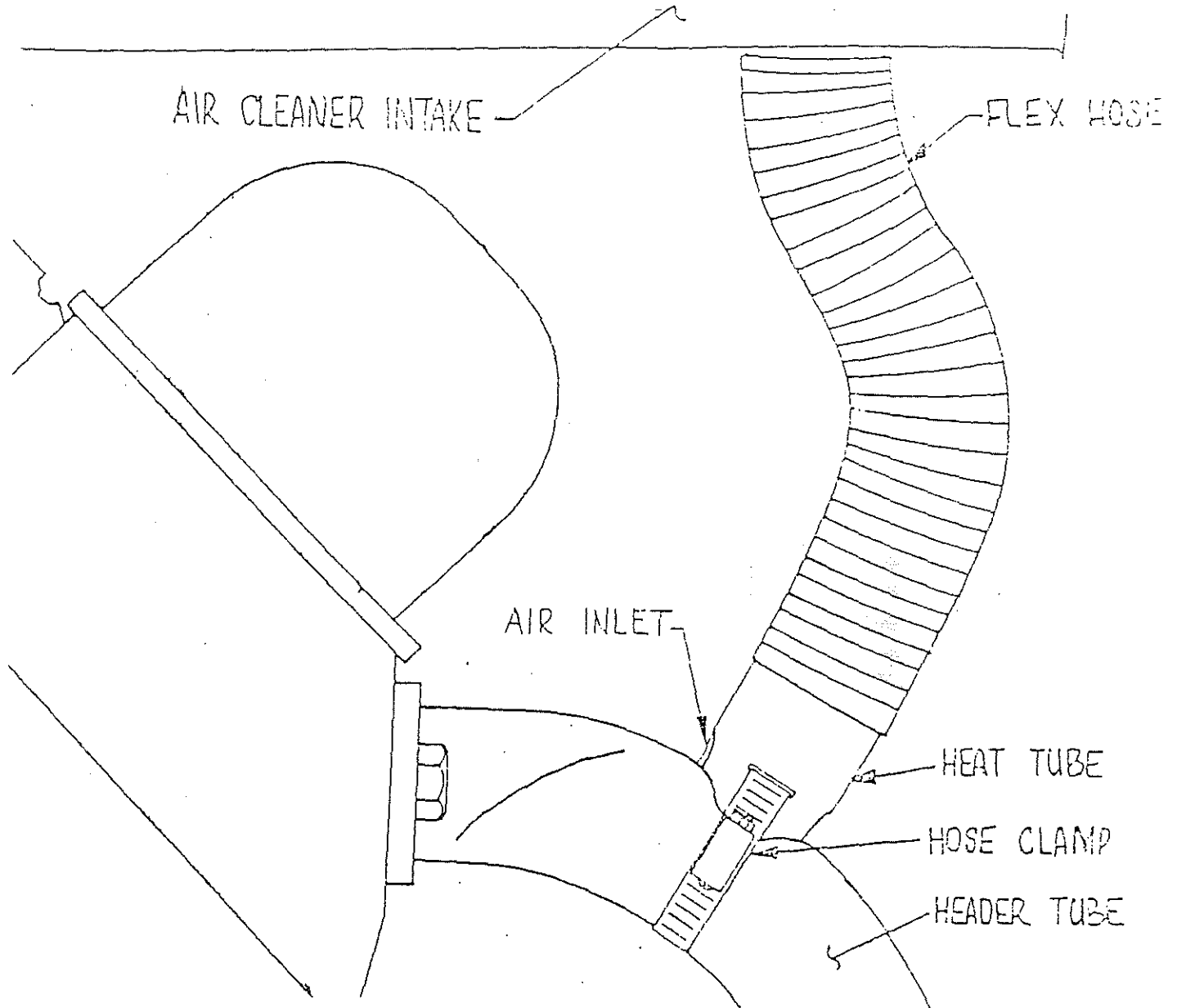
Approved 11. P. [Signature]
[Signature]

Date Apr 1 1972

VEHICLE INSPECTION PROGRAM
Operating Policies and Procedures
Originating Section: Engineering

Number: 203.0
Supersedes:
Page 3 of 3

SUBJECT Air Pre-Heat System Modifications with Header Systems



Approved _____

Date _____

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 204.04
Supersedes: 204.03

Originating Section: Engineering

Page 1 of 2

SUBJECT: Replacement of Original Engine

PURPOSE: To outline the procedure the inspection personnel will follow when testing vehicles with other than the original engine.

REFERENCE: ORS 815.305; OAR 340-24-320 and OAR 340-24-325;
Section 203 Federal Clean Air Act

This is a guide for inspection personnel to use in applying the program's inspection rules. This is not a discussion on tampering or proper engineering applications of engines to different vehicle applications. Federal and State laws prohibit all emission control equipment tampering, disconnection, alterations and allowing of failed emission components to remain inoperative. It should be noted the 1990 Clean Air Act Amendments prohibit any person from making changes to the vehicle's certified configuration.

For the purposes of meeting the emission test criteria, the rules allow for a more flexible approach when considering engine exchange options. The following applies to:

1980 or Newer Light Duty Vehicles

The replacement engine must be the same make and year as the vehicle, or newer. It must be an engine that was available for that vehicle from the factory.

1979 or Older Light Duty Vehicles

The replacement engine may be any year or size, but if the vehicle came with a catalytic converter and/or filler restrictor, those must remain on the vehicle. The vehicle must also pass emission standards set for the year of the vehicle, no matter what year engine has been installed. If a newer engine has been installed it does not have to be upgraded with emission equipment or meet more stringent standards.

4-163

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 204.04
Supersedes: 204.03

Originating Section: Engineering

Page 2 of 2

SUBJECT: Replacement of Original Engine

1980 or Newer Heavy Duty Vehicle

Replacement engine may be any year. It must have emission equipment which came with that year engine, but will still have to meet emission standards set for the year of the vehicle.

1979 or Older Heavy Duty Vehicle

Replacement engine may be any year, but the vehicle must pass standards set for the year of the vehicle. No emission equipment will be checked.

Approved

Ron Housholder

Date

9/23/91

.....
: VEHICLE INSPECTION PROGRAM
: Operating Policies and Procedures
: Originating Section: Engineering

Number: 205.0
Supersedes:
Page 1 of 1

.....
: SUBJECT Liquified Petroleum Gas in Dual Fuel Conversion System

.....
: PURPOSE: To Define Program Policy on LPG and Dual Fuel Conversion System

.....
: REFERENCE: ORS 483.825, OAR 340-24-320, and OAR 340-24-325

.....
: POLICIES:

1. All LPG and dual fuel conversion systems must be of the type approved by the California Air Resources Board under their regulations entitled California Exhaust Emission Standards and Test Procedures for Systems Designed to Convert Motor Vehicles to Use Liquified Petroleum Gas or Natural Gas Fuels.
2. In the case of a dual fuel conversion where the vehicle may run on gasoline or a gaseous fuel, removal of originally required emission control systems will not be permitted. These provisions shall not apply to the heated air intake system.
3. In the case of a single fuel conversion where the vehicle runs only on the gaseous fuel, removal of the originally required emission control systems will not be permitted. These provisions shall not apply to the heated air intake system, nor to the evaporative control systems.

.....
Approved
ACD2(1)c

WA Jazur

Date

July 31, 1980

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies and Procedures
Originating Section: Program Operations

Number: 206.01
Supersedes: 206.00 of 3/14/81
Page 1 of 2

SUBJECT Unleaded Fuel Restrictors

PURPOSE: To define those vehicles 1978 through 1981 which have no restrictors in the gas tank.

The following is a list of light duty vehicles which have no restrictors in the gas inlet filler.

1978

- Audi
 - 5000
 - Fox
- BMW
 - 320i
 - 530i
- Datsun
 - F 10
 - B 210
 - 200 SX
 - 510
 - 810
 - 280 Z
 - P.U.
- Fiat
 - 128
 - X 1/9
 - 124
 - 131
 - 131 Mirafiori
 - Lancia BEta (manual transmission)
- Honda
 - Civic
- Porsche
 - 911 (turbo)
- Renault
 - Le Car
 - 17 Gordini

Approved W.P. [Signature]
VA2883

Date Dec 23 -82

VEHICLE INSPECTION PROGRAM

Number: 206.01

Operating Policies and Procedures

Supersedes: 206.00 of 3/14/81

Originating Section: Program Operations

Page 2 of 2

SUBJECT Unleaded Fuel Restrictors

Saab 99 (non-cat)

Subaru All Models

Volkswagen Beetle
Dasher
Rabbit
Scirocco
Bus

1979

Audi Fox
500

Datsun 200 SX
210
310
510 Wagon
P.U.

Fiat 128

Honda Civic

Porsche 930 Turbo

Renault Le Car
17 Gordini

Volkswagen Beetle Convertible
Rabbit
Dasher
Scirocco

1980 - VW Pickup

1981 - All Vehicles Use Unleaded Fuel

Approved

Date

Dec 23-82

H-107

Department of Environmental Quality

VEHICLE INSPECTION PROGRAM	Number: 207.02
Operating Policies and Procedures	Supersedes: 207.01 of 10/21/83
Originating Section: Engineering	Page 1 of 2
SUBJECT: Nonconforming Imported Vehicles	

PURPOSE: To describe program policy regarding inspection of vehicles not conforming to United States vehicle standards.

REFERENCE: ORS 803.045, ORS 815.305, OAR 735-90-560

For the purpose of this policy, a nonconforming imported vehicle is defined as a vehicle of model year 1975 or newer which was manufactured for use in a foreign country and does not comply with United States exhaust emission and/or safety standards.

The first step is for the Vehicle Emission Inspector to identify the vehicle as a non-conforming import. These vehicles do not have a vehicle emission control information label specifying that they meet the United States or California exhaust emission standards. Do not mistake a stripped U.S. conforming vehicle as a non-complying imported vehicle. The vehicle should be treated as a made-for-U.S. vehicle unless there is evidence to the contrary. This evidence would be either one of the following:

- A. An emission information label from a foreign country,
- B. A foreign country license plate and physical differences from U.S. configuration cars of the same model.

If the vehicle inspector has determined that the vehicle is a nonconforming import, the customer will be required to present the final release letter issued by United States Customs Service (represented by a copy of the courtesy "release of bond" notice) as to its conformance to United States emission and safety standards or the release letters issued by both the Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA).

In addition to Customs' final release letter, or both EPA and NHTSA release letters, inspectors can accept the declaration made on both NHTSA form #7 and EPA form #3520-1 that the vehicle is in compliance or exempt from federal standards. A copy of the Manufacturer's Certificate of Origin indicating that the vehicle was manufactured for use in the United States is also acceptable.

Approved

Don G. Housholder

Date

June 7, 1986

STATE OF OREGON
Department of Environmental Quality

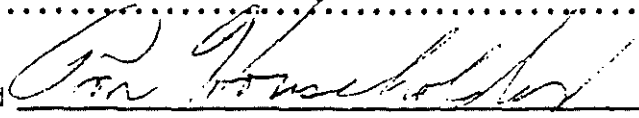
.....
: VEHICLE INSPECTION PROGRAM Number: 207.02
: Operating Policies and Procedures Supersedes: 207.01 of
: Originating Section: Engineering Page 2 of 2
: 10/21/83
:
: SUBJECT Nonconforming Imported Vehicles
:

If the vehicle is identified as a nonconforming vehicle, but has been issued a title or registration by one of the States of the United States, the vehicle is to be tested against the appropriate Oregon emission standards and the emission control equipment inspection is to be performed as required. In the instances where the vehicle has been released due to payment of penalty and mitigated damages, the procedure as outlined for non-conforming vehicles with a U.S. State registration or title should be followed.

Some vehicles will not have had emission modifications made. In that instance, the inspection of emissions equipment as specified on a European or Canadian or U.S. heavy duty emissions label shall be made. Failure for emission equipment disconnect will be imposed only for modifications made to factory installations as specified on the emission label.

Other vehicles may be remanufactured or final manufactured by a small volume manufacturer. These vehicles sometimes can be identified by the presence of an underhood emissions label indicating conformance with United States emissions standards for specific model year. The new manufacturer's name is on the underhood emission label. The vehicle inspector will note that the engine family configuration is, for example, a Texas Coach 1985 on the emissions label. Then, even if the vehicle might be, for example, a 1983 Mercedes-Benz, the 1985 emission standards, if different, would apply. However, the Certificate of Compliance will be issued for a 1983 Mercedes-Benz. Testing of the vehicle and associated certificate issuance shall not be made without U.S. Customs release; or appropriate EPA and NHTSA release; or a license plate or certificate of title from another state, even with the presence of the underhood label.

If there are difficulties in properly determining the configuration of the modified engine system, refer the vehicle owner to the appropriate Inspection Unit Supervisor.

.....
Approved 

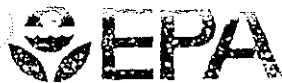
Date JUN 4, 1985

4-169

United States Environmental Protection Agency

Form Approved

Approval expires 12-31-90



Importation of Motor Vehicles and Motor Vehicle Engines Subject to Federal Air Pollution Regulations

Warning: Any person who knowingly makes any false or fraudulent statement or conceals a material fact shall be fined not more than \$250,000 or imprisoned not more than 5 years, or both. 18 United States Code 1001.

1. Port Code	2. Entry Date (mo/dy/yr)	3. Entry Number	4. Vehicle ID No. (VIN) or Heavy-Duty Engine No.
5. Date of Original Vehicle Manufacture (mo/yr)	6. Original Vehicle Manufacturer		7. Vehicle Model
8. Declaration Code (from item 14, letter only)	9. No. and Model Year of Certificate Applicable to this Importation	10. Expiration Date of Certificate	

Names, Addresses, and Telephone Numbers of Relevant Parties

11. Independent Commercial Importer (ICI) or Importer	12. Owner (if not ICI)	13. Vehicle Storage Location (No PO Boxes) (Required for codes 14A, 14B, 14C, 14D, and 14Z; see item 8)	
Telephone Number	Taxpayer ID No. (SSN)	Telephone Number	Telephone Number

14. With regard to the importation of the described motor vehicle or heavy-duty engine, I declare that (Put code letter in item no. 8)
- A. The vehicle or heavy-duty engine (includes disassembled vehicles and kit cars) will be modified in accordance with a valid EPA certificate of conformity. (ONLY for ICIs) (40 CFR 85.1505)
 - B. The vehicle or heavy-duty engine was made for sale in Canada, is new, is a model approved by EPA, and is being imported by a designated importer of new Canadian vehicles.
 - C. The vehicle or heavy-duty engine (includes disassembled vehicles and kit cars) is at least 6 original production (OP) years old and will be modified and tested. (ONLY for ICIs) (Number of OP years = calendar year of importation minus calendar year of original manufacture) (40 CFR 85.1509(a)(1)(i))
 - D. The vehicle or heavy-duty engine is less than 6 original production (OP) years old and will be modified and tested because the following criteria apply: a) vehicle owned, purchased, and used overseas by military or civilian employees of the U.S. Government; and b) an ICI does not hold a currently valid certificate for that particular vehicle; and c) the Federal agency employing the owner has determined the owner is stationed in an overseas area which either prohibits importation of U.S. certified vehicles or does not have adequate repair facilities for U.S. vehicles; and d) the employing Federal agency has determined such vehicles are eligible for shipment to the U.S. at Government expense. (ONLY for ICIs) (Number of OP years = calendar year of importation minus calendar year of original manufacture) (40 CFR 85.1509(a)(1)(ii))
 - E. Any vehicle or heavy-duty engine subject to the Clean Air Act requirements (see codes 14R through 14Y) and greater than 20 original production (OP) years old is exempted from the requirements of the Clean Air Act but must be imported by an ICI. (Number of OP years = calendar year of importation minus calendar year of original manufacture) (40 CFR 85.1511(f)(2))
 - F. The vehicle has a label indicating it meets U.S. emission requirements but was operated outside the U.S., Canada, Mexico, or Japan and therefore requires catalyst and oxygen sensor replacement, if applicable. This vehicle is being imported under bond. Any individual or company may be the importer. (40 CFR 85.1512)
 - G. The vehicle or heavy-duty engine is being imported solely for purposes of repair or alterations. Prior written approval from EPA is required (attach copy). The vehicle or heavy-duty engine may not be registered or licensed for use on or operated on public roads or highways or sold or leased in the U.S. This vehicle is being imported under bond. (40 CFR 85.1511(b)(1))
 - H. The vehicle or heavy-duty engine is being imported by the original equipment manufacturer under the precertification or testing exemption. This vehicle is being imported under bond. (40 CFR 85.1706 and 85.1705)
 - I. The vehicle or heavy-duty engine is imported for testing purposes. Prior written approval from EPA is required (attach copy). This vehicle is being imported under bond. (OEMs, see code letter H) (40 CFR 85.1511(b)(2))
 - J. The vehicle or heavy-duty engine is being imported by an ICI for the purposes of testing in order to obtain an EPA certificate of conformity. This vehicle is being imported under bond. Prior written approval from EPA is required (attach copy). The ICI has 180 days to obtain a certificate. (40 CFR 85.1511(b)(3))
 - K. The vehicle or heavy-duty engine is being imported solely for display and may not be sold, leased, registered, or licensed for use on or operated on public roads or highways. Prior written approval from EPA is required (attach copy). This vehicle is being imported under bond. (40 CFR 85.1511(b)(4) and 85.1707)
 - L. The vehicle qualifies as a racing vehicle meeting one or more of the exclusion criteria found at 40 CFR 85.1703(a) and may not be registered or licensed for use on or operated on public roads or highways in the U.S. Prior written approval from EPA is required (attach copy). (40 CFR 85.1511(e))
 - M. The importer has received prior written approval from EPA to import the vehicle or heavy-duty engine (attach copy). (other than codes 14G, 14I, 14J, 14K, and 14L)
 - N. The importer is a member of the armed forces or personnel of a foreign government on assignment in the U.S., who comes within the class of persons for whom free entry has been authorized by the Department of State, and the vehicle or heavy-duty engine will not be sold in the U.S. A copy of the importer's official orders must be attached to this declaration, or if a qualifying member of the personnel of a foreign government on assignment in the U.S., the name of the embassy to which she/he is accredited is stated on this declaration form.
Name of Embassy:

14 (continued)

- O. The importer is a nonresident of the U.S. and is importing the vehicle or heavy-duty engine solely for personal use for a period not exceeding one year, and the vehicle will not be sold in the U.S.
- P. The vehicle or heavy-duty engine is intended solely for export and is labeled for export. (40 CFR 85.1709)
- Q. The importer is an original equipment manufacturer and the vehicle is one of a class of vehicles or engines for which an application for a certificate of conformity is pending before the administrator of EPA.
- R. The vehicle is not subject to the Clean Air Act requirements because it is a light-duty gasoline-fueled vehicle or truck originally manufactured prior to January 1, 1968. (40 CFR 85.1511(f)(1)(i))
- S. The vehicle is not subject to the Clean Air Act requirements because it is a light-duty diesel-fueled vehicle originally manufactured prior to January 1, 1975. (40 CFR 85.1511(f)(1)(ii))
- T. The truck is not subject to the Clean Air Act requirements because it is a light-duty diesel-fueled truck originally manufactured prior to January 1, 1976. (40 CFR 85.1511(f)(1)(iii))
- U. The motorcycle is not subject to the Clean Air Act requirements because it was originally manufactured prior to January 1, 1978 or the engine displacement is less than 50 cc. (40 CFR 85.1511(f)(1)(iv))
- V. The engine is not subject to the Clean Air Act requirements because it is a gasoline-fueled or diesel-fueled heavy-duty engine originally manufactured prior to January 1, 1970. (40 CFR 85.1511(f)(1)(v))
- W. The engine is not subject to the Clean Air Act requirements because it is a non-chassis-mounted engine to be used in a light-duty vehicle or light-duty truck.
- X. The vehicle is not subject to the Clean Air Act requirements because it was originally produced for offroad use and complies with 40 CFR 85.1703. The vehicle may not be registered or licensed for use on or operated on the public roads or highways in the U.S.
- Y. The vehicle or heavy-duty engine is not subject to the Clean Air Act requirements because it was not originally produced by the original equipment manufacturer to operate on gasoline or diesel fuel. (If the vehicle or heavy-duty engine is converted from gasoline or diesel fuel to an alternate fuel such as propane it is subject to the Clean Air Act and one of the other code letters must be selected.)
- Z. The vehicle can be entered through an ICI because of the importation regulation transition options effective through December 31, 1992. (40 CFR 85.1509(b)-(f))

15. I certify that I have read and understand the warnings and prohibitions listed on this form, that the information I have provided is correct, and that I authorize EPA Enforcement Officers to conduct inspections or testing otherwise permitted by the Clean Air Act or regulations.

Signature of ICI Corporate Officer or Importer	Date Signed
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Instructions

Please use a typewriter to complete this form except for signatures.

This form is required by law (42 USC 7522, 7601; 19 CFR 12.73). Failure to declare a motor vehicle or heavy-duty engine can result in a fine up to the amount of \$10,000 per vehicle or heavy-duty engine (42 USC 7524). This form is not required for conforming vehicles or heavy-duty engines imported by the original equipment manufacturer.

This form is used to determine whether a motor vehicle or heavy-duty engine can be imported into the U.S.

This form must be completed for all vehicles and heavy-duty engines which are imported into the U.S. If an original equipment manufacturer has more than one vehicle or heavy-duty engine in an entry, only one form needs to be completed, provided the

information in items 4 through 14 is provided for each vehicle on an attached sheet. ICIs and other importers must complete one form per vehicle. Final admission forms must be completed for declaration codes 14A, 14B, 14C, 14D, 14F, 14J, and 14Z. Failure to comply with these instructions can subject the importer to a civil penalty up to \$10,000 per vehicle or forfeiture of the entire importation bond, if applicable. (40 CFR 85.1513) The vehicle or heavy-duty engine may become subject to seizure or forfeiture by the U.S. Customs Service if it believes a law or regulation has been violated. (19 CFR 162.21)

Completed forms should be sent by the U.S. Customs Service to:

U.S. Environmental Protection Agency
Manufacturers Operations Division (EN-340F)
Washington, DC 20460

Storage Requirement and Prohibition of Operation or Sale of Vehicles Conditionally Admitted

A vehicle or heavy-duty engine conditionally admitted must be stored and may not be operated on the public highways or sold or offered for sale until the vehicle or engine is granted final admission. A vehicle or engine conditionally admitted shall not be stored on the premises, or be subject to access by or control

of any dealer. (NOTE: The importer may request that this prohibition be waived if modifications of a vehicle or heavy-duty engine to bring it into conformity must be performed by a dealer.) The importer has 120 days to bring the vehicle(s) or heavy-duty engine(s) into compliance.

Privacy Act Statement

Collection of the information on this form is authorized by the Clean Air Act, 42 USC sec. 7401 et seq. (see 40 CFR sec. 85.1501 et seq., Importation of Motor Vehicles and Motor Vehicle Engines). The Environmental Protection Agency (EPA) uses this information to determine compliance of noncomplying imported vehicles with U.S. emission requirements and for investigations with respect to EPA's import regulations.

Disclosure of this information may be made to other Federal, State, or local law enforcement agencies when there is a violation of civil or criminal law.

Furnishing the information on this form, including your Social Security Number, is voluntary, but failure to do so may result in disapproval of the importation of the vehicle identified on this form.

Department of Environmental Quality

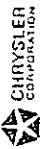
Vehicle Inspection Program

VEHICLE EMISSION CONTROL INFORMATION LABELS

VEHICLE EMISSION CONTROL INFORMATION EVAPORATIVE FAMILY S MAINTENANCE SCHEDULE Y ENGINE = A Cu. In. B FAMILY		CATALYST	IDLE SETTINGS TIMING = C ±2° CURB RPM = D* 100 ENRICHED RPM = F* FAST IDLE RPM = R* Adjust last idle RPM on step P of last idle cam. Adjustment of air conditioning idle stop solenoid (if so equipped) is not necessary during routine tune-up. *NOTE: On a new vehicle (under 300 miles) all speed settings should be reduced 75 rpm.	HOT ENGINE VALVE LASH INTAKE - 2 TO 3 mm EXHAUST - 4 TO 5 mm
THIS VEHICLE CONFORMS TO U.S. ENVIRONMENTAL PROTECTION AGENCY REGULATIONS APPLICABLE TO 1978 MODEL YEAR NEW LIGHT DUTY VEHICLES.				

MIXTURE SETTING: Use a tachometer and adjustable flow rate supply of propane. Disconnect the air cleaner heated air door hose from the carburetor four way vacuum tee connector, located at the front of carburetor, and connect propane supply hose to exposed nipple. Adjust propane flow rate to achieve highest engine speed. With propane flowing adjust idle speed screw to "F" rpm. Readjust the propane flow to obtain highest speed. Readjust idle speed screw to "F" rpm. Turn off propane flow and adjust the idle mixture screw to achieve "D" rpm. Recheck the enriched rpm. If maximum rpm with propane flowing, is more than 25 rpm different from original adjustment, repeat above adjustment procedure. Reconnect air cleaner door hose.

Make all adjustments with engine fully warmed up, transmission in neutral, all lights and accessories turned off, with the radiator electric cooling fan motor operating, carburetor switch terminal grounded with a jumper wire, and vacuum hoses at EGR valve and at the spark control unit disconnected and plugged. Before checking timing wait one minute after returning to idle. See Service Manual for detailed instructions on idle and tappet lash adjustments.

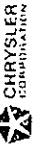


Item A Vehicle Emission Control Information Label (Typical of Federal)

VEHICLE EMISSION CONTROL INFORMATION THIS VEHICLE IS EQUIPPED WITH CHRYSLER CLEANER AIR SYSTEM (C, AP, EGR, ESA) AND CONFORMS TO U.S. ENVIRONMENTAL PROTECTION AGENCY AND CALIFORNIA REGULATIONS APPLICABLE TO 1978 MODEL YEAR NEW LIGHT DUTY VEHICLES.		CATALYST	IDLE SETTINGS TIMING = C ±2° CURB RPM = D* 100 ENRICHED RPM = F* FAST IDLE RPM = R* Adjust last idle RPM on step P of last idle cam. See Service Manual for detailed instructions concerning alternate idle mixture setting procedure. Alternate Idle Mixture Setting = ±3% Carbon Monoxide (Tolerance = + 1/2%, - 1% before catalyst, air pump disconnected).	HOT ENGINE VALVE LASH INTAKE - 2 TO 3 mm EXHAUST - 4 TO 5 mm
ENGINE = A Cu. In. B FAMILY	EVAPORATIVE FAMILY S MAINTENANCE SCHEDULE Y			

MIXTURE SETTING: Use a tachometer and adjustable flow rate supply of propane. Disconnect the air cleaner heated air door hose from the carburetor four way vacuum tee connector, located at the front of carburetor, and connect propane supply hose to exposed nipple. Adjust propane flow rate to achieve highest engine speed. With propane flowing adjust idle speed screw to "F" rpm. Readjust the propane flow to obtain highest speed. Readjust idle speed screw to "F" rpm. Turn off propane flow and adjust the idle mixture screw to achieve "D" rpm. Recheck the enriched rpm. If maximum rpm with propane flowing, is more than 25 rpm different from original adjustment, repeat above adjustment procedure. Reconnect air cleaner door hose.

Make all adjustments with engine fully warmed up, transmission in neutral, all lights and accessories turned off, with the radiator electric cooling fan motor operating, carburetor switch terminal grounded with a jumper wire, and vacuum hoses at EGR valve and at the spark control unit disconnected and plugged. Before checking timing wait one minute after returning to idle. Adjustment of air conditioning idle stop solenoid (if so equipped) is not necessary during routine tune-up. See Service Manual for detailed instructions on idle and tappet lash adjustments.
 *NOTE: On a new vehicle (under 300 miles) all speed settings should be reduced 75 rpm.



Item B Vehicle Emission Control Information Label (Typical of California)

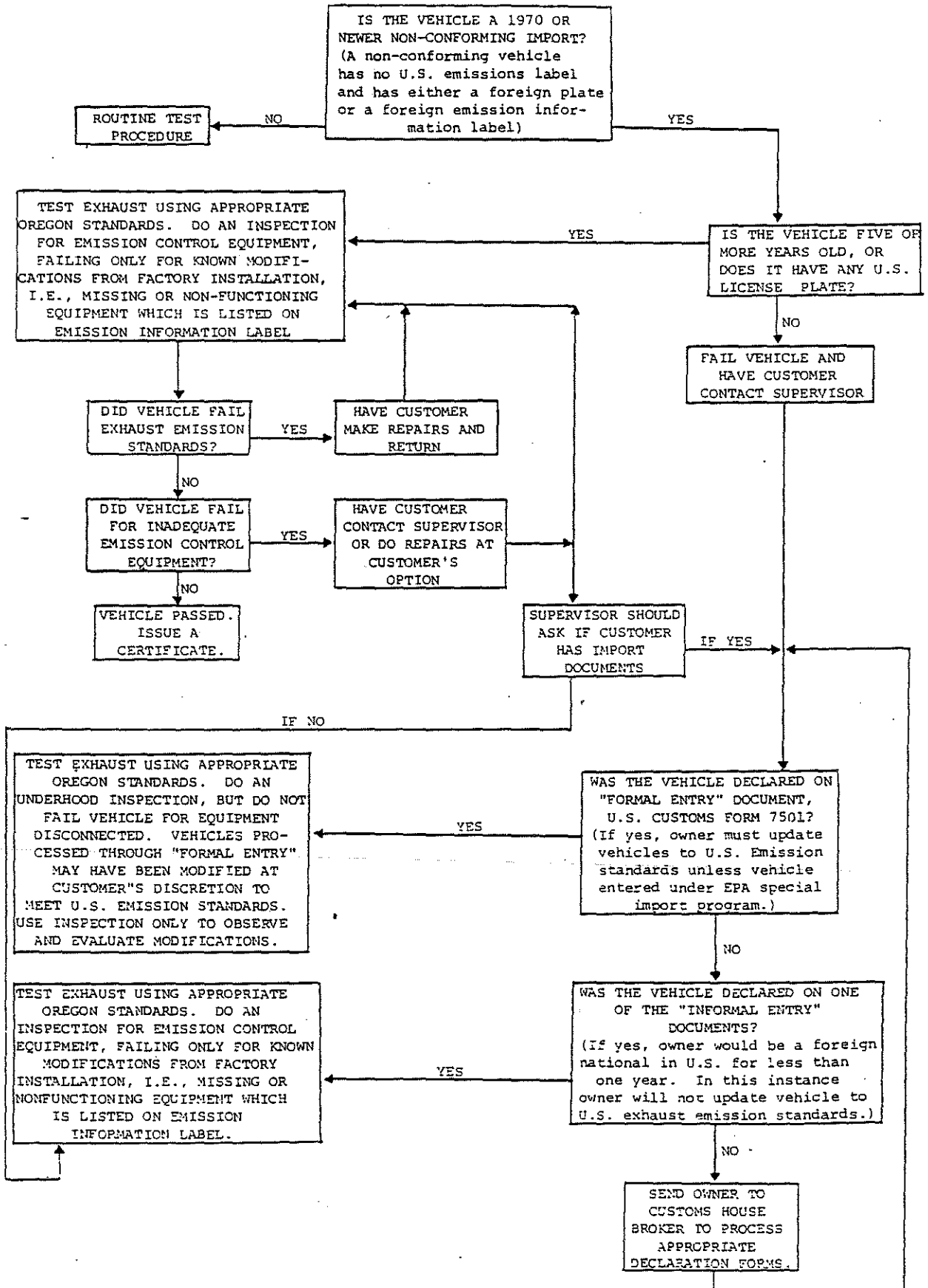
Maintenance Schedule Y		ENGINE = A litre
VEHICLE EMISSION CONTROL INFORMATION IDLE SETTING: Timing = C BTC Curb r/min = D* Enriched r/min = F* MIXTURE SETTING: Disconnect air cleaner heated air door hose at carburetor base and connect propane supply hose to exposed nipple. For propane adjustment procedure - See Service Manual. Make all adjustments with engine fully warmed up, transmission in neutral, all lights and accessories turned off, carburetor switch terminal grounded with a jumper wire, and vacuum hoses at EGR valve and at the spark control unit disconnected and plugged. Before checking timing wait one minute after returning to idle. *NOTE: On a new vehicle (under 500 km) all speed settings should be reduced 75 r/min.		

	Tableau d'entretien Y		
	RENSEIGNEMENTS RELATIFS AU CONTROLE DES EMISSIONS DU VEHICULE REGLAGE DU RALENTI: Distribution = C AV.P.H Régime du ralenti à vide = D* Régime du ralenti enrichi = F* REGLAGE DU MELANGE: Débranchez le tuyau d'entrée d'air chauffé du litre d'air à la base du carburateur et branchez le tuyau d'alimentation de propane au raccord approprié. Consultez le manuel de service pour les détails de réglage du propane. Faites tous les réglages lorsque le moteur est entièrement réchauffé, la boîte de vitesses au point mort, les feux et accessoires éteints, la borne d'interrupteur du carburateur reliée à la masse avec un câble de fermeture et les tuyaux de vide à la soupape EGR et à l'unité d'avance à l'allumage débranchés et couchés. Avant de vérifier la distribution, attendez une minute après le retour au ralenti. *NOTE: sur un véhicule neuf (moins de 500 km) tous les réglages de vitesses devraient être réduits de 75 t/m.		

Item C Vehicle Emission Control Information Label (Typical of Canada)

ATTACHMENT 2

DEPARTMENT OF ENVIRONMENTAL QUALITY
 VEHICLE INSPECTION PROGRAM
 NON-CONFORMING IMPORTED VEHICLE TEST PROCEDURE



H-173

Department of Environmental Quality
Vehicle Inspection Program

U.S. CUSTOMS FORM 7501 (Sample)

J. T. STEEB & CO., INC.
BROKERS FILE 110591cd 422 PACIFIC BLDG., PORTLAND, OREGON 97204
CN: 9999 CONSUMPTION ENTRY
UNITED STATES CUSTOMS SERVICE

RECORD COPY
CASHIER'S COPY

This Space For Census Use Only		110591cd CN: 9999 Form approved. (I.M.B. No. 48-R0217)		This Space For Customs Use Only	
BLOCK AND FILE NO.	M.G.T.			ENTRY NO. AND DATE	312
MANIFEST NO.				81-428556-1	051381
FOREIGN PORT OF LADING	U.S. PORT OF UNLOADING	Dist. and Port Code		Part of Entry Name	Term Bond No.
		29	04	Portland, Oregon CRP	SEB/891

Importer of Record (Name and Address)
For Account of (Name and Address)

SAME

Importing Vessel (Name) or Carrier	B/L or AWB No.	Port of Lading	I.T. No. and Date
CARIBBEAN HWY (JAPAN)	10 & 11	EMDEN, W. GERMANY	
Country of Exportation	Date of Exportation	Type and Date of Invoice	I.T. From (Port)
W. GERMANY	04/17/81	FSC 03/06/81	
U.S. Port of Unloading	Date of Importation	Location of Goods—G.O. No.	I.T. Carrier (Delivering)
Portland, Oregon	05/05/81	VANGOUVER T2	

MARKS & NUMBERS OF PACKAGES COUNTRY OF ORIGIN OF MERCHANDISE (1)	DESCRIPTION OF MERCHANDISE IN TERMS OF T.S.U.S. ANNO. NUMBER AND KIND OF PACKAGES (2)		ENTERED VALUE IN U.S. DOLLARS (3)	T.S.U.S. ANNO. REPORTING NO. (4)	TARIFF OR I.R.C. RATE (5)	DUTY AND I.R. TAX (6)
	GROSS WEIGHT IN POUNDS (2a)	NET QUANTITY IN T.S. U.S. ANNO. UNITS (2b)				
C/O W. GERMANY	2	MERCEDES BENZ	765	692.1040	2.9%	22 19
	5734	2	PEXT CHGS	765 1500		
INVOICE & ENTERED VALUE						
@ 478057 DM 1600.00						
U.S.\$ 164.90						

ISSUING DOCUMENTS
SCI (WALVER REQ.)
CERT CONF DOT & EPA

THIS SPACE FOR CUSTOMS USE ONLY

#06

I declare that I am the nominal consignee and that the actual owner for customs purposes is as shown above consignee or agent of the importer. I further declare that the merchandise was or was not obtained in pursuance of a purchase or agreement to purchase. I also include in my declaration all the statements in the declaration on the back of this entry Attorney in fact

WOLFGANG DRESLER 05/22/81 DATE
J.T. STEEB & CO. INC. (Signature)
122 Pacific Bldg., Portland, Oregon 97204 (Address)

DALE A. BOURAY

Principal
 Member of the firm
 Authorized agent (Title)

Department of Environmental Quality
Vehicle Inspection Program

4-117

VEHICLE EMISSION CONTROL INFORMATION LABELS

VEHICLE EMISSION CONTROL INFORMATION EVAPORATIVE FAMILY <u>S</u> MAINTENANCE SCHEDULE <u>Y</u> ENGINE = A Cu. In. <u>B</u> FAMILY		CATALYST	IDLE SETTINGS TIMING = C = 2° CURB RPM = D* = 100 ENRICHED RPM = F* FAST IDLE RPM = R*	HOT ENGINE VALVE LASH INTAKE - 2 TO 3 mm EXHAUST - 4 TO 5 mm
THIS VEHICLE CONFORMS TO U.S. ENVIRONMENTAL PROTECTION AGENCY REGULATIONS APPLICABLE TO 1978 MODEL YEAR NEW LIGHT DUTY VEHICLES.			Adjust fast idle RPM on step P of fast idle cam. Adjustment of air conditioning idle stop solenoid (if so equipped) is not necessary during routine tune-up. *NOTE: On a new vehicle (under 300 miles) all speed settings should be reduced 75 rpm.	

MIXTURE SETTING: Use a tachometer and adjustable flow rate supply of propane. Disconnect the air cleaner heated air door hose from the carburetor four way vacuum tee connector, located at the front of carburetor, and connect propane supply hose to exposed nipple. Adjust propane flow rate to achieve highest engine speed. With propane flowing adjust idle speed screw to "F" rpm. Readjust the propane flow to obtain highest speed. Readjust idle speed screw to "D" rpm. Turn off propane flow and adjust the idle mixture screw to achieve "D" rpm. Recheck the enriched rpm. If maximum rpm, with propane flowing, is more than 25 rpm different from original adjustment, repeat above adjustment procedure. Reconnect air cleaner door hose.

Make all adjustments with engine fully warmed up, transmission in neutral, all lights and accessories turned off, with the radiator electric cooling fan motor operating, carburetor switch terminal grounded with a jumper wire, and vacuum hoses at EGR valve and at the spark control unit disconnected and plugged. Before checking timing wait one minute after returning to idle. See Service Manual for detailed instructions on idle and tappet lash adjustments.

Item A Vehicle Emission Control Information Label (Typical of Federal)

VEHICLE EMISSION CONTROL INFORMATION THIS VEHICLE IS EQUIPPED WITH CHRYSLER CLEANER AIR SYSTEM (C, AP, EGR, ESA) AND CONFORMS TO U.S. ENVIRONMENTAL PROTECTION AGENCY AND CALIFORNIA REGULATIONS APPLICABLE TO 1978 MODEL YEAR NEW LIGHT DUTY VEHICLES.		CATALYST	IDLE SETTINGS TIMING = C = 2° CURB RPM = D* = 100 ENRICHED RPM = F* FAST IDLE RPM = R*	HOT ENGINE VALVE LASH INTAKE - 2 TO 3 mm EXHAUST - 4 TO 5 mm
ENGINE = A Cu. In. <u>B</u> FAMILY	EVAPORATIVE FAMILY <u>S</u> MAINTENANCE SCHEDULE <u>Y</u>		Adjust fast idle RPM on step P of fast idle cam. See Service Manual for detailed instructions concerning alternate idle mixture setting procedure. Alternate Idle Mixture Setting = T% Carbon Monoxide (Tolerance = + V%, - X%) before catalyst, air pump disconnected.	

MIXTURE SETTING: Use a tachometer and adjustable flow rate supply of propane. Disconnect the air cleaner heated air door hose from the carburetor four way vacuum tee connector, located at the front of carburetor, and connect propane supply hose to exposed nipple. Adjust propane flow rate to achieve highest engine speed. With propane flowing adjust idle speed screw to "F" rpm. Readjust the propane flow to obtain highest speed. Readjust idle speed screw to "D" rpm. Turn off propane flow and adjust the idle mixture screw to achieve "D" rpm. Recheck the enriched rpm. If maximum rpm, with propane flowing, is more than 25 rpm different from original adjustment, repeat above adjustment procedure. Reconnect air cleaner door hose.

Make all adjustments with engine fully warmed up, transmission in neutral, all lights and accessories turned off, with the radiator electric cooling fan motor operating, carburetor switch terminal grounded with a jumper wire, and vacuum hoses at EGR valve and at the spark control unit disconnected and plugged. Before checking timing wait one minute after returning to idle. Adjustment of air conditioning idle stop solenoid (if so equipped) is not necessary during routine tune-up. See Service Manual for detailed instructions on idle and tappet lash adjustments.
 *NOTE: On a new vehicle (under 300 miles) all speed settings should be reduced 75 rpm.

Item B Vehicle Emission Control Information Label (Typical of California)

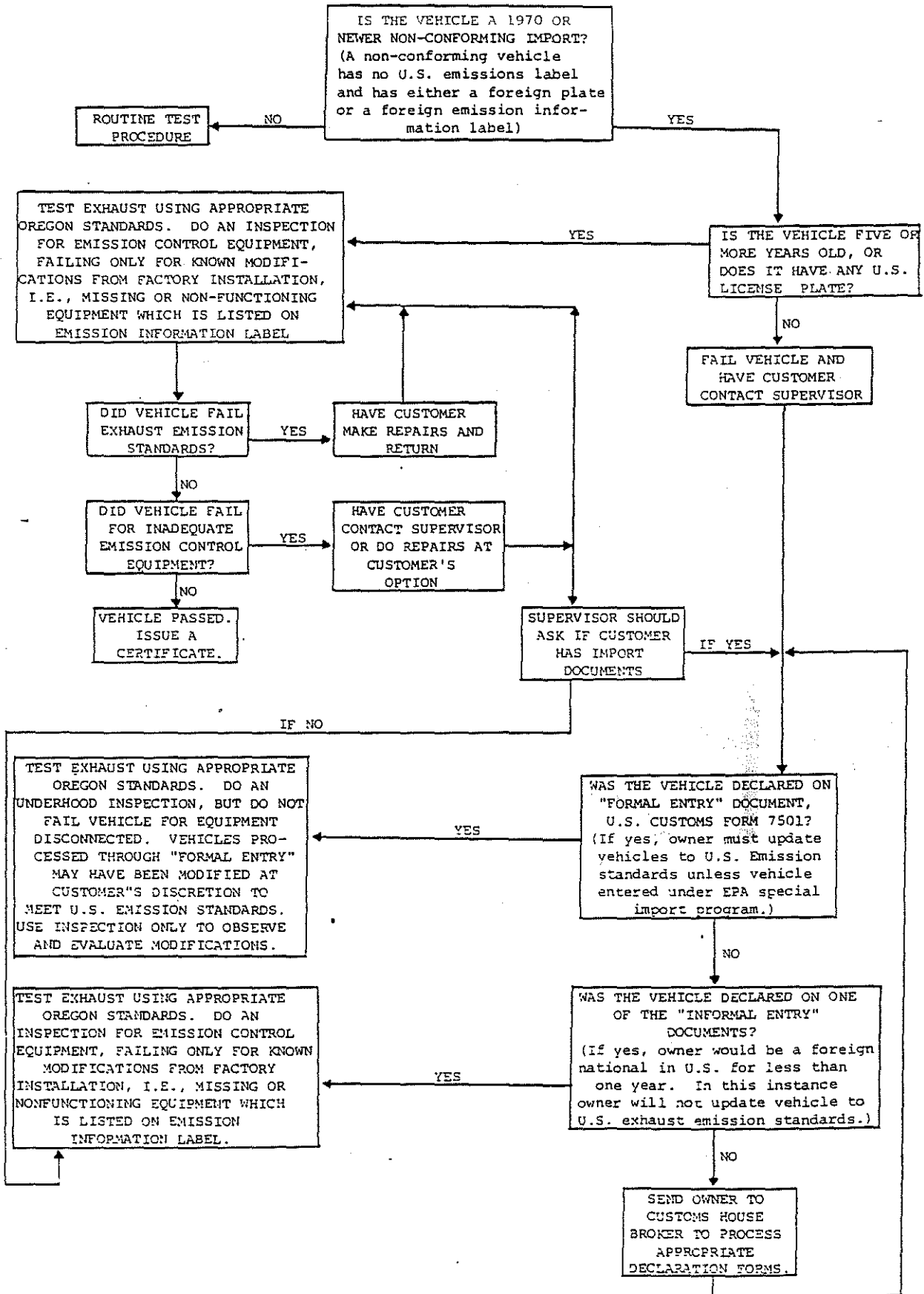
Maintenance Schedule <u>Y</u>		ENGINE = A litre
VEHICLE EMISSION CONTROL INFORMATION IDLE SETTING: Timing = C BTC Curb r/min = D* Enriched r/min = F* MIXTURE SETTING: Disconnect air cleaner heated air door hose at carburetor base and connect propane supply hose to exposed nipple. For propane adjustment procedure - See Service Manual. Make all adjustments with engine fully warmed up, transmission in neutral, all lights and accessories turned off, carburetor switch terminal grounded with a jumper wire, and vacuum hoses at EGR valve and at the spark control unit disconnected and plugged. Before checking timing wait one minute after returning to idle. *NOTE: On a new vehicle (under 500 km) all speed settings should be reduced 75 r/min.		

CHRYSLER CANADA LTD	Tableau d'entretien Y	CHRYSLER CANADA LITE
	RENSEIGNEMENTS RELATIFS AU CONTROLE DES EMISSIONS DU VEHICULE MOTEUR = A litre REGLAGE DU RALENTI: Distribution = C AV.P.H Régime du ralenti à vide = D* Régime du ralenti enrichi = F* REGLAGE DU MELANGE: Débranchez le tuyau d'entrée d'air chauffé du filtre d'air à la base du carburateur et branchez le tuyau d'alimentation de propane au raccord apparent. Consultez le manuel de service pour les détails de réglage du propane. Fuite, tous les réglages lorsque le moteur est entièrement réchauffé, la boîte de vitesses au point mort, les feux et accessoires éteints, la borne d'interrupteur du carburateur reliée à la masse avec un câble de fermeture et les tuyaux de vide à la soupape EGR et à l'unité d'avance à l'allumage débranchés et couchés. Avant de vérifier la distribution, attendez une minute après le retour au ralenti. *NOTE: sur un véhicule neuf (moins de 500 km) tous les réglages de vitesses devraient être réduits de 75 r/m.	

Item C Vehicle Emission Control Information Label (Typical of Canada)

H-115

VEHICLE INSPECTION PROGRAM
NON-CONFORMING IMPORTED VEHICLE TEST PROCEDURE



Department of Environmental Quality
Vehicle Inspection Program

U.S. CUSTOMS FORM 7501 (Sample)

J. T. STEEB & CO., INC.
BROKERS FILE 110591cn 422 PACIFIC BLDG., PORTLAND, OREGON 97204
CN: 9999 CONSUMPTION ENTRY
UNITED STATES CUSTOMS SERVICE

RECORD COPY
CASHIER'S COPY

This Space For Census Use Only		110591cn CN: 9999 Form approved. O.M.B. No. 48-R0217.	This Space For Customs Use Only	
BLOCK AND FILE NO.	M.O.T.		ENTRY NO. AND DATE	312
MANIFEST NO.		81-428556-1	051381	
FOREIGN PORT OF LADING	U.S. PORT OF UNLADING	DoL and Port Code	Port of Entry Name	Term Bond No.
		29 04	Portland, Oregon CRP	SEB/891

Importer of Record (Name and Address)
For Account of (Name and Address)
SAME

Importing Vessel (Name) or Carrier	B/L or AWB No.	Port of Lading	I.T. No. and Date
CARIBBEAN HWY (JAPAN)	10 & 11	EMDEN, W. GERMANY	
Country of Exportation	Date of Exportation	Type and Date of Invoice	I.T. From (Port)
W. GERMANY	04/17/81	FSC 03/06/81	
U.S. Port of Unlading	Date of Importation	Location of Goods—G.O. No.	I.T. Carrier (Delivering)
Portland, Oregon	05/05/81	VANGOUVER T2	

MARKS & NUMBERS OF PACKAGES COUNTRY OF ORIGIN OF MERCHANDISE (1)	DESCRIPTION OF MERCHANDISE IN TERMS OF T.S.U.S. ANNO. NUMBER AND KIND OF PACKAGES (2)		ENTERED VALUE IN U.S. DOLLARS (3)	T.S.U.S. ANNO. REPORTING NO. (4)	TARIFF OR I.R.C. RATE (5)	DUTY AND I.R. TAX (6)
	GROSS WEIGHT IN POUNDS (2a)	NET QUANTITY IN T.S. U.S. ANNO. UNITS (2b)				
C/O W.1 GERMANY	2	MERCEDES BENZ	765 PEXT CHGS	692.1040 765 1500	2.9%	22 19
INVOICE & ENTERED VALUE DM 1600.00 @ 478057 U.S.\$ 164.90						

MISSING DOCUMENTS SCT (WAIVER REQ.) CERT CONF BOT & EPA	THIS SPACE FOR CUSTOMS USE ONLY
#06	

I declare that I am the nominal consignee and that the actual owner for customs purposes is as shown above or consignee or agent of the consignee. I further declare that the merchandise was or was not obtained in pursuance of a purchase or agreement to purchase. I also include in my declaration all the statements in the declaration on the back of this entry. Attorney in fact

WOLFGANG DRESLER 05/22/81 DATE
J.T. STEEB & CO. INC. (Signature)
422 Pacific Bldg., Portland, Oregon 97204 (Address)

DALE A. BOURAY (Title)

H-177

Department of Environmental Quality
Vehicle Inspection Program

U.S. CUSTOMS FORM 3299 (Sample-front side)



DEPARTMENT OF THE TREASURY
UNITED STATES CUSTOMS SERVICE

FORM APPROVED
O.M.B. NO. 48-RQ473

DECLARATION FOR FREE ENTRY OF UNACCOMPANIED ARTICLES

148.6, 148.52, 148.53, 148.77, C.R.

PART I - TO BE COMPLETED BY ALL PERSONS SEEKING FREE ENTRY OF ARTICLES (Please consult with the Customs official for additional information or assistance. REMEMBER-All of your statements are subject to verification. False declarations or failure to declare articles could result in penalties.)

1. IMPORTER'S NAME (Last, first and middle)	2. IMPORTER'S DATE OF BIRTH	3. IMPORTER'S DATE OF ARRIVAL
4. IMPORTER'S U.S. ADDRESS	5. IMPORTER'S PORT OF ARRIVAL	
	6. NAME OF ARRIVING VESSEL/CARRIER AND FLIGHT/TRAIN	
7. NAME(S) OF ACCOMPANYING HOUSEHOLD MEMBERS (wife, husband, minor children, etc.)		

8. THE ARTICLES FOR WHICH FREE ENTRY IS CLAIMED BELONG TO ME AND/OR MY FAMILY AND WERE IMPORTED	A. DATE	B. NAME OF VESSEL/CARRIER	C. FROM (Country)	D. B/L OR AWB OR I. T. NO.
E. NUMBER AND KINDS OF CONTAINERS	F. MARKS AND NUMBERS			

PART II - TO BE COMPLETED BY ALL PERSONS EXCEPT U.S. PERSONNEL AND EVACUEES

9. RESIDENCY ("X" appropriate box) I declare that my place of residence abroad <input type="checkbox"/> is <input type="checkbox"/> was	A. NAME OF COUNTRY	B. LENGTH OF TIME Yr. Mo.
C. RESIDENCY STATUS UPON MY/OUR ARRIVAL ("X" One) <input type="checkbox"/> (1) Returning resident of the U.S. <input type="checkbox"/> (2) Nonresident: <input type="checkbox"/> a. Emigrating to the U.S. <input type="checkbox"/> b. Visiting the U.S.		

10. STATEMENT(S) OF ELIGIBILITY FOR FREE ENTRY OF ARTICLES

I the undersigned further declare that: ("X" all applicable items and submit packing list).

<p>A. Applicable to RESIDENT AND NONRESIDENT</p> <input type="checkbox"/> (1) All household effects acquired abroad for which entry is sought were used abroad for at least one year by me or my family in a household of which I or my family was a resident member during such period of use, and are not intended for any other person or for sale. (810.10, TSUSA). <input type="checkbox"/> (2) All instruments, implements, or tools of trade, occupation or employment, and all professional books for which free entry is sought were taken abroad by me or for my account or I am an emigrant who owned and used them abroad (810.20, 811.10, TSUSA).	<p>C. Applicable to NONRESIDENT ONLY</p> <input type="checkbox"/> (1) All articles of apparel, personal adornment, toiletries and similar personal effects for which free entry is sought were actually owned by me and in the possession of myself, or those members of my family who accompanied me, at the time of departure to the United States and that they are appropriate and are intended for our personal use and not for any other person nor for sale. (812.10, TSUSA). <input type="checkbox"/> (2) Any vehicles, trailers, bicycles or other means of conveyance being imported are for the transport of me and my family and such incidental carriage of articles as are appropriate to my personal use of the conveyance. (812.30, TSUSA).
<p>B. Applicable to RESIDENT ONLY</p> <input type="checkbox"/> All personal effects for which free entry is sought were taken abroad by me or for my account. (813.10, TSUSA).	

PART III - TO BE COMPLETED BY U.S. PERSONNEL AND EVACUEES ONLY

I, the undersigned, the owner, importer, or agent of the importer of the personal and household effects for which free entry is claimed, hereby certify that they were in direct personal possession of the importer, or of a member of the importer's family residing with the importer, while abroad, and that they were imported into the United States because of the termination of assignment to extended duty (as defined in section 148.74(d) of the Customs Regulations) at a post or station outside the United States and the Customs Territory of the United States, or because of Government orders or instructions evacuating the importer to the United States; and that they are not imported for sale or for the account of any other person and that they do not include any alcoholic beverages or cigars. Free entry for these effects is claimed under Item 817.00, Tariff Schedules of the United States.

1. DATE OF IMPORTER'S LAST DEPARTURE FROM THE U.S.	2. A COPY OF THE IMPORTER'S TRAVEL ORDERS IS ATTACHED AND THE ORDERS WERE ISSUED ON:
--	--

PART IV - TO BE COMPLETED BY ALL PERSONS SEEKING FREE ENTRY OF ARTICLES (Certain articles may be subject to duty and/or other requirements and must be specifically declared herein. Please check all applicable items and list them separately in Item D on the reverse.)

<p>A. For U.S. Personnel, Evacuees, Residents and Non-Residents</p> <input type="checkbox"/> (1) Articles for the account of other persons. <input type="checkbox"/> (2) Articles for sale or commercial use. <input type="checkbox"/> (3) Firearms and/or ammunition. <input type="checkbox"/> (4) Alcoholic articles of all types or tobacco products. <input type="checkbox"/> (5) Fruits, plants, seeds, meats, or birds. <input type="checkbox"/> (6) Fish, wildlife, animal products thereof.	<p>B. For Residents and Non-Residents ONLY</p> <input type="checkbox"/> (7) Foreign household effects acquired abroad and used less than one year. <input type="checkbox"/> (8) Foreign household effects acquired abroad and used more than one year. <p>C. For Residents ONLY</p> <input type="checkbox"/> (9) Personal effects acquired abroad. <input type="checkbox"/> (10) Foreign made articles acquired in the United States and taken abroad on this trip or acquired abroad on another trip that was previously declared to U.S. Customs. <input type="checkbox"/> (11) Articles taken abroad for which alterations or repairs were performed abroad.
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ATTACHMENT 4 (Continued)

Department of Environmental Quality
Vehicle Inspection Program

U.S. CUSTOMS FORM 3299 (Sample-back side)

D. LIST OF ARTICLES			
(1) ITEM NUMBER CHECKED IN PART IV, A., B., & C.	(2) DESCRIPTION OF MERCHANDISE	(3) VALUE OR COSTS OF REPAIRS	(4) FOREIGN MERCHANDISE TAKEN ABROAD THIS TRIP: State where in the U.S. the foreign merchandise was acquired or when and where it was previously declared to U. S. Customs.

PART V - CARRIER'S CERTIFICATE AND RELEASE ORDER

The undersigned carrier, to whom or upon whose order the articles described in PART I, B., must be released, hereby certifies that the person named in Part I, 1., is the owner or consignee of such articles within the purview of section 484(h), Tariff Act of 1930.

In accordance with the provisions of section 484(h), Tariff Act of 1930, authority is hereby given to release the articles to such consignee.

1. NAME OF CARRIER	2. SIGNATURE OF AGENT (Print and sign)	DATE
--------------------	--	------

PART VI - CERTIFICATION - TO BE COMPLETED BY ALL PERSONS SEEKING FREE ENTRY

I, the undersigned, certify that this declaration is correct and complete.

1. "X" One

A. Authorized Agent* (From facts obtained from the Importer) B. Importer

2. SIGNATURE	3. DATE
--------------	---------

*An Authorized Agent is defined as a person who has actual knowledge of the facts and who is specifically empowered under a power of attorney to execute this declaration (See 141.19, 141.22, 141.33, C.B.).

PART VII - CUSTOMS USE ONLY (Inspected and Released)

1. SIGNATURE OF CUSTOMS OFFICIAL	2. DATE
----------------------------------	---------

ATTACHMENT 5

Department of Environmental Quality
Vehicle Inspection Program

U.S. CUSTOMS FORM 3461 (Sample)

Customs Form 3461
TREASURY DEPARTMENT
50, C. M. 31, 33, G.R.
JULY 1953

(PRESENT IN DUPLICATE)

Form approved.
Budget Bureau No. 45-82544

APPLICATION FOR SPECIAL PERMIT FOR DELIVERY OF PERISHABLE AND OTHER ARTICLES,
IMMEDIATE DELIVERY OF WHICH IS NECESSARY

BUREAU OF CUSTOMS

DISTRICT No. _____, PORT OF _____ (Date) _____

To the Collector:

I hereby make application for special permit for the immediate delivery of the articles described below, shipped from _____ on the _____, 19____, or during the period from _____, 19____ to _____, 19____, to be entered in the name of _____

Port of Lading _____ B/L No. _____

QUANTITY	DESCRIPTION	VALUE	PACKAGES TO BE EXAMINED (Marks and numbers)

I declare that unusual loss or inconvenience as described below* will result from delay in delivering the above-described merchandise, the quantity and value of which, to the best of my knowledge, information, and belief, are truly set forth above, and that immediate entry thereof cannot be made for the following reasons, viz: _____

(Owner, consignee, or agent)

PERMIT

[No fee]

Permission is hereby given to release the articles above described after due examination has been made, or samples taken.

Deposit required, \$ _____

Bond No. _____

[CASHIER'S STAMP]

Acting Deputy Collector.

INSPECTOR'S REPORT

Station No. _____

Date _____

TO THE COLLECTOR:

Articles released as described above, except viz: _____

Inspector.

*Give a full and explicit statement of the facts in the case.

INSTRUCTIONS.—One copy of this application shall be retained as an office record and one copy executed as the permit.

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ATTACHMENT 6

Department of Environmental Quality
Vehicle Inspection Program

U.S. CUSTOMS FORM 5119-A (Sample)

☆ U.S. GOVERNMENT PRINTING OFFICE: 1975 - 324 - 442

DEPARTMENT OF THE TREASURY
U.S. CUSTOMS SERVICE

INFORMAL ENTRY

Entry No. 2 1995092

ORIGINAL

*MAY OR MAY NOT HAVE
a number. if preprinted*

Form approved.
D.M.B. No. 48-R0236

IMPORTER _____
ADDRESS OF IMPORTER (Show ZIP code) _____
*number is PORT
not on top there will be a validated
number on bottom of form.*

MARKS & NOS. AWB GR B/L NO.	DESCRIPTION OF MERCHANDISE AND/OR T.U.S. ANNO. REPORTING NUMBER	QUANTITY	VALUE	RATE	DUTY
<i>Sample</i>					
			TOTAL DUTY		\$
			TOTAL I.R. TAX		\$
			TOTAL COLLECTION:		\$

LT. NO. _____ DATE OF IMPORTATION _____ COUNTRY OF EXPORTATION _____ IMPORTING CARRIER _____ C.O. NO. _____
LT. FROM PORT OF: _____

Amount of Duty and Tax Shown Above Received.

SIGNATURE OF CUSTOMS OFFICER _____ DATE _____
I declare that the information above set forth is accurate to the best of my knowledge and belief and that I have not received and do not know of any other invoice than that attached.
SIGNATURE OF IMPORTER OR AGENT _____

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ATTACHMENT 7

Department of Environmental Quality
Vehicle Inspection Program

U.S. CUSTOMS FORM 6061 (Sample)

THE DEPARTMENT OF THE TREASURY BUREAU OF CUSTOMS 10.25a. C.R.		Form approved. Budget Bureau No. 48-R0312	
DECLARATION AND ENTRY FOR PERSONAL AND HOUSEHOLD EFFECTS OF UNITED STATES PERSONNEL AND EVACUEES. CARRIERS CERTIFICATE AND RELEASE			
SEE INSTRUCTIONS BELOW	DISTRICT NO.	PORT	DATE
I, the undersigned, the owner or importer of the personal and household effects described below, hereby certify that they were in my possession or in the possession of a member of my family residing with me, while abroad; that they were imported into the United States because of the termination of my assignment to extended duty (as defined in section 10.26a of the Customs Regulations) at a post or station outside the United States, and the Customs territory of the United States, or because of Government orders or instructions evacuating me to the United States; and that they were not imported as an accommodation for others or for sale. Free entry for these effects is claimed under item 817.00, Tariff Schedules of the United States.			
These effects arrived at this port on the	CARRIER	DATE OF ARRIVAL	FROM (Country)
MARKS AND NUMBERS	NUMBER AND KIND OF OUTER CONTAINERS	DESCRIPTION	VALUE
INSPECTED AND PASSED FREE OF DUTY		IMPORTER (Name and Address)	
CUSTOMS INSPECTOR			
DATE			
DATE OF IMPORTER'S LAST DEPARTURE FROM U.S.			
CARRIER'S CERTIFICATE AND RELEASE ORDER			
The undersigned carrier, to whom or upon whose order the articles described above must be released, hereby certifies that the person named above is the owner or consignee of such articles within the purview of section 484(h), Tariff Act of 1930.			
In accordance with the provisions of section 484(j), Tariff Act of 1930, authority is hereby given to release the articles to such consignee.			
NAME OF CARRIER	DATE	AGENT	
INSTRUCTIONS - This declaration is to be used by persons in the service of the United States or their families, or persons evacuated to the United States under Government orders, for free entry of personal and household effects.			
CUSTOMS FORM 6061 (3/70)			GPO 984-462

Department of Environmental Quality
Vehicle Inspection Program

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D.D. FORM 1252 (Sample)

US CUSTOMS DECLARATION FOR PERSONAL PROPERTY SHIPMENTS		WARNING: Any false statement or willful omission herein subjects the shipment to seizure and forfeiture or any person involved to a penalty equal to its value as well as to criminal prosecution.		CUSTOMS DECLARATION NO.	
PART I - HOUSEHOLD GOODS, UNACCOMPANIED BAGGAGE, AND PRIVATELY OWNED VEHICLES					
TO: (Overseas POE/APOE)			FROM: (Military customs inspector)		
SECTION A - OWNER'S CUSTOMS DECLARATION					
LAST NAME - FIRST NAME - MIDDLE INITIAL (Print or type)				GRADE	SOCIAL SECURITY NO.
UNIT ADDRESS OVERSEAS (Include APO number)			ADDRESS IN US (Include ZIP code)		
1. DECLARATION FOR: (Indicate by check of appropriate item) (Attach copy of orders)					
<input type="checkbox"/> HOUSEHOLD GOODS <input type="checkbox"/> UNACCOMPANIED BAGGAGE <input type="checkbox"/> PRIVATELY OWNED VEHICLE					
2. I DECLARE THAT: (1) All items in this shipment to the United States consist only of personal property for my personal use or the use of members of my family who have been residing with me; (2) The shipment contains no prohibited items; (3) Any articles which are (a) Restricted or (b) In excess of the quantities entitled to free entry under the law and regulations thereunder are listed and identified as such in the remarks space below (with the cost or fair value, if not obtained by purchase, given for those not entitled to free entry) or if there are none, I have written the words "No Exceptions," in that space; (4) None of the items is to be taken or shipped to the United States as an accommodation for others or for sale, barter, or exchange; (5) This declaration is made for me and for _____ (State number) members of my family; (6) Total quantities of alcoholic beverages and cigars included in this and other sets of customs declaration forms: Alcoholic beverages _____ (State quantity) Cigars _____ (State quantity); and (7) I have been serving overseas under competent US Government orders and was:					
a. ASSIGNED TO PERMANENT DUTY OVERSEAS b. REQUIRED TO PERFORM TEMPORARY DUTY OVERSEAS FOR 140 DAYS OR MORE c. ASSIGNED TO TEMPORARY DUTY OVERSEAS UNDER ORDERS WHICH INTENDED THE DURATION TO BE 140 DAYS OR MORE d. DIRECTED FROM ONE OVERSEAS DUTY STATION TO ANOTHER OVERSEAS DUTY STATION AND RETURN OF MY PERSONAL PROPERTY TO THE UNITED STATES HAS BEEN APPROVED AS INDICATED IN SUPPLEMENTAL INSTRUCTIONS TO ORDERS e. DIRECTED TO EVACUATE MYSELF, FAMILY, OR PERSONAL PROPERTY TO THE UNITED STATES f. DIRECTED TO SHIP PERSONAL PROPERTY IN ADVANCE OF THE ISSUANCE OF TRAVEL ORDERS					
THE STATEMENTS ABOVE ARE MADE WITH FULL KNOWLEDGE OF THE APPLICABLE PROVISIONS OF DOD REGULATION 5030.49R AND OVERSEAS INSTRUCTIONS					
DATE		SIGNATURE OF OWNER			
SECTION B - MILITARY CUSTOMS INSPECTOR'S CERTIFICATE					
I CERTIFY THAT: (1) I have <input type="checkbox"/> inspected <input type="checkbox"/> examined the personal property in _____ (State number) outer container(s) or the vehicle covered by this certificate and have read the above statements which, to the best of my knowledge and belief are true; (2) No unauthorized Government property is contained in the shipment; (3) Regulations relative to quantities, disinfection, keys, labeling, or tagging, and certificates have been complied with; and (4) The property in the shipment is being forwarded to the United States pursuant to competent US Government orders which I have examined and the correct item namely a, b, c, d, e, or f is checked above.					
Serial number(s) of seal(s) _____ (Give numbers) affixed to container(s).					
MILITARY CUSTOMS INSPECTOR STAMP		LAST NAME - FIRST NAME - MIDDLE INITIAL		GRADE	
		SIGNATURE OF MILITARY CUSTOMS INSPECTOR		DATE	
REMARKS (Indicate (a) Reason for absence of owner's signature if not shown. (b) Kind, quantity and disposition of articles withdrawn from shipment. (c) Prohibited, restricted or apparently dutiable articles remaining in shipment and location (container number); ALSO, draw a diagonal red line across face of form.)				THIS COLUMN IS FOR USE OF US CUSTOMS OFFICERS ONLY	
SECTION C - OVERSEAS PORT SHIPMENT DATA					
NAME OF CARRIER				VOYAGE OR FLIGHT NO.	

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I certify that I am a resident of the United States and that I am importing the vehicle listed below for my own personal use while in the United States. I will be here for approximately 6 months/weeks/days, and I will then export this vehicle from the port of BLAINE, WA.

I understand that a vehicle which does not conform with United States safety and emission control standards must either be exported before the lapse of one year or brought into conformity with the standards of both the Department of Transportation and the Environmental Protection Agency. I further understand that I may not offer the vehicle for sale or otherwise dispose of the vehicle unless I first present it to the District Director of Customs and pay applicable duties. I also understand that the vehicle must be in conformity with EPA and DOT STANDARDS PRIOR TO SALE. I understand that if I fail to comply with the above that the vehicle will be subject to forfeiture or I will be subject to penalties equal to the domestic value of the vehicle and that I may be subject to penalties of \$10,000. and/or imprisonment as provided for in 18 USC 1001 and 19CFR 148.46. Reference 19 CFR 12.73 and 12.80.

NAME E. R. NICHOLSON PASSPORT # CANADA DOB AVG. 15/48
& COUNTRY

U.S. ADDRESS 1053 183 AVE. N.E. PORTLAND, 97230

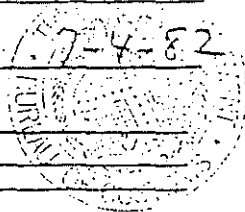
FOREIGN ADDRESS 4808 404 BLVD, EDMONTON, ALTA

VEHICLE INFORMATION: Make VW Model BUS Year '70 VIN 2302201314
Value \$3,000 DOT/EPA: Yes No Country/Plate # B.C. ATL-758

I, the undersigned, certify this declaration is correct and complete.

SIGNATURE OF IMPORTER  Date Jan 12/83

Importing Carrier Driven P/L# _____ Arr. Dat. 1-7-82

Signature of Customs Officer B. Cyp # 10310 

To U.S. Customs Officer at the port of exportation: Please certify the exportation of the above vehicle and return this form to the District Director of Customs, Attn: Chief, Headquarters Inspection Branch, 511 N.W. Broadway, Rm. 198, Portland, OR. 97209

Port of Exportation _____ Date _____

Signature and title of Customs Officer _____

Original: CHIB
Duplicate: Importer
Triplicate: Manifest

11/12/82



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

RECEIVED

AUG 09 1990

AIR PROGRAMS
UNIT

OFFICE OF
AIR AND RADIATION

AUTOMOTIVE IMPORTS FACT SHEET

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ATTACHMENTS:

- Manufacturers U.S. Representatives List
- Application For EPA Prior Written Approval
- Current List Of Independent Commercial Importers

* U.S. Environmental Protection Agency emission requirements only

IMPORTERS BEWARE!

- 1) The EPA policy which permits a first-time individual importer to import one nonconforming vehicle at least five model years old without the need to meet Federal emission standards IS ELIMINATED FOR ALL VEHICLES SHIPPED FROM A FOREIGN PORT AFTER DECEMBER 31, 1990.

- 2) EPA STRONGLY RECOMMENDS THAT YOU BUY A VEHICLE THAT IS LABELED BY THE MANUFACTURER AS MEETING U.S. EMISSION STANDARDS, because of the expense and potential difficulties involved with importing a vehicle not originally built to meet U.S. emission standards.

- 3) NOT ALL NONCONFORMING MOTOR VEHICLES ARE ELIGIBLE FOR IMPORTATION UNDER THE IMPORT REGULATIONS. Authorized independent commercial importers (ICIs) are allowed to import only certain vehicles based on what certificates of conformity they have obtained. In addition, an ICI may choose not to import a vehicle that it is eligible to import. For example, no ICI has chosen to import any motorcycle and ICIs seldom choose to import diesel-fueled vehicles.

- 4) Before buying or shipping a nonconforming motor vehicle, EPA strongly recommends that final arrangements be made with an ICI, or that written EPA prior approval or exemption be obtained, otherwise, costly storage fees may be assessed by Customs at the port of entry and/or the vehicle may not be eligible for importation.

- 5) For U.S. version vehicles driven in Europe, a bond will be required to be posted upon entry into the U.S. unless the vehicle participates and is shipped by one of the EPA approved cataly~~st~~ control programs.

IMPORTING NONCONFORMING VEHICLES

I. INTRODUCTION

On September 25, 1987, the U.S. Environmental Protection Agency (EPA) adopted new rules for importing motor vehicles and motor vehicle engines that, at the time of entry into the United States, do not conform with Federal emission requirements. Vehicles being imported into the United States that do not comply with U.S. emission standards are mainly European luxury automobiles. Because these vehicles were originally built for sale in Europe (and elsewhere), they generally are not designed to meet emission requirements in the United States. These rules are effective for all vehicles imported after June 30, 1988.

II. BACKGROUND

The regulations governing EPA's program for the importation of vehicles that do not comply with U.S. emission requirements were originally provided for in 1972 pursuant to the Clean Air Act (Act). Section 203 of the Act prohibits the importation of any new motor vehicle or engine (hereafter referred to as "vehicle") not covered by a certificate of conformity unless it is exempted by EPA or otherwise authorized jointly by EPA and the U.S. Customs Service (Customs) regulations. With respect to imported vehicles, Section 216 of the Act defines an imported vehicle as a "new" motor vehicle. Therefore, every vehicle imported into the United States is considered a "new" motor vehicle under the Imports regulations. Such regulations are appropriate to ensure that imported vehicles are brought into conformity with applicable emission standards. The authority to allow importation of such "nonconforming vehicles" is discretionary with EPA and Customs. Customs will not permit final admission of your vehicle until both emission and safety (see section VIII. A. below) requirements are met.

III. IMPORTATION REQUIREMENTS

The Act requires that new or used vehicles (cars, trucks, motorcycles, or heavy-duty engines) imported into the U.S. comply with Federal emission requirements. (Certain vehicles are not subject to Federal emission requirements due to date of manufacture; refer to section VII. B. for more information).

There are basically two vehicle categories which are subject to import restrictions:

- A. Vehicles manufactured in conformity with U.S. emission requirements and originally equipped with a catalytic converter and/or oxygen sensor and operated outside the U.S., Canada, Mexico, or Japan.

Vehicles in this category will contain U.S. emissions compliance labels that will identify them as such and may be imported by individuals. For more information on vehicles falling within this category and their importation requirements, please refer to Section D of this fact sheet.

- B. Vehicles which were not manufactured in conformity with U.S. emission requirements.

These vehicles will not be labeled¹ as complying with U.S. emission requirements. The rules do not prohibit an individual, such as one who might vacation in Europe and return with a nonconforming European built vehicle, from importing a vehicle into the U.S. Instead, the rules require individuals to arrange for such importations through an independent commercial importer (ICI)² holding a valid EPA "certificate of conformity".³

1/ HOW TO FIND THE U.S. EMISSIONS COMPLIANCE LABEL

- 1) 1971 and later conforming vehicles will have a label in the engine compartment entitled "Vehicle Emission Control Information" which will contain the name and trademark of the manufacturer and an unconditional statement of compliance with EPA emission regulations. For MOTORCYCLES, this label will be on the frame,
- 2) 1968 through 1970 conforming motor vehicles will have a label on the doorpost indicating compliance with Federal motor vehicle safety standards, and
- 3) 1967 and earlier motor vehicles are excluded from meeting U.S. emission requirements and will not have a compliance label.

2/ "Independent commercial importer or ICI" means a commercial importer who is not an original equipment manufacturer and who does not have a contractual agreement with an original equipment manufacturer (like Mercedes-Benz) to act as its authorized representative for the distribution of vehicles or engines into the U.S. market.

3/ A "certificate of conformity" is a document issued by EPA to a manufacturer or ICI to certify a particular class of vehicles (like Mercedes-Benz 500, 5.0 liter engine) which has been tested and shown to be capable of meeting U.S. emission requirements. Other vehicles in the manufacturer's or ICI's production line are built or modified to be identical to the prototype vehicle as described in the

performing all necessary modifications and testing, but also for assuring compliance of the vehicles they import with EPA emission requirements for 5 years/50,000 miles. In effect, this imposes on certificate holders the same emission requirements imposed on original equipment manufacturers (OEM) by the Act. These vehicles would be part of the certificate holder's "production line" and the certificate holder would be responsible for complying with all requirements for the vehicles they modify, whether or not they are actually owned by the certificate holder. A certificate holder must explicitly agree to these responsibilities before EPA will approve the final admission of the vehicle into the U.S.

IV. VEHICLES THAT MUST BE IMPORTED BY A CERTIFICATE HOLDER

WARNING: Not all vehicles are eligible to be imported. Eligibility varies from year to year and may vary with the certificate holder. You need to determine whether your vehicle is eligible to be imported by a certificate holder and make arrangements just prior to purchasing and shipping your vehicle! You may contact one of the certificate holders listed on Attachment 3 to determine if that certificate holder is qualified and willing to import your vehicle.

A. Vehicles less than six years old⁴

Imported nonconforming vehicles less than six years old must be modified so as to be covered by a certificate of conformity. Whether a vehicle may be imported depends on several factors (including the year in which the vehicle will be imported and whether the certificate holder has a certificate for a vehicle like yours). An ICI certificate holder wishing to import these vehicles must either: 1) obtain an EPA certificate of conformity for the model/model year (for example, Mercedes-Benz 500 originally manufactured in 1990) it desires to import, or 2) obtain EPA prior written approval to use the vehicles as prototypes to obtain the certificate of conformity. After modification of the vehicle, every third vehicle must be tested to measure its emissions to ensure that no recent production changes were made on the vehicle model by the original equipment manufacturer (OEM) which may have increased emissions of the vehicle above the standards.

NOTE: EPA has provided a five year transition period from the old program during which certificate holders need not certify certain vehicles less than six years old. See section V. "Phase-in Period" for more information.

4/ For the purposes of EPA regulations, a vehicle's age is determined by subtracting the calendar year in which it was originally manufactured from the calendar year of importation. For example, a vehicle built by a European manufacturer in 1986 and imported into the U.S. in 1988 would be two years old.

B. Vehicles six years old or older

Any vehicle six years old or older may be imported by any ICI holding a valid certificate of conformity if the ICI certificate holder is willing to be responsible for modifying and testing the vehicle and complying with the other emission requirements. Vehicles imported by a certificate holder under this option are subject to a "modification/test" procedure rather than the certification procedure outlined above. EPA permits entry of these older vehicles under the "modification/test" procedure in part to provide a greater degree of models available to consumers.

C. Vehicles twenty-one years old or older

Any vehicle twenty-one years old or older may be imported by any ICI holding a valid certificate of conformity. Modifications and testing are not required.

V. PHASE-IN PERIOD

EPA believes that it is appropriate to provide for a five year phase-in period for the certification program. Certificate holders need not certify certain vehicles less than six years old and may, instead, modify and test them under the modification/test procedures. This phase-in period permits ICIs additional lead time to obtain certificates for vehicle models between one and six years old.

The regulations during the phase-in period (July 1, 1988 - December 31, 1992) provide that vehicles of varying ages less than six years old may be modified and tested as long as the certificate holder possesses a "qualifying" certificate.⁵ Specifically, the following chart indicates which vehicles less than six years old may be modified/tested during the phase-in period if the ICI obtains a "qualifying" certificate.

<u>Calendar year of phase-in</u>	<u>Year of original vehicle production</u>
1988	1983 - 1987
1989	1984 - 1987
1990	1985 - 1987
1991	1986 - 1987
1992	1987
1993 and later	none

5/ A "qualifying" certificate is a currently valid EPA-issued certificate of conformity for a model that is one year old or less and is originally produced by the same OEM and is of

For example, in 1990, if an ICI obtains a certificate of compliance for a Mercedes-Benz 120 originally manufactured in calendar year 1989, the ICI may import (in addition to any vehicle six years old and older) any Mercedes-Benz gasoline-powered vehicles originally produced in calendar years 1985 through 1987.

VI. CERTIFICATE HOLDER COMPLIANCE REQUIREMENTS

A certificate holder who imports your nonconforming vehicle is responsible for:

- 1) Performing all modifications and emission testing, if required, within 120 days after the vehicle enters the United States.
- 2) Reporting the results of the modification and testing (if required) to EPA and holding the vehicle for 15 working days beginning with the date that EPA receives this report (or longer if EPA so notifies the certificate holder). During this period and the period preceding this report, the vehicle cannot be sold, offered for sale, redelivered to the current owner, or driven on public roads or highways.
- 3) Bearing responsibility for the vehicle's compliance with emission standards over the vehicle's useful life.⁶ This includes pre-release inspections and subsequent recall requirements.
- 4) Ensuring that the vehicle contains an emission label and vacuum hose diagram, as well as providing you with prepaid emission warranties and maintenance instructions for the vehicle.
- 5) Performing fuel economy tests and providing you with gas guzzler tax forms.

VII. EXEMPTIONS AND EXCLUSIONS

A. EXEMPTION FOR NONCONFORMING VEHICLES FIVE MODEL YEARS OLD AND OLDER

WARNING: This exemption will not be available for any vehicle shipped from a foreign port after December 31, 1990!

The September 25, 1987, rules for the importation of nonconforming motor vehicles eliminated a policy whereby some individuals could import one vehicle (five model years old or older) without meeting U.S. emission requirements. However, some individuals had purchased nonconforming vehicles prior to the abolition of the five model year old policy in anticipation

^{6/} The useful life of an imported nonconforming vehicle or engine begins when the certificate holder sells you the vehicle or redelivers it to you. For cars, the useful life is five years or 50,000 miles, which ever occurs first.

of importing the vehicle some time later. For those, particularly military personnel, who could not return their vehicle to the U.S. prior to July 1, 1988, this unforeseen circumstance created a unique hardship. Due to these circumstances, EPA decided to temporarily grant some relief under the hardship exemption of the new regulations (40 CFR 85.1511) to account for these circumstances. The exemption pertains only to certain vehicles that are five model years old or older when they are shipped from overseas.

EPA believes that the vast majority of individuals affected by the elimination of the five model year old policy were aware of this action within a few months of the Federal Register notice. Therefore, in order to qualify for this limited hardship exemption, a vehicle must have been purchased by an individual prior to December 1, 1987. Since many military personnel are affected by the abolition of the former five model year old policy and the normal military tour of duty lasts three years, the vehicle must also have been shipped to the U.S. from a foreign port on or before December 31, 1990.

Also, the owner of the vehicle must otherwise qualify for all of the requirements of the former five model year old/personal use exceptions policy. Specifically, all of the following requirements must be met in order to qualify for the hardship exemption:

- _____ the vehicle was not manufactured to U.S. emission specifications
- _____ the vehicle is at least five model years old on the date the vehicle is shipped from overseas (for these purposes, model year ends on August 31 of each calendar year, see chart below)
- _____ the vehicle was shipped from a foreign port on or before December 31, 1990
- _____ the importer owned the vehicle on or before November 30, 1987, and can provide a copy of a dated bill of sale or registration document which shows this
- _____ this is the first importation of a nonconforming motor vehicle by this owner
- _____ the vehicle is imported for personal use, and its purchase was not arranged by a business or agent
- _____ the vehicle will not be sold for at least two years from the date of importation
- _____ the importer is an individual, not a business

The following vehicles meet the age requirement for each calendar year of shipping:

year of shipment from overseas	vehicle must be manufactured before
1988	September 1, 1983
1989	September 1, 1984
	September 1, 1985

If all of the above requirements are met, the importer must submit supporting documentation to EPA in order to obtain a prior written approval letter. However, employees of the Department of Defense (DOD) should contact their Transportation Officer to obtain a prior written approval letter. The U.S. Customs Service will not allow the vehicle to be entered until the approval letter is obtained from EPA or the DOD. See the Attachment 2: "Application for EPA Prior Approval of Vehicle Admission" for more information.

B. Exclusions based on age of vehicles or engines

The following vehicles are excluded from the emission requirements of the Act and may be imported without a bond by any individual or business:

- 1) Gasoline-fueled light-duty vehicles and light-duty trucks originally manufactured prior to January 1, 1968.
- 2) Diesel-fueled light-duty vehicles originally manufactured prior to January 1, 1975.
- 3) Diesel-fueled light-duty trucks originally manufactured prior to January 1, 1976.
- 4) Motorcycles originally manufactured prior to January 1, 1978.
- 5) Gasoline-fueled and diesel-fueled heavy-duty engines originally manufactured prior to January 1, 1970.

C. Modification Exemption

Two options are available:

- 1) PROVE PRIOR TO IMPORTATION THAT THE VEHICLE IS IDENTICAL, IN ALL MATERIAL RESPECTS, TO A VEHICLE IDENTIFIED IN AN ORIGINAL EQUIPMENT MANUFACTURER'S (OEM'S) CERTIFICATION APPLICATION. To do this, the individual must obtain a letter from the OEM's U.S. representative (for a list see Attachment 1) attesting to the compliance of the vehicle. The letter must contain an unconditional statement that the vehicle (make, model, model year, VIN), at the time of manufacture, conformed to all U.S. emission requirements applicable to the appropriate model year. You must then obtain prior written approval from EPA before you attempt to import. To obtain prior written approval from EPA, you must provide:
 - a) A completed application for prior written approval (Attachment 2). These importations will be covered under the "Hardship Exemption" (code letter M) as described on the application form.
 - b) The original letter described above from the U.S. representative of the manufacturer on company letterhead.

2) MODIFY THE VEHICLE PRIOR TO IMPORTATION TO MAKE IT IDENTICAL, IN ALL MATERIAL RESPECTS, TO A VEHICLE IDENTIFIED IN AN OEM'S CERTIFICATION APPLICATION (prior to importation). The individual must obtain a letter from the OEM's U.S. representative (for a list see Attachment 1) outlining the necessary modifications to make the vehicle identical to its U.S. certified counterpart. The letter must list specific parts (including part numbers) which must be installed or replaced to bring the vehicle into conformity. The individual must then have the vehicle modified in accordance with those modification instructions. After the modifications are completed, the individual may then obtain prior written approval from EPA before attempting to import. To obtain prior written approval from EPA, the individual must provide:

- a) A completed application for prior written approval (Attachment 2). These importations will be covered under the "Hardship Exemption" (code letter M) as described on the application form.
- b) The original letter described above from the U.S. representative of the manufacturer on company letterhead.
- c) A clear copy of the paid invoice documenting that the proper parts (including part numbers) were installed or replaced and any necessary adjustments were made.

NOTE: Generally, EPA only accepts compliance information from the OEM's U.S. representative. However, as an exception to this rule, statements of conformity will be acceptable to EPA as evidence of conformity from General Motors of Canada if they are signed by a representative of the Vehicle Emission Compliance Department. This policy of accepting letters from someone other than the U.S. representative of the vehicle manufacturer does not apply to other manufacturers at this time.

D. Racing Exclusion

YOU MUST RECEIVE EPA'S PRIOR WRITTEN APPROVAL FOR THIS TYPE OF IMPORTATION. NOT ALL RACING VEHICLES ARE EXCLUDED FROM EMISSIONS COMPLIANCE. Racing vehicles which are not capable of being operated on streets/highways AND which are to be used only for racing events are excluded from the emission requirements of the Act and may be imported by any individual or business. As noted on the attached Prior Approval Application form, the following information must be submitted to EPA: the name of the sanctioning body and competition class; a schedule of racing events, including dates and locations where the vehicle will participate; a copy of the competition racing license; a letter from the state's Department of Motor Vehicles that states that the vehicle cannot be licensed for use on public streets or highways, and explains why it cannot be licensed; and four photographs of the vehicle must be included, one each of front, rear and each side. Additional information may be required in

E. Other exemptions which are outlined on the attached Prior Approval Application form

Other exemptions and the documentation required by EPA are described on the Prior Approval Application form (Attachment 2). EPA's written approval should be obtained prior to shipping your vehicle from overseas.

VIII. OTHER REQUIREMENTS

A. Customs

General questions regarding the importation of your vehicle should be directed to the Customs port where your vehicle will be entered. However, for further assistance you may contact:

U.S. Customs Service
Office of Trade Operations
Other Agency Enforcement Branch
1301 Constitution Avenue, N.W.
Washington, DC 20229
(202) 566-8652
Rep: Mr. Howard Duchan

B. Safety

Customs will not finally admit your vehicle into the U.S. until both emission and safety requirements are met, as well as other applicable Federal requirements. The EPA rules do not impact or reflect the Federal safety requirements to which the vehicles must comply. For information on safety requirements contact:

U.S. Department of Transportation
400 7th Street, S.W.
Room 6115
Washington, D.C. 20590
(202) 366-5313

C. Gas Guzzler Tax

A "Gas Guzzler Tax" may need to be paid on your vehicle. These taxes range from \$500 to \$3,850 per vehicle. For more information, contact:

Internal Revenue Service
Public Affairs Office
1111 Constitution Avenue, N.W.
Washington, D.C. 20224
(202) 566-2000

D. California emission requirements

The State of California has its own program for regulating the importation of nonconforming vehicles that are sold, registered, or operated in California. If you are a resident of, principally drive your car in, register or intend to sell vehicles in the State of California, you will need to comply with California's emission requirements in addition to the Federal emission requirements. For more information on California's requirements, contact:

State of California
Air Resources Board
Mobile Source Control Division
9528 Telstar Avenue
El Monte, CA 91731
(818) 575-6800

E. Other State requirements

1. Proof of Federal Emissions Compliance

Many State Department of Motor Vehicles (DMVs) require documentation indicating that Federal emission requirements have been met and proof of ownership before registration and/or titling of the vehicle will be permitted. Since Federal law prohibits the sale or operation of a nonconforming motor vehicle until Federal emission requirements have been met, EPA supports these State efforts to ensure that Federal laws are not being violated. EPA has indicated to representatives of State DMVs that the following documentation would be necessary in order to show that a vehicle being imported under this new imports program meets Federal emission requirements:

- A. a copy of the EPA entry form 3520-1, and
- B. for vehicles entered by ICIs, a verification letter from EPA which states that all applicable emission requirements have been met. To obtain such a letter, call (202) 382-2504, or
- C. for vehicles that EPA granted prior approval, a copy of the EPA letter of Prior Approval.

2. Proof of Gas Guzzler Payment

Some states will require proof of payment of the gas guzzler tax, if applicable to your vehicle (for information on this tax, see Section VIII. B.).

3. Inspection/Maintenance Requirements

Your state may operate a local Inspection/Maintenance (I/M) program which is designed to improve the emissions compliance of your vehicle. Because I/M programs vary, you should contact your local I/M office for more information on its requirements.

IMPORTING CANADIAN VEHICLES

On July 1, 1988, the U.S. Environmental Protection Agency (EPA) introduced new regulations which considerably revised the then existing regulatory program for the importation of nonconforming vehicles. While this action is typically identified as affecting only European luxury models not intended for sale in the U.S., it also restricts the importation of nonconforming vehicles from Canada which are not labeled with an unconditional statement of conformity with U.S. emission requirements. This label may be located under the hood or in the door jamb of your vehicle. If your vehicle does not contain such a label, then you must import your vehicle according to one of the options described below.

NOTE: These options relate only to compliance with EPA requirements; your vehicle may be subject to additional requirements of the U.S. Department of Transportation.

IMPORTATION BY AN INDIVIDUAL

Four options are available:

- 1) PROVE THAT THE VEHICLE IS IDENTICAL, IN ALL MATERIAL RESPECTS, TO A VEHICLE IDENTIFIED IN AN ORIGINAL EQUIPMENT MANUFACTURER'S (OEM'S) CERTIFICATION APPLICATION (prior to importation). To do this, the individual must obtain a letter from the OEM's U.S. representative (for a list see Attachment 1) attesting to the compliance of the vehicle. The letter must contain an unconditional statement that the vehicle (make, model, model year, VIN) conforms to all U.S. emission requirements applicable to the appropriate model year. You must then obtain prior written approval from EPA before you attempt to import. To obtain prior written approval from EPA, you must provide:
 - a) A completed application for prior written approval (Attachment 2). These importations will be covered under the "Hardship Exemption" (code letter M) as described on the application form.
 - b) The original letter described above from the U.S. representative of the manufacturer on company letterhead.

2) **MODIFY THE VEHICLE TO MAKE IT IDENTICAL, IN ALL MATERIAL RESPECTS, TO A VEHICLE IDENTIFIED IN AN OEM'S CERTIFICATION APPLICATION (prior to importation).** The individual must obtain a letter from the OEM's U.S. representative (for a list see Attachment 1) outlining the necessary modifications to make the vehicle identical to it's U.S. certified counterpart. The letter must list specific parts (including part numbers) which must be installed or replaced to bring the vehicle into conformity. The individual must then have the vehicle modified in accordance with those modification instructions. After the modifications are completed, the individual may then obtain prior written approval from EPA before attempting to import. To obtain prior written approval from EPA, the individual must provide:

a) A completed application for prior written approval (Attachment 2). These importations will be covered under the "Hardship Exemption" (code letter M) as described on the application form.

b) The original letter described above from the U.S. representative of the manufacturer on company letterhead.

c) A clear copy of the paid invoice documenting that the proper parts (including part numbers) were installed or replaced and necessary adjustments were made.

NOTE: Generally, EPA only accepts compliance information from the OEM's U.S. representative. However, as an exception to this rule, statements of conformity will be acceptable to EPA as evidence of conformity from General Motors of Canada if they are signed by a representative of the Vehicle Emission Compliance Department. This policy of accepting letters from someone other than the U.S. representative of the vehicle manufacturer does not apply to other manufacturers.

3) **VEHICLE IS ON THE ATTACHED LIST.** These vehicles have been proven to be identical in all material respects to a U.S. certified version of the same make, model and model year. You **must** obtain prior written approval from EPA before you attempt to import. To obtain prior written approval from EPA, you must provide:

a) A completed application for prior written approval (Attachment 2). These importations will be covered under the "Hardship Exemption" (code letter M) as described on the application form.

b) A description of the vehicle (make, model, model year, and VIN).

IMPORTATION BY AN INDIVIDUAL (cont.)

- 4) **IMMIGRANTS FROM CANADA MAY NOT NEED EPA'S PRIOR APPROVAL TO IMPORT A VEHICLE.** To qualify for this exemption the immigrant must demonstrate to the U.S. Customs Service at the border crossing the following:
- a) The immigrant must have proof that he/she has been granted U.S. immigrant status.
 - b) One of the following: (i) vehicle must have in a door jamb a Transport Canada label with the CMVSS designation, (ii) the owner must present a letter from the manufacturer's U.S. representative (for a list see Attachment 1) which unconditionally states that for the applicable model year, the vehicle complied with all applicable Canadian emission requirements or all applicable U.S. EPA emission requirements, or (iii) a sales receipt showing that the vehicle was purchased from a Canadian dealership and was new at the time it was purchased.
 - c) The immigrant must have proof that he/she owned the vehicle prior to immigration.
 - d) The immigrant must write the word "Immigrant" at the top of the EPA entry Form 3520-1 and declare code 14M. Form 3520-1 may be obtained from the U.S. Customs Service at the border crossing.

IMPORTATION BY A COMMERCIAL ENTITY

Only designated Canadian importers (DCIs) approved by EPA may import new vehicles under this option. To be included on EPA's list of approved DCIs, the company must agree in writing to the terms and conditions that apply to it as an importer of Canadian vehicles. In general terms, an importer of vehicles from Canada who wishes to be included on the list must agree to import only preapproved new models and provide labeling, warranties, recall obligations, and a three working day hold period. EPA will send a draft copy of the agreement to interested parties upon request. DCIs cannot import under any option available to individuals.

SPECIAL IMPORTATIONS

- 1) If your vehicle is five model years old or older at the time of importation and you owned the vehicle prior to December 1, 1987, you may qualify for an exemption. See page B-5 of this fact sheet for more details. This option will not be available for vehicles shipped to the U.S. after December 31, 1990.

SPECIAL IMPORTATIONS (cont.)

- 2) Some vehicles being imported from Canada were also built to meet California emission standards (but not Federal emission requirements). EPA will handle these thru prior approval on a case by case basis. EPA will allow these vehicles to be imported if the importer can provide proof that the vehicle is certified for sale in California and is destined for California. You must obtain prior written approval from EPA before you attempt to import. To obtain prior written approval the importer must provide:

Individuals

- a) A document showing that the vehicle is destined for California (i.e., job offers, school enrollment, transfer orders, etc.).
- b) A picture of the underhood label.
- c) An attestation that the picture belongs to the vehicle being imported.
- d) A completed application for prior written approval (Attachment 2).

Commercial

- a) A bill of sale, title, or shipping invoice showing that the vehicle is destined for California.
 - b) A picture of the underhood label.
 - c) An attestation that the picture belongs to the vehicle being imported.
 - d) A completed application for prior written approval (Attachment 2) for every vehicle being imported.
- 3) Conforming vehicles that have a label which attests to the compliance of the vehicle with U.S. emission requirements (either on the door jamb or underhood) may be imported by anyone and may pass freely across the border.
- 4) In some cases, Customs will allow temporary importations for a limited period of time. This generally applies to tourists and commercial vehicles. This is handled by Customs, not EPA!

Attachment

VEHICLES MADE FOR SALE IN CANADA
THAT MEET U.S. EMISSION REQUIREMENTS

1991 Model Year Vehicles Made for Sale in
Canada that Conform to U.S. Emission Requirements

I. 1991 Honda/Acura Products

1.0 All 1991 model year light-duty vehicles conform to U.S. emission requirements.

1.1 10th digit of VIN must be M (1991 model year)

1990 Model Year Vehicles Made for Sale in
Canada that Conform to U.S. Emission Requirements

1990 Ford Products

- 1.0 All 1990 model year light-duty vehicles conform to U.S. emission requirements.
 - 1.1 10th digit of VIN must be L (1990 model year)
- 2.0 All 1990 model year light-duty trucks (under 8,501 lbs. GVW) conform to U.S. emission requirements.
 - 2.1 10th digit of VIN must be L (1990 model year)
 - 2.2 4th digit of VIN cannot be H, J, K, L, M, N, P, R, S, T, U, V, W, X, Y, and Z (excludes GVW over 8,500 lbs.)

II. 1990 General Motors Products

- 1.0 All light-duty vehicles conform to U.S. emission requirements.
 - 1.1 10th digit of VIN must be L (1990 model year)
- 2.0 All light-duty trucks (under 8,501 lbs GVW) except those with the 6.2 liter diesel engine conform to U.S. emission requirements.
 - 2.1 10th digit of VIN must be L (1990 model year)
 - 2.2 8th digit of VIN cannot be J (excludes 6.2 liter diesel engine)
 - 2.3 4th digit of the VIN must be B, C, D, E or F (GVW under 8,501 lbs)

III. 1990 Honda/Acura Products

- 1.0 All 1990 model year light-duty vehicles conform to U.S. emission requirements.
 - 1.1 10th digit of VIN must be L (1990 model year)

1990 Products (cont.)

IV. 1990 Mazda Products

1.0 All 1990 model year light-duty passenger cars conform to U.S. emission requirements.

1.1 10th digit of VIN must be L (1990 model year)

1989 Model Year Vehicles Made for Sale in
Canada that Conform to U.S. Emission Requirements

I. 1989 BMW Products

1.0 All BMW 3 Series with the following VIN designation.

WBAAA230-K-----	WBAAB030-K-----
WBAAA130-K-----	WBAAB930-K-----
WBAAD230-K-----	WBAAE030-K-----
WBAAD130-K-----	WBAAE930-K-----
WBABB230-K-----	WBSAK030-K-----
WBABB130-K-----	

2.0 All BMW 5 Series with the following VIN designation.

WBAHC230-K-----	WBAHD131-K-----
WBAHC130-K-----	WBAHD231-K-----

3.0 All BMW 7 Series with the following VIN designation.

WBAGB431-K-----	WBAGC431-K-----
WBAGB331-K-----	WBAGC831-K-----

II. 1989 Ford Products

1.0 All 1989 model year light-duty vehicles conform to U.S. emission requirements.

1.1 10th digit of VIN must be K (1989 model year)

2.0 All 1989 model year light-duty trucks (under 8,501 lbs. GVW) conform to U.S. emission requirements.

2.1 10th digit of VIN must be K (1989 model year)

2.2 4th digit of VIN cannot be H, J, K, L, M, N, P, R, S, T, U, V, W, X, Y, and Z (excludes GVW over 8,500 lbs.)

III. 1989 General Motors Products

1.0 All light-duty vehicles conform to U.S. emission requirements.

1.1 10th digit of VIN must be K (1989 model year)

1989 General Motors Products (Cont.)

- 2.0 All light-duty trucks (under 8,501 lbs GVW) except those with the 6.2 liter diesel engine conform to U.S. emission requirements.
 - 2.1 10th digit of VIN must be K (1989 model year)
 - 2.2 8th digit of VIN cannot be J (excludes 6.2 liter diesel engine)
 - 2.3 4th digit of the VIN must be B, C, D, E or F (GVW under 8,501 lbs)

IV. 1989 Honda/Acura Products

- 1.0 All 1989 model year light-duty vehicles conform to U.S. emission requirements.
 - 1.1 10th digit of VIN must be K (1989 model year)

V. 1989 Hyundai Products

- 1.0 All 1989 Sonatas with 2.4 liter engines conform to U.S. emission requirements.
 - 1.1 8th digit of VIN must be K (1989 model year)
 - 1.2 6th digit of VIN must be S (designates 2.4 liter gasoline engines)

VI. 1989 Jeep Products

- 1.0 All 1989 model year light-duty trucks conform to U.S. emission requirements.
 - 1.1 10th digit of VIN must be K (1989 model year)

IV. 1989 Mazda Products

- 1.0 All 1989 model year light-duty passenger cars conform to U.S. emission requirements.
 - 1.1 10th digit of VIN must be K (1989 model year)

1988 Model Year Vehicles Made for Sale in
Canada that Conform to U.S. Emission Requirements

I. 1988 Ford Products

- 1.0 All 1988 model year light-duty vehicles conform to U.S. emission requirements except some Tracer and Tempo/Topaz models and those vehicles with the 351 cubic inch engine.
 - 1.1 For Tracer models the 6th and 7th VIN digits cannot be 10, 11, 12, 13, 15 or 16
 - 1.2 For Tempo/Topaz models the 6th and 7th VIN digits cannot be 30 or 35
 - 1.3 8th digit of VIN cannot be G (excludes 351 cubic inch engine)
 - 1.4 10th digit of VIN must be J (1988 model year)
- 2.0 All 1988 model year light-duty trucks (under 8,501 lbs. GVW) conform to U.S. emission requirements.
 - 2.1 10th digit of VIN must be J (1988 model year)
 - 2.2 4th digit of VIN cannot be H, J, K, L, M, N, P, R or S (excludes GVW over 8,500 lbs.)

II. 1988 General Motors Products

- 1.0 All light-duty vehicles built with the RPO designation NA5 conform to U.S. emission requirements.
 - 1.1 10th digit of VIN must be J (1988 model year)
- 2.0 All light-duty trucks (under 8,501 lbs. GVW) built with the RPO designation NA5 conform to U.S. emission requirements except those with the 6.2 liter diesel engine.
 - 2.1 10th digit of VIN must be J (1988 model year)
 - 2.2 8th digit of VIN cannot be J (excludes 6.2 liter diesel engine)
 - 2.3 4th digit of the VIN must be B, C, D, E or F (GVW under 8,501 lbs.)
- 3.0 On GM light-duty vehicles and light-duty trucks is a Service Parts Identification label that contains codes for certain parts and options originally installed on the vehicle along with the vehicle identification number.

1988 GM Products (cont.)

The labels are in one of four places.

- 3.1 Under the rear deck lid (trunk lid)
- 3.2 Under the rear load flow (trunk floor under carpeting)
- 3.3 In the glove compartment
- 3.4 In station wagons they may be on the back of the rear seat, on a wheel well under carpeting, or under the carpet on the floor.

Service Parts Identification**DO NOT REMOVE**

1G2JU27J2G7599735

AAA	A03	AK1	AR9	AU3	A01	A31	A4K	A4L	A90	BC8	BS1	BV2	BW1	BW8
BW9	BX1	BY1	B20	B23	B48	B56	B84	CD4	C49	C60	DD4	DD7	DD8	DD4
O35	O4R	D60	D80	D86	D9C	E5Z	GX3	K05	K22	K34	LA5	LO0	M09	MX1
NA5	NK4	N33	N40	M78	JPV	TR9	TT4	T37	T63	T83	UM6	UR4	US6	UT1
U21	U23	U25	U27	U29	U66	VK3	VY9	V73	WS6	WX3	WX7	YR1	Y31	YTI
YT9	Y73	Z35	Z49	O2A	25L	27C	27I	279	31U	6BF	7BH	8MY	9MY	

DIS. LACQUER - A- L8574 U8592 31U

Identification Des Pieces De Rechange**NE PAS ENLEVER**

PRINTED IN U.S.A.

PART NO. 14065989

If the label contains the code NA5 it is a U.S. certified version vehicle. The only exception are 1988 model year trucks with the 6.2 liter diesel engine. These trucks do not meet U.S. emission requirements even if they have the NA5 code.

NOTE: The importer must provide EPA with a picture of the label clearly showing the NA5 designation. This picture should accompany any other documentation required for obtaining prior approval.

III. 1988 Honda/Acura Products

1.0 All 1988 model year light-duty vehicles conform to U.S. emission requirements.

1.1 10th digit of VIN must be J (1988 model year)

IV. 1988 Chrysler Products (does not include Jeep Eagle vehicles)

1.0 All 1988 model year light-duty vehicles conform to U.S. emission requirements.

1.1 10th digit of VIN must be J (1988 model year)

2.0 All 1988 model year light-duty trucks (under 8,501 lbs. GVW) conform to U.S. emission requirements except those with the 360 cubic inch engine.

2.1 10th digit of VIN must be J (1988 model year)

2.2 8th digit of VIN cannot be 1, 5, 8, or W (excludes 360 cubic inch engine)

2.3 4th digit of VIN must be D, E, F, G, H or J (excludes GVW over 8,500 lbs.)

V. 1988 Jeeps

1.0 All 1988 model year light-duty trucks with a label (applied by the original equipment manufacturer) on the door jamb that states that it meets U.S. EPA regulations applicable to 1988 model year new motor vehicles, conform to U.S. emission requirements.

1.1 10th digit of VIN must be J (1988 model year)

IV. 1988 Mazda Products

1.0 All 1988 model year light-duty passenger cars conform to U.S. emission requirements.

1.1 10th digit of VIN must be J (1988 model year)

1987 Model Year Vehicles Made for Sale in
Canada that Conform to U.S. Emission Requirements

I. 1987 Volvo Products

- 1.0 All 1987 model year 240, 740, and 760 series vehicles conform to U.S. emission requirements.
- 1.1 The tenth digit of the VIN will have an H to signify the 1987 model year.
- 1.2 The fourth digit of the VIN will have an A, F or G to signify the 240, 740 or 760 series respectively.

II. 1987 Ford Products

- 1.0 The following 1987 model year light-duty vehicles conform to U.S. emission requirements.

- 1.1 The tenth digit of the VIN will have an H to signify the 1987 model year.
- 1.2 Complying light-duty vehicles.

Escort/Lynx/EXP
Tempo/Topaz

all
all except those with
digits 18, 21, 71, or 74
in the 6th and 7th VIN
positions. Except those
with an R in the
8th VIN position.

Mustang

all

Taurus/Sable

only those with D in the
8th VIN position.

Mercury XR4TI
Thunderbird/Cougar

all
all

Crown Victoria/Grand Marquis
Country Squire/Colony Park

all except those with G
in the 8th VIN position

Town Car
Continental/Mark VII
Mark VII LSC

all
all
all

1.3 Complying Light Trucks (under 8500 lbs. GVW)

Club Wagon	all except those with H through Z in the 4th VIN position.
E Series Vans	
F Series Pick-ups	
Bronco	

Aerostar	all
Bronco II	all
Ranger	all except those with E in the 8th VIN position

III. 1987 GM Products

1.0 All light-duty vehicles built with the RPO designation NA5 conform to U.S. emission requirements.

1.1 10th digit of VIN must be H (1987 model year)

2.0 All light-duty trucks (under 8,501 lbs. GVW) built with the RPO designation NA5 conform to U.S. emission requirements except those with the 6.2 liter diesel engine.

2.1 10th digit of VIN must be H (1987 model year)

2.2 8th digit of VIN cannot be C or J (excludes 6.2 liter diesel engine)

3.0 On GM light-duty vehicles and light-duty trucks is a Service Parts Identification label that contains codes for certain parts and options originally installed on the vehicle along with the vehicle identification number. The labels are in one of four places.

3.1 Under the rear deck lid (trunk lid)

3.2 Under the rear load flow (trunk floor under carpeting)

3.3 In the glove compartment

3.4 In station wagons they may be on the back of the rear seat, on a wheel well under carpeting, or under the carpet on the floor.

If the label contains the code NA5 it is a U.S. certified version vehicle. The only exception are 1987 model year trucks with the 6.2 liter diesel engine. These trucks do not meet U.S. emission requirements even if they have the NA5 code. See "1988 GM Products" on page 4 for more information about the NA5 code.

NOTE: You must provide EPA with a picture of the label clearly showing the NA5 designation. This picture should accompany any other documentation required for obtaining prior approval.

1986 Model Year Vehicles Made for Sale in
Canada that Conform to U.S. Emission Requirements

I. 1986 Ford Products

1.0 The following 1986 model year light-duty vehicles conform to U.S. emission requirements.

1.1 The tenth digit of the VIN will have a G to signify the 1986 model year.

1.2 Models that meet U.S. emission requirements

Escort/Lynx/EXP	all
Tempo/Topaz	all except those with R in the 8th VIN position.
Mustang/Capri LTD/Marquis Thunderbird/Cougar	all except those with 3 in the 8th VIN position.
Continental/Mark VII	all
Crown Victoria/Grand Marquis	only those with M in 8th VIN position
Town Car	all

2.0 The following 1986 model light-duty trucks conform to U.S. emission requirements.

1.1 The tenth digit of the VIN will have a G to signify the 1986 model year.

1.2 The 4th digit of the VIN must have an A, B, C, D, E, F, or G to indicate a GVWR less than 8500 lbs.

1.3 Models that meet U.S. emission requirements.

Ranger	all
Bronco II	all
Aerostar	all
E-Series (Vans) F-Series (Pick-ups)	all except those with Y in the 8th VIN position and use leaded fuel.

III. 1986 GM Products

- 1.0 All vehicles built with the RPO designation NA5 conform to U.S. emission requirements.
 - 1.1 10th digit of VIN must be G (1986 model year)
- 2.0 On GM light-duty vehicles and light-duty trucks is a Service Parts Identification label that contains codes for certain parts and options originally installed on the vehicle along with the vehicle identification number. The labels are in one of four places.
 - 2.1 Under the rear deck lid (trunk lid)
 - 2.2 Under the rear load floor (trunk floor under carpeting)
 - 2.3 In the glove compartment
 - 2.4 In station wagons they may be on the back of the rear seat, on a wheel well under carpeting, or under the carpet on the floor.

See "1988 GM Products" on page 4 for more information about the NA5 code.

NOTE: If the label contains the code NA5 it is a U.S. certified version vehicle. The importer must provide EPA with a picture of the label clearly showing the NA5 designation. This picture should accompany any other documentation required for obtaining prior approval.

1985 Model Year Vehicles Made for Sale in
Canada that Conform to U.S. Emission Requirements

I. 1985 Volvo Products

1.0 1985 Volvo 240 Series with the following VIN designation.

YV1AX474XF1000000	YV1AX885XF1000000
YV1AX475XF1000000	YV1AX884XF2000000
YV1AX474XF2000000	YV1AX885XF2000000
YV1AX475XF2000000	YV1AX884XF3000000
YV1AX474XF3000000	YV1AX885XF3000000
YV1AX475XF3000000	YV1DX884XF1000000
YV1AX884XF1000000	YV1DX884XF2000000

2.0 1985 Volvo 740 Series with the following VIN designation.

YV1AX884XF1000000	YV1AX885XF3000000
YV1AX885XF1000000	YV1DX884XF1000000
YV1AX884XF2000000	YV1DX884XF2000000
YV1AX885XF2000000	YV1DX874XF1000000
YV1AX884XF3000000	YV1DX874XF2000000
YV1DX694XF1000000	YV1DX764XF1000000

3.0 1985 Volvo 760 Series with the following VIN designation.

YV1DX694XF1000000
 YV1DX874XF1000000
 YV1DX874XF2000000
 YV1DX764XF1000000

1984 and Earlier Model Year Vehicles Made for
Sale in Canada that Conform to U.S. Emission Requirements

I. GM Products

- 1.0 All 1968 through 1974 light-duty vehicles.
- 2.0 All 1970 through 1978 trucks having a GVWR of more than 6000 pounds.
- 3.0 All 1968 through 1984 Chevrolet Corvettes.

II. Ford Products

- 1.0 All 1968 through 1974 light-duty vehicles.
- 2.0 All 1970 through 1978 trucks having a GVWR of more than 6000 pounds.

III. Chrysler Products

- 1.0 All 1968 through 1974 light-duty vehicles.
- 2.0 All 1970 through 1978 trucks having a GVWR of more than 6000 pounds.

IV. AMC Products

- 1.0 All 1968 through 1974 light-duty vehicles.
- 2.0 All 1970 through 1978 trucks having a GVWR of more than 6000 pounds.

V. Other Manufacturers

- 1.0 All 1968 through 1978 International Harvester passenger cars and trucks. 1979 Scout model, if equipped with a diesel engine.
- 2.0 All Mack trucks manufactured from 1970 through 1979.
- 3.0 All 1970 through 1979 Kenworth trucks, except 1979 trucks using the Detroit Diesel 12V71 model engine.
- 4.0 All 1970 through 1979 White, White Western Star, and Autocar trucks.
- 5.0 All Peterbilt trucks manufactured from 1970 through 1979.

Other Manufacturers (cont.)

- 6.0 All 1970 through 1979 Caterpillar engines used in trucks having a GVWR of more than 6000 pounds.
- 7.0 All 1970 through 1979 Cummins engines used in trucks having a GVWR of more than 6000 pounds.
- 8.0 All 1970 through 1978 Detroit Diesel engines used in trucks having a GVWR of more than 6000 pounds.

U.S. VERSION VEHICLES DRIVEN OVERSEAS

The use of leaded fuel in a vehicle equipped with a catalytic converter will affect the ability of the catalyst to effectively reduce emissions. In many overseas countries unleaded fuel is not yet widely available. Because your vehicle's catalytic converter and oxygen sensor (if applicable) play an important part in reducing the emissions of your vehicle, EPA must ensure that their effectiveness has not been impaired by the use of leaded gasoline.

NOTE:

- 1) ALL DIESEL-FUELED VEHICLES AND ANY GASOLINE-FUELED VEHICLE NOT EQUIPPED WITH A CATALYTIC CONVERTER ARE NOT SUBJECT TO THE REQUIREMENTS IN THIS FACT SHEET.
- 2) THE RESULTS OF A STATE EMISSION TEST DO NOT PROVE THAT THE VEHICLE COMPLIES WITH FEDERAL EMISSION REQUIREMENTS since this test was designed to detect automobiles with excessively high emissions and does not measure for some Federally regulated pollutants.
- 3) VEHICLES DRIVEN SOLELY WITHIN THE U.S., CANADA, MEXICO, OR JAPAN ARE NOT SUBJECT TO THE REQUIREMENTS OF THIS FACT SHEET.

I. Protecting Your Converter

If you are contemplating exporting your U.S. version vehicle from North America, you may obtain a waiver to have the catalytic converter and oxygen sensor (if your vehicle was manufactured with one) removed prior to shipment. When returning your vehicle to the U.S., the catalytic converter and the oxygen sensor will only have to be reinstalled, rather than replaced. For more information concerning a waiver, call EPA at (202) 382-2635.

II. EPA's Policy

Vehicles which were originally equipped with a catalytic converter or a catalytic converter and oxygen sensor, and were built to meet U.S. emission requirements (i.e., covered by a certificate of conformity and equipped with a U.S. emissions label) but have been driven outside the United States, Canada, Mexico, or Japan, may be imported by any individual. However, these vehicles are subject to import restrictions.

Generally, EPA's regulations require that the catalytic converter, or catalytic converter and oxygen sensor (certain 1978 and newer models are equipped with both a catalytic converter and oxygen sensor), be replaced on vehicles which may have been contaminated with leaded gasoline overseas.

Vehicles manufactured prior to the 1974 model year (i.e., 1973 model year vehicles and earlier) were not equipped with a catalytic converter. 1976 and later model year vehicles which were equipped with a catalytic converter may be identified by the word "Catalyst" found either on the underhood tune-up label or on the door jamb adjacent to the DOT safety label. The vehicle's fuel filler inlet restrictor will also have to be replaced if it has been removed or disabled. This requirement is necessary because unleaded gasoline is still not widely available in all areas outside North America, and use of leaded fuel can damage these components.

Vehicles which were not equipped by the manufacturer with a catalytic converter are not subject to import restrictions and may be imported without bond (EPA Form 3520-1 is not required). However, an individual must provide proof that his/her vehicle was not equipped with a catalytic converter at the time of manufacture.

III. Demonstrating Compliance with Federal Requirements

A. Bonded Entries

EPA requires an importation bond to assure that components which are vital to reducing emissions are fully operational after use overseas. The amount of the bond is determined by Customs and is generally the value of the vehicle. To enter a vehicle built to U.S. emission requirements into the U.S., you must file an EPA Form 3520-1 with Customs using category 14F. This form may be obtained from either your bonding company or Customs. After an entry has been made with Customs, you have 120 days to bring your vehicle into compliance with EPA requirements. You must choose one of the following options in order to gain EPA release of your bond:

- 1) Replace the catalytic converter and oxygen sensor (if applicable) and verify the functional ability of the fuel filler inlet restrictor. Have the work performed by a qualified mechanic using new original equipment parts. If the work was performed overseas prior to shipment, you must provide proof that you no longer had possession of the vehicle after the work was performed. Submit to EPA (address on page E-1) a clear copy of the paid invoice from the facility where the work was done along with a completed EPA form 3520-9 "Application for Final Admission of a Catalytic Converter and Oxygen Sensor Equipped Vehicle" (copy on page D-7). This form must be signed by both you and the mechanic who performed the work.

- 2) If you had your catalytic converter¹ and oxygen sensor (if applicable) removed prior to going overseas, new parts replacement will not be necessary when the vehicle is returned to the U.S. However, the original parts must be reinstalled by a qualified mechanic according to the manufacturers instructions. The mechanic must also verify that your vehicle's fuel filler inlet restrictor is operational and has not been tampered with. Submit to EPA (address on page E-1) clear copies of the paid invoices showing that the parts were removed prior to export and reinstalled after returning to the U.S. along with a completed EPA Form 3520-9 "Application for Final Admission of a Catalytic Converter and Oxygen Sensor Equipped Vehicle" (copy on page D-7). This form must be signed by both you and the mechanic who performed the work.

- 3) If your vehicle was driven only on unleaded gasoline, you may verify this by having your vehicle tested for the presence of lead. THIS OPTION IS ONLY AVAILABLE FOR VEHICLES DRIVEN OVERSEAS IN THE FOLLOWING COUNTRIES: Portugal, Spain, France, Italy, Greece, Austria, West Germany, Belgium, Netherlands, Luxembourg, Switzerland, Sweden, Norway, Denmark, Iceland, Finland, United Kingdom, Ireland, and South Korea.

Verification of unleaded gasoline usage must be made as follows:

- a. The test must be performed by a certified mechanic in the United States according to the instructions provided with the attached "Plumbtesmo Test Report Form" (copy on page D-5).

- b. You must complete your portion of the form and take the vehicle along with the enclosed packet of test paper (if not enclosed please call (202) 382-2504) to the mechanic for testing. CAUTION: CARE MUST BE TAKEN TO AVOID CONTAMINATION OF THE TEST PAPER. Keep the packet of test paper dry, out of direct sunlight and do not open until the test is to be performed.

- c. Upon completion of the test, the mechanic must sign the form to verify that the test was performed according to EPA's instructions.

- d. As the instructions indicate, if the test results are positive (indicating leaded fuel usage) or the inspection reveals that the fuel filler inlet restrictor was tampered with, your catalytic converter and oxygen sensor (if applicable) must be replaced with original equipment parts. You must provide EPA with a completed EPA Form 3520-9 (copy on page D-7) along with a paid work invoice documenting that the parts were replaced.

1/ Some catalytic converters contain removable pellets. In such a case, only the pellets need to be removed and reinstalled, and the outside casing may remain on the vehicle.

e. If the test results are negative, the test report form (with the Plumbtesmo paper strip attached) must be mailed to EPA for confirmation.

f. If EPA determines that the test results are satisfactory, EPA will release its obligation on the Customs importation bond. Component replacement will not be necessary for your vehicle.

B. Unbonded Entries

YOU MAY NOT NEED TO POST A BOND! The importation of U.S. version vehicles equipped with a catalytic converter or a catalytic converter and oxygen sensor from countries other than Canada, Mexico, or Japan will not be subject to bonding in the following cases:

- 1) Vehicles participating in Department of State (DOS), Department of Defense (DOD), or Panama Canal Commission (PCC) programs approved by EPA. For more information regarding DOD's program you should contact the DOD POV Action Officer at (202) 756-1711; for the DOS program you should contact the General Services Officer at (202) 647-3658; and for the PCC program you should contact the Assistant to the Secretary for Commission Affairs at (202) 634-6441. An EPA Form 3520-1 is not required for these vehicles.
- 2) Any vehicle which is equipped with a catalytic converter or a catalytic converter and oxygen sensor and participates in one of the EPA approved Manufacturers or Shippers Catalyst Control Programs on page D-8.

United States Environmental Protection Agency
Washington, D.C. 20460

PLUMBESMO TEST REPORT FORM

Indicate test
paper results
here

WARNING: Any person who knowingly makes any false or fraudulent statement or conceals a material fact shall be fined not more than \$250,000 or imprisoned not more than 5 years or both. 18 United States Code 1001

1. Port of Entry	2. Entry Date	3. Entry Number	4. Vehicle Identification Number (VIN)
5. Vehicle Make		6. Vehicle Model	7. Vehicle Model Year

Names, Addresses, and Telephone Numbers of Relevant Parties

8. Vehicle Owner (name/address)		9. Vehicle Storage Location (No P.O. Boxes)	
Telephone Number	Taxpayer ID# (SSN)	Telephone Number	

10. I certify under penalty of perjury that my privately owned vehicle was driven overseas on unleaded fuel exclusively and at no time was leaded fuel introduced into this vehicle. I understand that I could be subject to civil and/or criminal prosecution if I knowingly make a false or fraudulent statement or conceal a material fact. I certify that the information I have provided is correct.

Signature of Importer/Owner	Date
-----------------------------	------

11. I certify under penalty of perjury that I have conducted the EPA approved test for detection of leaded fuel usage in accordance with the attached instructions and have attached the results above. All test procedures and guidelines were adhered to. Furthermore, I confirm that the fuel filler inlet restrictor is either operational or has been replaced according to the attached instructions. I have read and understand the warning regarding the submission of false or fraudulent statements or concealing material fact, and I have read and understand 40 CFR 85.1503 regarding the prohibited acts enumerated there, and I certify that the information I have provided is correct.

Signature of Certified Mechanic	Date
---------------------------------	------

MAILING INSTRUCTIONS

Mail this form to the following address when using certified, U.S. Express Mail, or regular mail:

U.S. Environmental Protection Agency
Manufacturers Operations Division (EN-340F)
401 M Street, S.W.
Washington, DC 20460 (202) 382-2504
Attn: Catalyst Replacement

For delivery by a courier service (e.g. Federal Express, DHL, etc.) ONLY, use the following address:

U.S. Environmental Protection Agency
Manufactures Operations Division (EN-340F)
499 South Capitol Street, S.W., 2nd Floor
Washington, DC 20024 (202) 382-2504
Attn: Catalyst Replacement

PRIVACY ACT STATEMENT

Collection of the information on this form is authorized by the Clean Air Act, 42 USC 7401 et. seq. (see 40 CFR 85.1501 et. seq., Importation of Motor Vehicles and Motor Vehicle Engines). The Environmental Protection Agency (EPA) uses this information to determine compliance of nonconforming imported vehicles with U.S. emission requirements and for investigations with respect to EPA's import regulations.

Disclosure of this information may be made to other Federal, state, or local law enforcement agencies when there is a violation of civil or criminal law.

Furnishing the information on this form, including your social security number, is voluntary, but failure to do so may result in disapproval of the importation of the vehicle identified on this form.

MECHANICS INSTRUCTIONS - PLUMBTESMO TEST

1. Inspect the fuel filler inlet restrictor. Using a nozzle gauge with an outside diameter of 0.930 inches (2.363 cms) which is the size of a leaded fuel nozzle, verify that the fuel filler inlet restrictor has not been tampered with. If the nozzle gauge fits into the inlet restrictor (which indicates leaded fuel usage), the catalytic converter, oxygen sensor, and fuel filler inlet restrictor must be replaced (regardless of the plumbtesmo test results).
2. Do not clean or wipe inside the tailpipe prior to testing.
3. Make sure hands are cleaned before handling plumbtesmo test paper.
4. Apply 3 to 5 drops of distilled water to one strip of test paper. The paper should never be moistened such that water drips from it.
5. Press moistened strip to an area inside the tailpipe with a screwdriver (or other suitable tool) for 2 to 5 minutes.
6. Lay strip on a clean surface and let dry for 15 minutes.
7. If any shade of pink or red is indicated on the strip, the catalytic converter and oxygen sensor must be replaced. Replacement parts must be original equipment.

NOTE: It is not necessary to have the engine running while performing this test.

United States Environmental Protection Agency



Application for Final Admission of a Catalytic Converter and Oxygen Sensor Equipped Vehicle

Form Approved
OMB No. 2000-0095
Approval expires 12-31

Warning: Any person who knowingly makes any false or fraudulent statement or conceals a material fact shall be fined not more than \$250,000 or imprisoned not more than 5 years, or both. 18 United States Code 1001.

1. Port Code	2. Entry Date (mo/ay/yr)	3. Entry Number	4. Vehicle ID No. or Heavy-Duty Engine No.
5. Model Year	6. Original Vehicle Manufacturer		7. Vehicle Model
8. Declaration Code Letter (See box 8 on EPA Form 3520-1)			

Names, Addresses, and Telephone Numbers of Relevant Parties

9. Vehicle Owner (Name and Address)	10. Vehicle Storage Location (No P.O. Boxes)
Telephone Number	Taxpayer ID No. (SSN) Telephone Number

11. I certify that the vehicle identified on this form (Place an 'X' in one box only):
- Was originally equipped with an oxygen sensor as part of the emission control system or was modified with an oxygen sensor after a previous importation under the import regulations.
- Was not originally equipped with an oxygen sensor as part of the emission control system and was not modified with an oxygen sensor after a previous importation under the import regulations.

Signature of Owner

Date

12. I certify that I am a qualified mechanic, that the catalytic converter and oxygen sensor, if applicable (see box 11 on this form), have replaced with new original equipment, or with equivalent to new original equipment, or with equipment certified by EPA, or with the original catalytic converter and oxygen sensor which were removed prior to exportation from the U.S. The replaced catalytic converter and oxygen sensor (if applicable) are functioning properly on the vehicle identified on this form. A copy of the invoice for parts and labor is attached to this form. (Mechanics should be familiar with Federal Register Vol. 51, No. 150, Tuesday, August 5, 1986, 28116 - 28119.) I have read and understand the warning above regarding the submission of false or fraudulent statements or concealing a material fact, and I have read and understand 40 CFR 85.1513 regarding the prohibited acts enumerated there; and I certify that the information I have provided is correct.

Signature of Mechanic

Date

13. I have read and understand the warning above regarding the submission of false or fraudulent statements or concealing a material fact, and I have read and understand 40 CFR 85.1513 regarding the prohibited acts enumerated there; and I certify that the information I have provided is correct.

Signature of Importer

Date

Mailing Instructions

Mail this form to the following address when using certified, U.S. Express Mail, or regular mail:

U.S. Environmental Protection Agency
Manufacturers Operations Division (EN-340F)
Washington, DC 20460
202-382-2504

For delivery by a courier service (e.g., Federal Express, DHL, etc.) ONLY, use the following address:

U.S. Environmental Protection Agency
Manufacturers Operations Division (EN-340F)
2nd Floor
499 South Capitol St., SW
Washington, DC 20024
202-382-2504

Privacy Act Statement

Collection of the information on this form is authorized by the Clean Air Act, 42 USC 7401 et seq. (see 40 CFR 85.1501 et seq., Importation of Motor Vehicles and Motor Vehicle Engines). The Environmental Protection Agency (EPA) uses this information to determine compliance of noncomplying imported vehicles with U.S. emission requirements and for investigations with respect to EPA's import regulations.

Disclosure of this information may be made to other Federal, State, or local law enforcement agencies when there is a violation of civil or criminal law.

Furnishing the information on this form, including your Social Security Number, is voluntary, but failure to do so may result in disapproval of the importation of the vehicle identified on this form.

GENERAL: A vehicle is titled as assembled, reconstructed or as a replica when it is restored or reassembled after having been wrecked, dismantled, disassembled, substantially altered, destroyed or sold under the abandoned vehicle statutes. A disassembled vehicle, or parts and components for a vehicle cannot be titled until assembly or restoration is complete.

-- DEFINITIONS --

ASSEMBLED VEHICLE: A vehicle is titled as assembled when it is built from parts of other vehicles or fabricated parts without attempting to make the body resemble a particular year model or make of a manufactured vehicle. Homemade vehicles are titled as assembled vehicles.

RECONSTRUCTED VEHICLE: A vehicle is titled as reconstructed when it is fashioned from manufactured parts or pieces with: a) the intent to make the body resemble, and b) the body is primarily, a particular year model or make of a manufactured vehicle. A truck rebuilt using a component kit is most generally a reconstructed vehicle.

REPLICA VEHICLE: A vehicle is titled as a replica when it is built to resemble, and be a reproduction of another vehicle of a given year and given manufacturer. It is usually made from a kit or parts of current manufacture and duplicates the design of a previously manufactured vehicle (usually applicable to vintage cars).

MAJOR PARTS: Includes the frame, engine, axle (trailers and mobile homes), kit, body, unibody or cab.

INSTRUCTIONS

This form is used to make corrections to the Oregon title. It is not to be used for changing ownership information or changing vehicle information as a result of alteration (i.e., assembled or reconstructed vehicle).

Some corrections require a fee of \$7. For example, to change a name, due to divorce or marriage, or to show a new address on the title.

There is no fee to correct a vehicle identification number or add "survivorship" to an Oregon title which is in joint ownership.

If this is the form you need to use, complete it in full and sign where indicated. If the vehicle identification number needs changing, you may need an inspection of this number.

If the title is held by a security interest holder, we suggest you ask for their assistance. The corrected title will be returned to the security interest holder.

You may take this application, with the Oregon title and the \$7 fee if applicable, to your local Motor Vehicles Division field office or mail it to the Motor Vehicles Division, 1905 Lana Avenue, Salem, OR 97314 Attn: Corrections Desk.

If you have any questions about title corrections you may call the local Motor Vehicles Division field office or the headquarters office at 371-2200.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 2 1990

OFFICE OF
AIR AND RADIATION

The following is a list of independent commercial importers (ICIs) who hold a currently valid certificate of conformity from EPA as of the date of this list. This certificate allows the ICI to import certain nonconforming vehicles into the United States until December 31, 1990. **THE MAKES OR MODELS THAT AN ICI CAN IMPORT ARE LIMITED.** You should contact the ICI to determine if he/she is qualified to import your particular vehicle.

J.K. Motorcars, Inc.
P.O. Box 178
Kingsville, MO 21307
Rep. Mr. Jonathan Weisheit
Phone (301) 386-6332

Import Trade Services
700 Plaza Drive
P.O. Box 3158
Secaucus, NJ 07096
Rep. Mr. Ken Snaffer
Phone (201) 322-1022

JBA Motorcars, Inc.
1001 W. Newport Center Drive
Deerfield Beach, FL 33442
Rep. Dr. Jacco Ben-Ami
Phone (305) 431-1663

European Auto Werks
3331-45 Fourth Street
Berkeley CA 94710
Rep. Mr. Mike Spencer Smith
Phone (415) 843-1355

Wallace Environmental
Testing Laboratories, Inc.
2140 Winterrest
Houston, TX 77055
Rep. Mr. Les Weaver
Phone: (713) 356-7705

S & K Automotive Conversions, Inc.
1051 N. Grove Street
Anaheim, California 92714
Rep. Mr. George Lemye
Phone (714) 532-8100

Giordano Associates, Inc.
15 Trade Lane Drive
Bronckona, NY 11779
Rep. Mr. Peter DiBernardi
Phone (300) 322-3722

ICI International
1450 35th Street
Orlando, Florida 32811
Rep. Mr. Ed Seguel
Phone: (407) 833-3563

Bonair USA
520 Hollister Road
Teterboro, NJ 07619
Rep. Mr. Mark Semper
Phone (201) 298-5333

EPA DOES NOT ENDORSE OR RECOMMEND ANY PARTICULAR ICI ON THIS LIST. EPA cautions that an ICI's capability of bringing a vehicle into conformity with U.S. emission requirements does not guarantee that in individual cases the work will be properly performed. Test documentation for an individual vehicle and other information concerning the quality of modifications will be carefully scrutinized to determine whether such vehicle meets all applicable EPA requirements under the imports regulations.

This may not be an exclusive list of ICIs that are capable of modifying/testing nonconforming vehicles. Individuals should contact EPA if they need information regarding ICIs that have obtained approval since the issuance of this list.

7-282

STATE OF OREGON
Department of Environmental Quality

.....
· VEHICLE INSPECTION PROGRAM Number: 210.00
· Operating Policies and Procedures Supersedes:

· Originating Section: Engineering Page 1 of 1
.....

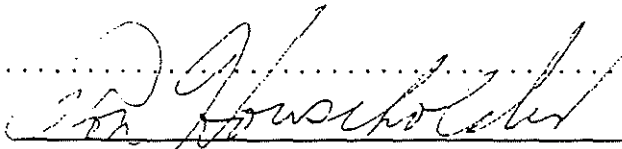
· SUBJECT Underhood Inspection Procedures - Thermal Air Cleaners
.....

PURPOSE: To clarify inspection procedure as it applies to cold air duct
of TAC system.

REFERENCE: ORS 815.305, OAR 340-24-320, OAR 340-24-325 -

With the increased amount of electronics used by many vehicle manufacturers, there is a need for temperature conditioned air. Controlling the temperature range of the intake air, either by heating it when cold to get the vehicle off of choke, or by supplying air cooler than underhood temperature, has an affect on exhaust emissions. The narrower temperature spread on intake air helps improve power and reduce exhaust emissions. While oxygen sensor control might alleviate some of this problem, by providing a better control of intake charge, less adjustment needs to be made by the fuel metering system.

When conducting the underhood inspection for tampered emission control equipment, do not overlook the cold air duct to the air cleaner. This is as important to emission control as the heated air duct. Vehicles which have a disintegrated or missing air intake duct should be failed for TAC failure, just as for the heated duct.

.....
Approved:  Date 11/17/88

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 211.01
Supersedes: 211.00

Originating Section: Engineering

Page 1 of 1

SUBJECT: Key Off/Restart

PURPOSE: To clarify the procedure for turning the ignition off and restarting certain vehicles.

REFERENCE: Oregon Administrative Rule 340-24-310

Oregon Administrative Rule 340-24-310 (12) provides that if a 1981 or newer Ford Motor Company vehicle, or a 1984 through 1986 Honda Prelude fails the inspection test because of tailpipe readings, a Key Off/Restart is to be done and the entire test is to be repeated. The Key Off/Restart only applies if the Carbon Monoxide (CO) or Hydrocarbons (HC) standards were exceeded. It does not apply if the idle RPM was high or for any other failure mode.

Any Ford Motor Company vehicle, including domestic or foreign cars and pickup trucks up to 8500 GVWR, that fail are to be retested. These include any vehicles which bear the Ford, Mercury or Lincoln nameplate including captive imports such as Festiva, Merkur and Probe. It does not apply to non-Ford vehicles, such as Mazda or Navistar which may be of similar configuration

The Key Off/Restart procedure IS NOT to be initiated prior to the vehicle failing the test and IS NOT to be initiated on any other make, model or year of vehicle.

Approved Don Housholder Date 11/13/91

H-271

VEHICLE INSPECTION PROGRAM
Operating Policies and Procedures
Originating Section: Operations

Number: 212.00
Supersedes:
Page 1 of 1

SUBJECT: 1987 to 1990 Chevrolet Caprice with Fuel Injected
350 Engine; State Police Bid Vehicles

PURPOSE: To define the air cleaner fresh air inlet system on 1987 to
1990 police 350's.

General Motors, Chevrolet Division builds a fuel injected Caprice with a
350 cubic inch engine for police units across the country. The vehicle
is not available through retail outlets except to law enforcement units.

This configuration does not have a fresh air inlet hose to the snorkel,
although the snorkel has detents to make a connection and looks like the
hose should be there. The vehicle has a larger radiator and battery
setup to make it impossible for a stock air inlet hose to be used.

Do not fail these vehicles for lack of the fresh air inlet hose.

Approved

Don Hauschild

Date

11/10/90

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies and Procedures
Originating Section:

Number: 213.00
Supersedes: 104.01
Page 1 of 1

SUBJECT: Light Duty Diesel Tampering Inspection Policy

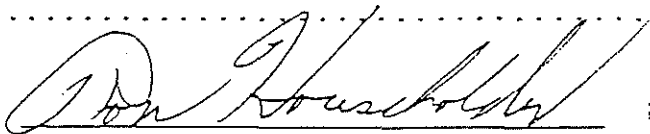
PURPOSE: To Provide Clarification on Inspection Procedures for Light
Duty Diesel Powered Vehicles

REFERENCE: ORS 815.305 and OAR 340-24-320

The following is intended to provide guidance and clarification when inspecting light duty diesel powered vehicles for emission control equipment. Light duty diesel powered vehicles were first subject to Federal emission requirements in the 1975 model year, as opposed to the 1968 model year, for conventional gasoline powered light duty vehicles. Most light duty diesel powered vehicles easily meet the required emission standards without significant add-on emission control equipment. Improved fuel injection design and more precise-injection timing were sufficient to meet the Federal emission standards. Modifications to these light duty diesel powered vehicles, while possibly affecting emissions, usually will not increase the emissions above the original engine certification standards.

Because of this, it is emphasized that diesel powered vehicles manufactured prior to 1980 model year should not be failed for tampered emission control equipment. 1980 and newer model year diesel powered vehicles should be failed if emission equipment (usually the EGR valve) has been removed. However, they should not be failed for an equipment violation if only approved aftermarket equipment has been added.

Approved



Date

6/14/90

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 214.00
Supersedes:

Originating Section: Operations

Page 1 of 1

SUBJECT Aftermarket Catalysts

PURPOSE: To define those catalysts which meet the correct criteria for inspection.

REFERENCE: ORS 815.305, OAR 340-24-320(3)(a) and
OAR 340-24-325(3)(a)

There are two main types of catalytic converters available from aftermarket suppliers. One is the oxidation catalyst which is used on earlier vehicles to reduce hydrocarbons (HC) and carbon monoxide (CO). This is the least expensive and simplest in design. The other is a three-way catalyst (TWC) which reduces oxides of nitrogen (NOx) as well as HC and CO in a two-stage process. Both catalysts may or may not have air pumped into the catalyst to aid the reduction of emissions.

Unfortunately, it is very difficult, if not impossible, to visually detect the differences between the two types. To ensure that the shops install the correct unit, the EPA is closely watching these sales and has issued warnings to those shops not following correct procedures. Various shops have also been fined by the EPA.

Shops doing this type of work may not stock all available catalysts and may, according to the EPA, upgrade to a TWC without affecting the output of emissions. EPA also approves the use of a catalyst that has an air tube port installed on a vehicle not equipped with AIS (air injection system).

Our policy will be to continue visually inspecting the catalyst to ensure it is in place. In addition, if you observe a port on a catalyst that is not connected to an AIS, you must determine if the vehicle was originally manufactured with an AIS. The vehicle is to be failed only if the port is not connected and the catalyst/AIR system was required by original design.

Approved

Ben Haushalter

Date

10/10/90



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

H-274

MAR 29 1989

OFFICE OF
AIR AND RADIATION

MEMORANDUM

Subject: Updated List of EPA "Accepted" Aftermarket Catalysts

From: Al Mannato, Chief *Al Mannato*
Regional/State/Local Coordination Section

To: Antitampering Program Contacts

Attached is a copy of the most recently updated list of EPA "accepted" aftermarket catalytic converters. The manufacturers of these catalysts have submitted data to EPA demonstrating their compliance with EPA policy. Also attached is a fact sheet entitled "What You Should Know About Using, Installing, or Buying Aftermarket Catalytic Converters."

Although antitampering programs which have catalyst replacement requirements can set their own policy with regard to reinspection of catalyst replaced vehicles, EPA encourages them to set a policy requiring that all replacement catalysts must be either:

- 1) new Original Equipment Manufacturer (OEM) catalysts,
- 2) new aftermarket catalysts which have demonstrated compliance with EPA policy, or
- 3) used OEM catalysts which have been reconditioned and have demonstrated compliance with EPA policy.

Such a requirement would necessitate that, upon reinspection of catalyst replaced vehicles, inspectors visually inspect the replacement catalysts and check their labels against this list to determine whether they are EPA "accepted" catalysts.

The attached aftermarket list will be updated and sent out to you periodically (every two or three months). Please let us know if we have sent this to the wrong person or if there are others that should be getting a copy of this list. If you have any questions concerning EPA's policy on aftermarket catalysts, please contact Dean Ross of my staff at (202) 382-2947.

Attachments

Companies that have submitted data demonstrating
compliance with EPA policy (New Converters)

Company	Date	Type Cat.	Efficiency			Coverage		Manufacturer Code	Part #
			HC	CO	NO _x	Weight	Engine		
IRI-D Automotive (419) 734-5639 (800) 533-5014	1/06/87	TW + OC	84.7 79.9	89.5 88.5	51.8 44.7	4000	5.0 l	TD	1000
	*3/17/87	OC	87.0 86.3	84.0 84.0	41.0 34.9	5250	5.7 l	TD	2000
	*4/28/87	TWC	84.4 84.0	72.7 72.6	59.1 58.4	3750	3.8 l	TD	2000
Walker Manufacturing (517) 522-5500	+1/15/87	TW + OC	70.6 72.6	85.8 84.4	47.0 47.1	4000	4.3 l	TA	NA (never produced)
	2/10/87	TW + OC	79 81	83 85	48 52	4000	5.0 l	TA	NA (never produced)
	2/18/87	TWC	86 89	76 85	63 69	3750	3.8 l	TA	15123, 15124
	2/23/87	OC	78 70	89 90	- -	4500	403 CI	TA	615113, 615114, 615115, 615116, 615117
	2/25/87	TW + OC	77 76	85 82	40 42	4000	5.0 l	TA	615133, 615134
	4/14/87	TWC	80.1 81.4	82.3 77.8	49.6 46.2	3750	3.8 l	TA	615123, 615124, supercedes 2/18/87
	4/15/87	OC	81 82	94 92	- -	5000	400 CI	TA	615111, 615112
	Car Sound Exhaust (714) 739-0419 (800) 221-2298	2/16/87	OC	72.9 70.5	88.0 80.8	- -	4000	5.7 l	CE
9/15/87		TW + OC	83.2 78.8	86.5 83.4	56.6 70.9	4000	5.0 l	CE	800 series
9/17/87		TWC	89.2 85.8	72.1 70.6	45.4 41.0	4000	5.0 l	CE	700 series

Same converter covers more than one application
not AMA mileage accumulation

Companies that have submitted data demonstrating
compliance with EPA policy (New Converters)

Company	Date	Type Cat.	Efficiency			Coverage		Manufacturer Code	Part #
			HC	CO	NO _x	Weight	Engine		
Car Sound Exhaust	4/20/88	TWC	88.5 83.9	81.7 85.6	91.8 86.6	3000	2.0 1	CE	500 series
Schultz Man.	2/16/87	OC	Same as Car Sound			4000	5.7 1	SM	403 - 406
(800) 268-5141	9/15/87	TW + OC	Same as Car Sound			4000	5.0 1	SM	803 - 806
	9/17/87	TWC	Same as Car Sound			4000	5.0	SM	703 - 706
Perfection Automotive	3/06/87	OC	77.2 74.1	77.1 81.5	- -	4500	5.7 1	PA	23301, 23302 23012, 23015, 23017, 23018 (192200, 192214 for Arvin) (3112 for Eastern)
(Also market- ed by Eastern Manu., AP Industries & Arvin until 6/23/88)	*5/4/87 (catalyst change 4/88)	TW + OC	81.6 79.3	75.7 70.3	55.9 54.1	4250	5.0 1	PA	23052, 23055, 23057, 23058 (193175, 193205, 193225 and 193250 for Arvin) (5114 for Eastern)
(313) 591-0111 (800) 521-5575	*5/27/87 (catalyst change 4/88)	TWC	85.4 85.6	76.7 77.9	67.0 67.4	4250	3.8 1	PA	23052, 23055, (193175, 193205 23057, 23058 193225 & 193250 23363 for Arvin)
Products for Power	*3/18/87	OC	74.6 72.6	94.1 93.5	- -	4250	5.7 1	PP	5111-5118, 5120-5125, 5128-5132, 5138
(312) 543-4800 (800) 323-3330	*3/18/87	TWC	78.4 79.3	70.7 72.6	45.0 45.0	4250	5.0 1	PP	5111-5132, 5138, 5140
	9/17/87	OC	70.0 78.0	93.3 92.9	- -	4250	5.7 1	PP	4111-4122, 4129, 4130
	*9/17/87	TWC + OC	83.0 78.9	94.7 94.1	57.2 60.4	3750	5.0 1	PP	6111-6116, 6119, 6120, 6123 6126-6128, 6131-6137
	*3/25/88	TWC	86.3 89.5	73.2 79.2	43.3 37.3	3750	5.0 1	PP	6111-6116, 6119, 6120, 6126-6128, 6132-6137

* Same converter covers more than one application
+ Not AMA mileage accumulation

Companies that have submitted data demonstrating
compliance with EPA policy (New Converters)

Company	Date	Type Cat.	Efficiency			Coverage		Manufacturer Code	Part #
			HC	CO	NO _x	Weight	Engine		
Firemount Corp. (Also marketed by Sears, and Arvin) (12) 462-8600	6/3/87	OC	71.1 81.5	90.4 96.8	- -	4500	5.7 l	MM	8701, 8702, 8703, 8705, 8720, 8721
	*7/22/87	TWC	91.5 93.0	82.3 81.8	62.1 54.2	4750	5.7 l	MM	8801
	*7/22/87	OC	80.1 82.3	96.2 96.2	- -	4750	5.7 l	MM	8801
	*1/15/88	TW + OC	76.5 83.4	80.4 85.3	54.2 50.5	4500	5.0 l	MM	8901, 8902, 8903, 8905, 8920-8923
	*3/23/88	TWC	85.5 78.8	74.9 71.6	67.4 60.0	4500	3.8 l	MM	8901, 8902, 8903, 8905, 8811, 8812, 8813 (8811 series revised 11/3/88)
	*8/5/88	OC	79.2 77.0	89.6 89.8	- -	4500	3.8 l	MM	8901, 8902, 8903, 8905, 8920-8923, 8811-8813, (8111 series revised 11/3/88)
Exhaust Controls (Schlin) (03) 481-5771	6/5/87	OC	74.8 79.8	79.0 92.9	- -	4250	5.7 l	EC	67120-124 67200-219, 67223
	6/23/87	TW + OC	79.8 83.4	76.9 82.2	56.4 54.2	4000	5.0 l	EC	67130-134, 67222, 67225
	4/13/87	TWC	83.8 82.5	89.9 79.8	41.5 45.4	4000	5.0 l	EC	67140-144, 67224
Midas International (12) 650-5370 (00) 524-5063	8/25/87	OC	75.6 73.5	92.2 85.3	- -	4000	5.7 l	MI	35100 (IPC-35100) series 35401, 35402, 35403, 35408, 35410, 35411
	6/6/88	TW + OC	85.1 87.6	77.0 83.0	64.5 63.0	4250	5.0 l	MI	35200 series 35404-35407
	12/7/88	TWC	82.2 77.3	82.4 81.4	53.0 48.6	4250	5.0 l	MI	35300 series 35409

Same converter covers more than one application

Companies that have submitted data demonstrating
compliance with EPA policy (New Converters)

Company	Date	Type Cat.	Efficiency			Coverage		Manufacturer Code	Part #					
			HC	CO	NO _x	Weight	Engine							
Eastern Manufacturing (215) 634-2682 423-3020	9/23/87	OC	Same as Products for Power				4250	5.7 1	EM	3112				
		TWC									4250	5.0 1	EM	4113
		TWC + OC									3750	5.0 1	EM	5114
Grand Exhaust Systems (313) 962-6560	9/15/87	OC	Same as Schultz				4000	5.7 1	GE	8923-8926				
		TWC									4000	5.0 1	GE	8963-8966
		TW + OC									4000	5.0 1	GE	8973-8976
United Mission Technologies (704) 687-2440 (800) 334-9109	11/10/87	OC	77.2	74.3	-	4750	5.7 1	UE	100					
	9/14/87	TW + OC	77.8	76.8	-					78.0	88.6	38.5	UE	100
Brown Core Supply (205) 778-7749	10/8/87	OC	Same as Products for Power				4250	5.7 1	BC	UN 231-236 UN 240-UN-252				
		*OC								4250	5.7 1	BC	UN 331-351	
		*TWC								4250	5.0 1	BC	UN 331-351	
		*TW + OC or *TWC								3750	5.0 1	BC	BC 4331-4336, BC 437-441 BC 453-462	
Marwill Products (419) 352-2515	10/8/87	OC	Same as Products for Power				4250	5.7 1	MP	23012, 23015, 23017, 23018, 6117-6122, 6129, 6130				
		*TW + OC								3750	5.0 1	MP	33102, 33105, 33107, 33108, 8116, 8119-8137	
		*TWC												

Companies that have submitted data demonstrating
compliance with EPA policy (New Converters)

Company	Date	Type Cat.	Efficiency			Coverage		Manufacturer Code	Part #
			HC	CO	NO _x	Weight	Engine		
Marwill Products (Con't)	*2/25/88	OC	Same as Products for Power			4250	5.7 l	MP	43112, 43115, 43117, 43118 7116-7128, 7138, 7140
		TWC				4250	5.0 l	MP	
AP Parts (419) 259-3461	4/7/88	TWC	Same as Products for Power 5111 & 6111 Series			4250	5.0 l	AP	4650-52, 4654-55 4653
		TW + OC				3750	5.0 l	AP	
W.R. Grace (301) 659-9020 (marketed by Camet) (216) 569-3245	*5/6/88	OC	81.7	88.8	-	3750	3.8 l	GR	5000
	*5/6/88	TWC	83.2	73.3	49.7	3250	2.8 l	GR	5000
Starlight Recoveries (405) 720-2502 (800) 654-4137	*7/30/87	TWC	91.8	71.4	71.7	5000	5.7 l	SR	3501
	*10/19/87	OC	92.0	77.0	71.1	4250	5.7 l	SR	3501
Barrick Int'l (Specialty Sales) (800) 327-6692	7/18/88	OC	Same as Products for Power			4250	5.7 l	BI	4111-4122 4129, 4130
		*TWC				4250	5.0 l	BI	5111-5132 5138, 5140
		*OC				4250	5.7 l	BI	5111-5119
		*TWC + OC				3750	5.0 l	BI	6111-6116, 6119-6137
		*TWC				3750	5.0 l	BI	6111-6116

* Same converter covers more than one application

Companies that have submitted information indicating
they are are capable of properly testing used OE
converters in compliance with EPA policy (Used converters)

Company	Manufacturer Code
Tested Products, Inc. Oak Park, MI (800) 327-6481	TP
Hoya Resources Dallas, TX (214) 749-0063 (800) 446-6442	NR
SPACO Warners, NY (315) 638-0246	SP
AM PHIL Products Galax, VA (703) 236-6969	PH

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

WHAT YOU SHOULD KNOW ABOUT USING, INSTALLING, OR BUYING AFTERMARKET CATALYTIC CONVERTERS

As of January 1, 1988, all persons engaged in the business of automotive service and repair, as well as other parties named in section 203(a)(3) of the Clean Air Act*, are prohibited from installing or selling aftermarket catalytic converters which have not met the criteria of EPA's interim enforcement policy entitled "Sale and Use of Aftermarket Catalytic Converters" (published on August 5, 1986). The installation of non-complying converters by a named party will be considered a violation of section 203(a)(3) of the Clean Air Act, and the violator may be subject to a civil penalty of up to \$10,000 for each improper installation. EPA's aftermarket converter policy also requires installers to maintain certain records pertaining to the aftermarket converters they install.

This fact sheet been prepared by the EPA to explain the aftermarket converter policy and to answer questions you are likely to have. If you need any further information about this policy, please call EPA at (202) 382-2640.

(1) Why are there special requirements for aftermarket converters?

The catalytic converter is the most important pollution control device on a vehicle. Catalytic converters have been installed on most 1975 and newer passenger cars and light-duty trucks by the manufacturers to reduce exhaust emissions and allow the vehicles to meet Federal standards. The original converters are designed to last the life of properly tuned and maintained vehicles. Some vehicles have not been properly tuned and maintained, however, and their converters have been

* Anyone engaged in the business of repairing, servicing, leasing, selling, or trading motor vehicles, or motor vehicle engines or operating a motor vehicle fleet.

ruined or even removed. If the vehicle is out of warranty, the price of a new original equipment converter (or set of converters) could cost anywhere from \$300 to \$1,000. Because of this problem and the sometimes scarce availability of the new original equipment converters, EPA believes that less expensive yet still effective aftermarket converters give vehicle owners more incentive to replace their worn-out converters, keeping our air cleaner.

Since the effectiveness of converters depends on their durability, performance, and proper application, EPA has required aftermarket converters to meet certain minimum performance standards while also requiring installers to install the appropriate converters. These requirements make everyone "play by the same rules" while maximizing the air quality benefits obtained. The policy contains other warranty, reporting, and record keeping requirements which make it possible for EPA to enforce the requirements and ensure that the customers get what they pay for.

(2) When did the requirements take effect?

The policy itself was effective when it was published on August 5, 1986. Converters manufactured or remanufactured after December 18, 1986, were required to meet the standards imposed by EPA. As of January 1, 1988, only converters meeting the requirements can be sold and installed.

(3) How do aftermarket converters differ?

There are two categories of aftermarket converters: new and used. New "universal" converters usually cover a wide variety of vehicles within certain limits. Used converters are usually "reconditioned" OE converters, and can only be installed on the type of vehicle or vehicles for which they were originally intended. New converters are required to have warranties, but used converters are not.

Both new and used converters can be one of 3 general types: oxidation converters, three-way converters, and three-way-plus-oxidation converters. Oxidation converters are the early generation of converters that were designed to reduce hydrocarbons (HC) and carbon monoxide (CO). Oxidation converters usually contain platinum and/or palladium. In 1980 or 1981 (earlier on some California vehicles) most vehicle manufacturers began using converters which were designed to reduce nitrogen oxides (NO_x) in addition to HC and CO. Along with these converters, computer control systems and oxygen sensors were also usually employed to precisely control the air to fuel (A/F) ratio and mixture controls. These converters are referred to as three-way converters (TWC) and usually contain the additional noble metal rhodium.

Some converters have a three-way and an oxidation catalyst together in one housing or "can" and are called three-way-plus-oxidation (TW + OC) or dual-bed converters. These converters have air injected between the two sections to help the two different chemical reactions occur. (Three-way catalysts require a slightly richer mixture while the oxidation converter requires a lean mixture, hence air is injected after the three-way "bed" and before the oxidation "bed".)

It is important to install the correct converter type for it to operate effectively and not adversely affect the performance of the vehicle or its emission control systems.

(4) How can I tell if an aftermarket converter meets EPA requirements?

Any converter which meets EPA requirements must be properly labelled and warranted to meet Federal durability and performance standards. New aftermarket converters are required to have a 5 year/50,000 mile warranty on the converter shell and end pipes. They are also required to be warranted to meet EPA's emission performance standards for 25,000 miles when the vehicle is properly used and maintained. Used converters are only required to meet the performance requirements at the time of sale; no additional warranty is required. All manufacturers who meet the requirements also must state that fact in writing. Usually this is stated in the warranty information or application catalog.

Required labels on the converters will have a series of letters and numbers and be in the following format:

N/XX/YYYY/ZZZZ for new ones
U/XX/YYYY/ZZZZ for used

where N - indicates a new converter

U - indicates a used converter

XX - is the manufacturer's code issued by EPA

YYYY - is usually a numerical designation
of the vehicle application or part number

ZZZZ - is the month and year of manufacturer
(i.e., "0187" for January 1987)

* Note: Converters manufactured for sale in California may have the letters "CA" in place of the "N" or "U". Since California standards are more stringent than EPA's, these converters will also meet EPA requirements.

Many of the trade publications will also carry information about which companies have converters which meet EPA requirements. If you're still not sure, you can call EPA at the number listed earlier.

(5) What about using converters from salvage yards or junked cars?

EPA considers it a violation of the policy to install a used converter from a salvage yard or sell it for reuse unless it has been properly tested and labelled. Similarly, it is a violation to install an untested used converter brought in by a customer, even if the customer insists that the used converter came off his/her vehicle.

Salvage or junk yards also would be considered liable for causing tampering if they sell converters that have not been tested or do not meet the requirements outlined in the policy and if the converters are subsequently installed by parties named in the Clean Air Act as prohibited from tampering.

(6) When can I install an aftermarket converter?

Generally, there are only 3 situations when you can install an aftermarket converter. They are:

- (1) if the converter is missing from the vehicle when brought in for exhaust system repair; or
- (2) if a State or local inspection program has determined the existing converter has been lead poisoned, damaged, or otherwise needs replacement; or
- (3) if the vehicle is more than 5 years old or has more than 50,000 miles and a legitimate need for replacement has been established and appropriately documented (e.g., a plugged converter or unrepairable exhaust leaks).

Any ~~other~~ converter replacement must be with a "certified" or new original equipment (OE) or equivalent converter.

Aftermarket converters cannot be used for replacement if:

- (1) the existing converter is present and functioning properly; or

(2) the replacement is under recall or warranty; or

(3) the vehicle is returning from overseas use.

(7) In general, what are the requirements for manufacturers?

Manufacturers of new converters are required to run two worst-case vehicles with their converters installed for 25,000 miles each and then conduct testing. The testing must show that the converters will meet certain performance levels for reduction of emissions.

Remanufacturers of used converters may only use OE converters and must test each converter on a bench test to show that it is still performing satisfactorily.

Both new and used converter manufacturers must comply with certain record keeping and reporting requirements. They must also have a system to notify installers of the requirements and restrictions which apply. Manufacturers of new converters are also required to provide a warranty on the converter shell and end pipes for 5 years or 50,000 miles, whichever comes first, and for 25,000 miles on converter emission performance.

All converters are required to be labelled as previously outlined.

(8) What are the requirements for installers?

Besides installing aftermarket converters only in the 3 situations outlined in response to question (6), other requirements and restrictions also apply. These include completely documenting the need for converter replacement, properly installing the correct one on the vehicle, and informing the customer of his rights and certain restrictions.

Specifically, these requirements are as follows:

- 1) If the replacement is not required by a State or local program, both customer and installer must sign a statement concerning why the converter was replaced. (Manufacturers either provide such a statement with the converter or have an example in their catalogs.)
- 2) If the replacement is required by a State or local program, the installer must keep a copy of the statement or order by the program representative.

- 3) The invoice for replacement must include the customer's name and complete address, and the vehicle's make, model year, and mileage, as well as the reason for replacement.
 - 4) Retain copies of the above invoices and statements for 6 months and the replaced converters for 15 days (converters must be identified or marked as to which customer's car they came from).
 - 5) Install the converter in the same location as the original.
 - 6) Install the same type of converter as the original (oxidation, 3-way, or 3-way plus oxidation (dual-bed)). This information is sometimes available on the emission tune-up label or from the manufacturers' application catalog.
 - 7) Install the proper converter for the vehicle as determined and specified by the converter manufacturer. There are engine size and vehicle weight limitations which make it inappropriate to install certain converters on certain vehicles. Therefore, the catalog should always be consulted for the correct application.
 - 8) The converter must always be properly connected to any existing air injection components.
 - 9) Install all the other required converters the vehicle would have originally come with unless the converter manufacturer has stated in writing that the aftermarket converter is designed to replace more than one converter.
 - 10) For new aftermarket converters, the installer must fill out the warranty information card supplied by the manufacturer and give it to the vehicle owner or operator.
- (9) What should customers know about buying converters for their cars?

First and most importantly, the original converter on a car or truck was designed to last the life of the vehicle if it is properly used and maintained, and is warranted by the vehicle manufacturer to last for at least 5 years or 50,000 miles, whichever comes first. See the vehicle warranty booklet for more information.

An original equipment converter is designed as an integral part of the vehicle's emission and engine system to achieve the lowest possible emissions and optimal performance. New aftermarket converters are generally designed to be installed on a wide range of vehicles so that the backpressure changes created by the converters may, in some cases, adversely affect vehicle and engine performance. Used converters are not required to have a warranty, and their performance and remaining life is dependent on their prior use history. In general, aftermarket converters are not designed to perform as well as the converter(s) originally on the vehicle. Aftermarket converters, however, will usually provide acceptable performance at a lower cost.

Because of the effects of backpressure and heat created during operation and the effectiveness and compatibility of some emission systems with certain converters, it is important to make sure that the converter installed is the proper one for a customer's car or truck. Every installer should have access to and check the application catalog which describes the vehicles each converter can be installed on.

Next to installing the proper converter, probably the best way to keep the converter operating properly and under warranty is to make sure the vehicle is properly tuned. A properly tuned and operated vehicle is critical for a long converter life. Otherwise, you may ruin the converter, void your warranty, and possibly cause engine damage along with higher emissions.

(10) How do I determine the correct converter for a car or truck?

Remember, as discussed above, that converters can be one of three general types. The applications catalog from the manufacturer should be checked to determine the proper converter for the vehicle. Keep in mind that particularly large vehicles and engines may not be covered by most manufacturers. After you have determined the correct type of converter for the vehicle, the engine size and vehicle weight limitations must be considered. If the converter was not designed to cover a ~~large~~ enough vehicle or engine, the converter may be destroyed or cause vehicle or engine problems along with voiding the converter warranty and violating Federal law.

First, it is a violation of Federal law because it is likely to increase the amount of pollution coming out of the vehicle. Penalties for violations by service or repair shops or fleet operators are up to \$2,500 per violation. (Each improper installation is considered a violation.) New car dealers can be penalized up to \$10,000 per violation. Any person who causes a violation could be subject to the same penalty as the installer.

Vehicle performance can also be affected by the use of the wrong converter and, in some severe cases, converter or engine overheating could occur, resulting in unsafe operation and possibly engine damage. These conditions or even simply the use of the wrong part on a vehicle may allow the converter manufacturer to not honor the 25,000 mile or the 5 year/50,000 mile warranty.

H-257

STATE OF CALIFORNIA
AIR RESOURCES BOARD

Approved Auxiliary Fuel Tanks

April 30, 1987

H-3-13

GEORGE DRUKMEJIAN, Governor

AIR RESOURCES BOARD
HAAGEN-SMIT LABORATORY
9528 TELSTAR AVENUE
EL MONTE, CA 91731-2990
PHONE: (818) 575-6800



April 21, 1987

TO: ALL INTERESTED PARTIES

SUBJECT: Approved Auxiliary Fuel Tanks

Attached is an updated list of "Approved Auxiliary Fuel Tanks", revised April 30, 1987.

Should you have any questions regarding this list, please contact Mr. John Chao, Manager, Aftermarket Parts Section at (818) 575-6848 (ATSS 653-6848).

Sincerely,

A handwritten signature in cursive script, appearing to read "K. D. Drachand", with a long horizontal line extending from the end of the signature.

K. D. Drachand, Chief
Mobile Source Division

Attachment

STATE OF CALIFORNIA
AIR RESOURCES BOARDAPPROVED AUXILIARY FUEL TANKS

The California Air Resources Board requires manufacturers of auxiliary fuel tanks to obtain approval of their tanks before they can be sold or installed in California vehicles. Fuel tank manufacturers are required to update their approval if they wish to include newer model-year vehicles.

The Air Resources Board does not verify compliance of an auxiliary fuel tank with applicable federal and state safety regulations. Compliance with safety laws and regulations remains the responsibility of the fuel tank manufacturer.

The attached table lists the tanks approved as of April 30, 1987.

<u>Manufacturer</u>	<u>Executive Order Number</u>	<u>Approved Vehicles</u>	<u>Total Tank Cap. (galle s)</u>
ACV P.O. Box 1576 Carlsbad, CA 92008	F-54-2	1975-1980 BMW 320i	30
	F-54-3	1975-1981 VW Rabbit, Scirocco, Jetta	25
	F-54-4	1979-1981 Citation hatchback 1981 Phoenix hatchback	25
	F-54-5	1980-1981 Escort and Lynx 1981 EXP and LN7	25
	F-54-6	1980-1981 Omega and Phoenix 1981 Citation notchback	25
	AF Metal Products 10140 Rush Street So. El Monte, CA 91733	F-74	1976 and older medium-duty Chevrolet and Ford PU, and Dodge vans
A.T. & M. Products, Inc. 1990 Friendship Drive El Cajon, CA 92021	F-67	1980 and older BMW 320i and 2002	25
Aero Tec Laboratories, Inc. Hewson Avenue Waldwick, NJ 07463	F-60	1980 and older	50
Aluminum Fabricated Products P.O. Box 1107 Perry, FL 32347	F-68-7	1984 and older RV built on GM Chevrolet Chassis No. CP318-32	60
	F-68-8	1984 and older RV built on GM Chevrolet Chassis No. CP318-32	70
	F-68-9	1984 and older RV built on GM Chevrolet Chassis No. CP318-32	90
	F-68-10	1984 and older RV built on GM Chevrolet Chassis No. CP318-32	106
	F-68-11	1984 and older RV built on GM Chevrolet Chassis No. CP318-32	140
Anderson-Walker Industries 1020 South Cypress St. La Habra, CA 90631	F-14	1977 and older	100

<u>Manufacturer</u>	<u>Executive Order Number</u>	<u>Approved Vehicles</u>	<u>Total Tank Cap. (gallons)</u>
Apollo Industries 1614 Potrero Avenue So. El Monte, CA 91733	F-37	1977 and older	100
Approved Secondary Fuel Systems, Inc. 1173 Fountain Way Anaheim, CA 92806	F-57	1979 and older	50
Arcron, Ltd. P. O. Box 2566 Oshkosh, WI 54903	F-77	1986 model-year Oshkosh Motor Home Chassis V-814-2	100
Armstrongs Welding 1292 E. Third St. Pomona, CA 91766	F-41	1977 and older	100
Arrow Frames, Inc. 1310 East Katella Ave. Anaheim, CA 92805	F-27	1977 and older	100
Arrow Tanks, Inc. 1031 S. Melrose Avenue Unit B Pacencia, CA 92670	F-70-2	1984 and older AMC Jeep, Chevrolet, Dodge, Ford, and GMC light-duty and medium-duty vehicles	50
	F-70-3	1984 and older Winnebago heavy-duty motorhomes	100
	F-70-4	1985 and older AMC Jeep, Chevrolet, Dodge, Ford and GMC light-duty trucks and medium-duty vehicles	50
	F-70-5	1985 and older Winnebago heavy-duty motorhomes	100
	F-50-1	1980 and older	100
Associated R.V. Ent., Inc. 1569 Almaden Expressway San Jose, CA 95139			

<u>Manufacturer</u>	<u>Executive Order Number</u>	<u>Approved Vehicles</u>	<u>Total Tank Cap. (gallon)</u>
Automotive Fabrication Engineering 21823 Barton Road Grand Terrace Colton, CA 92324	F-19-1	1978 and older	100
Auxiliary Fuel Systems Inc. 36940 Walden Weaver Road Hemet, CA 92343	F-75-1	1986 and older model-year Toyota longbed and shortbed pick-up trucks with 2WD or 4WD	30
	F-75-2	1980-1986 Datsun PU	35
Avco Motorcoaches P.O. Box 210 Nashville, TN 37202	F-47	1978 and older Dodge heavy-duty	100
Baze Welding and Machine Co. 6537 - 32nd St. North Highlands, CA 95660	F-26-3	1980 and older	150
Blaney Sheet Metal DBA Roadrunner 7333 Coldwater Canyon, Bldg. 33 North Hollywood, CA 91605	F-24	1974 and older	100
Bullen Systems, Inc. 5550 Agoura Glen Drive Agoura, CA 91301	F-59	1976-1980 Honda Accord (except 1980 Accord with automatic transmission)	50
Burbank 4 Wheel Drive Center 4004 Burbank Blvd. Burbank, CA 91505	F-21	1977 and older	100
C & M Welding 2555 Pacheco Blvd., Unit #3 Martinez, CA 94553	F-51-1	1980 and older Chrysler and GM heavy-duty	80
C & S Metal Fabricators RR #2, Box 126 North Webster, IN 46514	F-49	1978 and older Dodge and GM heavy-duty	100

F-19-1

<u>Manufacturer</u>	<u>Executive Order Number</u>	<u>Approved Vehicles</u>	<u>Total Tank Cap. (gallons)</u>
Camp-Troll, Inc. 9846 E. Garvey Avenue El Monte, CA 91733	F-7	1977 and older	50
Carl's Marine & Trailer Suppliers, Inc. 106 E. Avenue I Lancaster, CA 93534	F-40	1977 and older	100
Cecso Products, Inc. 13075 Rosecrans Avenue Santa Fe Springs, CA 90670	F-64	1979 and older Dodge and Ford vans; GM, Datsun, and Toyota PU; International Harvester Scout vehicles	44
Colorado Leisure Products 2300 West Midway Blvd. Broomfield, CO 80020	F-2	1974 and older	100
Con-Ferr Manufacturing Co. 123 South Front Street Burbank, CA 91502	F-38	1977 and older	100
Continental Recreation Corporation 11140 Talbert Avenue Fountain Valley, CA 92708	G-44	1974 and older vehicles over 10,000 lb. GVW	---
Custom Gas Tanks 11719 McBean Drive El Monte, CA 91732	F-8	1977 and older	100
	F-8-5	1986 and older Chrysler, Datsun, Ford, GM, IH, and Toyota light-duty and medium-duty vehicles	50
	F-8-6	1986 and older Chrysler, Datsun, Ford, GM, IH, and Toyota light-duty and medium-duty vehicles	100
Custom Tanks 1203-1211 West Trenton Orange, CA 92667	F-18 (inactive)	1974 and older	---

<u>Manufacturer</u>	<u>Executive Order Number</u>	<u>Approved Vehicles</u>	<u>Total Tank Cap. (gallon)</u>
D & T Manufacturing 911 34th Street Bakersfield, CA 93301	F-58	1979 and older	50
Delta, Inc. of Arkansas P.O. Box 39 Jonesboro, AR 72401	F-44	1977 and older GM and Ford vehicles	50
Delta Manufacturing Company 1441-1/2 Virginia Avenue Baldwin Park, CA 91706	F-29	1974 and older	100
Eaton Metal Products 4800 New York Street Denver, CO 80216	F-48	1977 and older	50
El Cajon Machine & Wheel, Inc. 1402 N. Magnolia El Cajon, CA 92020	F-25	1977 and older	100
Energy Components Company 16455 Minnesota Avenue Paramount, CA 90723	F-69	1975-1982 Toyota PU	30
Extra Tanks Inc. 133 Los Angeles Ave. Saticoy, CA 93004	F-76	1986 and older Chevrolet Cutaway Vans 454 CID Ford Cutaway vans 429 CID, Chevrolet and Ford Pick-up Trucks	50
		1986 and older Chevrolet motor homes 454 CID, and Ford motor homes 429 CID	100
Fabrication Associates 1401 Pioneer Way #14 El Cajon, CA 92020	F-45-1	1977 and older	50
Fey Manufacturing Corporation 1860 No. Tyler Avenue So. El Monte, CA 91733	F-11	1977 and older	100

<u>Manufacturer</u>	<u>Executive Order Number</u>	<u>Approved Vehicles</u>	<u>Total Tank Cap. (gallons)</u>
Fleming Metal Fabricators 2810 S. Tanager Avenue Los Angeles, CA 90040	F-1-6	1983 and older heavy-duty vehicles	100
	F-1-7	1984 and older heavy-duty 318/360 CID Chrysler vehicles	100
	F-1-9	1986 and older heavy-duty vehicles	100
Fuel Tanks Unlimited 18 Beta Court San Ramon, CA 94566	F-61	1980 and older International Harvester Scout vehicles	35
Fuelmate, Inc. 1025 Contra Costa Blvd. Pleasant Hill, CA 94596	F-42	1977 and older	50
Fuelmate Systems P.O. Box 37131 Cincinnati, OH 45222	F-52	1979 and older light-duty	50
Gem Products Corp. 8811 S. E. Herbert Court Clackamas, OR 97015	F-6	1977 and older	100
Gil Manufacturing Inc. 4931 Santa Anita Avenue Temple City, CA 91780	F-4	1974 and older	50
Go-Ten Manufacturing Inc. P.O. Box 901 Union City, CA 94587	F-13	1977 and older	100
Hayes Welding Inc. 7771 E. Alondra Blvd. Paramount, CA 90723	F-22	1977 and older	100
	F-22-1	1984 and older Chevrolet, Dodge, and Ford medium-duty and heavy-duty vehicles	50

<u>Manufacturer</u>	<u>Executive Order Number</u>	<u>Approved Vehicles</u>	<u>Total Tank Cap. (gallons)</u>
Helgesen Industries, Inc. 7261 Highway 60 West Hartford, WI 53027	F-73	1984 and older GMC motor-home chassis P30832, P31132, and P31882	100
	F-73-1	1984 and older GMC motor-home chassis P30832, P32232, and P31832	50
Hellstar Corporation 1600 N. Chestnut Street Wahoo, NE 68066	F-5	1977 and older	50
Helock Corporation 3282 Orangewood Avenue Los Alamitos, CA 90720	F-66	1979 and older mini PU	31
Hooker Industries, Inc. P.O. Box 1416 Ontario, CA 91762	F-9A	1977 and older	50
Innovative Engineering, Inc. 12815 N.E. 124th, Suite L Kirkland, WA 98033	F-62	1975-1980 VW Rabbit and Scirocco	20
Iron Design and Stamping 22118 South Vermont Ave. Torrance, CA 90502	F-33 (inactive)	1974 and older	---
Marlin Fiberglass 2429 South Birch Santa Ana, CA 92707	F-16	1974 and older	100
Piper Welding & Mfg. Industries 2421 E. Artesia Blvd. Long Beach, CA	F-15	1977 and older	100
Prior Products, Inc. P.O. Box 17580 Dallas, TX 75217	F-36	1977 and older	100

<u>Manufacturer</u>	<u>Executive Order Number</u>	<u>Approved Vehicles</u>	<u>Total Tank Cap. (gallons)</u>
Recon, Inc. (Mapar Tanks) 7700 Edgewater Drive Oakland, CA 94621	F-17 (inactive)	1974 and older	---
Recreational Products Marketing Inc. P.O. Box 7936 Waco, TX 76710	F-12-1	1978 and older heavy-duty	50
	F-12-2	1980 and older Datsun PU	28
Richards Welding 896-1/2 Aileron St. City of Industry, CA 91744	F-31	1974 and older	100
Royal Tank Co. 11059 Garvey Blvd. El Monte, CA 91733	F-30 (inactive)	1974 and older	---
RV Tanks 10127 Adella South Gate, CA 90280	F-46-1	1978 and older	100
Skyline Industries 381 West Center Pleasant Grove, UT 84062	F-34	1977 and older	100
Snyder Tank Corporation P.O. Box 1914 3773 Lake Shore Road Buffalo, NY 14219	F-43	1977 and older	100
Southern California RV Products 2449 North Naomi St. Burbank, CA 91504	F-20-1	1978 and older	100
Spare Tanks Inc. 12814 Lakeland Rd. Santa Fe Springs, CA 90670	F-53	1979 and older	50

<u>Manufacturer</u>	<u>Executive Order Number</u>	<u>Approved Vehicles</u>	<u>Total Tank Cap. (gallons)</u>
Stanton Trailer Supply (Cinderella Recreational Products) 11041 Merchantile Stanton, CA 90680	F-65-3	1984 and older Ford, Dodge, and GM PU	100
Strout Welding 11638 E. Ramona El Monte, CA 91733	F-28-1	1979 and older	80
	F-28-2	1984 and older Chevrolet 10-30, Dodge 100-300, Ford F-100-350, and Chevrolet/Dogdge/Ford motorhomes	80
Suburban Tanks 4706 Jacques St. Torrance, CA 90503	F-35 (inactive)	1974 and older	---
Superior Craft Custom Tanks 9221 Bolsa Avenue Westminster, CA 92683	F-32	1977 and older	100
Tankcraft Subsidiary of Stolper Ind., Inc. Rt. 1, Brick Church Road P. O. Box 928 Walworth, WI 53184	F-3-11	1987 and older	100
Tank Craft 274 E. Rowland Ave., Suite C Covina, CA 91723	F-55	1979 and older	100
	F-55-1	1978-1983 Chevrolet, Ford, and Dodge PUs and Vans	100
Tiger Tanks (Faull Enterprises) 20795 Main St. Carson, CA	F-39	1975 and older	100

F-1-20

<u>Manufacturer</u>	<u>Executive Order Number</u>	<u>Approved Vehicles</u>	<u>Total Tank Cap. (gallons)</u>
Trail Blazer 5160 Wylie Lane Boise, ID 83703	F-23-1	1980 and older AMC vehicles	45
Transfer Flow, Inc. 200 Ryan Avenue Chico, CA 95926	F-71-16	1987 and older Komfort, Fleetwood, and Fireball Travel Trailers, E-350 and Commercial/R.V., Ford Cutaway Vans	50
		1987 and older Chevrolet, Dodge and Ford Pick-up trucks	50
	F-71-17	1987 Vironex motor homes with GMC 454 CID engines	70
	F-71-18	1987 and older Chevrolet cutaway vans, Chevrolet motor homes, and Roadmaster motor homes with GMC 454 CID or Ford 460 CID engines	100
	F-71-19	1987 Shelton Industries' travel trailers with built-in power generators	50
Weidman Welding 8382 Katella Stanton, CA 90680	F-10-1	1977 and older	100
Western Manufacturing Corporation 702 South Third Avenue Marshalltown, IA 50158	F-63	1980 and older standard and compact PU	100
Williams/Hyder Enterprises, Inc. 4555 East Belmont Avenue Fresno, CA 93702	F-56-1	1980 and older Dodge light duty PU	100

F-23-1



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

H-200
OFFICE OF
AIR AND RADIATION

FACT SHEET: EXHAUST SYSTEM REPAIR GUIDELINES

The EPA has prepared this fact sheet to answer some of the most commonly asked questions about the types of exhaust work a repair shop can legally perform. If you need any further information about the EPA's tampering policy, please call (202) 382-2640.

Question 1.

Under what conditions or circumstances can a catalytic converter be removed from a vehicle and a converter replacement pipe be installed?

Answer 1. Under existing Federal law, catalytic converters may not be removed and replaced with "converter replacement pipes" by any person prior to the sale and delivery of the motor vehicle into commerce. Presale installation of such pipes would violate section 203(a)(3)(A) of the Clean Air Act (Act). After sale and delivery of the motor vehicle to the ultimate purchaser, automobile manufacturers, dealers, and persons engaged in the business of repairing, servicing, selling, leasing, or trading motor vehicles or motor vehicle engines or who operate a fleet of motor vehicles are prohibited from replacing a catalytic converter with such a "replacement pipe" by section 203(a)(3)(B) of the Act.

Private individuals are not prohibited by Federal law from installing the "converter replacement pipes" on their own vehicles. However, forty-three out of the fifty States have statutes or regulations which prohibit tampering with the pollution control equipment on motor vehicles. Thus, even though the Federal law does not prohibit tampering by individuals, vehicle owners who tamper with their own vehicles may be subject to substantial penalties under State law.

The only circumstance in which a regulated party could be allowed to remove a converter is if the vehicle is being shipped overseas to an area where unleaded gasoline is not generally available. (Vehicles traveling to Canada or Mexico are not eligible for this exemption.) In this instance the vehicle owner must have a letter from the EPA specifically authorizing the converter removal from the vehicle in question.

Question 2.

Can I remove a converter from a vehicle that is used only for "off-road" driving?

Answer 2. No. The tampering prohibition discussed in Answer #1 applies to this situation as well. The Federal tampering prohibition pertains to "motor vehicles," which are defined by section 216(2) of the Act as "any self-propelled vehicle[s] designed for transporting persons or property on a street or highway." A light-duty vehicle manufacturer certifies an engine-chassis configuration as meeting the applicable emissions standards for motor vehicles manufactured in a given model year, and it is not legal for a regulated party to "de-certify" a motor vehicle for "off-road" use.

Question 3.

A vehicle that has had its engine replaced is brought into a muffler shop. The owner says the new engine is pre-1975 and the vehicle no longer needs a converter. Is it tampering to remove the converter?

Answer 3. Yes. Again, the tampering prohibition in Answer #1 applies. A motor vehicle must be maintained in a proper certified engine-chassis configuration. In the case of engine switching, the resulting engine-chassis configuration must be identical in all material respects to one that was certified by the manufacturer for the same model year as the chassis or newer. It is not legal for a regulated party to change a vehicle into one that matches an older configuration than was certified by the manufacturer. Thus, removing the converter would be a violation of the law.

Question 4.

If a vehicle is brought into a muffler shop with a missing converter and a replacement pipe already installed, is it tampering to install a new replacement pipe?

Answer 4. The repair of a previously tampered vehicle could be considered by the Agency to be tampering. Our policy, however, is not to initiate enforcement action if the facility doing the repairs merely replaced the exhaust system or pipe with an equal such exhaust system or pipe. However, any such repair should be pursued with caution to assure that the repair facility could successfully defend an allegation of tampering. We, therefore, recommend refusing to do such work or at least try to convince the customer to install a converter. In addition, a repair facility should consult with the State to determine if the State has a similar policy towards this type of repair work or how State laws may affect the legality of his actions.

Question 5.

If a converter-equipped vehicle is brought to a muffler shop with the converter already removed by the owner, is it tampering to install a section of pipe in the space left vacant by the converter's removal?

Answer 5. Yes, the installation by a muffler shop of a section of pipe in the void left where the vehicle owner removed the converter is considered by the Agency to be part of the act of tampering. It is the Agency's position that if a repair facility completes, assists, or participates in any way in an act of tampering begun by someone else, it has acted in violation of section 203(a)(3) of the Act. This would be the case regardless of whether the muffler shop instructed the individual to remove the converter.

Question 6.

If a converter-equipped vehicle is brought into a muffler shop with no exhaust system past the exhaust manifold or headers, is it tampering to install a non-stock or dual exhaust system?

Answer 6. Yes. The answer to Question #5 applies. The repair facility would be completing the act of tampering in this situation.

Question 7.

Is it tampering to install a dual exhaust system on a vehicle originally equipped with a single exhaust?

Answer 7. Yes. The general rule is that a vehicle's emissions control system (which includes the exhaust configuration) may not be changed from an EPA certified configuration without subjecting the repair shop to liability for violating the Federal tampering prohibition. The exhaust system configuration, including the location of the converters, and exhaust pipe diameter and length, are items specified by the manufacturer because engines and some of the associated emissions systems are generally affected by the exhaust system backpressure, which subsequently affects vehicle emissions. The installation of a dual exhaust system with two converters would also be considered tampering. However, it would not be considered tampering to install a dual exhaust system with two converters if the vehicle manufacturer certified an identical engine-chassis configuration for that vehicle model year or newer that includes such an exhaust configuration.

Question 8.

Are there any general guidelines for muffler shops about the kind of exhaust work that can be legally performed on a previously tampered vehicle?

Answer 8. As the answers to the previous questions suggest, the Agency has not pursued enforcement action against repair shops that restore a vehicle's exhaust system to the configuration in which it was brought to the shop, and do not make the exhaust system worse than it was prior to repair. We once again urge you to approach such repair work cautiously and to consult with State officials concerning applicable State law. We have enclosed a chart that briefly summarizes the issues discussed in this fact sheet for use by any repair shop.

You should also be aware of the installation requirements applicable to aftermarket catalytic converters which comply with our August 5, 1986 interim policy. A copy of these requirements can be obtained by calling the phone number listed at the beginning of this fact sheet.

EXHAUST SYSTEM REPAIR GUIDELINES

Can the vehicle leave the shop in the following conditions?

Condition of vehicle entering shop	<u>Stock exhaust with converter</u>	<u>Stock exhaust with test pipe</u>	<u>Dual exhaust with converters</u>	<u>Dual exhaust without converters</u>
Stock exhaust with converter	Yes	No	No	No
Stock exhaust, no converter, test pipe in its place	Yes	Yes***	No	No
Stock exhaust, no converter, gap in exhaust system (no test pipe)	Yes	No	No	No
No exhaust system past manifold or headers	Yes	No	No	No
Dual non-stock exhaust with no converters	Yes	Yes***	Yes***	Yes***
Dual non-stock exhaust with converters	Yes	No	Yes***	No

*** The Agency has not exercised its enforcement discretion by pursuing enforcement action against facilities for this type of repair work, although it could be considered tampering. Please consult with State officials regarding applicable State laws. Shops are encouraged to convince the vehicle owner to restore the exhaust system back to its original configuration.

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 215.00
Supersedes:

Originating Section: Program Operations

Page 1 of 1

SUBJECT: Applying Wheel Chocks To Vehicles

PURPOSE: To establish the program's policy pertaining to the application of wheel chocks to vehicles without parking or hand brakes.

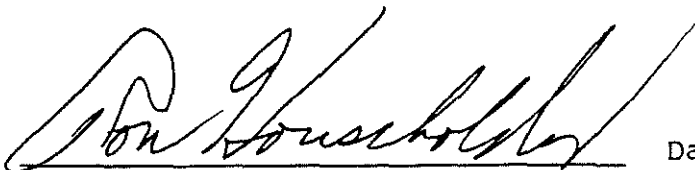
REFERENCE: Oregon Administrative Rule 340-24-310 (4), Oregon Administrative Rule 437-40-035 and Oregon Administrative Rule 437-56-050 (2) (b).

Oregon Administrative Rule 340-24-310 (4) requires "The vehicle transmission is to be placed in neutral gear or park position with the hand or parking brake engaged." All Inspectors must instruct the vehicle driver to comply with this requirement and the Inspector must visually confirm that the driver has complied before proceeding with the test.

All stations are equipped with wheel chocks to place in front and behind the vehicle's tire. If the vehicle is not equipped with an operating hand or parking brake, the Inspector is to instruct the vehicle operator to turn the engine off while the chocks are positioned in front and behind the tire(s). In some situations, such as a 4-wheel drive vehicle having full time drive, two sets of chocks may be necessary. After the chocks are positioned, the tailpipe probe is to be inserted and the hood opened so the tachometer can be connected and the underhood inspection completed while the engine is still off. The engine is to be restarted and the test completed. After the test is completed, the vehicle operator is to be instructed to again turn the engine off while the hood is closed, the tailpipe probe is removed and the chocks are removed from underneath the tires.

Only after it has been determined by the Lead Inspector that the chocks cannot safely secure the vehicle, is the vehicle to be rejected from the testing area.

Approved



Date

11/13/91

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 216.00
Supersedes:

Originating Section: Program Operations

Page 1 of 1

SUBJECT: BMW, Peugeot and Volvo Vehicles With ZF Transmissions

PURPOSE: To modify the inspection procedure for certain BMW, Peugeot and Volvo vehicles with defective ZF transmissions.

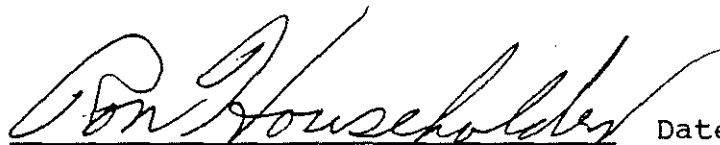
REFERENCE: OAR 340-24-310 (9), Letters from Environmental Protection Agency (EPA), U.S. Technical Research Company (Peugeot) and Volvo Cars of North America

Certain model BMW, Peugeot and Volvo vehicles are equipped with a ZF automatic transmission. Operating the engine of one of these vehicles at 2500 RPM with the transmission in neutral, as is done in the two-speed idle mode test, can result in transmission failure. As such, the 2500 RPM test mode is to be omitted until the question of providing warranty coverage on these vehicles is resolved by EPA.

The following vehicles are affected by this procedure:

- 1984 - 1986 BMW models with four speed automatic transmission
- 1987 BMW 635CSi, 735i and L7 models
- 1986 - 1987 Peugeot 505 models with a four speed automatic transmission
- 1985 - 1988 Volvo 740 series, except turbocharged models, equipped with automatic transmission.

Approved



Date

12/9/91

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE MEMORANDUM

DATE: November 13, 1991

TO: Fred Hansen

FROM: Ron Householder through John Kowalczyk

SUBJECT: Proposed Omissions of the 2500 RPM Test Mode on Certain Model BMW, Peugeot and Volvo Vehicles

Certain model BMW, Peugeot and Volvo vehicles are equipped with a ZF automatic transmission. According the EPA, operating the engine of one of these vehicles at 2500 RPM with the transmission in neutral, as is done in Oregon's Vehicle Inspection two-speed idle mode test, can result in transmission failure. (See Attached letters from Phil Lorang of EPA and William Shapiro of Volvo Cars of North America.)

The vehicle manufacturers have suggested an alternative testing procedure at an elevated RPM less than 2500. EPA was unable to support the manufacturer's alternative and prefers instead that states omit the elevated RPM portion of the emissions test until the question of transmission failure can be resolved. The Department chooses to follow EPA guidance on this issue.

The following vehicles are affected by this procedure:

1984 - 1986 BMW models with four speed automatic transmission
1987 BMW 635CSi, 735i and L7 models

1986 - 1987 Peugeot 505 models with a four speed automatic transmission

1985 - 1988 Volvo, except turbocharged models, equipped with automatic transmission.

In consideration of the above, and pursuant to OAR 340-24-330(7), we recommend authorization to omit the above mentioned vehicles from the elevated RPM part of the vehicle emissions test.

Approved: _____

Fred Hansen
Fred Hansen
Director

Date: _____

DEC 09 1991

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 217.00
Supersedes:

Originating Section: Program Operations

Page 1 of 1

SUBJECT: Motorhome and Van Underhood Tampering Inspection

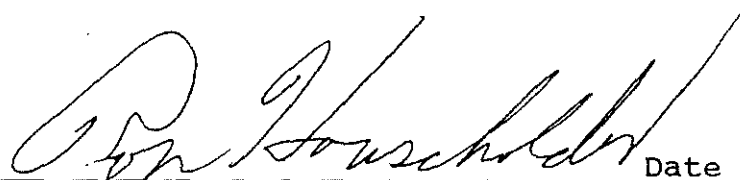
PURPOSE: To clarify the procedure that is to be followed when conducting an underhood/tampering inspection of motorhomes and vans.

REFERENCE: OAR 340-24-320 (3) and OAR 340-24-325

With the increasing number of motorhomes and vans required to be tested, there is a need for consistency between the inspection stations in the manner these vehicles are inspected. The following is intended to provide guidance and clarification when inspecting these vehicles for emission control equipment.

Motorhomes mounted on both mini and full size pickups are to be inspected according to previously established criteria. The majority of motorhomes and vans are equipped with engines that are not readily accessible, but are visible through the small hood in the front. When testing these vehicles, the Inspector is to check for the leaded fuel restrictor and the catalytic converter. The underhood inspection is to be limited to looking only at the emission control equipment that is visible from the hood opening.

Approved



Date

12/13/91

STATE OF OREGON
Department of Environmental Quality

H-231

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 218.00
Supersedes:

Originating Section: Operations

Page 1 of 1

SUBJECT: Nissan Spark Plug Switching Control

PURPOSE: To establish the inspection procedure for Nissan vehicles equipped with Spark Plug Switching Control

REFERENCE: ORS 815.305 and OAR 340-24-320

Some 1982 and newer Nissan vehicle models may be equipped with Spark Plug Switching Control that incorporates an intake and exhaust spark plug. The spark plug switching control is designed to change the ignition system from 2-plug ignition to 1-plug ignition during heavy load driving conditions to reduce engine noise.

The switching control system changes from a 2-plug ignition to a 1-plug ignition during the following conditions:

1. The Neutral Clutch Inhibitor switch is off. This is caused when the automatic transmission position is in other than "N" or "P"; or the manual transmission gear is in other than Neutral and clutch is engaged.
2. The Vacuum switch is on. This is caused only when the engine is in a cranking or full throttle mode.
3. Water temperature is below 158 degrees Fahrenheit and the engine speed is over 2,400 RPM.
4. Water temperature is over 158 degrees Fahrenheit and the engine speed is at any RPM.

The first two conditions listed above, that must occur before the ignition control switches to a 1-plug operation, do not occur during our testing procedure. As such, after you have verified that we do not have a faulty tachometer connection, these vehicles are to be failed if you are unable to get an RPM reading from either one of the cylinder's two spark plug wires.

Approved



Date

2/13/92

H-282

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 219.00
Supersedes:

Originating Section: Program Operations

Page 1 of 1

SUBJECT: Chrysler Corporation Vehicles With 3.0L Engine

PURPOSE: To modify the inspection procedures for certain Chrysler Corporation vehicles with 3.0L engines.

REFERENCE: OAR 340-24-310 (9) and Chrysler Corporation Technical Service Bulletin 18-25-90.

Owners of certain Chrysler Corporation model vehicles equipped with a 3.0L engine may experience a driveability problem during initial start-up and light throttle tip-in. The models affected are:

1987-88 Dodge Caravan, Grand Caravan, Caravan C/V, Plymouth Voyager and Grand Voyager.

1988 Dodge Dynasty, Chrysler New Yorker and New Yorker Landau.

Chrysler Corporation Technical Service Bulletin 18-25-90 outlines the repair procedure for this driveability problem. The procedure involves the removal and cleaning of throttle body bore and blade, disconnecting the EGR vacuum line, plugging EGR vacuum port, and replacing the Single Module Engine Controller.

These vehicles, equipped with the Chrysler Corporation Authorized Modification Label, PN 4275086, noting Change Authority TSB 18-25-90, are not to be failed for a disconnected EGR vacuum line and plugged EGR vacuum port.

Approved



Date

2/3/92

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 220.00
Supersedes:

Originating Section: Program Operations

Page 1 of 2

SUBJECT: 1983 and 1984 Volkswagen Vacuum Connections

PURPOSE: To clarify the vacuum hose routing on 1983 and 1984 model year Rabbit, GTI and Scirocco vehicles.

REFERENCE: ORS 815.305 and OAR 340-24-320 (3)

Some 1983 and 1984 Rabbit, GTI and Scirocco vehicles may have incorrect vacuum connections on the ignition distributor. The following application chart should provide you a means by which to judge if a vehicle has been tampered with.

<u>Model</u>	<u>Application</u>	<u>Distributor Connection</u>
1983 Model Year:		
Rabbit and Scirocco	1.7L Fuel Injected Manual Transmission	Dual diaphragm vacuum advance; advance side connected, retard side plugged
Rabbit	1.7L Fuel Injected Auto Transmission	Dual diaphragm vacuum advance; both sides connected
Rabbit	1.7L Carbureted Manual Transmission	Dual diaphragm vacuum advance; both sides connected
GTI	1.8L Fuel Injected Manual Transmission	Single diaphragm vacuum advance without vacuum retard
1984 Model Year:		
Rabbit	1.7L Fuel Injected Manual Transmission	Dual diaphragm vacuum advance; advance side connected, retard side plugged

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 220.00
Supersedes:

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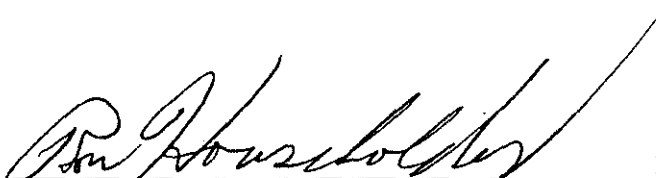
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SUBJECT: 1983 and 1984 Volkswagen Vacuum Connections

Rabbit	1.7L Fuel Injected Auto Transmission	Dual diaphragm vacuum advance; both sides connected
Rabbit	1.7L Carbureted Manual Transmission	Dual diaphragm vacuum advance; both sides connected with ignition distributor part numbers 175905206B or 055905206B; vacuum advance side connected with ignition distributor part number 055905206A
GTI and Scirocco	1.8L Fuel Injected Manual Transmission	Single diaphragm vacuum advance without vacuum retard
Scirocco	1.8L Fuel Injected Auto Transmission	Dual diaphragm vacuum advance; both sides connected

For both model years, some models have a dual diaphragm vacuum advance unit that utilized the advance side only. The retard side was plugged.

Approved



Date

9/15/92

H-2-85

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 301.01
Supersedes: 301.00

Originating Section: Program Operations

Page 1 of 1

SUBJECT: Acceptance of Personal Checks

PURPOSE: To clarify the policy regarding Inspectors accepting personal checks, money orders and travelers checks at the stations.

Personal checks only for the amount of the Certificate of Compliance fee are to be accepted from our customers. The check must show the name, local address and phone number of the customer. A combination of a check and cash not exceeding the amount of the Certificate of Compliance is acceptable. Money orders not exceeding the amount of the Certificate of Compliance fee are acceptable. Travelers checks not exceeding \$100.00 are acceptable.

The license number or vehicle identification number of the vehicle tested is to be recorded **ONLY** when the check has been recently opened and the name, address and phone number of the customer have not been printed on the check. If a customer presents an unprinted check and the vehicle has out of state plates, then the customer is to fill in the name, local address and phone number on the check. No other information is necessary or to be recorded on the check.

Under no circumstances are employees allowed to cash personal checks, money orders or travelers checks at the testing stations.

Approved *Don Householder* Date 7/31/94

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 302.00
Supersedes:

Originating Section: Program Operations

Page 1 of 1

SUBJECT: Duplicate Certificates of Compliance

PURPOSE: To establish a policy for replacing Certificates of Compliance for customers at Portland/Metro area test stations.

When a customer at a test station requests replacement of a certificate that contains an error, replacement of a lost certificate or a refund, he/she is to be referred to the Lead Inspector.


For certificates with errors, the Lead Inspector will make sure the customer has both the yellow and white copies of the certificate. The customer must fill out a duplicate certificate request form. If the error is minor, the Lead Inspector may issue a replacement certificate. The date on the replacement will be the same as on the original certificate.

The Lead Inspector will void the incorrect certificate and staple it to the request form. The form will go with the day's paperwork to the Tech Center. The control number of the voided certificate will be noted on the Deposit Record Summary and it will count as a void for the series from which the replacement was taken.

If the error is significant, such as a totally different license number or a wrong year that could mean different standards, the Lead Inspector must look up the original test or call Tech Center support staff to do so.

Refunds and replacement of lost certificates cannot be completed at the test station. The Lead Inspector will give the customer the proper form and instructions to call or write to the Tech Center.

Approved



Date

10/21/91

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 303.00
Supersedes: None

Originating Section: Operations

Page 1 of 4

SUBJECT: Registration of Oregon Licensed Vehicles Temporarily Outside
of State

PURPOSE: To establish a procedure for renewing the registration of
vehicles registered within the boundaries of the Oregon
I/M areas that are temporarily outside Oregon at the time
of re-registered.

REFERENCE: EPA 40 CFR Part 51 Section 51.355 Published in Federal
Register November 5, 1992

I GENERAL PROVISIONS

- A. This procedure covers all vehicles registered at an address
within an Oregon I/M area that are temporarily located in
another state making it an undue hardship to return to Oregon
for an I/M test.
1. Vehicles temporarily in a non-I/M area of another state
will be given a form to complete promising to obtain an
Oregon I/M test within 30 days of returning to Oregon.
This signed form is required for Oregon re-registration.
 2. Vehicles temporarily in an I/M area of another state will
be required to obtain that state's I/M test and submit
verification of compliance with that test to Oregon DMV
prior to re-registration in Oregon.
 3. Oregon rules define undue hardship as being located at
least 150 miles outside the Oregon borders.

II DETAILED PROCEDURES

- A. DMV notifies all vehicle owners whose address of registration
is within the ZIP codes that are partially or wholly within
the I/M area, that an I/M test may be required prior to re-
registration. In this notification, DMV will also note that
if the vehicle is temporarily outside of Oregon, the owner
will need to call the DEQ Vehicle Inspection Program (VIP) for
further direction.

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 303.00
Supersedes: None

Originating Section: Operations

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SUBJECT: Registration of Oregon Licensed Vehicles Temporarily Outside
of State

- B. When the vehicle owner calls DEQ the following sequence will be followed:
1. VIP asks the vehicle owner for the Oregon address of registration to verify if the address is within or outside the Oregon I/M areas.
 - a. Address is outside Oregon I/M area. VIP instructs the owner to complete the "Out of Area" exemption card and return it along with registration material to DMV. This ends any requirement for I/M testing.
 - b. Address is inside Oregon I/M area. VIP will continue with procedure below.
 2. VIP asks vehicle owner if the vehicle is currently more than 150 miles outside the Oregon border.
 - a. If vehicle is more than 150 miles outside the border, proceed to step 3 below.
 - b. If vehicle is less than 150 miles outside the border, the owner is instructed that the vehicle must be returned to Oregon for an Oregon I/M test prior to re-registration.
 3. VIP asks the vehicle owner for the ZIP code of the current location of the vehicle.
 4. Using the EPA list of I/M area ZIP codes, VIP determines if the out-of-state residence is within another state's I/M area.
 - a. If vehicle is within another state's I/M area, the owner is notified that an I/M test must be completed in that state and a certificate of compliance sent to DEQ with registration packet.
 - b. If the vehicle is outside the other state's I/M areas, VIP will send the owner a DEQ Form DEQ/VIP 9401. The owner will be notified that the form requires the owner to declare when the vehicle is scheduled to return to Oregon and that the vehicle will have to be tested at an Oregon I/M program

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VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 303.00
Supersedes: None

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SUBJECT: Registration of Oregon Licensed Vehicles Temporarily Outside of State

within one month of the return date. Form DEQ/VIP 9401 is returned to DEQ with the vehicle's registration packet.

- 5. Upon receiving the vehicle registration packet with either a Form DEQ/VIP 9401 or a certification that the vehicle passed another state's I/M test, VIP will process the information and, if valid will forward the registration packet to DMV with a signature of approval from DEQ.
 - a. If a required Form DEQ/VIP 9401 is incomplete, it will be returned to the vehicle owner to complete prior to shipping the packet to DMV.
 - b. If a required Form DEQ/VIP 9401 is complete, a vehicle file will be set-up in the VIP out-of-state tickler file, including the following information:
 - Year
 - Make
 - Model
 - Oregon Plate Number
 - VIN Number
 - Name of Owner
 - Current Out-of-State Address of
 - Owner(including ZIP)
 - Oregon Address of Owner
 - Date Vehicle is Scheduled to Return to Oregon
 - Date Form DEQ/VIP 9401 was completed.
 - c. If another state's test certification was required, the certification will be evaluated by VIP for validity. If, for example, the certificate indicates a test was performed but the vehicle failed or if for any reason VIP determines the certificate to be inadequate, VIP will notify the owner of the inadequacy and hold the re-registration packet until an acceptable certification is received.
- 6. VIP will maintain a tickler file for completed Form DEQ/VIP 9401's. When an Oregon I/M certification is

STATE OF OREGON
Department of Environmental Quality

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Operating Policies & Procedures

Number: 303.00
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SUBJECT: Registration of Oregon Licensed Vehicles Temporarily Outside
of State

shipped to VIP that owner's compliance requirement will be removed from the file. If it has been longer than two months past the date the vehicle was declared due to return to Oregon, and VIP has not received an Oregon I/M certification from the vehicle owner, VIP will notify owner by mail of the delinquency. The owner will be asked to specify in writing another date when the vehicle is scheduled back into Oregon. At this time, the vehicle will be placed in a delinquent file from which it will be removed when an Oregon I/M certificate is received.

Approved

Don Householder

Date

5/17/94

Effective Date

July 1, 1994

7-200

VEHICLE INSPECTION PROGRAM
Operating Policies and Procedures
Originating Section: Engineering

Number: 401.01
Supersedes: 401
Page 1 of 1

SUBJECT Waiting Time Surveys

PURPOSE: To update instructions for filling out Waiting Time Surveys used as a data source which can be used to evaluate customer service.

POLICY:

Each station will complete a Waiting Time Survey on the following prescribed days of each month:

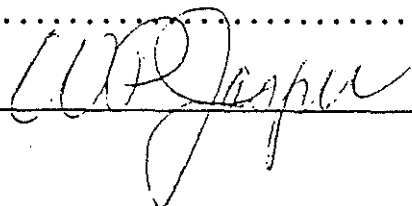
- | | |
|---------------------|--------------------|
| The first work day | The third Thursday |
| The first Thursday | The fourth Friday |
| The second Tuesday | The last work day |
| The second Saturday | |

If vehicles are tested in the time period before the 8:00 opening time of the station, that particular information should be listed on the form as a footnote rather than have it added into the hour of the business day.

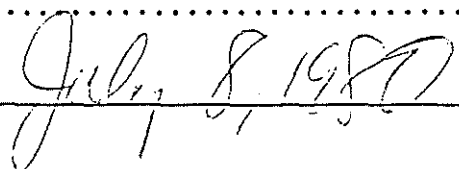
Because the Waiting Time Survey is comparative data, it will not be possible for a station to substitute an alternate day for a Waiting Time Survey day that has been inadvertently missed. Do not substitute another day if there is a mistake and a day that was intended to be a survey day is not completed as such. Simply turn in the Waiting Time Surveys minus the day that was intended to be counted.

Accuracy in counting vehicles and inspectors is very important. In situations where an inspector is at lunch or has some part of the day off, the available inspectors at the time of the count should be listed as the total number of working, not the total number assigned at the station.

Approved
VN8008



Date



H-292

Department Of Environmental Quality
Vehicle Inspection Program

Station _____

WAITING TIME SURVEY

Date _____

Time	# Vehicles Tested	# Vehicles Waiting	# Test Lanes Operating	# Available Inspectors
8				
9				
10				
11				
12				
1				
2				
3				
4				
5				
6				
7				
Total				
Average				

CATALYST CONTROL PROGRAMS APPROVED BY EPA

Note: Not all vehicles associated with these parties are included in a retrofit program. Each vehicle which has participated in one of these programs will either have a "Catalyst Approved For Import" label under the hood (or on the door jamb) or a certification statement provided to the owner and signed by an agent of the approved company.

* These programs are approved for use by employees of the agency/organization only.

A. Manufacturers

BMW
BMW of North America
Montvale, NJ 07645
Rep: Mr. Bill Bitting
(201) 573-2195

Ferrari/Fiat
Fiat Research and Development
Parklane Towers West
Suite 1210
Dearborn, MI 48126
Rep: Mr. Mark Recchia
(313) 336-2400

Jaguar
Jaguar Cars, Inc.
Product Legislation and Compliance
600 Willow Tree Road
Leonia, NJ 07605
Rep: Mr. Donald A. Krumholz
(201) 592-5000

Mercedes Benz
Mercedes Benz of North America
Product Regulation and Compliance
One Mercedes Drive
Montvale, NJ 07645
Rep: Mr. Harold Polz
(201) 573-6000

B. Shippers

Auto Driveaway Co.
310 S. Michigan Avenue
Chicago, IL 60604
Rep: Mr. Perry L. Barcroft
(312) 341-1900
(800) 621-4155

E.H. Harms GmbH & Co.
Postfach 105040
2800 Bremen 1
West Germany
Rep: Ms. Helga Pietsch
421-3689-104

G. Albrecht Co.
Steubenstrasse 7b
Postfach 120426
2850 Bremerhaven 12
West Germany
0471-40174

C. Other Organizations*

U.S. Department of Defense
Department of the Army
Deputy Chief of Staff Logistics
Washington, DC 20310-08
Rep: Mr. Gary Bull
(202) 694-4082

Peugeot
Peugeot U.S. Technical
Research Co.
1099 Wall Street, West
Lyndhurst, NJ 07071
Rep: Mr. Richard Lucki
(201) 438-1113

Porsche
Porsche of North America, Inc.
100 W. Liberty Street
Reno, Nevada 89051
Rep: Mr. Mike Love
(702) 348-3000

Rolls Royce
Rolls Royce Motor Cars, Inc.
P.O. Box 476, 120 Chubb Avenue
Lyndhurst, NJ 07071
Rep:
(201) 460-9600

Saab
Saab/Scania of America, Inc.
P.O. Box 697
Orange, CT 06477
Rep: Mr. David Raney
(203) 795-5671

Karl Gross Co.
Hafenhaus Columbusbf
Postfach 120244
2850 Bremerhaven
West Germany
Rep: Mr. Karl Gross
0471-4838-20

Transcar GmbH
Langer Kornweg 16
6092 Kelsterbach-Frankfurt
West Germany
Rep: Mr. Ernst P. Grossman
06107-8051

U.S. Trade Corporation
1661 Katy Lane
Fort Mill, SC 29715
Rep: Pieter Moes
(803) 548-6177

U.S. Department of State
2201 C Street, NW
Washington, DC 20520
Rep: Mr. John Miller
(202) 647-3658

Volkswagen/Audi
Volkswagen of America, Inc.
888 W. Big Beaver Road
Troy, MI 48007
Rep: Mr. Leonard Kata
(313) 362-6344

Volvo
Volvo Cars of North America
Rockleigh, NJ 07647
Rep: Mr. Gregory Buffalino
(201) 768-7300

European Automotive Compliance
Gevers Deynootweg 1130A
2586 BX Den Haag
Holland
Rep: Mr. Mervyn Calder
31-70-559245

Ozark Fast Freight LTD
PSC #2
Box 1457
APO, NY 09405
Rep: Mr. Patrick Coyne
03943-6101

Panama Canal Commission
2000 L Street, NW
Suite 550
Washington, DC 20036
Rep:
(202) 634-6441

FOR ADDITIONAL INFORMATION

If you have any additional questions that are not answered by these fact sheets, you may contact the Investigation/Imports Section by telephone at (202) 382-2504 or by mail (regular, certified or registered) at:

U.S. Environmental Protection Agency
Manufacturers Operations Division (EN-340F)
Investigation/Imports Section
401 M Street, S.W.
Washington, D.C. 20460

For delivery by a courier service (e.g., Federal Express, Airborne, etc.) only, use the following address:

U.S. Environmental Protection Agency
Manufacturers Operations Division (EN-340F)
Investigation/Imports Section
499 South Capitol Street, S.W., 2nd Floor
Washington, D.C. 20024

When calling EPA concerning a particular vehicle, please have the make, model, year and vehicle identification number (VIN) of your vehicle (from the registration card) and, if it has already been imported, the importer of record, the port of entry, date of entry and entry number (from the EPA form 3520-1) (You can only get an EPA form 3520-1 from the port of entry and you should keep a copy for your records). When writing to EPA, include this information, plus a telephone number (with area code) where you can be reached during the day.

*** For further information concerning the new regulations, you may find the Federal Regulations in the September 25, 1987 Federal Register Vol. 52, No. 186 pages 36136 through 36164.

H-225

ATTACHMENTS

MANUFACTURERS U.S. REPRESENTATIVES

<u>Car Companies</u>	<u>Contact</u>	<u>City & State</u>	<u>Phone No.</u>
1. Alpha Romeo	Mr. Nick D'Uva	Englewood Cliffs, NJ	(201) 871-1234
2. BMW	Environmental Engineering Department	Montvale, NJ	(201) 307-4000
3. Chrysler Jeep, Eagle, AHC	Customer Relations	Detroit, MI	(313) 757-3399
4. Fiat, Ferrari Lancia	Mr. Albert Negro	Dearborn, MI	(313) 322-4609
5. Ford	Mr. Jim Dubke	Dearborn, MI	(313) 594-1188
6. GM, Opel, Vauxhall	Mr. Robert Cowell	Warren, MI	(313) 947-1782
7. Honda	Customer Assistance	Gardena, CA	(213) 604-2430
8. Hyundai	Mr. Won J. Park	Ann Arbor, MI	(313) 747-6600
9. Isuzu	Customer Relations	Southfield, MI	(313) 356-7377
10. Jaguar Austin Morris Rover, Triumph, MG	Mr. Doug Taylor	Leonia, NJ	(201) 818-8500
11. Lotus	Customer Relations	Norwood, NJ	(201) 784-2725
12. Maserati	Mr. Daniel Olson	Huntington Beach, CA	(714) 891-4821
13. Mazda	Mr. Tsuyoshi Mizunaga	Ann Arbor, MI	(313) 732-8400
14. Mercedes-Benz	Product Compliance Department	Montvale, NJ	(201) 573-2784
15. Nissan-Datsun	Mr. George Over	Gardena, CA	(213) 530-3101
16. Peugeot Citroen	Mr. Richard Lucki	Lynchurst, NJ	(201) 438-1113
17. Porsche	Mr. Kurt Meyer	Silver City, CA	(213) 390-3048
18. Renault	Mr. John Fellenberg	Detroit, MI	(313) 493-4757
19. Rolls Royce	Mr. Kenneth Preece	Lynchurst, NJ	(213) 460-9600
20. Saab	Mr. Ms. Marylou Wickwire	Orange, CT	(203) 795-5971
21. Subaru	Mr. Paul Utans	Pennsauken, NJ	(609) 488-8516
22. Toyota	Customer Assistance	Torrance, CA	(213) 781-2801
23. Volkswagen, Audi	Customer Service	Troy, MI	1 (800) 822-8987
24. Volvo	Mr. Gregory Buffalino	Rockleigh, NJ	(201) 768-7300 Ext: 7125

<u>Motorcycle Companies</u>	<u>Contact</u>	<u>City & States</u>	<u>Phone No.</u>
1. BMW	Environmental Engineering Department	Montvale, NJ	(201) 307-4000
2. Harley-Davidson	Mr. Roger Bascom	Milwaukee, WI	(414) 342-4680
3. Honda	Customer Assistance	Gardena, CA	(213) 604-2198
4. Kawasaki	Ms. Julie Birch	Santa Ana, CA	(714) 770-0400
5. Suzuki	Mr. Jeffrey Link	Brea, CA	(714) 996-7040
6. Triumph	Mr. Wayne Moulton	Placentia, CA	(714) 996-8200
7. Yamaha	Mr. Shin Kubono	Cypress, CA	(714) 761-7330

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies and Procedures
Originating Section: Engineering

Number: 208.00
Supersedes:
Page 1 of 3

SUBJECT Noise Testing Procedures

PURPOSE: To achieve consistency in station noise test procedures.
REFERENCE: OAR 340-24-300 to 340-24-340, ORS 467.030, NFCS-21 Manual
PROCEDURE:

The following procedures will be used to perform a noise test.

I. General Procedures

- A. Place mike at tailpipe.
- B. Have customer increase engine rpm to run-up speed. While at run-up speed, record noise meter reading, insuring that probe rattle or other noises do not interfere with the test. A reading above the standard fails. Certificate of Compliance is issued only when vehicle passes both noise and exhaust emission tests.

If the noise reading is close to standard (within + 5 dBA), and the inspector believes that auxil noises (wind, trains, rattling probe, etc.) influenced the readings, the noise test must be repeated. The difference between background noise and vehicle standard must be at least 10 dBA.

C. Standards

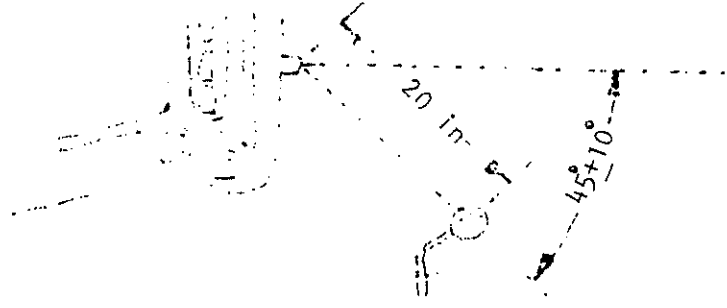
Cars and Light Duty Trucks: Front Engine - 93 dBA
Rear Engine - 95 dBA

Motorcycles: 1976 and Newer - 99 dBA
1975 and Older - 102 dBA

II. Mike Placement

A. General Rule

1. Visually draw a line at a 45 degree angle to the direction of exhaust flow as it leaves the tailpipe. Set the mike along this line, perpendicular to the line at a distance of 20 inches from the end of the tailpipe. See drawing below.



Approved *Don Hauscholtz*

Date 2/26/95

Department of Environmental Quality

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· SUBJECT Noise Testing Procedures

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2. Height of mike will be that of the tailpipe end, but in no case closer to the ground than 8 inches.

B. Exceptions

1. If there is a hole in the exhaust system, or pipe dead ends under vehicle so that some or all of the exhaust gas does not discharge from the end of the pipe, the mike will be positioned as near as possible to the hole or at the tailpipe end, whichever is louder. The mike will not be placed closer than eight inches from the vehicle. In no case will the mike be placed under the vehicle. When there is an exhaust leak, mike and probe don't necessarily need to be at the same exit.
2. In the case of dual pipes exiting on opposite sides of the vehicle, both pipes will be tested. Neither reading will be allowed to exceed noise standards. If dual pipes exit to the rear of the vehicle, only the pipe that seems to produce the loudest noise will be tested. For rear-exit pipes, the mike must be placed on the outside of the vehicle rather than between the pipes.

III. RPM Run-up

A. General Procedures

1. Place tachometer pickup on plug wire.
2. Run-up engine to 2200 - 2700 rpm.

B. Exceptions

1. Diesels

The run-up on diesels will be just off idle, not 2500 rpm.

2. Vans

The run-up on vans that cannot be easily tached will be approximately 2500 rpm as discerned by the ear. If the vehicle fails the test under these conditions, extra effort will be made to tach the vehicle. If it is not practical to tach, the vehicle will be failed.

3. Motorcycles

- a. Place vehicle in neutral gear with brake engaged. If the vehicle has no neutral gear, the rear wheel shall be at least 2 inches clear of the ground.
- b. Use the tachometer on the motorcycle, or if there is none, hook up the VIP tachometer pickup on plug wire. Have the customer accelerate the engine to 45 percent of red line (lowest speed in tachometer red zone). If there is no tachometer red line, accelerate to figure shown in Attachment 1. If the motorcycle has a two stroke engine, or a multiple cylinder-multiple ignition system, you may have to divide the VIP tachometer reading by two.

Approved *[Signature]*

Date 9/26/85

41-20-37

STATE OF OREGON

Department of Environmental Quality

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: SUBJECT Noise Testing Procedures

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IV. Noise Meter Calibration - Inspection Staff

Noise meters will be calibrated before the start of each work day. Record initial calibration reading on exhaust analyzer calibration log. If the reading varies from the level listed for the calibrator by more than 1 dBA, adjust meter.

V. Noise Equipment Maintenance

A. Inspection Staff

1. Sound Calibrator Battery Check - The sound calibrator battery will be checked before every noise meter calibration to insure the calibrator is working properly. To check, just turn on the calibrator and observe the battery indicator dial. If the battery registers low, it must be changed.
2. Noise Meter Battery Check - The noise meter battery will be checked before every calibration to insure that the battery will last throughout the remainder of the workday without causing drift in noise meter readings. If check shows that the noise meter needle is not within the "Bat OK" area, replace the battery.

B. Maintenance Staff

1. Noise Meter A-Scale Calibration - Noise meters will be checked once per year to insure that the A-scale weighing of the meter is accurate.
2. Sound Calibrator Verification - The sound calibrator will be checked once per year to verify accuracy.

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Approved *[Signature]* Date 2/26/95

H-230

Attachment 2

United States Environmental Protection Agency
Washington, D.C. 20460

APPLICATION FOR EPA PRIOR WRITTEN APPROVAL
OF VEHICLE ADMISSION

1. Importers's name, address	4. Vehicle Identification Number (VIN)	
	5. Make and Model of vehicle	6. Date vehicle originally manufactured
2. Importer's Daytime Telephone Number	7. Date vehicle purchased	
3. Expected date of arrival in U.S. (date vehicle arrived for those that are already in the U.S.)	8. Port of entry	
9. Code letter of requested exemption or exclusion (refer to back of form)		
10. Explanation of requested exemption or exclusion, use additional sheets if necessary (attach documentation)		

I certify under penalty of perjury that the information I have provided is correct and complete and that the attached documentation does not contain any false or fraudulent statements or conceal any material facts.

Signature of Importer

Date

MAILING INSTRUCTIONS

This form is to be used to request admission by EPA of an imported motor vehicle that qualifies for an exemption from compliance with Federal emission requirements. All of the above information must be submitted in order for your case to be reviewed. **EACH CASE MUST BE SUBMITTED ON A SEPARATE FORM WITH APPROPRIATE DOCUMENTATION ATTACHED.** Failure to submit an adequate explanation or documentation as to your qualification for an exemption or an exclusion will delay EPA's review of your case or may result in a denial of your request. When this form is completed, submit it along with proper documentation to:

Mail this form to the following address when using certified, U.S. Express Mail, or regular mail.

For delivery by a courier service (e.g., Federal Express, DHL, etc...) ONLY use the following address:

U.S. Environmental Protection Agency
Manufacturers Operations Division (EN-340F)
401 M St., S.W.
Washington, D.C. 20460 (202) 382-2504
Attn: Prior Approval

U.S. Environmental Protection Agency
Manufacturers Operations Division (EN-340F)
499 South Capitol St., S.W.
Washington, D.C. 20024 (202) 382-2504
Attn: Prior Approval

Note: For your case to be processed as quickly as possible, you must include the "Attn: Prior Approval" line.

Exemptions or exclusions are granted by EPA in the following cases (see categories on form 3520-1, Item 14):

(G) Repair/Alteration Exemption - the vehicle is imported solely for repair or alteration. It may not be operated on public roads in the U.S. and it must be exported upon completion of the repair or alteration. Include location and type of repair or alteration. There is an EPA obligation on the Customs bonds for these vehicles.

(I) Testing Exemption - the vehicle is imported for testing. It may be operated on public roads provided that the operation is an integral part of the test. The vehicle may not be sold. It must be exported one year from the date of entry unless an extension is granted. The following information must be submitted to EPA: location and type of testing; a testing purpose which is appropriate for an exemption in accordance with section 203(b)(1) of the Clean Air Act; an explanation of the necessity, scope, reasonableness of the testing program; the method of disposal of the vehicle upon completion; and all other information required by 40 CFR 85.1705. There is an EPA obligation on the Customs bonds for these vehicles.

(J) Pre-certification Testing Exemption - the vehicle is imported by an ICI for testing in order to obtain a certificate of conformity. In general, an ICI may not receive more than one exemption per engine family. The vehicle must be exported in 180 days if no certificate is issued for the vehicle, and the importer must otherwise comply with the provisions of 40 CFR 85.1706. There is an EPA obligation on the Customs bonds for these vehicles.

(K) Display Exemption - the vehicle is imported solely for display. It may not be operated on public roads or sold. The following information must be submitted to EPA: a statement of the necessity of and reason for display; a schedule of dates and locations for the display program; explanation of the use of the vehicle on the roads or highways; the method of disposal of the vehicle upon completion of the display period; a description of who will view the display; a listing of all vehicles currently in the display program; a statement that the vehicle will not be sold in the U.S.; and any other information required by 40 CFR 85.1707. There is an EPA obligation on the Customs bonds for these vehicles.

(L) Racing Exclusion - the vehicle meets one or more of the exclusion criteria outlined in 40 CFR 85.1703. It may not be registered or licensed for use on or operated on public roads or highways in the U.S. The following information must be submitted to EPA: the name of the sanctioning body and competition class; a schedule of racing events, including dates and locations where the vehicle will participate; a copy of the competition racing license; a letter from the state's Department of Motor Vehicles that states that the vehicle cannot be licensed for use on the public streets or highways, and explains why it cannot be licensed; and four photographs of the vehicle must be included, one each of front and rear and each side. There is no EPA obligation on the Customs bonds for these vehicles.

(M) Hardship Exemption - the vehicle is imported by an individual under circumstances of severe hardship. Documentation appropriate to demonstrate the case must be submitted. This applies only to those "...unforeseen cases of extreme hardship or extraordinary circumstances." (40 CFR 85.1511(c)(2)) An example of a possible hardship exemption is a handicapped person who needs a special vehicle which is unavailable in a U.S. certified configuration. The following information must be submitted to EPA: financial information, if applicable, demonstrating need; a statement that the vehicle is strictly for personal use; and other documents relevant to the individual request. Mere lack of knowledge of the regulations or the lack of availability of an ICI to import your vehicle is not alone sufficient to grant a hardship exemption. There is no EPA obligation on the Customs bonds for these vehicles.

(M) National Security Exemption - the vehicle is imported by manufacturer for national security reasons. The request is endorsed by an agency of the Federal Government charged with responsibility for national defense (40 CFR 87.1708). There is no EPA obligation on the Customs bonds for these vehicles.

H-2-2

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies and Procedures

Number: 209.01
Supersedes: 209.00

Originating Section: Operations & Engineering

Page 1 of 2

SUBJECT Testing Assembled, Reconstructed, and Replica Vehicles

PURPOSE: To outline the steps to be followed when testing vehicles registered as assembled, reconstructed, or replica.

REFERENCE: ORS 803.015, 803.210 and OAR 340-24-320

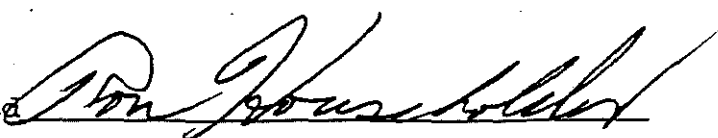
DEFINITIONS: The definitions for these vehicle classes are the same as those contained in Motor Vehicle Division Form 735-6511. (Attachment A)

- A. An Assembled Vehicle is a vehicle:
 - 1. With a body that does not resemble any particular year, model, or make of vehicle;
 - 2. That is not a vehicle rebuilt by a manufacturer;
 - 3. That is not a vehicle built in a factory where year, model, and make are assigned;
 - 4. That is not an antique vehicle, special interest vehicle, a reconstructed vehicle, or replica.

- B. A Reconstructed Vehicle is a vehicle that:
 - 1. Has a body that resembles and primarily is a particular year, model, or make of vehicle;
 - 2. Is not a vehicle rebuilt by a manufacturer;
 - 3. Is not a vehicle built in a factory where year, model and make are assigned at a factory;
 - 4. Is not a replica.

- C. Replica Vehicles are vehicles;
 - 1. With a body built to resemble and be a reproduction of another vehicle of a given year and manufacturer.

At the time of initial registration at DMV, the owner of a vehicle has the option to register the vehicle as it best fits the appropriate definitions.

Approved 

Date 8/20/90

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies and Procedures

Number: 209.01
Supersedes: 209.00

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Page 2 of 2

SUBJECT Testing Assembled, Reconstructed, and Replica Vehicles

Owners of motor vehicles improperly categorized should be urged to return to DMV for correction. For example, a 1936 Ford pickup with a 283 Chevy engine registered as a 1985 Assembly could more correctly be registered as a 1936 Ford Reconstructed. To correct a registration, the owner needs to complete Form #735-264, Attachment B, to make this change. This form is available at local DMV offices.

Testing

The inspector will ask for the current registration card to determine how the vehicle is classified, ie: assembled, reconstructed, or replica. The inspector will use the description of make and model as listed on the registration card for any Certificate of Compliance issued. If the inspector believes that the description is inappropriate or incorrect, or if there is no registration card available, the customer will be referred to the station's field supervisor.

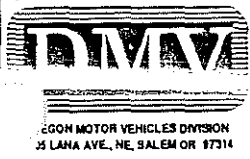
Many assembled vehicles are built without regard for the environmental or safety regulations. The Motor Vehicles Division Technical Services Section has advised us that safety enforcement is a matter of police jurisdiction. Their field offices have been instructed to register as "motor vehicles" any vehicle that an individual owner may present to them.

Testing a vehicle that is registered as an assembled vehicle requires the inspector to determine the proper emission equipment and tailpipe standards. The vehicle owner must provide the year of the chassis and engine to assist in determining the correct emission control equipment and emissions standard category.

The chassis, if 1975 or newer, needs to have the catalytic converter and fuel restrictor (if the vehicle chassis was so originally equipped). The engine will need all emission control equipment as originally designed by the manufacturer if it is a 1980 or newer engine on a 1980 or newer chassis. Tailpipe standards are to be determined by the engine year.

Approved 

Date 8/20/90



CERTIFICATION OF AN ASSEMBLED, RECONSTRUCTED OR REPLICA VEHICLE

INSTRUCTIONS:

Read the definitions on the reverse side of this form to properly identify the vehicle to be titled.
Complete this form, sign it and bring it and all required documents to any Oregon Motor Vehicles Division office for processing.

REQUIRED DOCUMENTS:

- a. Title for the frame used in the vehicle.
- b. For each major part used, you must show evidence of ownership by providing bills of sale, title or manufacturer's certificate of origin (MCO). If building or rebuilding a vehicle from a kit, you must provide the MCO for the kit.

OTHER REQUIREMENTS:

A vehicle identification number inspection is mandatory. The inspection may be done at any Oregon Motor Vehicles Division office. The inspection fee is \$4.

1. Explain the extent of building or rebuilding of the vehicle. Identify all major parts used (see back of form for list of major parts), the vehicle(s) from which they came and the vehicle identification number (VIN) of the part or the vehicle from which the part was taken.

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2. As defined on the reverse of this form, I certify that the vehicle for which I am requesting a title qualifies as (check one): Assembled Reconstructed Replica

3. If the vehicle is being titled as reconstructed or replica, I further certify that it resembles, or is a copy of a:

YEAR	MAKE	BODY STYLE
------	------	------------

4. If the vehicle is being titled as an assembled vehicle, the building of this vehicle was completed in the year 19__ which will be used as the model year.

I understand that it is a crime under ORS 162.085 to certify the truth of a statement when I know the statement is not true. Such a crime is punishable by a jail sentence of up to six months, a fine of \$1,000, or both.

NAME (PRINTED - LAST, FIRST, MIDDLE)

ADDRESS (STREET, CITY, STATE, ZIP CODE)

SIGNATURE

DATE

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 501.02
Supersedes: 501.01

Originating Section: Program Operations

Page 1 of 2

SUBJECT: Uniforms

PURPOSE: To define the program's policy pertaining to the issuance, wearing and maintenance of the approved uniform for Inspectors.

The Vehicle Inspection Program will supply each Inspector with the following items of approved uniform apparel:

- 5 Shirts - long or short sleeve
- 5 Slacks
- 1 Belt
- 1 Jacket and Liner
- 1 Baseball type Cap (optional)
- 1 Non-baseball type Winter Cap (optional)

Inspectors will be fitted for garments at their station or at the Tech Center. Uniforms will then be ordered from vendors and delivered to the Inspectors. Uniforms should be tried on immediately for proper fit and size. Any uniforms needing corrections must not be worn and must be returned immediately.

Uniform slacks will be navy blue in color with a light blue shirt. Lead Inspectors will wear white shirts. Name tags will be placed on the upper left front of each jacket and shirt. The Vehicle Inspector emblem will be placed on the upper right side of all jackets.

It will be the responsibility of each Inspector to keep the uniform clean and presentable for wearing. Uniforms may be washed by normal methods and treated as any other permanent press garment. Detailed instructions on cleaning are available from the vendors upon request.

Uniforms in need of minor maintenance will be taken care of by the Inspector. Uniforms needing major repair are to be turned in to the Inspection Units Supervisors for replacement.

Head gear will consist of the issued cap(s). A head scarf or stocking cap approved by the Supervisor is acceptable.

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 501.02
Supersedes: 501.01

Originating Section: Program Operations

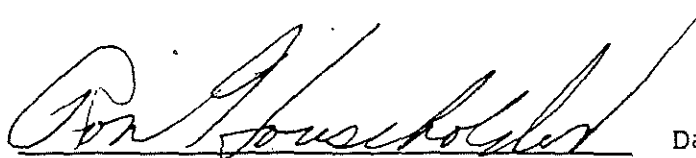
Page 2 of 2

SUBJECT: Uniforms

Rain gear may also be issued to stations as protection against the elements. During extremely cold weather, Inspectors may wear extra layers of clothing under the uniform. Under no circumstance may clothing with advertising logos or signs be visible.

It is strongly recommended that shoes be a sturdy work type which are comfortable for long periods of bending, standing or walking. Although they are not normally designed as work shoes, some Inspectors may wish to wear athletic shoes (tennis shoes), which is acceptable.

Approved



Date

9/23/91

H-2-5

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 502.00
Supersedes:

Originating Section: Program Operations

Page 1 of 1

SUBJECT: Mileage Reimbursement

PURPOSE: To establish the policy that will be used for
reimbursing Inspectors for personal vehicle mileage.

For purposes of mileage reimbursement, the official work station shall be the testing station to which the Inspector is regularly assigned according to the weekly work schedule. If an Inspector is temporarily assigned to a station other than his/her regular station, the Department will pay for mileage reimbursement for actual miles traveled OVER AND ABOVE the normal commuting (from home to regularly assigned station and back) distance traveled.

As an example of the above, your normal commute distance from home to the station is 15 miles round trip each day. The Inspection Units Supervisor notifies you that you are temporarily assigned to another station and must now travel 35 miles (round trip) each day. The Department would pay mileage reimbursement for the additional 20 miles each day. The current reimbursement rate is twenty two cents (\$.22) per mile.

Approved *Don Hauscholder* Date 9/16/91

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 601.01
Supersedes:

Originating Section: Program Operations

Page 1 of 1

SUBJECT: Vacation Scheduling

PURPOSE: To establish the policy and procedure of scheduling vacation leave for Vehicle Emission Technicians.

REFERENCE: American Federation of State, County and Municipal Employees (AFSCME) Local 3336 Contract, Article 29 Vacation Leave.

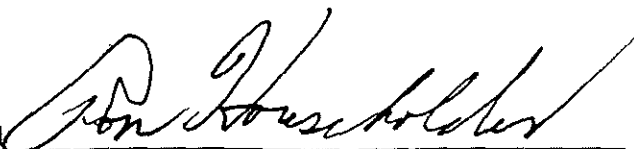
Vacations shall be requested, in writing, by each employee and subject to written approval or denial by his/her supervisor. Such written approval or denial shall be provided to the employee within seven calendar days of receiving the request.

Vacation requests must be submitted, in writing, not less than fifteen days prior to the desired vacation starting time for vacations of five or more days. For vacations of less than five days, the written request must be submitted at least five days prior to the desired starting time. The notice requirement does not preclude a supervisor granting a request on shorter notice.

Vacation time shall be scheduled within the workload and scheduling requirements of the program. In the case of conflict between two or more employees, the employee who first requested this time shall be given preference. If requests are received at the same date from two or more employees requesting the same period of time off and the matter cannot be resolved by agreement of the parties concerned, the employee with the greatest length of service (oldest recognized service date) with the state shall be granted the time off. However, seniority may be exercised only once in any two year period. An employee exercising such right must make such request in writing. If the conflict again occurs between these employees, such conflicts shall be resolved on a rotating basis.

This policy does not preclude more than one Inspector from a station being on vacation at the same time. Staff from other stations will be reassigned as necessary to accomodate the workload.

Approved



Date

9/16/91

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 700.04
Supersedes: 700.03

Originating Section: Program Operations & Engineering Page 1 of 6

SUBJECT: Procedure for Maintenance of the ESP Vehicle Testing System

PURPOSE: Outlines the procedures necessary to insure proper maintenance of the ESP vehicle testing system.

REFERENCE: ESP Maintenance Manual

I TASKS TO BE PERFORMED BY STATION PERSONNEL

A. ANALYZER SCHEDULED MAINTENANCE - STATION PERSONNEL

1. CLEAN TACH HEADS

a. Clean tach heads with a rag slightly dampened with solvent so that no caked-on grease remains on ferrite contact surfaces. Do not spray solvent directly into the heads, because it can dissolve ferrite glue.

2. CALIBRATE NOISE METER

a. The noise meter will be checked with a standard sound generator at the beginning of each day.

3. CALIBRATE OPACITY METER

a. The opacity meter will be zeroed by the inspector at the beginning of each day.

II TASKS TO BE PERFORMED BY MAINTENANCE PERSONNEL

A. UNSCHEDULED MAINTENANCE - POLICY

Unscheduled maintenance is required whenever an analyzer is not working properly and must be repaired before accuracy can be assured. Unscheduled maintenance is either initiated by station personnel observing a problem during station operation or by maintenance personnel observing a problem during routine maintenance or cross checking surveys. It is a general maintenance policy to give unscheduled maintenance a higher priority than scheduled analyzer maintenance or any

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 700.04
Supersedes: 700.03

Originating Section: Program Operations & Engineering Page 2 of 6

SUBJECT: Procedure for Maintenance of the ESP Vehicle Testing System

other maintenance activities. Maintenance personnel should refer to ESP vehicle testing manuals for assistance in repairing analyzers.

- B, The analyzer maintenance and checks to be done by Maintenance personnel are listed in the following table. They are discussed in more detail in the paragraphs below.

<u>Item</u>	<u>Task</u>	<u>Schedule</u> *
1	Multipoint Calibrations at 20%, 40%, 60% and 80% of full scale	Once/6 Month
2	Replace Analyzer Tubing	Once/Year
3	Clean All Pumps, Exhaust Exhaust Ports and Solenoids	Once/2 Weeks
4	Change Cabinet Air Filter	Once/6 Months
5	Clean Analyzer Optical Bench	Once/6 Months
6	Change All Sample Filters	Once/2 Weeks
7	Leak Checks After Cleaning	Once/2 Weeks
8	Calibration After Cleaning	Once/2 Weeks
9	Calibrate Tachs	Once/2 Weeks
10	Calibrate Opacity Meter	Once/2 Weeks
11	Calibrate Noise Meter	Once/2 Weeks
12	Calibrate Pressure Testing Unit	Once/2 Weeks
13	Check Propane Equiv. Factor	Once/Year

1. MULTIPOINT CALIBRATIONS

The calibrations will be done at 20%, 40%, 60% and 80% of the concentrations of the following bottle using a precision gas divider with nitrogen as the dilution gas:

3000 ppm propane
8% CO
14% CO2
Balance Nitrogen

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The resulting measurements must meet the following accuracy requirements:

<u>Channel</u> <u>Repeatability</u>	<u>Range</u>	<u>Accuracy</u>	<u>Noise</u>	
As Hexane (ppm)	401-1000	+/-30	10	15
	1001-2000	+/-80	20	30
CO (%)	0-2.00	+/-0.06	0.02	0.03
	2.01-5.00	+/-0.15	0.06	0.08
	5.01-9.99	+/-0.40	0.10	0.15
CO2 (%)	0-4.0	+/-0.6	0.2	0.3
	4.1-14.0	+/-0.5	0.2	0.3

If not, repairs must be performed to bring readings to within the standards.

2. REPLACE ANALYZER TUBING

This task will be performed at least once a year on all analyzers. All tubing inside the analyzer will be replaced. Also, the sample line will be replaced. See ESP manual for correct tube routing.

3. CLEAN PUMPS, SAMPLE PORTS AND SOLENOIDS

a. Pumps

- 1) Remove pump head by unscrewing the four head screws, noting the original direction of the head.
- 2) Remove the four screws which retain the valve plate.
- 3) Remove the two reeds, each attached to the valve plate by a single screw.
- 4) Clean pump head, valve plate and reeds with clean, soft tissue paper. If a head, valve plate or reed is excessively corroded, it will be replaced. If a reed is bent beyond its elastic point, so that it remains curved

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- rather than straight, it will be replaced.
- 5) Reassemble insuring that the head is positioned in the same direction as it was before removal.

b. Sample Ports

These ports are located throughout the sample line tubing where tube is connected forming a narrow passage. The attached tubing will be removed and the ports cleaned with a pipe cleaner.

c. Solenoids

- 1) Each analyzer has a number of gas solenoids. They will all be cleaned.
- 2) Remove the top pipe fitting. Then remove the magnetic coil by unscrewing the retaining nut, after rolling the "O" ring seal off.
- 3) Using a special double-pronged tool, remove the solenoid sleeve assembly thereby exposing the moveable valve element. Remove this element also.
- 4) Clean all gas flow surfaces with a soft tissue paper and/or a pipe cleaner. Be careful not to damage the copper ring inside sleeve.
- 5) Reassemble.

4. CHANGE CABINET AIR FILTER

This will be done once every six months.

5 CLEAN ANALYZER OPTICAL BENCH

- a. Using compressed air, blow out the dust inside the analyzer cabinet, especially around the bench assembly.
- b. Open the sample optical area.
- c. Clean the IR source windows and detector windows and mirrors with a soft tissue paper.

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- d. Clean the general sample path with a soft tissue paper.
- e. Reassemble.
- f. Oil moving parts where required.

6 CHANGE ALL SAMPLE FILTERS

This will be done once every two weeks.

7 LEAK CHECKS AFTER CLEANING

After all two week cleaning is complete, the maintenance person will initiate a leak check and insure the analyzer passes the test.

8 CALIBRATION AFTER CLEANING

After all two week cleaning is complete and after the leak check, the maintenance person will initiate a full gas calibration and insure the analyzer passes the test.

9 CALIBRATE TACHS

- a. The underground remote tach will be calibrated using a radio frequency signal generator of known frequency. If out of calibration, adjustments will be made to insure readings are within tolerance.
- b. The clamp-on tach pick-up will be calibrated using an electrical signal of known frequency
 - 1) Using the tachometer driver test unit, check each operational tachometer at 600, 900 and 1800 rpm.
 - 2) Make repairs if any reading is off by more than 50 rpm.

10. CALIBRATE OPACITY METER

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- a. Opacity meter will be zeroed following manufacturer's procedure.
- b. Opacity span will be checked at approximately 20 percent opacity using a precision grey glass.
- c. Opacity span will be checked at 100% by totally blocking the meter's light path.
- d. Readings out of calibration by more than 1 percent will require repairs.

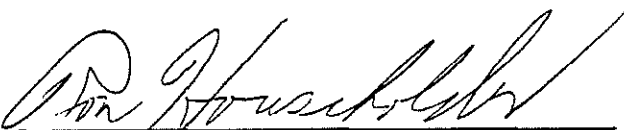
11. CALIBRATE NOISE METER

- a. Noise meter will be calibrated using a signal generator with an output of 114 dB at 1 KHz. Acceptable tolerance is 1 dB.
- b. The noise meters are also calibrated once a year using the OMNICAL testing unit to determine response at the full range of frequencies.
- c. The response of the signal amplifier supplied by ESP will also be adjusted to insure computer reading is accurate.

12. CALIBRATE PRESSURE TEST UNIT

- a. Hook up tank pressure gas and follow ESP testing procedures to insure the proper flow of tank pressurizing gas and the response of pressure measuring device.

Approved



Date

4/22/94

Effective Date

7/1/94

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Subject OEA '75 Exhaust Gas Analyzer Calibration Schedule

PURPOSE: To establish the schedule to be followed for the calibration of exhaust gas analyzers.

PROCEDURE:

All exhaust gas analyzers are to be gaseous and optically checked on the following schedule. *

10:00 a.m.**	Recording of readings.	Full calibration if adjustments necessary.
11:00 a.m.	Recording of readings.	Full calibration if adjustments necessary.
2:00 p.m.	Recording of readings.	Full calibration if adjustments necessary.
5:00 p.m.	Recording of readings.	Full calibration if adjustments necessary.
6:00 p.m.***	Recording of readings only	

All exhaust gas analyzers are to be optically checked on the following schedule. *
If optical potentiometer adjustment is made, a full gaseous calibration must be done.

12:00 noon	Recording of readings.	Full calibration if adjustments necessary.
1:00 p.m.	Recording of readings.	Full calibration if adjustments necessary.
3:00 p.m.	Recording of readings.	Full calibration if adjustments necessary.
4:00 p.m.	Recording of readings.	Full calibration if adjustments necessary.

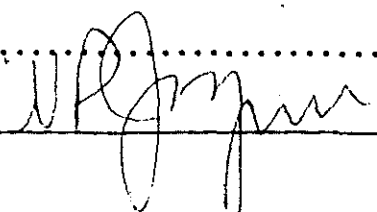
* Analyzer potentiometer adjustments must be made if readings differ from set point values by more than the following:

<u>Calibration Method</u>	<u>CO(%)</u>	<u>HC(ppm)</u>	<u>CO₂(%)</u>
Gas	0.05	10	1.0
Optical	0.20	40	1.0

** At beginning of testing day for Mobile Units.

*** At end of testing day for Mobile Units.

Approved



Date

21 JAN 82

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SUBJECT Equipment "DOWN" Memos

PURPOSE: To clarify when and where a "DOWN" memo is to be used and distributed.

REFERENCE: Procedure 700.01

PROCEDURE:

Make out a "DOWN" memo anytime assistance is needed to repair any of the program's equipment. This applies to all equipment including the trucks, compressors, dynamometers, certificate dispensers, carbon monoxide monitors and the exhaust gas analyzers.

For the exhaust gas analyzers it is necessary to follow the steps outlined in Section VII (A) and (B) of Procedure 700.01 of this manual.

After the "DOWN" memo is written, remove only the yellow copy and send it to the maintenance section. KEEP the WHITE and PINK copies together and attach them to the defective piece of equipment.

When the repair is completed, the person doing the work must list on both copies the major service that was performed and the materials used, date and sign it in the space provided on the lower line.

The Lead Inspector must then separate the copies and forward the WHITE copy to the maintenance section personnel. The PINK copy is to be retained at the station for the information to be recorded in the equipment maintenance book.

Approved Star Seaman

Date 4/14/82

SS:f

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SUBJECT Interscan CO Monitor Operations

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PURPOSE: To establish the procedures for operation, calibration, and maintenance of Interscan CO monitors.

REFERENCE: Procedure 802.00

I. Monitor Set-Up - Maintenance Staff

- A. Monitors are to be placed in a no smoking area where temperatures never drop below freezing. Monitor location will be established by the engineering staff.
- B. Fill sample inlet bubbler with distilled water to the indicated fill line.
- C. Insert a 1 inch diameter glass fiber filter into the sample inlet line filter holder. The rough surface of filter must face upstream.
- D. Set the thermostat located inside the monitor box to 110 (equivalent to 100° F).
- E. Position the range switch located on the front panel to high. Low range will cause improper alarm activation.
- F. Place the inlet of the sample line at an elevation of 5-7 feet in a location actively used by inspector personnel. Inlet port location will be established by the engineering staff.
- G. Plug the monitor's A.C. cord into any 115 VAC outlet capable of carrying 5 amps.
- H. Turn on the power switch, located on the front panel.
- I. Set alarms to activate as follows:
 - Sound Alarm - Set to activate after 10 consecutive minutes above 75 ppm CO.
 - Light Alarm - Set to activate instantaneously above 400 ppm CO.
- J. Turn the air sample pump switch to sample. This switch is located on the front panel.
- K. Set the sample flow rate to 0.5 liters/minute as indicated by the rotameter on the front panel. The valve knob at the base of the rotameter is used to adjust flow.
- L. Leak test the monitor plumbing by disconnecting the sample line and placing a finger over the inlet to the glass fiber filter holder. The rotameter must read less than 0.1 liters/minute, and the low flow light must turn on. If

Approved *Ron Hausholder*

Date *March 2, 1984*

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- not, doublecheck that the filter is properly inserted in the filter holder. Also, tighten down the bubbler cup onto the tube.
- M. Allow one day of monitor warm-up before attempting a calibration.

II. Calibration - Inspection Staff

Monitors should be calibrated Tuesday, Thursday, and Saturday mornings of each week by station personnel. See accompanying CO monitor diagram and "Calibration and Maintenance Records" form. The following calibration procedures are to be used.

A. Zero Monitor

1. Turn off sample pump.
2. Allow monitor to reach steady meter readings (approximately 2 minutes). Record zero reading on data sheet.
3. Adjust zero pot until meter reads zero.

B. Span Monitor

1. Turn on sample pump.
2. Connect span gas to the inlet of the bubbler. Span gas is contained in a mylar bag.
3. Allow monitor to reach maximum reading (approximately 2 minutes). Record this span reading on data sheet.
4. Adjust sample flow to 0.5 liters/minute on rotameter. Wait two minutes. (It is not necessary to wait unless flow adjustment was made).
5. Adjust span pot so meter reads correct span gas concentration. If span or zero adjustment was more than 10 ppm, calibration should be repeated. If unable to adjust zero or span readings to those required, call Maintenance.
6. After span adjustment is made, disconnect span gas and reconnect ambient sample line. At this point, the monitor will again be correctly sampling ambient air. No adjustments will be made until the next full calibration.

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Approved

Ron Householder

Date

March 2, 1984

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III. Maintenance

A. Inspection Staff

Bubbler water and glass filter must be replaced every Tuesday before calibrating the monitor.

1. Bubbler water must be dumped and bubbler refilled to marked level with distilled water.
2. Fiberglass filter is to be removed and replaced with a clean filter. Rough surface of filter must face upstream.
3. Monitor must then be leak tested as explained in the monitor set-up procedures above. If leak remains after leak-fix procedure is followed, Maintenance personnel are to be called.

B. Maintenance Staff

CO monitors have been placed at the stations that have a potential for high pollutant accumulation. Station personnel are required to do routine calibrations and filter and water changes. You will check their work and also perform the more complex maintenance. Any problem encountered should be recorded on the cross-check form. These checks should be done once a month while doing routine maintenance at the stations.

A. Check Station Procedures

1. Check monitor maintenance log to ensure that timely calibrations have been performed, and that the monitor is not drifting radically. Record discrepancies.
2. Leak test the flow system by disconnecting the sample inlet tube just upstream of the filter and plugging the filter with your finger. The rotameter reading should drop to less than 0.1 l/min. Record excessive leaks and ensure that repairs are done.

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Approved *Don Hausholder*

Date *March 2, 1984*

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B. Fill the Sensor

1. Remove the sensor, including plumbing elbows, from the monitor.
2. Weigh the sensor. Record the weight.
3. Fill the sensor with distilled water to the weight recorded on the side of the sensor. Some sensors require a 2" syringe to fill. For these sensors, the syringe must be inserted approximately 1-1/2". Otherwise, the water will not be readily absorbed.
4. Record the final weight and replace the sensor.

C. Measure Battery Voltage

1. the sensor bias battery must have a voltage of at least 1.33 volts. If not, the battery must be replaced.
2. The voltage can be measured, without removing the battery, with a digital multimeter.

D. Check the Alarm Set Points

1. Using the zero and span pots, slowly adjust the gauge reading to above 75 ppm. Record the gauge reading at the point the low setpoint alarm activates. (This activation will be indicated by a click which means the delay timer has been turned on.)
2. If the low set point is not in the range 75_+ 5 ppm, adjust the set point to within this range.
3. Check and adjust the high set point to 400_+ 20 ppm using the above technique. This time, however, you may have to input span gas to reach the set point. The light alarm will active when the set point is reached.

E. Check the Audible Alarm Delay Timer

1. The low alarm (75 ppm) is connected to a horn via a time delay relay. This relay must delay horn activation by 10 minutes + 30 seconds.

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Approved

Don Householder

Date

March 2, 1984

H-207

COPY OF ORDER

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2. If the delay time is not correct, adjustments must be made to the relay unit located inside the monitor.

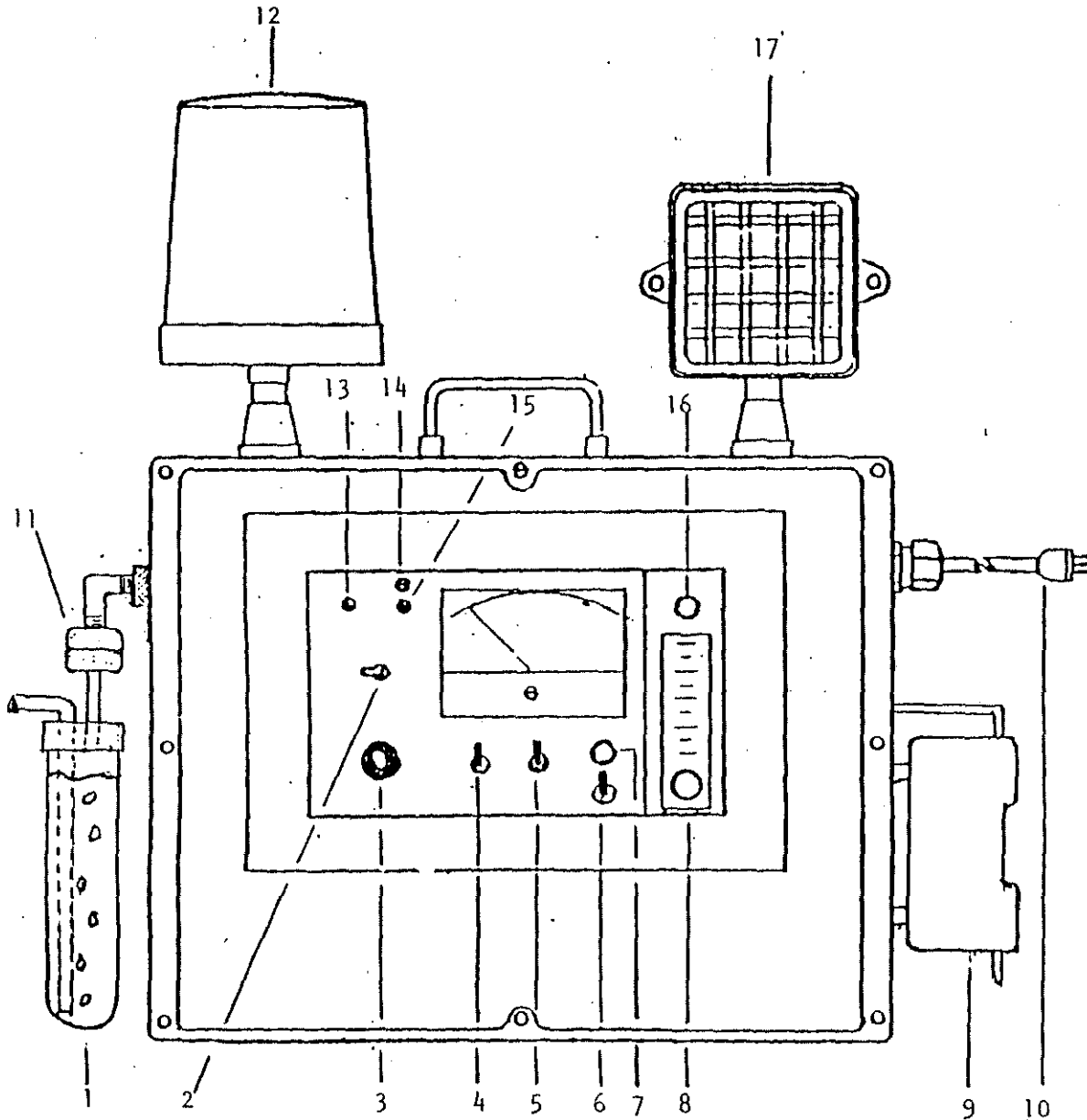
F. Final Calibration

If water was added to the sensor the sample flow should be left off and no calibration done until the next day. However, if no water was added the analyzer should be zeroed and spanned before leaving.

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Approved *Don Hauscholder* Date *March 2, 1984*

Interscan Monitor
Modified for DEQ Operations



LEGEND

1. Bubbler
2. Range Switch (hi/low)
3. Zero Pot
4. Alarm Inhibit (hi)
5. Pump Switch (sample/zero)
6. Power On Switch
7. Power On Light
8. Flow Meter
9. Sample Pump
10. AC Power Cord
11. Sample Inlet Filter
12. Alarm Light
13. Span Pot
14. Alarm Set (hi)
15. Alarm Set (low)
16. Filter Clog Light
17. Alarm Horn

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SUBJECT: MSA Model 571 CO Monitor Operations

PURPOSE: To establish the procedures for operation, calibration and maintenance of MSA Model 571 CO Monitor.

REFERENCE: None

I. Calibration - Inspection Staff

Monitors should be fully calibrated once a week according to the procedures below. Gas calibrate both Channel A and B of the CO monitor, one at a time.

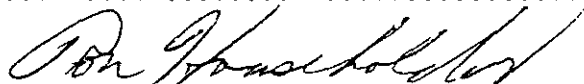
1. Control unit's green ready light must be "ON" before starting the zero and/or span check and adjustment procedures.
2. Zero-cap the sensor and allow 5 minutes to reach equilibrium. Read the zero reading and record in log.
3. Remove the cap and input calibration gas to sensor. Allow 3 minutes to reach equilibrium. Read and record the meter level.
4. Remove the calibration gas feed and cap the sensor to zero. Allow 5 minutes to reach equilibrium. Adjust zero pot on the control module until meter reads zero.
5. Remove the zero cap and input calibration gas to sensor. Allow 3 minutes to reach equilibrium. Adjust span pot until meter reads concentration of calibration gas. Remove calibration gas feed.
6. After completing the above procedures 1 to 5 for both channels, set channel selector to "Auto." Monitor is now ready to sample ambient air.

II. Routine Maintenance - Maintenance Staff

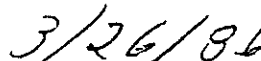
The maintenance staff must review the records of the CO monitor calibration log and check the alarm set-points and time delay once a month.

- A. Calibration records should be reviewed for excessive drift which would indicate monitor problems.

Approved



Date



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- B. Check alarm set-points for both "warning" and "alarm" by slowly adjusting the control module zero pot upward on either Channel A or B. The panel "warning" light on the control module should activate at 75 ppm and the panel "alarm" light should switch on at 400 ppm. If the alarms are not properly set, adjust the set-points following the procedures in III-G. If no adjustments are required, place zero cap on sensor. Wait 5 minutes to reach equilibrium. Re-zero using control module zero pot. Remove zero cap and monitor is again operational.
- C. The time delay is checked in the procedure B above with the panel "warning" light only lit. As soon as the light activates, begin timing. After 10 minutes, the room light alarm should activate. If it is not properly timed, time can be adjusted at the time delay relay timer.

III. Monitor Set-up - Maintenance Staff

- A. Monitor sensors are to be placed in a no smoking area at breathing zone elevation. Exact location should be established by the engineering staff.
- B. The control module and room light alarm should be located in an open area easily visible to inspectors performing normal testing duties.
- C. Insure that the sensors are wired to the control module as shown in Figure 1.
- D. Insure that room alarm and fans are wired according to drawing in Figure 2.
- E. Plug the CO monitor into a 110VAC outlet capable of carrying at least 5 amps. Plug the alarm response fans into individual 20 amp circuits that are not tied to the CO monitor circuit.
- F. The MSA 751 monitor requires an initial one time calibration of the electronics to place the amplifier and interface board's response into the appropriate range to handle the sensor output. This procedure should only be required at the time of initial setup or when a sensor assembly is replaced or when the cable between the control unit and a sensing head assembly is changed. If sensors are not lasting the full 1 year warranty period, again the start-up

Approved



Date

3/26/86

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electronic calibration should be redone. A sensor is considered bad when the monitor can not be gas calibrated. Electronic calibrations should not be required when only the sensor element is replaced. Instructions for electronic calibration are below.

1. Before supplying power to the module, check the mechanical zero of the meter. If necessary, turn the adjusting screw located on the lower front face of the meter to set the pointer at "0" on the meter scale.
2. Turn fully counter-clockwise the current adjust pots (R1-Channel B and R2-Channel A) located on the control module power supply board. Turn on power to control unit and adjust each current pot to obtain 9-35 volts between testpoints TP2 and TP17 for Channel A and TP2 and TP18 for Channel B.
3. With sensor wiring plug unplugged from the interface board, measure power supply to board at terminals 1 and 2 of interface board - should be greater than 9 V - apply zero cap.
4. Plug sensor wire loom into interface board. Allow 15 minutes for sensor to stabilize. Adjust control unit meter to zero using control module zero pot. Ready lamp should light.
5. LED near interface board gain pot should be green - if not, cell not properly connected or power supply voltage is too low.
6. Turn interface board gain pot full clockwise.
7. Verify that zero output voltage at terminals 5 and 6 of interface board is between 17 and 22 MV. If not, adjust interface board zero pot to obtain 17-22 MV.
8. Turn gain pot full counter-clockwise.
9. Apply 300 ppm span gas. Allow 2 minutes for readings to equilibrate.
10. Turn gain pot clockwise until LED changes from green to red.
11. Remove span gas and apply zero cap. Re-zero control module using control module zero pot.

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Approved

Don Hauschild

Date

3/26/86

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- G. Set alarm to activate as follows:
- Warning Relay - set to activate alarm/fans after 10 consecutive minutes above 75 ppm CO.
 - Alarm Relay - set to activate alarm/fans instantaneously above 400 ppm CO.

The warning and alarm set points are adjustable from 0 to 60% of meter full scale by means of the "Warn Adjust" and "Alarm Adjust" pots located on the amplifier printed circuit board. The concentration levels at which the warning and alarm circuits will be energized may be readjusted by following the procedure outlined below.

1. Move the channel selector switch to either the Channel A or Channel B position. Where the zero control is indicated in the following steps, manipulate only the proper zero control for the channel selected.
2. Turn the adjusting screw of the "Alarm Adjust" potentiometer (R9) 25 turns clockwise.
3. Turn the zero control clockwise and set the pointer at the desired alarm level on the meter scale.
4. Turn the "Alarm Adjust" control slowly counter-clockwise until the red alarm light is illuminated.
5. Turn the zero control counter-clockwise to move the meter pointer downscale.
6. To check the alarm setting, turn the zero control slowly to move the meter pointer upscale.
7. Repeat the above steps 1 through 7, using the "Warn Adjust" pot (R8) to readjust the warning set point.
8. Adjust the zero pot to get a meter reading of zero with the zero cap over the sensor of the channel selected. Remove cap.

H. Gas calibrate according to procedure in Section I.

Approved

Don Haushalter

Date

3/26/86

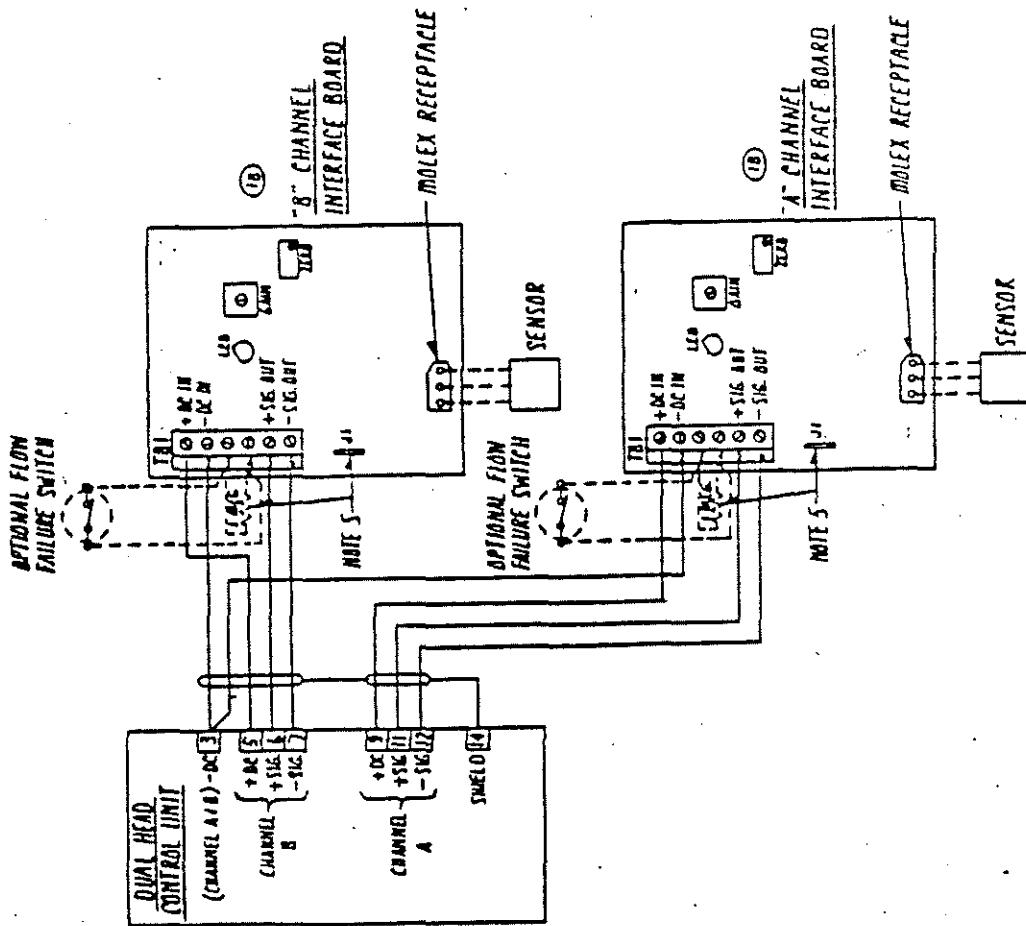
IF BOARDS TO
 BOARD WITH
 NEW VERSION
 REVISED NOTES
 X60950
 011 R15 PGS

70/5

SCALE	1" = 1"
DATE	2-12-82
PROJECT NUMBER	J.C.H. 2-12-82
MECHANICAL HEAD ID 500 SERIES DUAL HEAD CO.	
184	(A)

FIGURE 1

CONTROL MODULE AND SENSORS WIRING DIAGRAM

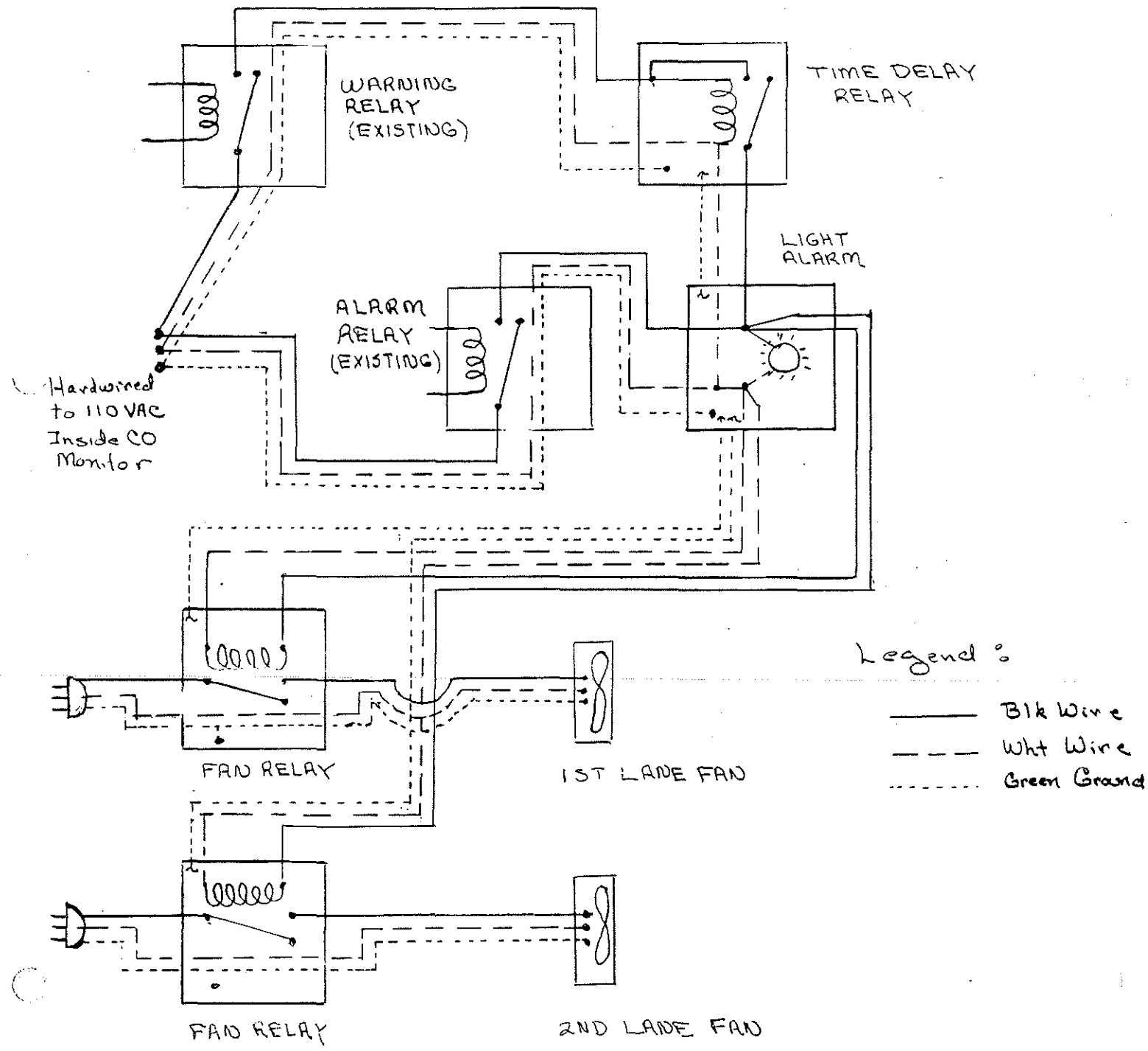


(12)

1. ON INITIAL INSTALLATION BE SURE TO IDENTIFY THE SENSOR ASSEMBLY IN RELATION TO THE MODULE & CHANNEL IT IS TO BE USED WITH.
2. WHEN INSTALLING SENSOR ASSEMBLIES TAKE NOTE: THIS DWG. APPLIES ONLY TO THOSE INTERFACE (PRE-AMP) BOARDS THAT INCLUDE AN OPERATION TEST I.E.O. SEE MANUAL SUPPLEMENT FOR SET-UP INSTRUCTIONS.
3. ALL WIRING TO THE DUAL HEAD CONTROL UNIT SHOULD COMPLY WITH THIS DRAWING FOR CONTROL UNIT TO SENSING HEAD CONNECTIONS.
4. USE SOLDER TYPE TERMINALS FOR ALL SENSING HEAD TO CONTROL UNIT WIRING.
5. JUMPER J-1 NORMALLY SHORTS TERMINALS 3 & 4. WHEN J-1 IS REMOVED THE 1 MEGOHM RESISTOR MAY BE INSTALLED IN ITS PLACE OR CONNECTED TO TERMINALS 3 & 4.
6. THE THREE WIRE OPTION REFERRED TO IN THE PRELIMINARY INSTRUCTION: MANUAL "CONSUMIBLE GAS DETECTION SYSTEM MODEL 510 OR 511 DUAL HEAD" DOES NOT APPLY TO CHEMICAL HEAD INSTALLATIONS.

MINE SAFETY APPLIANCE COMPANY PITTSBURGH, PA. 15204 U.S.A.	DATE 2-12-82	REVISED BY J.C.H.	DATE 2-12-82
DESIGNER J.C.H.	PROJECT NUMBER J.C.H. 2-12-82	MECHANICAL HEAD ID 500 SERIES	DUAL HEAD CO.
DRIVEN BY J.C.H.	MECHANICAL HEAD ID 500 SERIES	INTERCONNECTING WIRING SENSOR PRE-AMP WITH 1 DUAL HEAD CO.	CSK3005
MECHANICAL HEAD ID 500 SERIES	MECHANICAL HEAD ID 500 SERIES	MECHANICAL HEAD ID 500 SERIES	MECHANICAL HEAD ID 500 SERIES

ROOM ALARM AND FAN WIRING DIAGRAM



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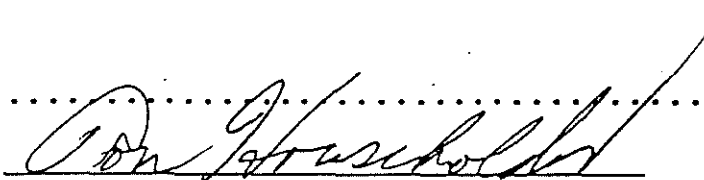
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.SUBJECT OEA75 Exhaust Gas Analyzer Cold Temperature

- I. Disconnect sample line at port on outside of analyzer cabinet. Replace with insulated probe line.
- II. Reset "Test On" timer to lowest test duration. This should be done by lead inspector or maintenance staff.
- III. Alter analyzer operation sequence by:
 - A. When vehicle arrives in test lane, put probe in tailpipe then push and secure test button with screw driver.
 - B. After 2nd idle test is complete, release the test button before removing the probe from tailpipe. Sampling will stop and ambient cold air will not be drawn into the line. This reduces chances of line freezing.

Approved



Date

12/12/89

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Operating Policies and Procedures
Originating Section: Engineering

Number: ~~210.00~~ 708.00
Supersedes:
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SUBJECT: Calibration Gas Naming Procedure

PURPOSE: VIP names the concentration of the components of both audit gases and analyzer calibration gas using VIP's BAR 80 Bear ACE, following this procedure.

PROCEDURE:

- I. Purchase unnamed calibration gas volume mixed to within +/- 10% of the appropriate SRM concentrations:

SRM#2727	600ppm	propane
	1.6%	CO
	11%	CO ₂

SRM#2728	3000ppm	propane
	8.0%	CO
	14%	CO ₂

- II. Calibrate the Bear ACE at 15 psig to the Bear's pressure regulator with a previously VIP named gas at concentrations close to SRM (we do not use SRM to calibrate to save gas costs).

- III. Read the SRM through the audit port at 5 psig input pressure (record).

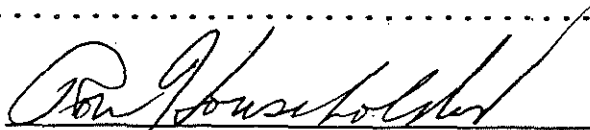
- IV. Read the unnamed gas through the audit port at 5 psig input pressure (record).

- V. Re-read SRM and unnamed gas. If readings do not deviate by more than +/- 1%, consider readings valid, if not, redo steps 3-5.

- VI. Using the average of the consistent readings from above, calculate the actual unnamed bottle values by:

Unnamed bottle CO concentration = (unnamed bottle CO reading)(SRM CO name)/(SRM CO reading)

Approved



Date

11/31/90

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SUBJECT: Calibration Gas Naming Procedure

.....
VI. (continued)

Unnamed bottle propane concentration = (unnamed bottle propane reading)(SRM propane name)/(SRM propane reading)

Unnamed bottle CO₂ concentration = (unnamed bottle CO₂ reading)(SRM CO₂ name)/(SRM CO₂ reading)

VII. Special note: The VIP Bear ACE used for gas naming is a laboratory type instrument and as such, should never be used to test vehicle exhaust.

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Approved *Don Hauschild* Date 11/3/1990

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SUBJECT: Quality Assurance Procedures

PURPOSE: Establishes procedures for overt and covert performance audits of the vehicle testing operations

REFERENCE: EPA 40 CFR Part 51 Inspection/Maintenance Program Requirements; Final Rule

I PERFORMANCE AUDITS

A. Overt Audits

1. Audit Schedule

- a. Scheduled audits of Inspectors shall be performed twice each year on each test lane.
- b. Unscheduled audits of Inspectors resulting from operational complaints or data analysis shall be conducted to resolve these issues.

2. Who Performs Audits

The Inspection Units Supervisors who supervise the Inspectors of the station to be audited will perform the Inspector audits.

3. Audit Procedures

- a. Examine the electronic files to insure that certification numbers generated are consecutive and total number of certifications match incoming funds for each station and test lane.
- b. Insure Inspector's training is up-to-date and that Inspector has passed required Inspector written and hands-on examinations.
- c. Observe and make written evaluation of each Inspector's ability to perform the I/M test, including evaluation of the following:
 - 1) Average time per test
 - 2) Accuracy of observation of disconnected pollution control equipment
 - 3) Familiarity with overall test procedure
 - 4) Ability to perform all calibration and preventive maintenance procedures required of

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- Inspectors
- 5) Effectiveness in communicating with vehicle driver
- 6) Appearance

B. Covert Audits

1. Audit Schedule

- a. Each lane will be audited at least once each year from a distance to observe Inspector operations.
- b. Each lane will be audited using covert vehicles at least once per year.

2. Who Performs the Audits

- a. Remote Inspector audits will be performed by the Inspection Units Supervisor who supervises that station or inspector.
- b. Covert vehicle audits will be performed by contracted labor as drivers and Inspection Units Supervisors will set-up vehicles and assemble audit trail records.

3. Audit Procedures

a. Inspector Auditing

- Inspectors will be observed from a distance via binoculars to insure the following
- 1) Inspector arrives and begins work on time.
 - 2) Inspector is busy about the duties of the job and not wasting time or disruptive to other Inspectors or the testing process.
 - 3) Inspector vehicle test time will be checked.

b. Covert Vehicle Auditing

The Department will contract with a service company to bring a series of defective vehicle through the I/M test covering all stations with the following criteria:

- 1) The same vehicle will not pass through the same station more than once per month.
- 2) The vehicle driver will not be used to drive any vehicle through the same station more than

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- once per month.
- 3) Covert vehicles will cover the range of vehicle technology groups included in the program, including a full range of introduced malfunctions covering the emission test, and emissions control component checks.
 - 4) The electronic test records of these vehicles will be retrieved to document the Inspector's testing practice.

II RECORD AUDITS

A. Audit Schedule

Station and Inspector records will be reviewed once each month to assess station performance and identify fraud or incompetence.

B. Who Performs Audits

The Inspections Units Supervisor of the station or inspector will perform the audit.

C. Audit Procedures

1. Software-based computerized analysis will be used to identify statistical inconsistencies, unusual patterns, and other discrepancies.
2. Hand written records will be reviewed via visit to the test stations.
3. The computer certification records will be compared to fiscal records to insure financial statements are accurate. Also compared will be the computer-based certificate counting scheme to insure no duplicate numbers have been generated.

III EQUIPMENT AUDITS

A. Audit Schedule

Equipment audits will be performed once each month for every test lane. To reduce the possibility of station preparation, the specific day(s) for this survey will not be repetitive

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from month to month.

B. Who Performs Audits

Audits will be performed by equipment maintenance personnel or the engineering staff. Final write-up of the audit will be reviewed by engineering staff.

C. Audit Procedures

During each survey, at least the following tasks will be completed for each operational analyzer. The engineering section may add additional tasks which it believes will enhance the quality of analyzer operations. Any defects observed during the survey may be repaired on the spot by the survey taker, or later by the maintenance section, whichever is appropriate. However, all defects must be recorded.

1. Check Sample Line Vacuum and Flow
 - a. Disconnect the sample line probe.
 - b. Connect a vacuum gauge at the end of the sample line while the analyzer is in "test" mode. The vacuum gauge must read at least 17 inches of HG.
 - c. Disconnect the vacuum gauge and hook up the flow meter. The rotameter must read at least 36 SCFH. Record the reading.
2. Read the Low Concentration (1.6% CO, 600 ppm propane, 13% CO₂) Calibration bottle through the Sample Line
 - a. Connect a two-stage regulator with a flow valve to the calibration gas bottle.
 - b. Tee in a balloon and connect the probe end of the sample line to the tee.
 - c. Initiate a test and adjust the bottle gas flow so that the balloon is slightly limp but filled.
 - d. Record the reading of all three gas channels.
 - e. Turn off the gas, remove the balloon tee, and reconnect the probe to the sample line.
 - f. If readings vary from the bottle value by more than 5% of scale, calibrate the analyzer using station calibration bottle, then re-read maintenance bottle through the sample line. If readings still exceed 5% discrepancy, make repairs as soon as possible.

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3. Check Tachometer Readings
 - a. Using the vehicle with a hag-wired tachometer as a test unit, check each operational tachometer at 1800 RPM. Record readings.
 - b. Make repairs if any reading is off by more than 50 rpm.
4. Station Calibration Bottle Concentration Check
 - a. Lane computer calibration data bases will be examined to insure the bottle values are correct and the HC correlation factor for the bench was accurately recorded. Any bottle concentration or correlation factor discrepancies will be recorded.
 - b. Electronic calibration logs will be examined for each analyzer to insure all required calibrations were performed and to determine if analyzer drift is within standards. All deviations from requirements will be recorded and corrections made.
5. Check Noise Meter Readings
 - a. Using the same sound calibrator for each station, record the readings of each operational noise meter.
 - b. Make repairs/adjustments if any reading is off by more than 1 dBA.

IV AUDITOR TRAINING

- A. Inspection Units Supervisors
The supervisors will receive training in the following:
 1. Program rules and regulations
 2. The basics of air pollution control
 3. Basic principles of motor vehicle engine repair, related to emission performance
 4. Emission control systems
 5. Evidence gathering
 6. State administrative procedures laws
 7. Quality assurance practices
 8. Covert audit procedures
- B. Maintenance Personnel will receive training in the following:

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SUBJECT: Quality Assurance Procedures

1. Program rules and regulations
 2. The use of analyzers
 3. The testing procedures
 4. Analyzer maintenance procedures
 5. Evidence gathering
 6. State administrative procedures laws
 7. Quality assurance practices
- C. Subcontracted Drivers will receive training in the following:
1. Evidence gathering
 2. Testing procedure

Approved



Date

4/22/94

Effective Date

7/1/94

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SUBJECT: Testing and Calibration Procedures

PURPOSE: Establishes testing and calibration procedures

REFERENCE: ESP Operations Manual

I VEHICLE TESTING PROCEDURES

- A. Key in the license plate of the vehicle to be tested as the vehicle is entering the testing area
- B. Greet the customer and get vehicle mileage in thousands of miles. Input mileage into the computer.
- C. Computer will display vehicle identification information for most vehicles including the following:

- License Plate
- Make
- Year
- Odometer Reading
- VIN #
- Vehicle Type (passenger car, LDT will be designated. If vehicle is medium or heavy duty truck, the computer will ask for GVWR which inspector must input.)
- Test Type (Initial, second plus)
- Fuel Type (gasoline, diesel, gaseous fuels)
- Catalyst (yes or no)
- Air Injection (single, dual, none)
- Number of Cylinders
- Engine Size

For the 10 to 20 percent of vehicles that do not have a current license plate in the VIP data base, the inspector must enter the above information into the computer by hand.

- D. Inspector then probes the exhaust. If the vehicle appears to be noisy, the microphone is placed near exhaust. Also, if the vehicle is a diesel and appears to be smoking, the exhaust

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opacity device is placed to measure smoke.

- E. If underground RPM pick-up signal is inadequate to achieve a stable RPM reading, the computer will ask the inspector to place wire clamp-on tach pick-up onto plug wire. Inspector will make this connection when necessary.
- F. Inspector will lift the hood on all 1980 and newer vehicles and check for all equipment disconnects including catalyst and fuel restrictor. Also, the inspector will check for under the hood blow-by smoke. This should all be done as the computer is taking first idle readings if time permits. For pre-1980 vehicles, the inspector need not raise the hood unless under the hood clamp-on tach pick-up is required or to obtain vehicle identification information.
- G. When computer is done with first idle emissions test, the inspector will assist the customer in reaching a steady state 2500 RPM engine speed and maintaining it until the computer is done with the run-up test. During the run-up the inspector will check gasoline powered vehicles for visible emissions. When computer indicates, the inspector will insure the customer returns to low idle speed for second idle test, if required by the computer.
- H. Computer will perform the second idle test if required. During this period, the inspector can complete emissions equipment check, if the full inspection could not be done during the first idle.
- I. Inspector will enter the exhaust smoke test results for gasoline vehicles, equipment disconnect information and blow-by smoke results into the computer.
- J. The computer will display to the inspector's screen the specific vehicle test results and indicate if the vehicle passes or fails. If the vehicle passes the test, the computer will ask the inspector if the customer paid fee. At this point the inspector will collect the fee and return to the computer and input if the fee was collected. If not, the

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computer will assume the test is voluntary only and will initiate printing the Vehicle Inspection Report (VIR) without a certification number. If the fee was collected, the inspector will indicate this to the computer and the inspector will print a VIR with a certification number. If the vehicle fails the test the computer will initiate printing a VIR indicating the failure without a certification number.

- K. While the VIR is being printed, the inspector will remove the probe, remove the clamp-on tach pick-up if connected and close the vehicle hood if open.
- L. The inspector will retrieve the VIR and give it to the customer along with change if required. If the vehicle failed the test, the inspector will explain the reason for failure. If the vehicle passed the test, the inspector will explain the use of the VIR report in the vehicle registration process.

II CALIBRATION PROCEDURES

The computer will be set to require a gas calibration once every four hours. It will not call for a calibration during a test. Also, before each test the computer will zero the emissions reading using ambient air and check for HC hang-up. The test will not begin until HC hang-up falls below 20 ppm. The computer will also constantly check for low flow and will lock out from testing if the sample flow is below acceptable levels. A leak check will be required by the computer once every four hours.

A. GAS CALIBRATION

The calibration is performed with the a span gas of:

- 600 ppm propane
- 1.6% CO
- 11.0% CO2
- Balance N2

traceable to National Institute of Standards and Technology (NIST) standards +/- 2%.

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The second calibration point uses a bottled zero gas (100% nitrogen) with impurities to not exceed 1 ppm equivalent carbon response, 1 ppm carbon monoxide and 400 ppm carbon dioxide.

1. When computer asks for a gas calibration, the inspector will insure both the zero and span gas bottles are open and initiate calibration. The computer performs the calibrations and automatically makes necessary corrections. The computer will record gas readings before adjustment to provide for technical review of analyzer drift.
2. If the computer is unable to make adjustments to bring the analyzer within acceptable tolerance limits, it will indicate the calibration failed. The inspector should retry the calibration three times. If the computer is still unable to complete calibration, maintenance personnel must be called immediately and the lane will be shut down. When the computer indicates the calibration passed, testing can then proceed.

B. PRE-TEST ZEROING

Pre-test zeroing is used to correct for analyzer zero drift between full gas calibrations.

The computer will perform this function before each vehicle test without notifying the inspector, unless the computer is unable to zero the analyzer. If the computer displays it is unable to zero prior to a test, the inspector will immediately report this to maintenance and shut the lane down.

C. HC HANG-UP

HC hang-up is used to insure that HC contamination from the previous tested vehicle does not interfere with the current test.

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The computer will perform this function before each vehicle test without notifying the inspector, unless the HC hang-up above standard is measured. If this is the case, the inspector should insure the probe is removed from the exhaust and placed at a location at least ten feet from the exhaust. The computer will require the analyzer to continuously draw ambient air through the probe and sample line until the measure HC is below 20 ppm. If HC hang-up is not automatically resolved by the analyzer after 5 minutes, the inspector must immediately call maintenance and shut the lane down.

D. LOW FLOW

The computer continuously checks the sample line vacuum at the analyzer bench. If vacuum is high it indicates a blocked sample line and low flow which will not allow sample to reach the analyzer in a timely manner.

1. When the inspector sees a low flow indicator the inspector will first check for a pinched sample line or blockage of the probe inlet holes.
2. If the line is not pinched and there is not indication of blockage, the sample line filters will be changed. If this still does not cause the low flow indicator to go off, the inspector must call maintenance immediately and shut the lane down.

E. LEAK CHECK

The computer will call for a leak check every four hours. The computer should not call for a leak check during a vehicle test.

1. The inspector will block the probe inlet holes so that no sample can enter and indicate to the computer that the line is blocked.
2. The computer will perform the leak check by measuring the

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vacuum drop in the sample line over a short period of time. If the analyzer passes the test, the computer will allow the analyzer to continue testing vehicles. If the analyzer fails the test, the inspector will check to insure that blockage of the sample probe inlet holes is complete and perform another leak check.

- 3. If the second leak check is unsuccessful, all sample line hose connections external to the analyzer will be checked and repaired. The leak test will be tried again. If this leak test fails, the inspector will immediately call maintenance and shut down the test lane.

Approved *R. Householder*

Date 9/22/94

Effective Date 7/1/94

STATE OF OREGON
Department of Environmental Quality

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Operating Policies & Procedures

Number: 800.02
Supersedes: 800.01

Originating Section: Program Operations

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SUBJECT: Smoking Policy

PURPOSE: To provide and maintain a work area in or at the vehicle testing centers that is free from the irritating smoke of cigarettes, cigars and pipes.

REFERENCE: Oregon Administrative Rules 05-010-18 and Oregon Revised Statutes 243.225

It shall be the responsibility and a specific part of every employee's duties regardless of the capacity in which he/she may function to insure that:

- A. There is NO SMOKING in the test area, testing write up area or lunch room.
- B. If an individual chooses to smoke during work hours, it will be necessary for her/him to leave the work area. No additional or extra break time will be provided or allowed for the purpose of smoking while on duty.
- C. No smoking is allowed when traveling in state-owned or operated vehicles.

There shall be every effort made to have a "DESIGNATED SMOKING AREA" at each testing station. Areas other than those designated as smoking areas shall be considered "NONSMOKING AREAS." This includes hallways, rest rooms and stairs.

Violation of the smoking policy shall be treated the same as violation of any other agency policy and subject to disciplinary action. Courtesy and consideration for the feelings of other employees is essential. There is no intent to divide employees into factions of "smoking" and "nonsmoking." The goal is to seek the most practical solution to the smoking problem.

Approved



Date

10/1/91

4-7-80

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SUBJECT Workplace CO Monitor Alarm Response Procedures
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PURPOSE: To establish CO monitor alarm response procedures.

REFERENCE: Procedure 704.00, OAR 437-22-17(A)

PROCEDURE:

- The workplace CO monitor alarms have been set to activate as follows:
- Sound alarm--Set to activate after ten consecutive minutes above 75 ppm CO.
 - Light alarm--Set to activate instantaneously above 400 ppm CO.
- The sound alarm will alert personnel in the case of long duration exposure at moderate CO levels. The light alarm will alert personnel immediately when very high CO levels occur (above 400 ppm). Extended exposure at moderate CO levels or short-time exposure at very high concentrations are both harmful. The alarms are set to provide adequate protection to all the personnel, if the alarm response procedures are correctly followed. When either the sound or light alarm activates, the following response procedures are to be used:
- I. Complete the exhaust emissions measurements of vehicle being tested as quickly as possible.
 - II. Stop all other vehicles from entering test area.
 - III. Remove vehicle being tested to a well-ventilated area for PR.
 - IV. Testing is to now be discontinued and the test area evacuated until the alarm deactivates. If alarm is frequently activated, monitors must be calibrated to insure they are reading accurately. If the alarms do not activate at the prescribed set points, maintenance personnel are to be contacted. Inspectors must not adjust alarm set points.
 - V. Vehicle testing is to be resumed as soon as possible after alarm turns off.

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Approved W. R. [Signature] Date June 24, 1980
APD83 (1)

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Department of Environmental Quality

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SUBJECT: Wearing of Safety Glasses

PURPOSE: To establish the policy regarding Vehicle Inspection Program staff wearing safety glasses.

POLICY: All Vehicle Inspection Program staff shall wear appropriate eye protection when performing inspections of motor vehicles in the testing lanes.

Inspection Units Supervisors are responsible for ensuring that appropriate and approved (ANSI Z87.1-1989 Standard) types of eye wear are available, for advising employees of specific eye protection requirements in the work areas, and for assuring that all of the program's staff comply with the requirements of this policy.

Employees are responsible for wearing protective eye wear when inspecting vehicles in the testing lanes or when performing activities identified as requiring eye protection. Employees must keep their eye wear maintained and report any defects that require replacement or repair to their supervisor. Safety glasses are for on-the-job only and are not to be used elsewhere. If the safety glasses are damaged off the job, employee will be responsible for immediate replacement of the glasses.

DEQ will provide either prescription or non-prescription safety eye wear, as appropriate, to employees who are required to wear eye protection. The employee is responsible for obtaining his/her corrective prescription. The Department will provide the eye wear. Tinted or photosensitive lens coating on prescription glasses may be obtained at the employee's personal expense. Employees who require prescription lenses must provide a current prescription from an optometrist or ophthalmologist. It is recommended for initial issuance of prescription lenses that prescriptions not be over one year old. Employees with prescriptions over two years old will be required to obtain a new prescription at their personal expense. The allowance for safety eye wear is \$150.00, as per Article 22 of the collective bargaining agreement.

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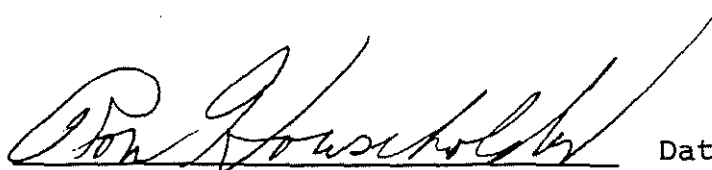
SUBJECT: Wearing of Safety Glasses

There have been questions as to whether or not Inspectors may take their safety glasses home and if they are broken at home, who will pay for the new ones. The Vehicle Inspection Program Safety Committee has discussed this issue and has offered the following guidelines:

1. Eye protection is part of an Inspector's uniform and is not to be used at home;
2. Full-time Inspectors should leave their glasses at their base station;
3. Part-time Inspectors and those who expect to work at a different station the next day should take their glasses home;
4. The Safety Glass subcommittee will decide about replacement or reimbursement if glasses are broken off the job.

Employees not having their approved safety glasses available at work time will not be allowed to continue working. Extra generic non-prescription glasses will be available at each station, but these are to be used only on a temporary basis. Time spent retrieving your approved glasses will be charged as leave with or without pay.

Approved



Date

6/30/92

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SUBJECT: Wearing and Purchasing of Safety Glasses

PURPOSE: To establish the policy regarding Vehicle Inspection Program staff wearing and purchasing of safety glasses.

POLICY: All Vehicle Inspection Program staff shall wear appropriate eye protection when performing inspections of motor vehicles in the testing lanes.

Inspection Units Supervisors are responsible for ensuring that appropriate and approved (ANSI Z87.1-1989 Standard) types of eye wear are available, for advising employees of specific eye protection requirements in the work areas, and for assuring that all of the program's staff comply with the requirements of this policy.

Employees are responsible for wearing protective eye wear when inspecting vehicles in the testing lanes or when performing activities identified as requiring eye protection. Employees must keep their eye wear maintained and report any defects that require replacement or repair to their supervisor. Safety glasses are for on-the-job only and are not to be used elsewhere. If the safety glasses are damaged off the job, employee will be responsible for immediate replacement of the glasses.

DEQ will provide either prescription or non-prescription safety eye wear, as appropriate, to employees who are required to wear eye protection.

NON-PRESCRIPTION EYE WEAR:

The Department will make available three different types of non-prescription eye wear. The employee may pick the most suitable pair from this selection. Defective glasses should be replaced by exchanging the damaged pair for a new pair.

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SUBJECT: Wearing and Purchasing of Safety Glasses

PRESCRIPTION EYE WEAR:

The employee is responsible for obtaining his/her corrective prescription. The Department will provide the eye wear. Employees who require prescription lenses must provide a current prescription from an optometrist or ophthalmologist. It is recommended for initial issuance of prescription lenses that prescriptions not be over one year old. Employees with prescriptions over two years old will be required to obtain a new prescription at their personal expense. The allowance for safety eye wear is \$150.00, as per Article 22 of the collective bargaining agreement.

Employees will wear safety glasses that fit over their personal glasses while they are waiting to receive their prescription safety glasses.

PURCHASING PRESCRIPTION SAFETY GLASSES:

Prescription eye wear purchased for employees working in the Portland area shall be obtained only from the Department's preferred vendors, Gipson Safety, and in Medford, Columbian Optical. Once an employee has obtained a current prescription they should take their prescription to the vendor and select a frame (the Department's contribution to frames shall not exceed \$30.00).

The total cost of glasses should be conveyed to the VIP administrative assistant so s/he can prepare a requisition. The optician will be issued a purchase order so there will be no out of pocket expense for the employee, unless the employee requests special options or changes. Such options or changes will be at the employee's expense. When the glasses are available, the employee will return to the vendor to pick-up the glasses. Travel to and from the vendor is considered work time, however this time must be pre-approved by your immediate supervisor.

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SUBJECT: Wearing and Purchasing of Safety Glasses

TINTED OR PHOTSENSITIVE LENSES:

In keeping with the ANSI Standard, tinted or photosensitive lenses shall only be worn while working in each stations outside lane or on days where the reflection of the sun produces a glare in the lanes. If tinted glasses are worn, the tint shall not be stronger than shade #1. The only exception to this rule, is for prescription glasses where photocromatic lenses are required for medical reasons. The medical reason must be stated on the employee's prescription or in a written statement from a medical professional.

REPLACEMENT OF PRESCRIPTION SAFETY GLASSES:

In the event an employee's prescription safety glasses need to be replaced, the employee will be required to write a memorandum requesting replacement which details the circumstances by which the glasses were lost or damaged. This memorandum is to be turned in to the station Safety Committee Representative for review by the Safety Glass Subcommittee.

REMOVING GLASSES FROM THE INSPECTION STATION:

There have been questions as to whether or not Inspectors may take their safety glasses home and if they are broken at home, who will pay for the new ones. The Vehicle Inspection Program Safety Committee has discussed this issue and has offered the following guidelines:

1. Eye protection is part of an Inspector's uniform and is not to be used at home;
2. Full-time Inspectors should leave their glasses at their base station;
3. Part-time Inspectors and those who expect to work at a different station the next day should take their glasses home;

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SUBJECT: Wearing and Purchasing of Safety Glasses

4. The Safety Glass subcommittee will decide about replacement or reimbursement if glasses are broken off the job.

Employees not having their approved safety glasses available at work time will not be allowed to continue working. Extra generic non-prescription glasses will be available at each station, but these are to be used only on a temporary basis. Time spent retrieving your approved glasses will be charged to vacation leave, personal leave, compensatory time, or leave without pay to cover the time loss.

Approved *Don Hauschild* Date 11/14/93

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 803.50
Supersedes:

Originating Section: Program Operations

Page 1 of 1

SUBJECT: Purchase or Replacement of Safety Glasses

PURPOSE: To establish policy for purchase or replacement of prescription and standard safety glasses.

POLICY:

1) ORDERING PRESCRIPTION SAFETY GLASSES

Before purchasing glasses, the employee must present his or her request to the station Safety Committee Representative, who will submit it to the Safety Glass Subcommittee for review and approval.

The employee will be sent to an approved optician specializing in safety eyewear, to be fitted with appropriate frames and measured for lenses.

The optician will be issued a purchase order so there will be no out of pocket expense for the employee, unless the employee requests special options or changes such as photosensitive or tinted lenses. Such options will be at the employee's expense.

2) REPLACEMENT OF SAFETY GLASSES

In the event an employee's safety glasses need to be replaced, the employee will be required to write a memo requesting replacement which details the circumstances by which the glasses were lost or damaged. This memo is to be turned in to the station Safety Committee Representative for review by the Safety Glass Subcommittee.

Approved



Date

9/16/92

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 804.00
Supersedes:

Originating Section: Program Operations

Page 1 of 1

SUBJECT: Position of Inspector During Raised RPM Test

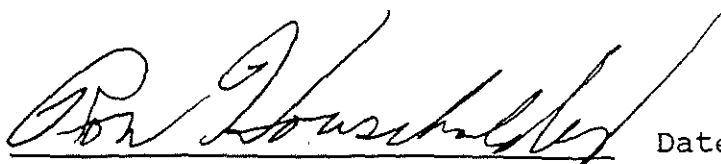
PURPOSE: To establish the policy of where Inspectors will remain during the raised RPM portion of the exhaust emission test.

REFERENCE: OAR 340-24-310 (9) and OAR 340-24-315 (8)

The above referenced rules require the engine of a vehicle being tested to be accelerated to a speed between 2,200 RPM and 2,700 RPM. This is to be accomplished only by the vehicle driver depressing the accelerator pedal.

At no time is the Vehicle Inspector to increase the engine speed by manipulating the throttle mechanism underneath the hood. The Vehicle Inspector must not stand or cross behind or in front of the vehicle, DURING THE ENTIRE RAISED RPM PORTION OF THE TEST.

Approved



Date

7/15/92

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 807.00
Supersedes: 000.00

Originating Section: Program Operations

Page 1 of 4

SUBJECT: Inspector/Customer Safety Interactions

PURPOSE: To insure that all Inspectors interact with our customers in manner that provides a safe, consistent, efficient and professional manner during the testing process.

REFERENCE: Oregon Administrative Rules 340-24-310 through 340-24-337

1. Guiding customer into test area

Use of hand signals is very important. This establishes communication between the driver and the Inspector. Wave the vehicle into the test lane. As the vehicle is approaching the test area, use hand gestures to direct customer where to stop. It is important that you are in control of the flow of traffic. It is also important to maintain eye contact as the vehicle enters the test lane.

2. First communication with driver

Once the car has stopped, greet the driver with a SMILE and a calm attitude. Many drivers are nervous and your calm attitude can help the test go smoother and make it a better experience for the customer. If the driver's window is rolled up, ask him/her to roll the window down. Say "good morning" or "good afternoon". You must convey the following information:

- Ask the driver to put vehicle in park/neutral until the test is completed.
- Ask the driver to keep the car running.
- Ask the driver what the year of the vehicle is.
- Ask the driver to turn off accessories (radio, phone, etc.).
- Ask driver to remove feet from pedals.
- Ask the driver to release the hood lever and the gas door.

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 807.00
Supersedes: 000.00

Originating Section: Program Operations

Page 2 of 4

SUBJECT: Inspector/Customer Safety Interactions

- Ask the driver to set the emergency parking brake. In order to proceed, THE EMERGENCY BRAKE MUST BE SET. You will need to "look" and "listen". Look at the dash for the red brake light. Listen for a "ratchet" sound, which will indicate the brake is being engaged. A "thump" sound may indicate the brake has been released and should be rechecked. You may need to ask the driver to open the door so you can look at the brake lever. If you are not sure whether the brake is functional, you must follow the procedures for chocking the vehicle.

Take a moment to ensure the customer understands that they need to just relax until you instruct them to do otherwise, which will be the run up mode of the test. Turn to your test partner and relay the year and make of the vehicle.

3. Testing the vehicle

It is extremely important that you keep your eyes and ears tuned to any movement of the driver and/or car. The customer may at any time put the car in gear, remove the parking brake or press on the gas pedal. If you are working in the test booth, part of your job is to watch the driver while your partner is working in front of or behind the vehicle.

Move to the back of the car and insert the probe into the tail pipe. As you insert the probe, gently lean or push the vehicle as a way to verify the brake is set. If the car moves, check the brake. The probe can be very hot, so don't touch it.

Go to the front of the vehicle and lift the hood. If the hood latch has not been released, return to the driver's window and ask the driver to again release the latch. Do not yell this instruction from the front or rear of the car. Hoods can be very heavy and in some cases, awkward to open. Back injuries can easily occur under these conditions. It is important that you lift carefully, with a smooth, steady motion. You should always ask a co-worker for help to lift a heavy or awkward hood.

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 807.00
Supersedes: 000.00

Originating Section: Program Operations

Page 3 of 4

SUBJECT: Inspector/Customer Safety Interactions

Make sure the hood prop is securely in place. If the car's prop is not secure, use a DEQ prop. Do the under hood inspection (looking for disconnects including the fuel restrictor) while standing to the side of the car. Tach the car. Make sure the tach line is not putting pressure on the prop which could cause the prop to fail.

Return to the driver's side of the car and ask the driver to bring the car to the run up mode. Move towards the back of the vehicle to see if there is smoke. Do not move behind or in front of the vehicle during high idle. If you need to get a better look at the tailpipe for smoke, tell your partner you need to get a better look. Wait till the vehicle is at idle and walk to the other side of the vehicle. Have your partner step outside of the booth to guide the driver through another run up mode. If you are working in a lane by yourself, have the person in the next lane look for smoke.

You should be back at the driver's side of the vehicle. Let the driver know it will be just another minute before they can leave. Go to the front of the car and remove tach cord and lower the hood. If the vehicle passed the test, tell the driver the fee is ten dollars, and proceed to the back of the car to pull the probe. Return to the drivers window and collect the fee. Give fee to partner and certificate to driver. If car failed, lower hood, remove probe, and get test report from partner before you tell the customer s/he failed. Give test report to customer and convey whatever information is necessary. End the test with a "thank you".

It is important that you pay attention during the underhood inspection. Listen for the sound of the brake being prematurely released.

4. General information

Always talk clearly and directly to your customer and your partner. Good communication makes the test easier and safer.

Your attitude has a direct effect on the customer. Be calm, polite, and professional.

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 807.00
Supersedes: 000.00

Originating Section: Program Operations

Page 4 of 4

SUBJECT: Inspector/Customer Safety Interactions

While meeting the program's established standard (average of 3 minutes per test) everyone should work at their own "safe" pace. Find yours, and stick with it. The few seconds you take to speed up or slow down your pace may contribute to your getting injured.

Taking 10 minutes to stretch before you begin work can greatly reduce the risk of injury. It is a good idea to stretch through out the day.

If the customer needs to get out of the car to take a look at something, be sure the customer shuts the engine off. Either remain in the test lane or ask the driver to move forward and park the car outside the lane.

Stalled vehicles should either be pushed out of the test lane with a minimum of three (3) people pushing, or the lane should be closed and a tow truck called.

Approved



Date

7/19/93

STATE OF OREGON
Department of Environmental Quality

VEHICLE INSPECTION PROGRAM
Operating Policies & Procedures

Number: 808.00
Supersedes: 000.00

Originating Section: Program Operations

Page 1 of 1

SUBJECT: Crawling Under Vehicles or Using A Creeper To Go Under Vehicles

PURPOSE: To establish the policy regarding Inspectors crawling under or using a creeper to go under vehicles to inspect catalytic converters or to probe exhaust pipes.

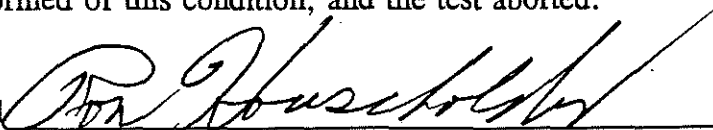
REFERENCE: Oregon Administrative Rules 340-24-310 through 340-24-337 and the Oregon Safe Employment Act (OSEA).

On some vehicles, especially medium and heavy duty trucks, the manufacturer's exhaust system configuration does not allow for convenient probing or visual inspection of the system. On other vehicles, the vehicle itself has been modified or the exhaust system has deteriorated or has been modified to the extent that Inspectors can not perform or complete the test without getting underneath the vehicle or in a hazardous position.

It is not the policy of the Department to require an Inspector to crawl under a vehicle to inspect or probe the exhaust system. As all stations are equipped with long extension probes, almost all vehicles can be probed without having to get underneath by crawling or using a creeper. At no time when probing a vehicle should an inspector reach under a vehicle beyond arms length. This means the head, torso, and legs cannot be under the vehicle. For the purpose of policy clarification, some truck's exhaust system configuration may require an Inspector to reach beyond arms length to insert the probe. The Inspector must instruct the vehicle driver to place the vehicle transmission in neutral gear or park position with the hand or parking brake engaged and to shut off the engine prior to crawling underneath or using a creeper to get underneath a vehicle for any purpose.

Each Inspector must apply common sense judgement in each case as to whether the vehicle can be tested without creating a hazardous work condition for the Inspector. If, in the opinion of the Lead Inspector or Supervisor, probing a vehicle that has been modified or the exhaust system has significantly deteriorated would cause an unsafe and/or dangerous act, the vehicle driver is to be informed of this condition, and the test aborted.

Approved



Date

10/28/93

APPENDIX T
Computerized Bid Specs.

DEPARTMENT OF
ENVIRONMENTAL
QUALITY

VEHICLE INSPECTION
PROGRAM

November 18, 1993

TO: ALL INTERESTED PARTIES

RE: Request for Bid

The Department of Environmental Quality (DEQ) operates a state-run basic, centralized, biennial vehicle inspection and maintenance (I/M) program in the Portland metropolitan area and the Medford area of Oregon. Currently DEQ operates six stations with 21 testing lanes in the Portland area and one station with three testing lanes in Medford.

The federal Environmental Protection Agency (EPA) has mandated as an outcome of the Clean Air Act of 1990 that basic I/M programs must be operated with computerized testing equipment beginning July 1, 1994. As such, DEQ's existing equipment which is manually operated, must be replaced with fully operational computerized equipment before this date. The DEQ has received Oregon Legislative authorization and intends to purchase approximately 25 computerized exhaust gas analyzer units and associated computer servers.

Attached is a request for bid document for the purchase of the new equipment. Please follow all the bidding instructions. Make sure the document is signed in ink and that the document is shipped (faxing the document is not acceptable) to the address indicated in time to be received before the specified closing date. Do not send your bid to DEQ, send to the listed address.

If you have any questions, please contact Jerry Coffey or myself at (503) 731-3050.

Thank you for your interest in supplying equipment for the Oregon program.

Sincerely,



Ron Householder
Manager

RH:jc
Enclosure
EQPBID2



1301 SE Morrison St.
Portland, OR 97214
(503) 229-6238
DEQ/VIP-58

INVITATION TO BID/REQUEST FOR PROPOSAL

PAGE 1 T-2

State of Oregon
Dept of Administrative Services
1225 Ferry ST. S.E.
Salem, Oregon 97310

BID NO. 34000005 93
AGENCY ENVIRONMENTAL QUALITY
DATE: 11/18/93

TITLE: EXHAUST GAS ANALYZER
VENDOR/
BIDDER NO: _____
BIDDER NAME: _____

CLOSING DATE: 12/16/93
AND TIME: 02:00

BUYER: S. SAJJ
PHONE NUMBER: 503-378-4092

SHIP TO: DEPT. OF ENVIRONMENTAL QUALITY
PORTLAND OR 97214

DELIVERY DATE: 04/15/94
BID TYPE: FORMAL BID

FOB: DESTINATION

All bids must be received by the Purchasing Division, 1225 Ferry St. S.E. Salem, OR 97310-1530 prior to the bid closing date and time shown above.

Unless indicated otherwise, prices shall be firm for a period of 60 days from bid closing date; State purchaser reserves the right to order additional quantities at the unit price established in this bid at any time during this 60-day period.

PLEASE COMPLETE THE FOLLOWING:
TERMS OF PAYMENT: _____
DAYS REQUIRED FOR DELIVERY: _____
TOTAL OF BID: _____

- ATTACHMENTS:
TERMS AND CONDITIONS FOR INVITATION TO BID FOR INFORMATION PROCESSING SYSTEM
INSTRUCTIONS TO BIDDERS
SEE TABLE OF CONTENTS OF ATTACHMENTS TO BID SPECIFICATIONS FOR I/M TESTING EQUIPMENT - A THRU J.

You can view or download the appropriate standard attachments for this bid, on-line in our vendor information program (VIP). If you have the VIP support software, go to the "Attachments Menu" and select the appropriate option. You can view these attachments or download them to your computer. If you do not have the VIP software, call Purchasing Outreach at (503) 378-4649. The software will be sent to you, free.

INVITATION TO BID/REQUEST FOR PROPOSAL

PAGE 2

I-3

State of Oregon
Purchasing Division
DEPT OF ADMINISTRATIVE SERVICES
1225 Ferry ST. S.E.
Salem, Oregon 97310

BID NO. 34000005 93

DATE: 11/18/93

BIDDER: _____
ADDENDA

You can view or download the appropriate standard addenda for this bid, on-line in our vendor information program (VIP). If you have the VIP support software, go to the "Addenda Menu" and select the appropriate option. You can view these attachments or download them to your computer. Note: If you selected a bid you should consult the VIP system regularly to assure that you have not missed any addenda announcements.

ADDRESSING YOUR BID

To assure that your bid receives priority treatment within our mailing system, please follow the label format below:

Bid # Bid Due Date & Time: dd/mm/yy xx:xx

Oregon Dept Of Administrative Services
Purchasing Division
1225 Ferry St SE
Salem, Or 97310-1530

COMMENTS:

COPIES OF THIS BID DOCUMENT MAY BE PURCHASED FOR \$15.00 AND ATTACHMENTS A THE J FOR \$9.00 FROM THE PURCHASING DIVISION. MAIL A CHECK FOR THE STATED FUNDS OR PROVIDE YOUR VISA OR MASTERCARD NUMBER AND EXPIRATION DATE FOR CHARGING PRUPOSES. CALL (503) 378-4642 AND REFERENCE THE BID NUMBER

NOTICE TO BIDDERS

YOU MUST READ ALL THE INFORMATION ON THIS FORM AND SUPPLY THE INFORMATION REQUESTED.

BIDS SUBMITTED WITHOUT CERTIFICATION OF COMPLIANCE WITH THE OREGON TAX LAWS IDENTIFIED HEREIN, AND WITHOUT SUPPLYING THE BIDDER RESIDENCY INFORMATION MAY BE REJECTED.

State of Oregon
Purchasing Division
Dept of Administrative Services
1225 Ferry ST. S.E.
Salem, Oregon 97310

BID NO. 34000005 93

DATE: 11/18/93

BIDDER: -----

TABLE OF CONTENTS
of

ATTACHMENTS TO BID SPECIFICATIONS FOR I/M TESTING EQUIPMENT

Attachment #	Title	Number of Pages
A	EPA Idle Test Procedures	4
B	Oregon Idle Test Procedures	7
C	Oregon Idle Emissions Standards	3
D	EPA Zero, D Gas Standards	1
E	EPA Analyzer Specifications	2
F	Oregon Exhaust Noise Standards	2
G	EPA Pressure Test Procedures	2
H	Oregon Analyzer Criteria Rules	3
I	Vehicle Inspection Report	1
J	DMV Records Format	4

VENDORS NOTE: THE ABOVE ATTACHMENTS ARE NOT AVAILABE ON THE VIP SYSTEM BUT MAY BE PURCHASED FROM THE PURCHASING DIVISION AS INDICATED ON PAGE 2, COMMENTS SECTION OF THIS BID DOCUMENT.

State of Oregon

BID NO. 34000005 93

Department of Administrative Services
225 Ferry ST. S.E.
Salem, Oregon 97310

AGENCY: ENVIRONMENTAL QUALITY

DATE: 11/18/93

BIDDER: _____

This is an invitation to bid on furnishing Exhaust Gas Analyzers to the Department of Environmental Quality in Portland, Oregon.

METHOD OF AWARD: Award shall be made to the lowest responsible bidder for each of the Options as per specifications on Page 11, Section 3 of this bid and based on the following:

1. Total cost of the equipment inclusive of installation, delivery set-up and training charges etc. for either a Fully Integrated System or First, Second or Third Fall-Back System Options as in the best interest of the State.
2. Software upgrade charges. (approximately 100 hr.)
3. Charges for telephone and maintenance support for a period of seven (7) years.

DESCRIPTIVE LITERATURE: Bidders are requested to submit with their bids literature which describes the products offered in sufficient detail to determine whether they meet bid specifications. Failure to submit descriptive literature may result in bid rejection.

WARRANTIES: Each bidder is requested to furnish with the bid an explanation of both bidder's and manufacturer's warranties on materials and workmanship and shall indicate any warranty costs to the State, including shipping costs. Failure to provide this information may result in bid rejection.

NECESSARY COMPONENTS: Contractor shall deliver and install the equipment and shall provide any component, hardware or part necessary for proper installation and operation even though that item is not specifically described in the bid specifications. Bidders shall include these costs in the bid price.

DEMONSTRATION OF EQUIPMENT: Upon request, bidders shall demonstrate equipment offered at a location and time designated by the State. Bidders shall supply all necessary equipment, supplies and labor for this demonstration.

PROPER EQUIPMENT OPERATION: Contractor shall be responsible for delivering the equipment and subsequently assuring that it is operating properly. Bidders shall include these costs in the bid price.

State of Oregon

BID NO. 34000005 93

Dept of Administrative Services
1225 Ferry ST. S.E.
Salem, Oregon 97310

AGENCY: ENVIRONMENTAL QUALITY

DATE: 11/18/93

BIDDER: _____

INVESTIGATION OF REFERENCES: State reserves the right to investigate the references and the past performance of any bidder with respect to its successful performance of similar projects, compliance with specifications and contractual obligations, its completion or delivery of a project on schedule, and its lawful payment of suppliers, subcontractors, and workers. State may postpone the award or execution of the contract after the announcement of the apparent successful bidder in order to complete its investigation. State reserves its right to reject any bid response or to reject all bid responses at any time prior to State's execution of a contract.

PROPOSAL PREPARATION AND SUBMISSION: Proposals and pricing information shall be prepared by typewriter or in ink and shall be signed in ink by an authorized representative of the company. Alterations or erasures shall be initialed in ink by the person signing the proposal.

A total of two copies of bid proposal, descriptive literature and technical information shall be submitted. AT LEAST ONE BID PROPOSAL SUBMITTED BY PROPOSER MUST BEAR AN ORIGINAL SIGNATURE. FAILURE TO SUBMIT A PROPOSAL BEARING AN ORIGINAL SIGNATURE WILL RESULT IN BID REJECTION.

TERMINATION FOR NON-APPROPRIATION OF FUNDS: If funds are not appropriated during the next State fiscal period for the purchase of the item(s) included in this contract, this contract may be terminated by the State upon thirty days' written notice to Contractor. Any such termination of this contract shall be without prejudice or penalty to the State.

State of Oregon
Purchasing Division
Department of Administrative Services
1225 Ferry ST. S.E.
Salem, Oregon 97310

BID NO. 34000005 93

AGENCY ENVIRONMENTAL QUALITY

DATE: 11/18/93

BIDDER: _____

SPECIFICATIONS FOR COMPUTERIZED EXHAUST GAS ANALYZERS

SECTION 1

BACKGROUND INFORMATION

- 1.1 **PURPOSE** The Department of Environmental Quality is required by the federal Environmental Protection Agency (EPA) to replace its existing manually operated exhaust gas analyzers with computerized equipment. This equipment must be on line before July 1, 1994 to meet the EPA Inspection/Maintenance Program Requirements as published in the November 5, 1992 Federal Register.
- 1.2 **SCOPE** The Request for Bid contains the instruction governing the bids to be submitted and the material to be included therein, a description of the systems to be automated, mandatory requirements which must be met to be eligible for consideration, general evaluation criteria, vendor's responsibilities before and after installation, and other requirements to be met by each bidder.
- 1.3 **REJECTION OF PROPOSALS** The State of Oregon reserves the right to reject any and all bids received as a result of this Request, or to negotiate separately with any source whatsoever in any manner necessary to serve the best interest of the State of Oregon. The State of Oregon does not intend to award a contract solely on the basis of any response made to this Request for Bids or otherwise pay for the information solicited or obtained. The information obtained may be utilized in determining the suitability of the system. Subsequent procurement, if any, will be in accordance with appropriate State of Oregon contractual action.
- 1.4 **INCURRING COSTS** The State of Oregon is not liable for any cost incurred by equipment vendors prior to issuance of an agreement, contract, or purchase order.
- 1.5 **RESPONSE DATE** In order to be considered for selection, bids must arrive at the Purchasing Division on or before the date specified on page 1 of this bid. Vendors mailing bids should allow normal mail delivery time to insure timely receipt of their bid by the issuing office.
- 1.6 **PRIME CONTRACTOR RESPONSIBILITIES** The selected vendor will be required to assume responsibility for delivery, installation assistance, and maintenance of all equipment, software, and support services offered in vendors proposal,

State of Oregon
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whether or not vendor is the manufacturer or producer of them. Further, the State of Oregon will consider the selected vendor to be the sole point of contact with regard to contractual matter, including payment of any and all charges resulting from the lease or purchase of the entire system.

1.7 NEWS RELEASES News releases pertaining to this project will not be made without prior State of Oregon approval, and then only in coordination with the issuing office.

1.8 BID PRICES All price quotations stated in the Vendor's proposal will not be subject to any established price increase from the date on which the proposal is submitted by the Vendor to the mutually agreed to date of system installation.

1.10 DISCLOSURE OF BID CONTENTS Cost and price information provided in the bid will be held in confidence and will not be revealed or discussed with competitors prior to award of bid. If a proposal contains any information that the contractor does not want disclosed to the public or used by the State for any purpose other than evaluation of the offer, each sheet of such information must be marked with the following legend.

"This data shall not be disclosed outside the State or be duplicated, used, or disclosed in whole or in part for any purpose other than to evaluate the proposal; provided, that if a contract is awarded to this contractor or as a result of or in connection with the submission of such information, the State shall have the right to duplicate, use, or disclose this information to the extent provided in the contract. This restriction does not limit the State's right to use information herein if it is obtained from another source."

1.11 VENDOR QUALIFICATION Qualified vendors must have experience in centralized testing operations. They must have supplied exhaust gas analyzer equipment and software for a centralized idle test process similar to the EPA idle test or two speed idle test for an I/M testing program of a least 100,000 vehicles tested per year.

1.12 PURCHASE OF ADDITIONAL EQUIPMENT: The Department reserves the right to purchase up to fifteen (15) additional test lane exhaust gas analyzers and associated computer server equipment and software to equip new test stations, at the vendor prices submitted in this bid if purchase is made prior to July 1, 1995.

State of Oregon
Purchasing Division

BID NO. 34000005 93

25 Ferry ST. S.E.
Salem, Oregon 97310

DATE: 11/18/93

BIDDER: -----

SECTION 2

USING ORGANIZATION

- 2.1 SCOPE This part includes information on the using organization.
- 2.2 MISSION AND ORGANIZATION The using organization is the Department of Environmental Quality, Vehicle Inspection Program, located at 1301 SE Morrison Street, Portland, Oregon 97214.
- The objective of the Department of Environmental Quality, Vehicle Inspection Program, includes reduction of the contribution of automotive air pollution and the storage and retrieval of information pertinent to the vehicle inspection process. The Vehicle Inspection Program has the responsibility for the operation of the inspection system and converting the data obtained into usable statistics.
- 2.3 ORGANIZATIONAL RELATIONSHIPS The Vehicle Inspection Program is a program within the Air Quality Division of the Department of Environmental Quality.
- 2.4 I/M PROGRAM BACKGROUND AND OPERATIONS The Oregon Department of Environmental Quality operates a biennial (vehicle tested once every two years), state-run, vehicle inspection/maintenance program in the Portland and Medford areas in Oregon. The I/M Program began as one of the first in the nation in 1975.

The test conducted is a two stage idle test which is currently performed without the aid computerized analyzers. As such, currently much of the EPA requirements for data handling and security are not met. This Request for Bid is the Department's effort to computerize the testing equipment. With computerized equipment, the Department will be basically following the testing procedure for an EPA two stage idle test as found in Code of Federal Regulations (40 CFR Part 51 Appendix B). This document is included in the Request for Bid as Attachment A. In an attempt to reduce testing time, Oregon's program deviates somewhat from the federal test procedure. These changes are found in the proposed Oregon Administrative Rules (OAR) 340-24-309. This document is included in the Request for Bid as Attachment B.

The Oregon Vehicle Inspection Program operates a total of seven test stations. There are six stations in the Portland

State of Oregon
Department of Administrative Services
1225 Ferry ST. S.E.
Salem, Oregon 97310

BID NO. 34000005 93

AGENCY ENVIRONMENTAL HEALTH

DATE: 11/18/93

BIDDER: -----

area with a total of 21 test lanes: four 4-lane stations, one 3-lane station and one 2-lane station. In the Medford area there is one three-lane station. Approximately 1,042,000 tests will be conducted on approximately 751,000 individual vehicles in the 1993-95 biennium, with an overall projected failure rate of vehicles tested of 28 percent. The failure rate of pre-81 vehicles is about 40 percent. The emissions standards are shown in OAR 340-24-330 through 335. This document is included as Attachment C.

The Program tests all light duty and medium duty vehicles both gasoline, diesel and alternatively powered, except electric. Heavy duty diesel powered vehicles with a gross vehicle weight rating above 8500 lbs are currently exempt from the test. Also exempted from the test are Farm Vehicles, fixed load vehicles and apportioned plate vehicles, motorcycles, snowmobiles and all terrain vehicles. The Program tests 1975 and newer vehicles in the Portland area and tests all vehicles newer than 21 years old in Medford.

In addition to the two speed idle test, DEQ does a test of tailpipe noise on all vehicles which subjectively appear to be noisy. This test consists of placing a noise meter microphone (attached to a stand) at a distance of 20 inches from the end on the tailpipe and measuring noise levels during the 2500 RPM portion of the emissions test. Also, a tailpipe smoke test, using an opacity meter, will be performed on diesel vehicles which appear to have excessive smoke. The diesel vehicle will fail the test if the plume opacity exceeds 20 percent (excluding water drops or vapors). Gasoline vehicles with any visible emissions (excluding water drops or vapors) will fail the test. The smoke test of gasoline powered vehicles will be performed by visual observation only. Both gasoline and diesel vehicles are visually checked for, and can fail for, smoke originating in the engine area.

The test also includes a visual-only check to insure pollution control equipment is present and operational. For 1975-80 vehicles, only the fuel filler inlet restrictor and the catalytic convertor are checked. For 1981 and newer vehicles all pollution control equipment is checked.

A vehicle can be rejected from the test if the vehicle is unsafe. This includes such situations as gasoline or coolant leaks, broken tailpipe making it dangerous to probe the vehicle, etc.

INVITATION TO BID/REQUEST FOR PROPOSAL

PAGE 10 I - 11

State of Oregon
Purchasing Division
Dept of Administrative Services
225 Ferry ST. S.E.
Salem, Oregon 97310

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DATE: 11/18/93

BIDDER: -----

The current charge for testing is \$10 paid only at the time the vehicle passes the test and is issued a valid test certification.

The Program has a "no waiver" policy which means that a vehicle must pass the test to be registered in the program areas. Cost of repair (or any other parameter) is not an avenue for a resident of the test area to avoid the test.

State of Oregon
Purchasing Division
Dept of Administrative Services
1225 Ferry ST. S.E.
Salem, Oregon 97310

BID NO. 34000005 93

DATE: 11/18/93

BIDDER: -----

SECTION 3

BID REQUIREMENTS

- 3.1 GENERAL Due to strict budget limitations, the Department has structured the bid to ask for an ideal computerized exhaust gas analyzer system, but to provide for fall-back to a lessor system if funding does not cover the full system.

The Department has written specifications detailing the operation of a fully integrated system including computerized analyzers in each test lane tied to a central computer in each of the seven test stations. These computers are in turn tied to a single central computer at the Department's Inspection Program Tech Center. This is the Department's primary option.

The first fall-back system consists of eliminating the central computer at the Tech Center and using the test station central computers as stand alone data storage and retrieval centers. Vehicle identification data would be inserted on the station central computer from the Oregon Motor Vehicle Division data base. This would eliminate the need for modems with dedicated lines. The system would still provide some assistance to the inspectors in reducing input time for vehicle identification. Vehicle test data would be transferred from the station central computers to the Tech Center via floppy disc.

The second fall-back system consists of stand alone computerized exhaust gas analyzers, in which inspectors would be required to input full data identification on every vehicle without the benefit of central identification records. Vehicle test data will be stored on the lane hard discs and transcribed to floppy disc for transportation to the Tech Center.

The third fall-back position is to reduce the total number of computerized exhaust gas analyzers from the desired 25 total units to 20 units while still keeping 6 two position units computerized units, one for each of the Portland stations.

To be considered the bid must contain an individual cost for each of the four systems: primary option, first fall-back, second fall-back, third fall-back. After bids are reviewed, the Department will evaluate the need to do the primary option or the first or second fall-back position. The third

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fall-back position is a minimum requirement of EPA and must be implemented by the Department.

The vendor shall separate expense items from capital items in each of the above three bids. Expense items include: ongoing service/maintenance contract work and spare parts.

Finally the vendor shall provide an hourly rate for computer re-programming to facilitate Department changes for the ten year useful life of the computer. This rate may be tied to and increase with the federal Cost of Living Index.

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SECTION 4

TECHNICAL SPECIFICATIONS

4.1 DEFINITIONS. Unless the context otherwise requires, the definitions in this chapter are:

- 4.1.1 Accuracy: The degree of precision by which an instrument is able to determine the true concentration of pollutants and other parameters of interest.
- 4.1.2 Bench: A term used to identify the main sample processing assembly of the exhaust gas measurements in the analyzer including detectors, optical chamber, processor boards, infrared sources and power supply.
- 4.1.3 Calibration Gases: A blend of hydrocarbon (propane), carbon dioxide (CO₂), and carbon monoxide (CO), using nitrogen to make up the balance.
- 4.1.4 CO: Carbon monoxide in percent (%).
- 4.1.5 CO₂: Carbon dioxide in percent (%).
- 4.1.6 Drift: The amount of reading change (expressed as a percent of full scale) over a period of time. Zero drift refers to a change of zero reading. Span drift refers to a change in reading of a calibration point on the upper portion of each scale.
- 4.1.7 Electromagnetic Isolation: A design parameter whereby an instrument is designed to minimize the effects of natural and man-made electromagnetic radiation on instrument operation and accuracy.
- 4.1.8 Exhaust Gas Analyzer (or Analyzer): The system which samples and reads out the concentration of pollutant gases CO, HC and CO₂, measures vehicle engine RPM, measures opacity of vehicle tailpipe exhaust, records noise meter readings and tests for leaks in vehicle gasoline lines and gas tank. The analyzer includes a sample gas handling system, RPM signal pickup, opacity meter and leak testing equipment in which all of these systems are coordinated by a computer and housed in an enclosure cabinet.
- 4.1.9 Hangup: Hydrocarbons which cling to the surface of the sampling and analyzer systems in contact with the gas

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sample stream which cause errors in HC readings

- 4.1.10 HC: Hydrocarbon, expressed as N-hexane in parts per million.
- 4.1.11 Interference (electromagnetic): Analyzer reading errors caused by response to electromagnetic radiation.
- 4.1.12 Interference (gases): Exhaust gas reading errors caused by instrument response to non-interest gases typically occurring in vehicle exhaust.
- 4.1.13 Noise: Variations in analyzer readings while instrument is being calibrated with a steady signal input or calibration gas of constant concentrations.
- 4.1.14 Precision Gases: A blend of HC, CO₂ and CO gases with balance nitrogen. The concentrations are certified by the National Institute of Science and Technology (NIST) to be within 1% of the true values.
- 4.1.15 Radio Frequency Interference (RFI): Electromagnetic radiation occurring in the radio frequency band.
- 4.1.16 Repeatability: The analyzer's capability to provide the same value for successive measurement of the same sample.
- 4.1.17 RPM: Motor vehicle engine speed in revolutions per minute.
- 4.1.18 Response Time (EXHAUST GASES): The period of time in seconds for an instrument to measure and display a pollutant level after a step change in the gas concentration initiated at the tailpipe sample probe. This is the time required to reach at least 90% of the final reading of the concentration of gases introduced at the tailpipe sample probe.
- 4.1.19 Span Gas: Calibration gas.
- 4.1.20 Stabilization: The process of bringing an analyzer into equilibrium with the ambient environment and operating condition such that transients have subsided.
- 4.1.21 Zero Gas: Air or nitrogen which is specified as vehicle emission zero meeting CFR 86.114-79(a)(5,6) shown as Attachment D.

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4.2 PERFORMANCE CRITERIA

4.2.1 General: The analyzers shall be compatible with automotive environments. The analyzers shall operate under the conditions and performance requirements listed below. The analyzer shall be used to test vehicles for exhaust emissions (HC, CO and CO2), opacity, engine speed, noise emissions and vehicle gasoline tank leaks, in a repetitive process, each analyzer capable of testing approximately 200 vehicle per day.

In addition to the Oregon Bid requirements, the analyzers must meet all applicable requirements of 40 CFR Part 51 Appendix D(1) as published in the November 5, 1992 Federal Register. Shown as Attachment E.

4.2.2 Analyzer Gas Measurement Accuracy: The HC (N-hexane), CO2 and CO analyzer accuracy shall meet the following requirements:

Channel	Units	Range	Accuracy	Noise	Repeatability
HC as Hexane	ppm	0-400	+/- 12	6	8
		401-1000	+/- 30	10	15
		1001-2000	+/- 80	20	30
CO	percent	0-2.00	+/- 0.06	0.02	0.03
		2.01-5.00	+/- 0.15	0.06	0.08
		5.01-9.99	+/- 0.40	0.10	0.15
CO2	percent	0-4.0	+/- 0.6	0.2	0.3
		4.1-14.0	+/- 0.5	0.2	0.3

The full scale of operation of the gas pollution analyzer is as follows:

Channel	Scale
HC	0-2000 ppm as hexane
CO	0-9.99 percent
CO2	0-14.0 percent
RPM	0-3000 rpm

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- 4.2.3 Analyzer Gas Measurement Display Resolution. The analyzer electronics shall have sufficient resolution to achieve the following:

Channel	Resolution
HC	1 ppm HC as hexane
CO	0.01 percent CO
CO2	0.1 percent CO2
RPM	1 rpm

- 4.2.4 Temperature Operating Range: The analyzer, including sample handling system, shall operate within the specified performance limits in ambient air temperature ranging from + 10 F to 110 F. When the analyzer is in storage, all components shall be unaffected by ambient air temperatures ranging from -20 F to +130 F.
- 4.2.5 Temperature Stability Requirement: The analyzer's response to change in temperature shall not exceed 0.15 % of reading per F change in ambient temperature for any of the three measured gas pollutant components (HC, CO and CO2). This limit shall hold throughout the analyzer component scale ranges listed in 4.2.2 and operating temperature range specified in 4.2.4.
- 4.2.6 Humidity Operating Range: The analyzer including sampling system must properly operate in station environments up to 85 percent relative humidity throughout the temperature operating range specified in 4.2.4.
- 4.2.7 Interference Effects (gases): The interference effects for non-interest gases shall not exceed +/- 10 ppm for hydrocarbons, +/- 0.05 percent for carbon monoxide, and +/- 0.20 percent for carbon dioxide.
- 4.2.8 System Response Time: The response time from the gas sample probe to the display for HC, CO and CO2 shall not exceed eight seconds to achieve 90 percent of actual concentration for a step change in input with a 30 foot sample line.
- 4.2.9 Drift: Zero and span drift of HC, CO and CO2 of a warmed up analyzer shall conform to the following:
- Zero Drift: The analyzer zero drift shall not exceed +/- 0.1% of full scale for one hour of operation.

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- Span Drift: The instrument span drift shall not exceed +/- 0.5% of the scale reading for one hour of operation.
- 4.2.10 Warm-Up Time: The analyzer shall reach stabilized operation in a station environment within 15 minutes from overnight standby operational mode.
- 4.2.11 System Lockout During Warm-up: Functional operation of the gas sampling unit shall remain disabled through a system lockout until the instrument meets stability and warm-up requirements. The analyzer shall be considered "warmed up" when the zero and span readings for HC, CO and CO₂ have stabilized, within +/- 3% of the full range of the low scale (see Section 4.2.2), for five minutes without adjustment.
- 4.2.12 Span Gas: The analyzer shall be designed for automated gas calibration using bottles of calibration gas external to the analyzer cabinet. Calibration shall be able to function with calibration gas pressure to the analyzer of less than 7 psig. The Department plans to calibrate at the following two points. Point 1: zero air conforming to the specifications of CFR 86.114-79(a)(5). This zero gas will be stored in a high pressure cylinder. Point 2: 600 ppm propane, 1.6% CO, 11.0% CO₂, balance nitrogen. This gas will be stored in a high pressure cylinder.
- 4.2.13 Gas Sample Handling System: Materials that are in contact with the gas sample shall not contaminate or change the character of the gases to be analyzed. During their useful life, all sampling system material and components shall remain corrosion free from vehicle exhaust gases and be able to withstand the heat generated by sampling vehicle exhaust at exhaust gas tailpipe temperatures up to 1000 F.

The sample handling system shall provide for particulate and water removal under all operating conditions to prevent these contaminants from affecting gas analysis or analyzer operation. The filtering and water removal components shall be designed for extended use and easy leak-free maintenance. The water removal system shall be continually self draining and of such design to insure no sample dilution, should any obstruction or malfunction occur in the sampling system. Filter bodies shall be installed with the direction of flow clearly discernible to the operator.

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Seals shall be simple and effective.

The sampling system shall provide a visual and/or audible indication when the sample flow is below the acceptable level. The sampling system shall be equipped with a flow meter (or equivalent) that shall indicate sample flow degradation when gas reading error exceeds three percent of full scale, or causes system response time to exceed 13 second to 90 percent of a step change in input, whichever is less.

- 4.2.14 **Electromagnetic Isolation:** Electromagnetic signals found in an automotive environment such as high energy vehicle ignition systems, transmission radiation sources and building electrical systems or electromagnetic signals from radio, TV or car phones shall not cause malfunction or changes in accuracy of the analyzer. If excessive electromagnetic interference is observed in test lane operations, the manufacturer must correct the problems.
- 4.2.15 **Vibration and Shock Protection:** Analyzer operation shall be unaffected by the vibration and shock encountered under the normal operating conditions in an automotive test center. The system operations shall also be unaffected by vehicle transport vibrations when used in a mobile test operation.
- 4.2.16 **Barometric Pressure Compensation:** Barometric pressure compensation shall be provided. At any given altitude and ambient condition, errors due to barometric pressure changes of +/- 2 inches of mercury shall not exceed the accuracy limits specified in Section 4.2.2.
- 4.2.17 **Display Refresh Rate:** Dynamic information being displayed shall be refreshed at a minimum rate of twice per second.
- 4.2.18 **Test and Mode Timers:** The analyzer shall be capable of simultaneously determining the amount of time elapsed in a test, and in a mode within that test.
- 4.2.19 **Sample Rate:** The analyzer shall be capable of measuring exhaust concentrations of HC, CO and CO₂ at a minimum rate of twice per second.
- 4.2.20 **Optical Correction Factor (also referred to as the propane equivalency factor, PEF):** Each analyzer shall be labeled on the optical bench with its PEF, carried

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to three places. PEF's range shall be limited between 0.490 and 0.540. PEF confirmation shall be made on each assembled analyzer by measuring both N-hexane and propane on assembly line quality checks. It is understood that this factor may vary with optical bench cleanliness, bench temperature, etc., but in no event shall it vary by more than 2% from its stated value.

4.3 DESIGN CHARACTERISTICS

4.3.1 Instrument Construction: The analyzer shall be designed and constructed to provide reliable and accurate service in the automotive testing center environment.

4.3.1.1 Materials: The materials used in the analyzer construction shall be resistant to corrosive type substance found in automotive service centers, including, brake fluid, solvents, exhaust gases, etc.

4.3.1.2 Finish: The exterior and interior finish of the entire console enclosure shall be sufficiently durable to withstand the environmental conditions and exposure to mixtures and compounds normally encountered in automotive testing facilities.

4.3.1.3 Mobility: The analyzer shall be mobile with wheels. The console shall be designed so movement will not cause the unit to tip over. Wheels should be designed for easy analyzer movement. The Analyzer shall be designed to prevent movement by locking wheel casters or other acceptable method.

4.3.1.4 Electrical Design: The AC-powered analyzer shall operate on 115 volt (+/- 10%) AC, 60 hertz power available at testing stations. Analyzer operation shall be unaffected by electrical line noise, voltage surges or variations.

The AC power cable shall be capable of handling the total system power requirements and be equipped with a standard 3-prong connector. It shall be at least 10 feet in length and be durable, oil-resistant and waterproof. Provisions for storing the power cord shall be included with the analyzer.

All electric components (motors, relay switches, power cord, wiring connections, etc.) shall conform to

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requirements and standards established by the Underwriters Laboratories, National Electrical Safety Code. A letter will be required from the vendor stating that these requirements are met.

- 4.3.2 Sampling System: The vehicle exhaust gas sampling system shall consist of a tailpipe probe, flexible sample line, a water removal system, particulate filters, sample pump and flow control components. The system shall be designed to insure durable, leak-free operation and be easily maintainable.

4.3.2.1 Probe:

Hand Grip - A thermally insulated, securely attached hand grip must be provided on the probe in such a manner that easy probe insertion, using one hand, is assured.

Probe Design - Probe shall be capable of being inserted to a depth of at least ten inches into the tailpipe of the vehicle being tested, or into an extension boot if one is used.

Probe Cap - A probe tip "cap" suitable for performing a system leak check will be provided with each analyzer as part of the sample system leak check apparatus.

Dual Sampling - When testing a vehicle with dual exhaust pipes, a dual sample probe of a design certified by the analyzer manufacturer to provide equal flow in each leg shall be used. The equal flow requirement is considered to be met if the flow rate in each leg of the probe has been measured under two sample pump flow rates (the normal rate and a rate equal to the onset of low flow), and if the flow rates in each of the legs are found to be equal to each other (within 15% of the flow rate in the leg having lower flow). The dual connection and the alternative single probe system shall have quick disconnect capabilities for easy switching from one to the other. The quick disconnects must be designed to avoid being easily triggered creating an accidental leak or sample line obstruction.

- 4.3.2.2 Sample Line: The flexible line shall be oil resistant and of such composition that molecular hydrocarbon hang-up shall be minimized. In addition, it will resist permanent crushing and kinking and will be

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unaffected by exhaust gas temperatures. The sample line shall also remain sufficiently flexible to enable coiling the hose into a 24" diameter roll at 40 F. The length shall be at least 30 feet. All connections to the analyzer and probe shall be of durable leak-free design.

- 4.3.2.3 Water Removal System: A water removal system is required to remove vehicle exhaust gas water vapor from the sample gas prior to entering the analyzer optical cells. The water removal system shall be continually self-draining. Positive means shall be incorporated to prevent dilution of the sample mix caused by any malfunction or obstruction to either the sample or water removal system.
- 4.3.2.4 Filters: The sampling system shall be equipped with inexpensive replaceable filter elements of adequate surface area to permit uninterrupted use having no degrading effects beyond the limits of Section 4.2.13 for at least 20 hours while continually measuring typical vehicle exhaust gas. Ease of maintenance and leak free operation are essential. Analyzer filter elements shall be accessible from the exterior of the analyzer.
- 4.3.2.5 Pumps: The exhaust gas sample pumps shall be shock mounted and constructed of materials that do not affect and are not affected by the characteristics of the vehicle exhaust gas. The pump shall have a minimum rated operational life of at least 2000 hours with no mechanical or electrical failure, while maintaining nominal performance throughout.
- 4.3.2.6 Low Flow Indicator: The sampling system shall be equipped with a device to sense sample flow degradation due to plugged sample line or filters and respond as indicated in 4.2.13.
- 4.3.3 Analyzer Cabinet Contamination: The analyzer shall be built to prohibit all potential for incursion of contaminated air into the benches' optical paths, thereby eliminating any lane contamination effects.
- 4.3.4 Electronic Connections: All electronic connections made between wires and solid state boards or boards and harnesses in which low voltage electricity (< 50 volts) is passed, shall be made of corrosion inhibited metal at least as protective as gold plate to reduce

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corrosion induced high resistance contact problems.

4.3.5 Internal Analyzer Plumbing: Internal analyzer plumbing connections will be pressure tube resistance fit rather than screw-type connectors, for ease of maintenance replacement.

4.3.6 Dust Protection: The analyzer cabinet shall be supplied with filtration for any cabinet ventilation air, to reduce dust on internal parts. Air entering the cabinet shall be filtered through 30 micron (or smaller) pore size filter.

4.3.7 Dimensions: The maximum dimensions of each analyzer shall be such as to fit through a 28" X 7' doorway. The dimensions of the analyzer shall not exceed 28" wide by 42" long.

4.3.8 Internal Construction: The analyzer shall be designed in modular construction form when feasible. For example, power supply electronics and infrared detecting devices should be mounted on separate, easily accessible boards, trays, drawer or modules. All mechanical pumps shall be vibration and shock mounted.

4.4 ANALYZER NON-GAS MEASUREMENTS SYSTEMS

4.4.1 Exhaust Noise: The DEQ performs a vehicle tailpipe noise test using a sound level meter supplied by the Department which has a microphone extended by cable from the portable readout meter. In this test the microphone is positioned 20 inches from the end of the vehicle tailpipe and the sound level is recorded when the vehicle engine speed is at a steady 2500 RPM during the exhaust emissions measurement cycle.

This test is performed only on those vehicles considered by the inspectors to be excessively noisy. (Current standards are generally 93 dBA for front engine vehicles and 95 dBA for rear engine vehicles, with some exceptions. See Attachment F) The number of subjectively noisy vehicles is less than five percent of the vehicles tested.

The analyzer's computer will be designed to take a noise meter reading for each vehicle test, whether or not the microphone is positioned to take the test. If the noise reading exceeds 93 dBA, the computer will ask the inspector if the vehicle is a front or rear engine

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and offer the option to discount the reading (in case a train or other loud noise inappropriately caused the high reading). If the reading is appropriate and above the respective vehicle standard, the vehicle shall fail for noise and the dBA reading will be displayed in the Vehicle Inspection Report (VIR) and the "noise" box will be checked. Otherwise, no VIR entry will be made.

The analyzer shall be set-up to automatically zero the noise meter prior to every test. The zero operation should be conducted such as to not cause test time delay (e.g., zero when inspector is inputting vehicle identification data.)

The Department plans to continue to use its existing General Radio Model GR1983 Sound-level Meters. On these meters, the reading is obtain from the noise meter output jack which has a full scale linear voltage range of 0-250 mV dc. Each 5 mV represents one dBA, and the equivalent dBA output is between 70 and 120 dBA. The output jack is a micro-miniature shielded jack, General Radio Part No 4260-1110.

4.4.2

Exhaust Opacity: The DEQ test limits for exhaust emissions opacity for diesels is 20% and spark ignition (gasoline or alternative fueled) vehicles is no visible emissions.

The mechanized opacity test is performed only on diesel vehicles which the inspector suspects could potentially exceed the standards. Because the state of art of smokemeters does not produce dependable opacity measurements on gasoline or alternatively fueled vehicles, these vehicles will be evaluated visually by the inspector and not use a mechanized opacity test. The pass/fail test results will be input by the inspector. For diesel vehicles which do not exceed 20 percent opacity, and gasoline/alternative fueled vehicles which are subjectively determined by the inspector to not have tailpipe smoke, no data will be entered on the VIR. For diesel vehicles that exceed 20 percent opacity, the "smoke" box will be checked and the opacity reading recorded. For gasoline vehicles found to be smokey, the "smoke" box will be checked and no readings will be reported on the VIR. For all diesel vehicle tests, the opacity will be recorded, but these readings will only be printed on the VIR, if 20 percent is exceeded.

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Because the opacity equipment will be used so infrequently, only one unit will be used per station or a total of seven opacity units. The unit will be disconnected from all analyzers at the start of the test. At the station which will function as described above. If the vehicle is a diesel, the display screen will give the operator the option to either by-pass the test if the vehicle does not appear to be smoking or to proceed for a smokey vehicle. If the inspector opts to proceed with the test, the inspector will connect the opacity equipment, then press the option to proceed before placing the optics at the tailpipe or drawing in a sample. At this point a zero will be done. The zero should not add to the overall test time as explained above for noise meter zero.

The Department would prefer that an opacity sample is drawn into the optical chamber through a probe and sample line. If this is not available, simply placing the optical path through the plume as is done, for example, with the Wager opacity meter, would be acceptable. However, the method of testing must be reported in the Bid.

4.4.3

RPM: The Department is required to measure RPM on all except diesel vehicles. The Department requires a non-contact style tachometer pick-up which can function properly without raising the vehicle hood. A conventional pick-up which clamps around an engine ignition wire should be used as an automatic switched backup when the non-contact tach can not successfully pick up a signal.

During the DEQ idle test, the engine speed must remain within the range 550-1300 RPM to pass the idle section of DEQ's two speed idle test. The acceptable range for the elevated engine speed part of the test is 2200-2800 RPM. (Please see Attachment 8 showing proposed Oregon Administrative Rules 340-24-309 for detailed RPM testing requirements.) The CRT screen should display the vehicle RPM within the RPM range limits for both idle and 2500 RPM. This should be displayed as a bar graph or other visual representation that is clearly visible to the customer in the vehicle driver's seat with the display as much as 15 feet from the customer.

Both in the case of diesel vehicles and gasoline powered vehicles which can not be tached, there should be means for the inspector to manually activate each of

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the three emission test modes (first idle, 2500 rpm, second idle) where appropriate.

- 4.4.4 Tank Pressure/Leak Test: The Department is considering conducting pressure tests on all 1983 and newer gasoline powered vehicles. The vehicle year cut-off may change, so Oregon needs the ability to select cut-off year for this test. The test must meet the requirements as outlined in Appendix I of I/M Costs, Benefits, and Impacts Analysis document published by EPA in February 1992 (copy shown as Attachment G), except where DEQ procedures specify a difference. It must also meet any subsequent EPA requirements for pressure/leak testing that may be developed prior to issuance of the Department's equipment purchase order.

In the DEQ test, the vehicle gas cap will be removed and pressurizing nitrogen gas will enter the vehicle tank through an auxiliary nipped gas cap with the vapor line between the tank and the canister clamped off. A pressure test of the vehicle's cap will be done simultaneously by placing it on an auxiliary sealed tank fill pipe.

The vehicle tank shall be pressurized to 14 inches of water. The nitrogen input is shut off, and the tank is leak down tested for 2 minutes (or the minimum allowed by EPA). If the tank pressure falls below 8 inches of water within the 2 minutes, the system fails the test. It is essential that the test be done as efficiently as possible. The tank shall be filled as quickly as possible, considering safety. Quick pass and quick fail modes should be developed and activated as soon in the test as pass or failure is apparent.

An indication of that the tank pressure test passed (or failed) shall be stored on the computerized vehicle test record, but not printed on the VIR.

There shall be an option to by-pass the pressure test at any time during the test, and continue on with the other vehicle emission tests to the completion of the full test sequence for cases where hookup is impractical. If this option is used an indication that the test was by-passed should be reported on the test report. A third option to abort the test in case of safety hazard shall be available to the inspector at any time during the test. If the test is by-passed, "Tank pressure test by-passed" shall be written on the

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VIR and the vehicle will not fail the pressure test. If the test is aborted, "Tank pressure test aborted" shall be written on the VIR and the vehicle will fail the pressure test.

The pressure test procedure must have the capability of being totally deactivated because DEQ will likely not use this function for the first 6 months to a year after switching to the new computerized equipment.

An automatic by-pass of the test shall be done for diesels, gaseous fuel vehicles and for vehicles older than the test cut-off year. An indication of by-pass should be reported on the test report.

The pressure test will be done as the second position in a two position testing process. The pilot pressure testing program will only be done on one lane per station in the Portland area. In the first position, the vehicle identity is input, the exhaust emission test, noise test, and opacity tests are conducted. In the second position, the pressure test is conducted, and the pollution control equipment is examined and under the hood blow-by smoke is observed. The under the hood smoke should be reported on the test report separate from the vehicle exhaust smoke.

4.4.5 VIN Bar Code Reader: A bar code reader capable of reading VIN numbers through vehicle windshields will be required to reduce VIN transposition errors. Since bar coding of VINs on vehicles began only in the last few years, an alphanumeric reader would be of great help if they are available. Indicate additional cost for supplying this item.

4.5 ANALYZER COMPUTER OPERATIONS

4.5.1 Hardware: The following is a list of computer hardware representing the minimum equipment requirements. Alterations from this list that are equivalent or that surpass these requirements will be acceptable.

Single Position Lane (total of 19 lanes):

IBM PC compatible with 486 microprocessor and minimum of 50 megabyte hard disc storage and 20 MHZ clock
101 key data entry keyboard
Two 3 1/2" floppy disc drives
VIR Printer (9 pin tractor feed Okidata or equivalent

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for preprinted tractor forms)
20 inch (diagonal) VGA color monitor
14 inch (diagonal) VGA color monitor

The cables between the computer and peripheral devices shall be at least 25 feet to facilitate installation in existing DEQ test booths and analyzer rooms.

Two Position Lane (total of 6 lanes):

IBM PC compatible with 486 microprocessor and minimum of 50 megabyte hard disc storage and 20 MHZ clock (two per lane)
101 key data entry keyboard (two per lane)
Two 3 1/2" floppy disc drives (required on each computer)
VIR Printer (9 pin tractor feed Okidata or equivalent for preprinted tractor forms)
20 inch (diagonal) VGA color monitor
14 inch (diagonal) VGA color monitor (two per lane)

The cables between the computer and peripheral devices shall be at least 25 feet to facilitate installation in existing DEQ test booths and analyzer rooms.

Central Equipment:

IBM compatible computer to act as server for up to four lane computers (one for each of seven test stations)
2400 baud Hayes-compatible model (two for each of seven test stations)

IBM compatible computer in which test data is stored and retrieved from each test lane and which stores calibration and I/M Program budget information. This is a single unit located at the I/M Program Tech Center.

4.5.2 Software: Version 5.0 MS-DOS operating system will be used. Facilitating canned software programs such as Windows can be used at the manufacturer's discretion. If so, the latest practical version must be used.

4.5.2.1 Test Sequences: The software will have two main goals: 1) to meet EPA and DEQ testing requirements and 2) to be as streamlined so test time is as short as possible. The Department's goal is to conduct the emissions test on an average of less than three minutes. Any time saving devices or programming or procedural techniques

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that reduce test time should be incorporated in the manufacturer's design. This may include overlapping of operations. Therefore the software may need to have the capability to conduct two tests at the same time.

Software specifically designed for Oregon testing operations should be written to meet the following testing sequences. It should also meet the requirements of OAR 340-24-309 and OAR 340-24-355 (shown as Attachment H). The first sequence represents a two position operation. At the first position the emissions test, noise and opacity tests are conducted. At the second position the pressure test and pollution control equipment check is done. The second sequence represents a single position test without the pressure test, with only an emissions, noise, smoke and equipment check test. Optimally, the Department would purchase six units designed to perform the first procedure and 19 units with the second procedure.

FIRST SEQUENCE - TWO POSITION TEST

Screen Sequence for Emissions Test (First Position):

Screen 1) Date Entry:

License Plate

Make

Year

Odometer

VIN #

Vehicle Type (Passenger Car, LDT, MDV, HDV)

Test Type (Initial, second plus)

Fuel Type (gasoline, diesel, gaseous fuels)

Catalyst (yes or no)

Air Injection (single, dual, none)

Number of Cylinders

This screen will have a means to advance to a backup screen which will allow an inspector to "log on" or "log off" as the lane inspector. "Log on" will not be required before every test but only when an inspector lane change is made. Having an active "log on" is a prerequisite to operating the test.

Screen 2) 1st Idle Emission Test

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Show: RPM (range and engine speed graphically and digitally)

Screen 3) 2500 RPM Emission Test

Show: RPM (range and engine speed graphically and digitally)

Screen 4) 2nd Idle Emission Test

Show: RPM (range and engine speed graphically and digitally)

Screen 5) Emissions Test Results

Show: Results of the following tests: HC, CO at idle and 2500 rpm, dilution, rpm, opacity, noise, tailpipe smoke

Transfer these results to the computer at the second position

Screen Sequence for Pressure/Equipment Test (second position):

Screen 1) Pressure Test Initiation Screen

Show: Screen allows inspector to initiate test after inspector hooks up vehicle to pressure test line

Screen 2) Pollution Control Equipment Screen

Show: List of pollution control equipment with the option to select "pass", "fail" or "not applicable" for each item. An override key can be pressed that will bypass individual items if vehicle has no disconnected equipment. The engine area blow-by smoke result will also be input in this screen. After this screen is completed screen 3 is immediately shown in the middle of pressurizing or screen 4 is shown instead if pressurizing is already completed. Alternately the pressure screens and the equipment screen could be used on split screen mode.

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Screen 3) Pressure Test Pressurizing Screen

Show: The tank pressure digitally.
Automatically switches to Screen 4 when tank
pressure reaches 14 inches of water.

Screen 4) Pressure Test Leak-down Screen

Show: The tank pressure digitally and the
elapsed time digitally or graphically.
Automatically switches to Screen 5 when test
is complete.

Screen 5) Test Results

Show: Results of emissions test and
equipment and pressure test, with a pass/fail
response including test standard and vehicle
readings for failed items for each category.

- RPM
- Smoke
- Dilution
- Exhaust Emissions
- Noise
- Pollution Control Equipment
- Pressure Test
- Blow-by Smoke

VIR report printing will be initiated after
certification fee is collected from the
customer. Also all test result information
including emissions readings will be
maintained in a test file on the individual
lane computer. This file will have enough
storage to maintain the lane test records for
at least one week. The data will also be
forwarded to the central station computer
which will in turn transfer the data to the
central Tech Center computer where it will be
stored for two years. The forwarded data
will also include complete emissions records.

SECOND SEQUENCE - SINGLE POSITION TEST

Screen 1) Date Entry:

License Plate

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Make
Year
Odometer
VIN #
Vehicle Type (Passenger Car, LDT, MDV, HDV)
Test Type (Initial, second plus)
Fuel Type (gasoline, diesel, gaseous fuels)
Catalyst (yes or no)
Air Injection (single, dual, none)
Number of Cylinders

This screen will have a means to advance to a backup screen which will allow an inspector to "log on" or "log off" as the lane inspector. "Log on" will not be required before every test but only when an inspector lane change is made. Having an active "log on" is a prerequisite to operating the test.

Screen 2) 1st Idle Emission Test

Show: RPM (range and engine speed graphically and digitally)

Screen 3) 2500 RPM Emission Test

Show: RPM (range and engine speed graphically and digitally)

Screen 4) 2nd Idle Emission Test

Show: RPM (range and engine speed graphically and digitally)

Screen 5) Pollution Control Equipment Screen

Show: List of pollution control equipment with the option to select "pass", "fail" or "not applicable" for each item. An override key can be pressed that will bypass individual items if vehicle has no disconnected equipment. The engine area blow-by smoke result will also be input manually in this screen.

Screen 6) Test Results

Show: Results of emissions and equipment test, with a pass/fail response, including

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test standard and vehicle readings for failed items for each category.

RPM
Smoke
Dilution
Exhaust Emissions
Noise
Pollution Control Equipment
Blow-by Smoke

Printing of the VIR report will be initiated after certification fee is collected from the customer. Also all test result information including emissions readings will be maintained in a test file on the individual lane computer. This file will have enough storage to maintain the lane test records for at least one week. The data will also be forwarded to the central station computer which will in turn transfer the data to the central Tech Center computer where it will be stored for two years. The forwarded data will include complete emissions records.

The VIR report will be printed on pre-printed forms that show the following. A sample VIR form is shown as Attachment I.

Date of Test
Time of Test
Certificate No. (selected by the computer sequenced for each station)
License Plate
VIN
Year
Make
Fuel Type
Vehicle Type (passenger car, LDT, MDV, HDV)
Odometer Reading
Inspector ID Number
Fee Charged
Test Results:

CO, HC at idle and 2500 rpm data are listed and appropriate boxes checked when the vehicle fails any of the gas pollution emissions standards without failing for diluted exhaust, RPM, noise, opacity, tailpipe smoke blow-by smoke, or disconnected pollution control equipment. In this

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case, the appropriate failure boxes are checked and all gas readings are shown. If a vehicle passes all components of the I/M test, no emissions data is listed.

Idle speed is always recorded. The box is checked if idle RPM is too high. The idle speed associated with the idle emissions readings should be displayed.

If either idle or 2500 rpm exhaust is diluted, the "Diluted Exhaust (CO% + CO2%)" box will be checked and the lowest dilution reading will be shown. If any of the vehicle gas emissions readings exceed standards, the dilution reading will be printed, but the box will not be checked unless dilution limits are surpassed.

The "Noise Decibel Level" box will be checked and noise levels printed for any vehicle exceeding noise standards. Otherwise this section is left blank.

The "Smoke" box is checked when a gasoline or diesel vehicle exceeds standards. An opacity reading is shown only for a diesel vehicle which exceeds standards.

The "Pollution Control Equipment" boxes or the "Blow-by Smoke" box is checked only when the associated pollution control equipment is disconnected or blow-by smoke is seen.

In both test procedures, an option to abort the test for safety or other reasons should be available at any time during the test operations. A list of abort options should be displayed for the inspector's selection:

- Excessive Coolant Leak
- Excessive Oil Leak
- Excessive Fuel Leak
- Inaccessible Exhaust
- Vehicle Fire
- Other

The VIR will indicate under "Comments" that the test was aborted and state the reason. If the inspector selects "Other", the inspector will be allowed to type in a reason (maximum 20 characters) and this will be printed on the VIR.

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Two-copy carbon copy printer paper will be used to provide a copy of the VIR for both DMV and the customer.

- 4.5.2.2 Accounting: The computer at each test station will generate a sequenced certificate number for each test that passes which will be printed on the customer report. The total number of certificate numbers generated at each station during a day will be matched with money at days end to determine balance. The start budget tally for the next day will begin as soon as balance is completed for a particular lane. The lead inspector will go lane to lane after testing is done for the day and initiate closeout for each lane. At this time funds will be removed from the cash drawer leaving seed money, and the new test day will be initiated. The accounting program will have the capability to print out the total number of certificates and associated expected cash receipts for each lane. If at any time during the day the lead inspector desires to see the receipts from a particular lane, a display and printout can be obtained at the lane computer or at the station central computer. Normally the lead inspector will not initiate a new budget day at other than 3 pm, but the option to initiate at any time must be available. The accounting summary will display the following:

Date
 Time
 Station
 Lane
 Total Number of Certificates Issued by lane or total for station
 List of Certificates for each lane and/or for total station
 Unit cost of Certificates
 Total expected receipts since last closing for each lane and full station
 Total funds in a lane cash drawers and for full station
 Total invalidated Certificates by lane and station since last closing, including list of Certificate numbers
 Cash over or short

Bank deposits which can be made at random times, will be input into the station computer by the lead inspector. The computer will automatically subtract the deposit from total funds on hand. Allowance for

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working fund money in each lane will be made. Allowance for voided certificates with associated money return will be made. Voided certificates will be identified by certificate number.

Electronic budget records will be maintained on lane computer hard disc automatically, including running records, bank deposits, voided certificates and any budget summaries done. This data will be automatically transferred by modem to the VIP Tech Center central computer.

For the two fall-back bid packages that do not include any central computers (i.e., stand alone lane units only), the budget balances will be done on the individual lane computers only.

4.5.2.3 Calibration Records: Calibration records for the gas analyzer bench, leak test records, noise meter, smokemeter, rpm and other calibration records will be retained in data storage at each test lane computer for seven days and will also be passed to the Tech Center Central computer as records are generated.

4.5.2.4 Station Central Computer: Each of Oregon's seven test stations will be supplied with a central computer serving individual lane analyzers to which all test records, equipment calibration information, and budget information will be reported. The central computer will be capable of doing budget reviews for any lane at any time. Also, the status of testing on each lane can be received from this computer. This computer will also be able to draw records from the central Tech Center Computer to determine vehicle, test equipment calibration or budget history up to 2 1/2 years old.

4.5.2.5 VIP Tech Center Central Computer:

The central computer will have the capability of receiving computer disc records from the Oregon Department Driver and Services Branch (DMV). These records will be formatted as shown in Attachment J. The central Tech Center computer will extract from these records the needed vehicle identity information and place in a file. This information is:

License Plate
VIN #

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Year
 Make

This is a batch process which will be used to initiate the vehicle identification data file. It may be done periodically.

This file will then be maintained in the Tech Center Computer. Vehicle test data will be added to the vehicle files as tests are conducted. In addition to test results, the inspector will provide further vehicle identification when the vehicle is tested, including: transmission type and vehicle type (passenger car, light duty truck, medium duty vehicle, heavy duty vehicle). At the start of each vehicle test, the inspector will key in the vehicle license plate or VIN number, and the vehicle identification file will be displayed on the lane computer thereby reducing inspector time inputting vehicle identity. If the vehicle identification file is incomplete or the license plate is not identified, the inspector will key in all needed identification information and this new information will be immediately added to that vehicle's identification file. Also, received from the Tech Center central computer will be the display of the date time and station for the last test on this vehicle.

- 5.0 WARRANTY AND MAINTENANCE: The analyzers will be warranted by the manufacturer for a period of four months, inclusive of parts and labor beginning at the time of installation into the first test station. For this first four months after start-up, the manufacturer must have a repair technician based in the Portland area.

This technician will conduct repairs while the Department's electronic staff do routine maintenance such as filter changes, plumbing tube replacement and pump repairs. The Department's crew will be trained by the vendor as soon as the first equipment arrives in both routine maintenance and electronic diagnostics and board replacements repairs. This crew will assist and observe the manufacturer's repair technician during the first four month period. During this time, the manufacturer must respond to repair an inoperable analyzer within 24 hours of notification and repairs must be completed within 72 hours of notification. During this four month period, the manufacturer will make program changes to correct operational flaws and to implement operational procedures to reduce test time at no additional cost to the Department.

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After the start-up is complete, the contractor will make software updates as required by the Department and bill at an hourly rate to be specified in the manufacturer's bid. After the first four months the manufacturer will do maintenance under a service/maintenance agreement which will be in effect for seven years. Under this agreement, the DEQ staff will perform electronic repairs such as diagnostics and electronic board replacement with phone-in direction from the manufacturer. The manufacturer must be available for phone consultation within 24 hours of the DEQ initiation call. In cases where problems can not be resolved by phone, the manufacturer will be required to bring in a qualified repair technician to do repairs within one week of the initial DEQ call. The proposed details of this maintenance agreement will be submitted by the contractor as a part of the bid.

The manufacturer shall maintain a complete inventory of parts for this equipment for ten years or until the DEQ discontinues use of this equipment, whichever is the shorter period. As a part of the bid package, the manufacturer shall deliver to the DEQ, prior to start-up, adequate spare parts (both repair parts and expendable parts (excluding calibration gas)) for operation of the full systems for at least one year. In addition, the manufacturer shall furnish the Department with the a complete list of sub-vendors addresses and phone numbers for all expendable parts.

The Department reserves the right to discontinue the manufacturer's service/maintenance agreement at the time equipment is no longer in use or if the Department determines the service/maintenance agreement is not necessary.

Each analyzer shall be delivered with a manual containing the following information:

Operating instructions
Initial start-up instructions.

In addition, five copies of a complete maintenance manual shall be supplied including wiring diagrams.

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Section 6

GENERAL PROVISIONS

6.0 DELIVERY SCHEDULE The following schedule of events is anticipated. The individual dates are only estimates of the time line except for the final date of June 15, 1994 at which time all analyzers must be installed and operating.

Prototypes delivered to DEQ for acceptance testing including one 1-position analyzer, one 2-position analyzer server for one station and main computer at VIP Tech Center	3/1/94
Acceptance testing complete with problems resolved	4/1/94
Delivery of equipment for remainder of test lanes	4/15/94
Change over of test lanes to new equipment done one station at a time and correction of all operational problems and inefficiencies	6/15/94

6.1. ACCEPTANCE PROCEDURES The time line for this procedure is shown in Section 6.0. The acceptance testing of the

prototype analyzer and computer support is expected to take approximately one month. During this time, the analyzer performance will be reviewed by the Department to insure all bid specifications are met and to de-bug the computer operations of the systems. It is expected that changes will be required to ensure a dependable and efficient operation and that these changes will be made by the contractor at no additional cost to the Department.

Afterward, delivery of the remainder of the analyzers and test station support computers will be made and the acceptance procedure will continue until all computers are installed and up and running at all test stations by June 15, 1994.

6.2 INSTALLATION The supplier must provide all necessary manuals, calibration devices (excluding calibration gas and associated regulators), hardware and software for the computerized testing system.

Equipment will be installed at each test lane one station at a time over a two month period. When a station is fitted with the new equipment, the existing old equipment will be

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removed and testing will begin with the computerized equipment. DEQ station operation hours are Tuesday through Saturday 10 am to 6 pm. Final set-up for equipment replacement will likely be done on Sunday and Monday, so the station can begin operations with the new equipment on Tuesday morning. DEQ will give inspectors training on equipment prior to station changeover. DEQ maintenance personnel will make necessary building modifications for the installations and will assist in the installation process. The supplier shall have a maintenance person present who is capable of dealing with all start-up problems, including both hardware and software issues, during the full two months of start-up. A maintenance person shall be available an additional two months after installation to correct any hardware or software problems in a timely fashion.

- 6.3 COMPUTER DIAGNOSTICS The analyzer will be designed to allow repair technicians to activate via computer, independently, any of the testing parameters for purposes of checking equipment accuracy, including emissions readings from both sample and span ports, opacity, rpm, smokemeter, noise meter etc., such that the computer readout is displayed.

The computer will also display fault codes when parameters are outside the allowable scale or are outside of calibration range. Such codes will be explained in the analyzer maintenance manual.

- 6.4 SECURITY There shall be limited access to the computer operations with four levels of security.

Level 1 - Included are inspectors only. Inspectors will be allowed to perform the emissions test and perform analyzer gas calibrations, sample line leak tests, rpm calibration, noise meter calibrations, pressure test calibrations and smokemeter calibrations.

Level 2 - Included are lead inspectors only. Lead inspectors will be allowed to perform all of the functions of an inspector but will also be allowed to enter calibration gas bottle concentrations, PEF numbers, open the analyzer to perform minor equipment repairs, and review emissions test results of previous tests.

Level 3 - Included are analyzer maintenance personnel. Maintenance staff will be allowed to perform all of the functions of lead inspectors except

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accounting reports, plus they will be able to enter the diagnostic screens to evaluate equipment operation and test for equipment accuracy.

Level 4 - Included are Program managers and engineers. Managers and engineers will be allowed to perform all of the functions of maintenance personnel plus they will be able to make changes in program parameters including disc updates of computer programs and changing test standards.

6.5 Updating Test Parameters: The computer must provide the capability for the Department to update vehicle test standards and calibration test points for pollution gases. Test standards include vehicle tailpipe emission limits on CO and HC, dilution, rpm, noise, smoke and other parameters in which the computer determines vehicle pass/fail.

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Furnish UNIT PRICE and TOTAL COST for each item described below. The amount should be in ink to the right of each item listed.

ITEM	QUANTITY/UNIT	ITEM SPECIFICATION	UNIT PRICE	TOTAL
------	---------------	--------------------	------------	-------

01	1. LO	OPTION 1.	()
----	-------	-----------	---	---

FULLY INTEGRATED SYSTEM INCLUSIVE OF
 COMPUTERIZED ANALYZERS AS PER BID
 SPECIFICATIONS ON PAGE 11, SECTION 3.

BRAND NAME: _____ MODEL: _____

DELIVERY PROTOTYPE: _____ DAYS ARO

DELIVERY TOTAL SYSTEM: _____ DAYS ARO.

VENDORS SHALL SUBMIT AN ITEMIZED LIST OF
 PROPOSED EQUIPMENT AND PRICES FOR THE
 ABOVE SYSTEM ON SUPPLEMENTAL SHEETS.

02	1. LO	OPTION 2.	()
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FIRST FALL-BACK SYSTEM AS PER BID
 SPECIFICATIONS ON PAGE 11, SECTION 3.

DELIVERY PROTOTYPE: _____ DAYS ARO.

DELIVERY TOTAL SYSTEM: _____ DAYS ARO.

VENDORS SHALL SUBMIT AN ITEMIZED LIST OF
 PROPOSED EQUIPMENT AND PRICES FOR THE
 ABOVE SYSTEM ON SUPPLEMENTAL SHEETS.

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Furnish UNIT PRICE and TOTAL COST for each item described below. The amount should be in ink to the right of each item listed.

ITEM	QUANTITY/UNIT	ITEM SPECIFICATION	UNIT PRICE	TOTAL
03	1. LO	OPTION 3. SECOND FALL BACK SYSTEM AS PER BID SPECIFICATIONS ON PAGE 11, SECTION 3. DELIVERY PROTOTYPE: _____ DAYS ARO. DELIVERY TOTAL SYSTEM: _____ DAYS ARO. VENDORS SHALL SUBMIT AN ITEMIZED LIST OF PROPOSED EQUIPMENT AND PRICES FOR THE ABOVE SYSTEM ON SUPPLEMENTAL SHEETS. _____	()	()
04	1. LO	OPTION 4. THIRD FALL-BACK SYSTEM AS PER BID SPECIFICATIONS ON PAGE 11, SECTION 3. DELIVERY PROTOTYPE: _____ DAYS ARO. DELIVERY TOTAL SYSTEM: _____ DAYS ARO. VENDORS SHALL SUBMIT AN ITEMIZED LIST OF PROPOSED EQUIPMENT AND PRICES FOR THE ABOVE SYSTEM ON SUPPLEMENTAL SHEETS. _____	()	()
05	100. HR	TOTAL CHARGES FOR FOR SOFTWARE UPGRADE ESTIMATED 100 HOURS PER YEAR.	()	()
06	7. YR	TELEPHONE AND MAINTENANCE SUPPORT FOR SEVEN (7) YEARS AS PER SPECIFICATIONS. SUPPORT CHARGES: \$ _____ PER/YR.	()	()

VENDORS INDICATE IF THE TERMS OF PAYMENT FOR THE ABOVE SUPPORT SHALL BE PAYABLE IN ARREARS OR IN ADVANCE: \$ _____ PER YEAR

*** When applicable, brand names and model numbers must be furnished with bid. **

INVITATION TO BID/REQUEST FOR PROPOSAL

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Each bidder (proposer) must read and comply with the following sections. Failure to do so may result in bid (proposal) rejection.

SECTION I - RESIDENCY INFORMATION

ORS 279.029(2) states "In determining the lowest responsible bidder, a public contracting agency shall, for the purpose of awarding the contract, add a percent increase on the bid of a nonresident bidder equal to the percent, if any, of the preference given to that bidder in the state in which the bidder resides."

"Resident bidder" means a bidder that has paid unemployment taxes or income taxes in this state during the 12 calendar months immediately preceding submission of the bid, has a business address in this state and has stated in the bid whether the bidder is a "resident bidder". (ORS 279.029(6)(b))

"Non-resident bidder" means a bidder who is not a "resident bidder" as defined above. (ORS 279.029(6)(c))

a. Check one: Bidder is a () resident bidder () non-resident bidder.

b. If a resident bidder, enter your Oregon business address:

c. If a non-resident bidder, enter state of residency: _____

d. If a non-resident bidder, do you or your firm receive, or are you or your firm eligible for, any preference in award of contracts with your state's government or with other governmental bodies in your state? Check one: () Yes () No

If yes: state the preference percentage: _____%

If yes, but not a percentage of bid price, describe the preference:

If yes, state the law or regulation that allows the preference described (legal citation): _____

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SECTION II - CERTIFICATION OF COMPLIANCE WITH TAX LAWS

I, the undersigned duly authorized representative of the bidder (proposer), hereby certify that the bidder (proposer) is not, to the best of my knowledge, in violation of any Oregon tax law. For purpose of this certification, "Oregon Tax Laws" are ORS Chapters 118, 119, 314, 316, 317, 318, 320, 321 and 323, and Sections 10 to 20, Chapter 533, Oregon Laws 1981 as amended by Chapter 16, Oregon Laws 1982 (Special Session); the Homeowners and Renters Property Tax Relief Program under ORS 310.630 to 310.690; and any local tax laws administered by the Oregon Department of Revenue under ORS 305.620.

SECTION III - FINANCIAL RESPONSIBILITY

The State reserves the right, pursuant to OAR 125-30-003, to investigate and evaluate, at any time prior to award and execution of the contract, the lowest responsible bidder's/apparent successful proposer's financial responsibility to perform the contract. Submission of a signed bid/proposal shall constitute approval for the State to obtain any credit report information the state deems necessary to conduct the evaluation. The State shall notify the lowest responsible bidder/apparent successful proposer, in writing, of any other documentation required, which may include, but need not be limited to, recent profit-and-loss history; current balance statements; assets-to-liabilities ratio, including number and amount of secured versus unsecured creditor claims; availability of short and long-term financing; bonding capacity and credit information, etc. Failure to promptly provide this information shall result in bid/proposal rejection.

The State may postpone the award or execution of the contract after announcement of the lowest responsible bidder/apparent successful proposer in order to complete its investigation and evaluation. Failure of the lowest bidder/apparent successful proposer to demonstrate financial responsibility, as required under OAR 125-30-003, shall render the bidder/proposer nonresponsible and shall constitute grounds for bid/proposal rejection, as required under OAR 137-30-100.

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SECTION IV - RECYCLED PRODUCTS CERTIFICATION

Vendors shall use recyclable products to the maximum extent economically feasible in the performance of the contract work set forth in this document.

ORS 279.545(5) states: "'Recycled product' means all materials, goods and supplies, not less than 50 percent of the total weight of which consists of secondary and post-consumer waste with not less than 10 percent of total weight consisting of post-consumer waste. 'Recycled product' also includes any product that could have been disposed of as solid waste, having completed its life cycle as a consumer item, but otherwise is refurbished for reuse without substantial alteration of the product's form."

ORS 279.545(1): "'Post-consumer waste' means a finished material which would normally be disposed of as solid waste, having completed its life cycle as a consumer item. 'Post-consumer waste' does not include manufacturing waste."

ORS 279.545(6): "'Secondary waste materials' means fragments of products or finished products of a manufacturing process which has converted a virgin resource into a commodity of real economic value, and includes post-consumer waste, but does not include excess virgin resources of the manufacturing process. For paper, 'secondary waste materials' does not include fibrous waste generated during the manufacturing process such as fibers recovered from waste water or trimmings of paper machine rolls, mill broke, wood slabs, chips, sawdust or other wood residue from a manufacturing process."

I, the undersigned duly authorized representative of the bidder (proposer), hereby certify that the products, if any, offered in this bid (proposal)

- a) _____% (recycled product as defined in ORS 279.545(5));
- b) _____% (post consumer waste as defined in ORS 279.545(1));
- c) _____% (secondary waste materials as defined in ORS 279.545(6));

Product Name: _____
Bid Item No. _____

It is the bidder's responsibility to provide additional signed copies of the Certification of Compliance for each item which contains a different percentage of recycled materials than listed above.

State of Oregon

BID NO. 34000005 93

Dept of Administrative Services
1225 Ferry ST. S.E.
Salem, Oregon 97310

AGENCY: ENVIRONMENTAL QUALITY

DATE: 11/18/93

BIDDER: _____

SECTION V - SIGNATURE OF BIDDER'S DULY AUTHORIZED REPRESENTATIVE

THIS BID MUST BE SIGNED IN INK BY AN AUTHORIZED REPRESENTATIVE OF THE BIDDER;
ANY ALTERATIONS OR ERASURES TO THE BID MUST BE INITIALED IN INK BY THE
UNDERSIGNED AUTHORIZED REPRESENTATIVE.

The undersigned agrees and certifies that he/she:

- (1) Has read and understands all bid (proposal) instructions, specifications, and terms and conditions contained herein (including the attachments listed in this document);
- (2) Is an authorized representative of the bidder, that the information provided in this bid is true and accurate, and that providing incorrect or incomplete information may be cause for bid rejection or contract termination;
- (3) Is bound by and will comply with all requirements, specifications, and terms and conditions contained herein; and
- (4) Will furnish the designated item(s) and/or service(s) in accordance with the bid and the contract.

Authorized Signature: _____ Title: _____

Contact Person (Type or Print): _____

Telephone Number: (____) _____ Fax Number: (____) _____

I - 4/8

INSTRUCTIONS TO BIDDERS

All bids are subject to the provisions and requirements of the Oregon Revised Statutes, the Attorney General's Model Public Contract Rules and the Administrative Rules of the Department of Administrative Services

New bidders are encouraged to request a copy of "VIP: Vendor Handbook." This brochure is available free of charge from the Purchasing Division, 1225 Ferry Street, S.E., Salem, OR 97310; telephone (503) 378-4649.

BID PREPARATION

Bid Format: Bids must be typewritten or prepared in ink and must be submitted on the form provided in the invitation to Bid or Request for Proposal. No oral, telegraphic, telephone or facsimile bids will be accepted.

Conformance to Bid Requirements: Bids must conform to the requirements of the Invitation to Bid or Request for Proposal. All necessary attachments (residency statement, bid bond, references, descriptive literature, etc.) must be submitted with the bid and in the required format. Bid prices must be for the unit indicated on the bid. Failure to comply with all requirements may result in bid rejection.

Use of Brand or Trade Names: Any brand or trade names used by the State in bid specifications are for the purpose of describing and establishing the standard of quality, performance and characteristics desired and are not intended to limit or restrict competition. Bidders may submit bids for substantially equivalent products to those designated unless the Invitation to Bid provides that a specific brand is necessary because of compatibility requirements, etc. All such brand substitutions shall be subject to purchaser's approval.

Product Identification: Bidders must clearly identify all products bid. Brand name and model or number must be shown. The State reserves the right to reject any bid when the product information submitted with the bid is incomplete.

FOB Destination: BID PRICE MUST BE F.O.B. DESTINATION with all transportation and handling charges paid by the bidder.

Delinquent Oregon Taxes: Bidders must certify, under penalty of perjury, that they are not in violation of any Oregon tax laws. No contract for the purchase of goods and/or services will be awarded to a bidder who cannot so certify.

Exceptions: Any deviation from bid specifications, terms and conditions may result in bid rejection.

Delivery: Delivery time must be shown in number of calendar days after receipt of order.

Signature on Bid: Bids must be signed in ink by an authorized representative of the bidder. Signature on a bid certifies that the bid is made without connection with any person, firm or corporation making a bid for the same goods and/or services and is in all respects fair and without collusion or fraud.

Signature on a bid also certifies that the bidder has read and fully understands all bid specifications, terms and conditions. No consideration will be given to any claim resulting from bidding without comprehending all requirements of the Invitation to Bid or Request for Proposal.

Bid Modification: Modifications or erasures made before bid submission must be initialed in ink by the person signing the bid. Bids, once submitted, may be modified in writing before the time and date set for bid closing. Any modifications shall be prepared on company letterhead, signed by an authorized representative, and state that the new document supersedes or modifies the prior bid. Modification must be submitted in a sealed envelope clearly marked "Bid Modification" and identifying the bid number and closing date. Bidders may not modify bids after bid closing time.

Bid Withdrawals: Bids may be withdrawn in writing on company letterhead signed by an authorized representative and received by the Purchasing Division prior to bid closing time. Bids may also be withdrawn in person before bid closing time upon presentation of appropriate identification.

Protest of Bid Specifications: A bidder who believes bid specifications are unnecessarily restrictive or limit competition may submit a protest, in writing, to the Purchasing Division. To be considered, protests must be received at least five days before the bid closing date (ten days if the bid is for a public improvement). Envelopes containing protests should be marked as follows:

Bid Specification Protest
Bid Number Closing Date

BID SUBMISSION

Sealed bids must be received and time-stamped by the Purchasing Division prior to bid closing time. No bid received after bid closing time will be considered. To assure that your bid receives priority treatment within our mailing system please mark as follows:

Bid #, Bid Due Date & Time: DD/MM/YY XX:XX

OREGON DEPT OF ADMINISTRATIVE SERVICES
PURCHASING DIVISION
1225 FERRY STREET SE
SALEM, OR 97310-1530

The Purchasing Division shall not be responsible for the proper identification and handling of any bid not submitted in a timely manner.

BID OPENING

Bids will be opened at the scheduled opening time in the Administrative Services Building (unless otherwise specified), second floor, 1225 Ferry Street, S.E., Salem, Oregon 97310. Bidders may be present; however, award decisions will not be made at the opening.

BID EVALUATION AND AWARD

Evaluation Criteria: Bids will be awarded based upon the evaluation criteria in the Invitation to Bid or Request for Proposal or in Oregon administrative rules or laws.

Ordinarily, bids will be evaluated to identify the "lowest responsible bidder." The "lowest responsible bidder" is the lowest bidder who has substantially complied with all requirements of the Invitation to Bid and who can be expected to deliver promptly and perform reliably.

Evaluation criteria will be different if the bid is for a sale by the State (for example, sale of scrap metal) or if a Request for Proposal is issued.

Reciprocal Preference: In determining the "lowest responsible bidder," the State will add a percent increase to each out-of-state bidder's bid price which is equal to the percent given to local bidders in that bidder's home state. For example, if the "lowest responsible bidder" is from a state that grants a 10 percent preference to local bidders, the State of Oregon will add 10 percent to that bidder's price when evaluating the bid.

Delivery: Significant delays in delivery may be considered in determining award if early delivery is required.

Cash Discounts: Cash discounts will not be considered for award purposes unless stated in the bid documents.

Payment: Bids which require payment in less than 30 days after receipt of invoice or delivery of goods, whichever is later, may be rejected.

Method of Award: The State reserves the right to make the award by item, groups of items or entire bid, whichever is in the best interest of the State.

Bid Rejection: The State reserves the right to reject any and all bids.

BID RESULTS

Bidders who receive awards will be notified of bid results; unsuccessful bidders will not be notified. Bid results are not available by phone.

Bidders may view tabulations of awarded bids by accessing the Purchasing Division's automated Vendor Information Program (VIP). If you do not have access to VIP, please contact our Outreach Unit at 378-4649 for details.

Bidders may request tabulations of awarded bids. The charge for a bid tabulation is \$5 unless a different price is established in the Invitation to Bid. Each request for bid tabulation must be written, must indicate the bid number, your name and mailing address and check payable to the Department of Administrative Services in the appropriate amount.

Awarded bid files are public records and available for review at the Purchasing Division between 9:00 a.m. and 10:30 a.m., Tuesdays and Thursdays; no appointment is necessary. If an alternate viewing time is needed, special arrangements need to be made with the buyer.

STATE OF OREGON

TERMS AND CONDITIONS FOR INFORMATION PROCESSING SYSTEMS

II-1 General: The Contractor agrees that, during the performance of work under this contract, it will comply with all applicable provisions of the administrative rules, laws, and constitution of the State of Oregon, and all applicable local rules, regulations, and ordinances of cities, counties, municipalities, and local taxing districts.

Contractor further agrees to comply with the Civil Rights Act of 1964 (78 Stat. 252), the Regulations of the Department of Health and Human Services issued according to that Act, and provisions of Executive Order 11246, Equal Employment Opportunity, dated September 24, 1965, as amended. Contractor shall certify the existence of the Contractor's own equal employment opportunity programs in all non-exempt contracts between the Contractor and the State as provided in Title I, Part 60 of the Code of Federal Regulations.

The provisions of this contract shall be construed and enforced in accordance with the laws of the State of Oregon and any provision of this contract in conflict with them is void. The parties expressly agree that any action or suit involving the terms and conditions of this contract must be brought in the appropriate court of the State of Oregon for Marion County. The prevailing party in any such action or suit shall be entitled to reasonable attorney fees and costs at trial and on any appeal.

II-2 Safety Requirements: Hardware, software and services shall comply with all Federal Occupational Safety and Health Administration (OSHA) and State of Oregon Electrical Safety Code requirements. Contractor shall also comply with Workers' Compensation Department requirements and all other applicable state and local code requirements. Contractor shall provide Workers' Compensation benefits as statutorily required for persons performing work under this contract.

II-3 Liquidated Damages: The installation dates for hardware (except for customer set-up units which are based upon delivery) and the delivery dates for software set forth in this contract have been fixed so to make use of the hardware and software consistent with the planning schedules of the State's programs. (For purposes of this section only, "installed" or "delivered" means in place and operating as required by the contract specifications.)

If any of the software is not delivered to State, or if any of the units of hardware are not installed within the time specified, the delay will interfere with the State's programs that use the software or hardware, to the loss and damage of State.

The parties agree that in the event of any such delay, damage will be sustained by State and shall be the amount set forth in this section. In the event of any such delay, Contractor shall pay the amount as liquidated damages and not as a penalty. State, at its option, may deduct amounts due State as liquidated damages from any money payable to Contractor, or may bill Contractor as a separate item.

Similarly, delay in State's readying the facility will interfere with Contractor's installation schedule and result in damages to Contractor. The parties therefore agree that in the event of such a delay, the amount of damage will be the amount set forth in this section for Contractor delays. In the event of such a delay, State will pay this amount as liquidated damages and not as a penalty.

1. If the Contractor does not install the system on or before the specified installation date, Contractor shall pay State, as fixed and agreed liquidated damages, the amount of 1/30th of the basic monthly rental and maintenance charges on a lease or rental and 1/1000th of the purchase price in the case of purchase, or \$100, whichever is greater, for each calendar day between the installation date specified in the RFP and the date the Contractor certifies that it is installed. This amount of liquidated damages shall apply independently to each such item of hardware, but not for more than 180 calendar days, in lieu of all other damages due to such non-installation.
2. If some of the hardware is installed by the installation date and the State makes operational use of such hardware, liquidated damages shall not accrue against the hardware used. The use of hardware for scheduled program debugging shall be operational use.
3. If the delay is more than 30 calendar days, State, by written notice to Contractor, may terminate Contractor's right to install the hardware and may, at State's option, obtain substitute hardware. In this event, Contractor shall be liable for liquidated damages in the amount specified above until acceptable substitute hardware is installed and ready for use, or for 180 calendar days from the specified installation date, whichever occurs first. Contractor also shall be liable for outbound preparation and shipping costs for contract items returned under this paragraph.

B. Software:

1. If the Contractor fails to deliver any portion of the software required by the Contract, ready for operation, on or before the delivery date specified, Contractor shall pay to State as fixed and agreed liquidated damages, the amount of 1/30th of the basic monthly rental in the case of a lease or rental, or 1/1000th of the purchase price in the case of a purchase, or up to a maximum of \$100.00 total for all unshipped programs, irrespective of the number of programs undelivered, for each calendar day between the specified installation date and the date of the delivery, but not for more than 180 calendar days, in lieu of all other damages for non-delivery of software. If Contractor provides suitable substitute software, acceptable to the State, liquidated damages shall not accrue unless the substitute software is provided later than the specified delivery date. Liquidated damages for non-delivery of software likewise shall not apply on any day on which liquidated damages for non-installation of hardware accrue against the same Contractor under this Contract.

C. Relationship Between Failure to Install Hardware and Non-Delivery of Software.

1. Should State terminate Contractor's right to install or discontinue the rental of the hardware, Contractor shall be liable for liquidated damages for the period between the specified delivery date and the date that State terminates the right to install or discontinues rental of the hardware, but not for more than 180 calendar days. Contractor shall be liable for all outbound preparation and shipping cost for contract items returned under this paragraph. Liquidated damages for non-delivery of software shall not apply for any day on which liquidated damages for Contractor's failure to install hardware under this Contract accrue.

2. If State is unable to use the hardware on the scheduled installation date because Contractor failed to deliver the software on or before the scheduled installation date, and Contractor does not furnish substitute software which State accepts as providing the same functionality on the hardware, Contractor shall pay State liquidated damages in the amount specified in paragraph A.1 of this Section in lieu of liquidated damages for software specified in paragraph B.1. These liquidated damages shall apply until State uses the hardware, or until Contractor provides software which makes the hardware usable and of equivalent functionality, whichever occurs first, but not for more than 180 calendar days.

D. Exceptions: Except with respect to defaults of subcontractors, the contractor will not be liable for liquidated damages when delays arise out of causes beyond the control and without the fault or negligence of Contractor. Such causes may include, but are not restricted to, acts of god, or of the public enemy, acts of the customer in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case the delay must be beyond the control and without the fault or negligence of the Contractor. If the delays are caused by the default of a subcontractor, and if such default arises out of causes beyond the control of both the contractor and its subcontractor, and without the fault or negligence of any of them, the contractor will not be liable for liquidated damages for delays, unless the supplies or services to be furnished by their subcontractors were obtainable from other sources in sufficient time to permit the Contractor to meet the required schedule.

II-4 Performance Period - Acceptance Test: Contractor shall certify in writing to the State when the system is installed, unless the item is usually customer installed and the State is so notified in the proposal. The performance period, 30 consecutive calendar days, shall commence on the first working day following receipt by State of certification, at which time operational control becomes the responsibility of State. In the event of apparent failure to meet the standard of performance during any initiated performance period, it is not required that one 30 calendar day period expire in order for another performance period to begin.

The State's standard of performance shall be met when the system operates in conformance with State's RFP and Contractor's proposal and published specifications at an average level of 95 percent or more of operational use time for a period of 30 consecutive calendar days or 100 hours, whichever is greater, from the commencement date of the performance period. The average effectiveness level is a percentage figure determined by dividing the total operational use time by the total operational use time plus associated downtime. When a system involves on-line hardware which is remote to the basic installation, the required effectiveness level shall apply separately to the system and to each item of remote hardware.

During the performance period, all preventive maintenance time shall be excluded from the performance period hours. Hardware (supplied under this contract and RFP) failure down time shall be measured by those intervals between the time Contractor is notified of hardware failure and the time that the hardware is returned to operating condition, exclusive of actual travel time required by Contractor, not in excess of one hour per day on which said service is requested.

Promptly upon successful completion of the performance period, State shall notify Contractor in writing of acceptance of the system and authorize Contractor to submit an invoice for payment.

...the performance period... 30 calendar days of the installation date, State shall have the option of terminating the contract, without penalty, and retaining all contractual remedies against Contractor, or of authorizing Contractor in writing to continue the performance period, specifying the new deadline. State's option to terminate the contract shall remain in effect until such time as successful completion of the standard of performance is attained. Contractor shall be liable for all outbound preparation and shipping costs for contracted items returned under this clause.

II-5 Equipment and Software Reliability: After acceptance, if hardware, model upgrade, feature or other modification, or software or programming furnished under this contract fails to perform as warranted (Part II-12 "Warranties"), the State's remedy is the adjustment or repair of the hardware, model upgrade, feature or other modification or replacement of parts by Contractor, or at Contractor's option, replacement of the hardware, model upgrade, feature or other modification, or correction of software or programming errors. If after 30 consecutive days of nonperformance with 30 days written notice, involving the nonperformance, Contractor fails to install the hardware, model upgrade, feature, or other modification or fails to replace hardware, model upgrade, feature or other modification, or otherwise fails to restore it to good working order or to make software or programming operate as warranted, then State shall be entitled to terminate this contract immediately upon written notice to Contractor and/or to recover damages subject to Part II-18 "Limitation of Remedies" of this Contract.

II-6 Failure to Perform: If Contractor fails to perform any material obligation under this Contract, other than those obligations specified in Sections II-3, II-4 and II-5, and 30 calendar days after receipt of written notice describing with reasonable particularity the character of the default Contractor has not cured the failure, then State may withhold all moneys due and payable to Contractor under this Contract which relate to the nonperformance, without penalty, until such failure to perform is cured or finally adjudicated. This remedy shall be in addition to, and cumulative of, any other remedy available to State, and the exercise of this remedy by State shall not prejudice or impair the availability to State of any other remedy at law or in equity for breach of this Contract (subject to Section II-18, "Limitations of Remedies").

II-7 Patent and Copyright Protection: In the event of any claim by any third party against State that the products furnished under this contract infringe upon or violate any United States patent or copyright, State shall promptly notify Contractor. Contractor shall defend such claim, in State's name or its own, as appropriate, but at Contractor's expense. Contractor will indemnify State against all costs, damages and attorney's fees that a Court finally awards as a result of such claim. If State reasonably concludes that its interests are not being properly protected, it may enter any action. However, any settlement by State with the party alleging such infringement or violation shall not be binding upon Contractor and the Contractor shall be under no obligation to pay or indemnify State. Further, if principles of governmental or public law are involved, the State of Oregon may participate in the defense of any such action.

If any product furnished is likely to or does become the subject of a claim of infringement of a patent or copyright, then Contractor may, at its option, procure for State the right to continue using the alleged infringing product, or modify the product so that it becomes non-infringing. If none of the above options can be accomplished, or if the use of such product by State shall be prevented by permanent injunction, the State agrees to return the product at Contractor's request and the Contractor agrees to grant the State a credit for returned machines as depreciated. The depreciation shall be an equal amount per year over the useful life of the machines.

This section shall not apply if the infringement, or claim thereof, is based upon the use of products supplied by the Contractor in combination with other equipment or software not made or supplied by Contractor (State or other vendor supplied), or the use of products by State with apparatus, data or programs not furnished or supplied by Contractor (State or other vendor supplied), or products not manufactured or supplied by Contractor (State or other vendor supplied). This Section will apply to all products bid by Contractor.

II-8 Risk of Loss or Damage: During the period on-order machines are in transit and the possession of the State up to and including the date of installation, as specified by the Contractor or up to and including the date of acceptance as specified by the State (pursuant to an Acceptance Test) if applicable, Contractor and its insurers, if any, relieve the State of responsibility for all risk of loss of, or damage to, the machines except for loss or damage caused by nuclear reaction, nuclear radiation or radioactive contamination for which the State is legally liable. Thereafter, all risk of loss of, or damage to, such machines shall be on the State, except as described in Section entitled "Warranties".

II-9 Contractor's Liability for Injury to Persons or Damage to Property: Contractor shall be liable for damages arising out of injury to persons (employees of the State), and/or for damage to the real or tangible personal property of State prior to or subsequent to acceptance, delivery, installation and use of the equipment either at Contractor's site or at State's place of business, provided that the injury or damage was caused by the fault or negligence of Contractor. Contractor shall not be liable for damages arising out of or caused by alterations to the equipment (other than alterations performed or caused by Contractor's officers, employees or agents): attachments made by State; damages to said alterations or attachments that may result from the normal operation and maintenance of Contractor's equipment; or for losses occasioned by State's fault or negligence.

Nothing in this contract shall limit Contractor's direct liability, if any, to third parties and employees of State for any remedy which may exist under law in the event a defect in the manufacture of the equipment, or the negligent acts or omissions of Contractor, its officers, employees, or agents, is the cause of injury to such person.

Contractor is not an officer, employee, or agent of State as those terms are used in ORS 30.265. Public liability and property damage insurance will be required if so specified in Part V and in accordance with the requirements set forth therein.

II-10 Taxes - Federal and Local: State will not be responsible for any taxes coming due as a result of this agreement, whether federal, state, or local. It is agreed that the Contractor has anticipated these taxes and included them in the proposal.

II-11 Non-Appropriation: In the event the contract is for lease or installment purchase and the using agency is not allotted sufficient funds for the next succeeding fiscal period by appropriation, appropriation limitation, grant, or other funding source lawfully available to it for such purposes to continue lease or installment purchase payments for hardware or software covered by this contract, the contract automatically shall terminate, without penalty, at the end of the current fiscal period for which funds have been allocated and hardware or software will be returned to Contractor. Such termination shall not constitute an event of default under any other provision of this contract, but the agency shall be obligated to pay all charges incurred through the end of such fiscal period. The agency shall give Contractor written notice of such non-availability of funds within 30 calendar days after it receives notice of such non-availability.

These provisions shall not authorize State to terminate this contract in order to acquire functionally equivalent hardware and/or software from a third party. Further, State warrants that agency funds restored for functionally equivalent hardware and/or software within six months of such a termination shall be used to procure substitute hardware and/or software from the Contractor, if the price has not been increased and all other terms remain the same or, at State's sole discretion, are waived.

II-12 Warranties: Contractor warrants that the equipment when installed will be in good working order and will conform to the Contractor's official published specifications and the technical specifications of the RFP (Part V) as modified by Contractor's response. Equipment will be new, or newly remanufactured (i.e., returned to a manufacturing facility for refurbishing, reconditioning and the like), and so identified, and be warranted to perform as if new.

Contractor's standard warranty provisions for the purchased equipment to the extent that they are not inconsistent with the terms of these Contractual Provisions, shall apply beginning on the date of installation. However, Contractor's warranty provisions for equipment not manufactured by Contractor may be inconsistent. Maintenance charge shall not begin until the date of expiration of warranty period.

The use of the equipment will be under State's exclusive management and control. State agrees that Contractor will not be liable for any damages caused by State's failure to fulfill State responsibilities or by State's negligence.

II-13 Product Support: Contractor guarantees availability of long-term product support (availability of hardware maintenance service and replacement parts) for all hardware leased or acquired under this contract for a minimum period of three years following the date the Contractor provides written notification to the State that the hardware is out of production.

II-14 Independent Status of Contractor: The parties will be acting in their individual capacities and not as agents, employees, partners, joint venturers, or associates of one another.

The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purpose whatsoever.

II-15 Prime Contractor Responsibilities: Unless otherwise stated in the RFP, Contractor shall assume responsibility for delivery, installation (unless the item is usually customer installed, and State is so notified in the proposal), and maintenance of all hardware, software, and support services offered in the proposal, regardless of whether Contractor is the bidder or the manufacturer, producer, or supplier of the hardware, software, or support services.

II-16 Right to Interface: State shall have the right to connect the products for which it has contracted under this Agreement to any equipment manufactured or supplied by other vendors, including, but not limited to, peripheral equipment, other computers, communications equipment, terminal devices, and like equipment. The vendor supplying the other equipment (peripheral equipment, etc.) mentioned above shall make or supervise the interconnection and supply any interface devices required.

Repair of damages or increase in Contractor's service personnel time attributable to an alteration or attachment will be billed to State at Contractor's applicable time and material rates specified in the maintenance contract with State, or if no maintenance contract is in effect, the Contractor's time and maintenance rates then in effect.

Such alterations or attachments shall be removed and the equipment restored to the prior configuration at State expense before return of the equipment by State.

... must be comparable to those offered by Contractor to other non-education state and municipal government customers contracting for similar volumes under the same terms and conditions. If Contractor shall, prior to installation of equipment purchased under this contract, announce a general price reduction or make generally available to other State and Municipal Government customers, more favorable terms and conditions with respect to the equipment identified in this contract, such prices, terms or conditions will be made available to the State upon the date the general price reduction or change in terms and conditions becomes effective.

Donations of data processing hardware and/or software or services to charitable, nonprofit, or governmental entities, if the donations are recognized as such and are deductible under the federal Internal Revenue Code, shall not be considered contracts, sales, or arrangements with other governmental units or commercial customers that trigger the application of this Section.

II-18 Limitation of Remedies: Contractor's liability for damages to the State for any cause whatsoever, shall be limited to the greater of \$100,000 or the purchase price of the specific equipment which caused the damage or that is the subject matter of, or is directly related to the cause of action. The foregoing limitation of liability will not apply to the payment of costs, damages, and attorney's fees referred to in Section II-7 "Patent and Copyright Protection" or to claims for personal injury or damage to real property or tangible personal property caused by Contractor's negligence.

In no event shall Contractor be liable for any lost profits, lost savings or incidental damages or other consequential damages.

II-19 Contractor Personnel: Contractor shall exercise due care to choose and manage its personnel so that only suitably responsible, professionally competent, and disciplined representatives shall be operating in state agency areas, many of which have sensitive and critical activities.

II-20 Cancellation: State may cancel, by written notice mailed not fewer than 30 days prior to scheduled delivery, any purchases or orders placed under this Contract, or the entire Contract, without penalty. Acquisitions over \$500,000 may be cancelled, without penalty, by written notice delivered not fewer than 60 calendar days prior to scheduled delivery.

II-21 Waiver: Failure of the State to enforce any provision of the contract shall not constitute a waiver or relinquishment by the State of the right to such performance in the future nor of the right to enforce that or any other provision of this contract.

II-22 Successors in Interest: The provisions of this contract shall be binding upon and shall inure to the benefit of the parties to the contract and their respective successors and assigns.

II-23 Severability: If any provision of this contract is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected; and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the particular provision held to be invalid.

II-24 Engineering Changes: Contractor will furnish, upon request, and at Contractor's prices then generally in effect, such engineering changes as Contractor shall have available for sale and which may be suitable for use on or with the machines. Any replaced parts become the property of Contractor if the machine is subject to a maintenance contract. Contractor makes no representation that engineering changes announced in the future will be suitable for use on or with the machines.

II-25 Title: Title passes to the State for each machine on the date of shipment from the vendor's location.

II-26 Security Interest: Contractor reserves a purchase money security interest in each machine. This interest will be satisfied by payment in full hereunder. In addition, when applicable, the security interest will be satisfied by the return to Contractor by the State of parts in respect to feature additions or model conversions that involve the removal of parts which become the property of Contractor. The State agrees to sign appropriate documents to permit Contractor to perfect Contractor's purchase money security interest.

II-27 General: The State certifies that it is purchasing this equipment for its own use and not for remarketing, and that it will not assign the on-order equipment to any party other than Contractor or a Contractor affiliate without written consent of the Contractor, which shall not unreasonably be withheld. The State reserves the right to sign any agreement which is deemed to be beneficial to the State.

No action, regardless of form, arising out of this agreement may be brought by either party more than two years after the cause of action has arisen or, in the case of action for nonpayment, more than two years from the date the last payment was due. For purposes of this paragraph, a cause of action shall be regarded as having arisen when the breach or injury is discovered, or in the exercise of reasonable diligence would have been discovered, by the injured party.

The State agrees, with respect to machines, to accept responsibility for the selection to achieve the specified results, their use and the results obtained therefrom. The State agrees that it has responsibility for the selection and use of and results obtained from any other equipment, program or services acquired outside this agreement used with the machines and programming.

II-28 Award to foreign Contractor: If the amount of this contract exceeds \$10,000 and if Contractor is not domiciled in or registered to do business in the State of Oregon, Contractor shall promptly provide to the Oregon Department of Revenue all information required by that Department relative to this contract. The State shall withhold final payment under this contract until Contractor has met this requirement.

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ATTACHMENTS TO BID SPECIFICATIONS FOR I/M TESTING EQUIPMENT

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jc
EQPATCH

combined. Specific deviations exceeding $\pm 5\%$ shall require corrective action.

(8) *Interference.* CO and CO₂ analyzers shall be checked prior to initial service, and on a yearly basis thereafter, for water interference. The specifications and procedures used shall generally comply with either § 86.122-78 or § 86.321-79 of this chapter.

(9) *NO_x converter check.* The converter efficiency of the NO_x to NO converter shall be checked on a weekly basis. The check shall generally conform to § 86.123-78 of this chapter, or EPA MVEL Form 305-01. Equivalent methods may be approved by the Administrator.

(10) *NO/NO_x flow balance.* The flow balance between the NO and NO_x test modes shall be checked weekly. The check may be combined with the NO_x converter check as illustrated in EPA MVEL Form 305-01.

(11) *Additional checks.* Additional checks shall be performed on the HC, CO, CO₂, and NO_x analyzers according to best engineering practices for the measurement technology used to ensure that measurements meet specified accuracy requirements.

(12) *System artifacts (hang-up).* Prior to each test a comparison shall be made between the background HC reading, the HC reading measured through the sample probe (if different), and the zero gas. Deviations from the zero gas greater than 10 parts per million carbon (ppmC) shall cause the analyzer to lock out.

(13) *Ambient background.* The average of the pre-test and post-test ambient background levels shall be compared to the permissible levels of 10 ppmC HC, 20 ppm CO, and 1 ppm NO_x. If the permissible levels are exceeded, the test shall be voided and corrective action taken to lower the ambient background concentrations.

(14) *Analytical gases.* Zero gases shall meet the requirements of § 86.114-78(a)(5) of this chapter. NO_x calibration gas shall be a single blend using nitrogen as the diluent. Calibration gas for the flame ionization detector shall be a single blend of propane with a diluent of air. Calibration gases for CO and CO₂ shall be single blends using nitrogen or air as a diluent. Multiple blends of HC, CO, and CO₂ in air may be used if shown to be stable and accurate.

(III) Purge Analysis System

On a daily basis each purge flow meter shall be checked with a simulated purge flow against a reference flow measuring device with performance specifications equal to or better than those specified for the purge meter. The check shall include a mid-scale rate check, and a total flow check between 10 and 20 liters. Deviations greater than $\pm 5\%$ shall be corrected. On a monthly basis, the calibration of purge meters shall be checked for proper rate and total flow with three equally spaced points across the flow rate and the totalized flow range. Deviations exceeding the specified accuracy shall be corrected. The dynamometer quality assurance checks required under paragraph (II) of this appendix shall also apply to the dynamometer used for purge tests.

(IV) Evaporative System Integrity Test Equipment

(a) On a weekly basis pressure measurement devices shall be checked against a reference device with performance specifications equal to or better than those specified for the measurement device. Deviations exceeding the performance specifications shall be corrected. Flow measurement devices, if any, shall be checked according to paragraph III of this appendix.

(b) Systems that monitor evaporative system leaks shall be checked for integrity on a daily basis by sealing and pressurizing.

Appendix B to Subpart S—Test Procedures

(I) Idle test

(a) *General requirements—(1) Exhaust gas sampling algorithm.* The analysis of exhaust gas concentrations shall begin 10 seconds after the applicable test mode begins. Exhaust gas concentrations shall be analyzed at a minimum rate of two times per second. The measured value for pass/fail determinations shall be a simple running average of the measurements taken over five seconds.

(2) *Pass/fail determination.* A pass or fail determination shall be made for each applicable test mode based on a comparison of the short test standards contained in appendix C to this subpart, and the measured value for HC and CO as described in paragraph (I)(a)(1) of this appendix. A vehicle shall pass the test mode if any pair of simultaneous measured values for HC and CO are below or equal to the applicable short test standards. A vehicle shall fail the test mode if the values for either HC or CO, or both, in all simultaneous pairs of values are above the applicable standards.

(3) *Void test conditions.* The test shall immediately end and any exhaust gas measurements shall be voided if the measured concentration of CO plus CO₂ falls below six percent or the vehicle's engine stalls at any time during the test sequence.

(4) *Multiple exhaust pipes.* Exhaust gas concentrations from vehicle engines equipped with multiple exhaust pipes shall be sampled simultaneously.

(5) This test shall be immediately terminated upon reaching the overall maximum test time.

(b) *Test sequence.* (1) The test sequence shall consist of a first-chance test and a second-chance test as follows:

(i) The first-chance test, as described under paragraph (c) of this section, shall consist of an idle mode.

(ii) The second-chance test as described under paragraph (I)(d) of this appendix shall be performed only if the vehicle fails the first-chance test.

(2) The test sequence shall begin only after the following requirements are met:

(i) The vehicle shall be tested in as-received condition with the transmission in neutral or park and all accessories turned off. The engine shall be at normal operating temperature (as indicated by a temperature gauge, temperature lamp, touch test on the radiator hose, or other visual observation for overheating).

(ii) The tachometer shall be attached to the vehicle in accordance with the analyzer manufacturer's instructions.

(iii) The sample probe shall be inserted into the vehicle's tailpipe to a minimum depth of 10 inches. If the vehicle's exhaust system prevents insertion to this depth, a tailpipe extension shall be used.

(iv) The measured concentration of CO plus CO₂ shall be greater than or equal to six percent.

(c) *First-chance test.* The test timer shall start ($t=0$) when the conditions specified in paragraph (I)(b)(2) of this appendix are met. The first-chance test shall have an overall maximum test time of 145 seconds ($t=145$). The first-chance test shall consist of an idle mode only.

(1) The mode timer shall start ($mt=0$) when the vehicle engine speed is between 350 and 1100 rpm. If engine speed exceeds 1100 rpm or falls below 350 rpm, the mode timer shall reset zero and resume timing. The minimum mode length shall be determined as described under paragraph (I)(c)(2) of this appendix. The maximum mode length shall be 90 seconds elapsed time ($mt=90$).

(2) The pass/fail analysis shall begin after an elapsed time of 10 seconds ($mt=10$). A pass or fail determination shall be made for the vehicle and the mode shall be terminated as follows:

(i) The vehicle shall pass the idle mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds ($mt=30$), measured values are less than or equal to 100 ppm HC and 0.5 percent CO.

(ii) The vehicle shall pass the idle mode and the test shall be terminated at the end of an elapsed time of 30 seconds ($mt=30$), if prior to that time the criteria of paragraph (I)(c)(2)(i) of this appendix are not satisfied and the measured values are less than or equal to the applicable short test standards as described in paragraph (I)(a)(2) of this appendix.

(iii) The vehicle shall pass the idle mode and the test shall be immediately terminated if, at any point between an elapsed time of 30 seconds ($mt=30$) and 90 seconds ($mt=90$), the measured values are less than or equal to the applicable short test standards as described in paragraph (I)(a)(2) of this appendix.

(iv) The vehicle shall fail the idle mode and the test shall be terminated if none of the provisions of paragraphs (I)(c)(2)(i), (ii) and (iii) of this appendix is satisfied by an elapsed time of 90 seconds ($mt=90$). Alternatively, the vehicle may be failed if the provisions of paragraphs (I)(c)(2)(i) and (ii) of this appendix are not met within an elapsed time of 30 seconds.

(v) *Optional.* The vehicle may fail the first-chance test and the second-chance test shall be omitted if no exhaust gas concentration lower than 1800 ppm HC is found by an elapsed time of 30 seconds ($mt=30$).

(d) *Second-chance test.* If the vehicle fails the first-chance test, the test timer shall reset to zero ($t=0$) and a second-chance test shall be performed. The second-chance test shall have an overall maximum test time of 425 seconds ($t=425$). The test shall consist of a

preconditioning mode followed immediately by an idle mode.

(1) *Preconditioning mode.* The mode timer shall start ($mt=0$) when the engine speed is between 2200 and 2800 rpm. The mode shall continue for an elapsed time of 180 seconds ($mt=180$). If engine speed falls below 2200 rpm or exceeds 2800 rpm for more than five seconds in any one excursion, or 15 seconds over all excursions, the mode timer shall reset to zero and resume timing.

(2) *Idle mode—(i) Ford Motor Company and Honda vehicles.* The engines of 1981–1987 Ford Motor Company vehicles and 1984–1985 Honda Preludes shall be shut off for not more than 10 seconds and restarted. This procedure may also be used for 1988–1989 Ford Motor Company vehicles but should not be used for other vehicles. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure.

(ii) The mode timer shall start ($mt=0$) when the vehicle engine speed is between 350 and 1100 rpm. If engine speed exceeds 1100 rpm or falls below 350 rpm, the mode timer shall reset to zero and resume timing. The minimum idle mode length shall be determined as described in paragraph (I)(d)(2)(iii) of this appendix. The maximum idle mode length shall be 90 seconds elapsed time ($mt=90$).

(iii) The pass/fail analysis shall begin after an elapsed time of 10 seconds ($mt=10$). A pass or fail determination shall be made for the vehicle and the idle mode shall be terminated as follows:

(A) The vehicle shall pass the idle mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds ($mt=30$), measured values are less than or equal to 100 ppm HC and 0.5 percent CO.

(B) The vehicle shall pass the idle mode and the test shall be terminated at the end of an elapsed time of 30 seconds ($mt=30$), if prior to that time the criteria of paragraph (I)(d)(2)(iii)(A) of this appendix are not satisfied and the measured values are less than or equal to the applicable short test standards as described in paragraph (I)(a)(2) of this appendix.

(C) The vehicle shall pass the idle mode and the test shall be immediately terminated if, at any point between an elapsed time of 30 seconds ($mt=30$) and 90 seconds ($mt=90$), measured values are less than or equal to the applicable short test standards described in paragraph (I)(a)(2) of this appendix.

(D) The vehicle shall fail the idle mode and the test shall be terminated if none of the provisions of paragraphs (I)(d)(2)(iii)(A), (d)(2)(iii)(B), and (d)(2)(iii)(C) of this appendix are satisfied by an elapsed time of 90 seconds ($mt=90$).

(II) Two Speed Idle Test

(a) *General requirements—(1) Exhaust gas sampling algorithm.* The analysis of exhaust gas concentrations shall begin 10 seconds after the applicable test mode begins. Exhaust gas concentrations shall be analyzed at a rate of two times per second. The measured value for pass/fail determinations shall be a simple running average of the measurements taken over five seconds.

(2) *Pass/fail determination.* A pass or fail determination shall be made for each

applicable test mode based on a comparison of the short test standards contained in Appendix C to this subpart, and the measured value for HC and CO as described in paragraph (II)(a)(1) of this appendix. A vehicle shall pass the test mode if any pair of simultaneous values for HC and CO are below or equal to the applicable short test standards. A vehicle shall fail the test mode if the values for either HC or CO, or both, in all simultaneous pairs of values are above the applicable standards.

(3) *Void test conditions.* The test shall immediately end and any exhaust gas measurements shall be voided if the measured concentration of CO plus CO₂ falls below six percent or the vehicle's engine stalls at any time during the test sequence.

(4) *Multiple exhaust pipes.* Exhaust gas concentrations from vehicle engines equipped with multiple exhaust pipes shall be sampled simultaneously.

(5) The test shall be immediately terminated upon reaching the overall maximum test time.

(b) *Test sequence.* (1) The test sequence shall consist of a first-chance test and a second-chance test as follows:

(i) The first-chance test, as described under paragraph (II)(c) of this appendix, shall consist of an idle mode followed by a high-speed mode.

(ii) The second-chance high-speed mode, as described under paragraph (II)(c) of this appendix, shall immediately follow the first-chance high-speed mode. It shall be performed only if the vehicle fails the first-chance test. The second-chance idle mode, as described under paragraph (II)(d) of this appendix, shall follow the second-chance high-speed mode and be performed only if the vehicle fails the idle mode of the first-chance test.

(2) The test sequence shall begin only after the following requirements are met:

(i) The vehicle shall be tested in as-received condition with the transmission in neutral or park and all accessories turned off. The engine shall be at normal operating temperature (as indicated by a temperature gauge, temperature lamp, touch test on the radiator hose, or other visual observation for overheating).

(ii) The tachometer shall be attached to the vehicle in accordance with the analyzer manufacturer's instructions.

(iii) The sample probe shall be inserted into the vehicle's tailpipe to a minimum depth of 10 inches. If the vehicle's exhaust system prevents insertion to this depth, a tailpipe extension shall be used.

(iv) The measured concentration of CO plus CO₂ shall be greater than or equal to six percent.

(c) *First-chance test and second-chance high-speed mode.* The test timer shall start ($tt=0$) when the conditions specified in paragraph (b)(2) of this section are met. The first-chance test and second-chance high-speed mode shall have an overall maximum test time of 425 seconds ($tt=425$). The first-chance test shall consist of an idle mode followed immediately by a high-speed mode. This is followed immediately by an additional second-chance high-speed mode, if necessary.

(1) *First-chance idle mode.* (i) The mode timer shall start ($mt=0$) when the vehicle engine speed is between 350 and 1100 rpm. If engine speed exceeds 1100 rpm or falls below 350 rpm, the mode timer shall reset to zero and resume timing. The minimum idle mode length shall be determined as described in paragraph (II)(c)(1)(ii) of this appendix. The maximum idle mode length shall be 90 seconds elapsed time ($mt=90$).

(ii) The pass/fail analysis shall begin after an elapsed time of 10 seconds ($mt=10$). A pass or fail determination shall be made for the vehicle and the mode terminated as follows:

(A) The vehicle shall pass the idle mode and the mode shall be immediately terminated if, prior to an elapsed time of 30 seconds ($mt=30$), measured values are less than or equal to 100 ppm HC and 0.5 percent CO.

(B) The vehicle shall pass the idle mode and the mode shall be terminated at the end of an elapsed time of 30 seconds ($mt=30$) if, prior to that time, the criteria of paragraph (II)(c)(1)(ii)(A) of this appendix are not satisfied, and the measured values are less than or equal to the applicable short test standards as described in paragraph (II)(a)(2) of this appendix.

(C) The vehicle shall pass the idle mode and the mode shall be immediately terminated if, at any point between an elapsed time of 30 seconds ($mt=30$) and 90 seconds ($mt=90$), the measured values are less than or equal to the applicable short test standards as described in paragraph (II)(a)(2) of this appendix.

(D) The vehicle shall fail the idle mode and the mode shall be terminated if none of the provisions of paragraphs (II)(c)(1)(ii)(A), (B), and (C) of this appendix is satisfied by an elapsed time of 90 seconds ($mt=90$). Alternatively, the vehicle may be failed if the provisions of paragraphs (II)(c)(2)(i) and (ii) of this appendix are not met within an elapsed time of 30 seconds.

(E) *Optional.* The vehicle may fail the first-chance test and the second-chance test shall be omitted if no exhaust gas concentration less than 1800 ppm HC is found by an elapsed time of 30 seconds ($mt=30$).

(2) *First-chance and second-chance high-speed modes.* This mode includes both the first-chance and second-chance high-speed modes, and follows immediately upon termination of the first-chance idle mode.

(i) The mode timer shall reset ($mt=0$) when the vehicle engine speed is between 2200 and 2800 rpm. If engine speed falls below 2200 rpm or exceeds 2800 rpm for more than two seconds in one excursion, or more than six seconds over all excursions within 30 seconds of the final measured value used in the pass/fail determination, the measured value shall be invalidated and the mode continued. If any excursion lasts for more than ten seconds, the mode timer shall reset to zero ($mt=0$) and timing resumed. The minimum high-speed mode length shall be determined as described under paragraphs (II)(c)(2)(ii) and (iii) of this appendix. The maximum high-speed mode length shall be 180 seconds elapsed time ($mt=180$).

(ii) *Ford Motor Company and Honda vehicles.* For 1981-1987 model year Ford Motor Company vehicles and 1984-1985 model year Honda Preludes, the pass/fail analysis shall begin after an elapsed time of 10 seconds ($mt=10$) using the following procedure. This procedure may also be used for 1988-1989 Ford Motor Company vehicles but should not be used for other vehicles.

(A) A pass or fail determination, as described below, shall be used, for vehicles that passed the idle mode, to determine whether the high-speed test should be terminated prior to or at the end of an elapsed time of 180 seconds ($mt=180$).

(1) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds ($mt=30$), the measured values are less than or equal to 100 ppm HC and 0.5 percent CO.

(2) The vehicle shall pass the high-speed mode and the test shall be terminated at the end of an elapsed time of 30 seconds ($mt=30$) if, prior to that time, the criteria of paragraph (II)(c)(2)(ii)(A)(1) of this appendix are not satisfied, and the measured values are less than or equal to the applicable short test standards as described in paragraph (II)(a)(2) of this appendix.

(3) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, at any point between an elapsed time of 30 seconds ($mt=30$) and 180 seconds ($mt=180$), the measured values are less than or equal to the applicable short test standards as described in paragraph (II)(a)(2) of this appendix.

(4) *Restart.* If at an elapsed time of 90 seconds ($mt=90$) the measured values are greater than the applicable short test standards as described in paragraph (II)(a)(2) of this appendix, the vehicle's engine shall be shut off for not more than 10 seconds after returning to idle and then shall be restarted. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure. The mode timer will stop upon engine shut off ($mt=90$) and resume upon engine restart. The pass/fail determination shall resume as follows after 100 seconds have elapsed ($mt=100$).

(1) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, at any point between an elapsed time of 100 seconds ($mt=100$) and 180 seconds ($mt=180$), the measured values are less than or equal to the applicable short test standards as described in paragraph (II)(a)(2) of this appendix.

(2) The vehicle shall fail the high-speed mode and the test shall be terminated if paragraph (II)(c)(2)(iii)(A)(1) of this appendix is not satisfied by an elapsed time of 180 seconds ($mt=180$).

(B) A pass or fail determination shall be made for vehicles that failed the idle mode and the high-speed mode terminated at the end of an elapsed time of 180 seconds ($mt=180$) as follows:

(1) The vehicle shall pass the high-speed mode and the mode shall be terminated at an elapsed time of 180 seconds ($mt=180$) if any measured values of HC and CO exhaust gas concentrations during the high-speed mode

are less than or equal to the applicable short test standards as described in paragraph (II)(a)(2) of this appendix.

(2) *Restart.* If at an elapsed time of 90 seconds ($mt=90$) the measured values of HC and CO exhaust gas concentrations during the high-speed mode are greater than the applicable short test standards as described in paragraph (II)(a)(2) of this appendix, the vehicle's engine shall be shut off for not more than 10 seconds after returning to idle and then shall be restarted. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure. The mode timer will stop upon engine shut off ($mt=90$) and resume upon engine restart. The pass/fail determination shall resume as follows after 100 seconds have elapsed ($mt=100$).

(1) The vehicle shall pass the high-speed mode and the mode shall be terminated at an elapsed time of 180 seconds ($mt=180$) if any measured values of HC and CO exhaust gas concentrations during the high-speed mode are less than or equal to the applicable short test standards as described in paragraph (II)(a)(2) of this appendix.

(2) The vehicle shall fail the high-speed mode and the test shall be terminated if paragraph (II)(c)(2)(iii)(B)(1) of this appendix is not satisfied by an elapsed time of 180 seconds ($mt=180$).

(3) *All other light-duty motor vehicles.* The pass/fail analysis for vehicles not specified in paragraph (II)(c)(2)(ii) of this appendix shall begin after an elapsed time of 10 seconds ($mt=10$) using the following procedure.

(A) A pass or fail determination, as described below, shall be used for vehicles that passed the idle mode, to determine whether the high-speed mode should be terminated prior to or at the end of an elapsed time of 180 seconds ($mt=180$).

(1) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds ($mt=30$), any measured values are less than or equal to 100 ppm HC and 0.5 percent CO.

(2) The vehicle shall pass the high-speed mode and the test shall be terminated at the end of an elapsed time of 30 seconds ($mt=30$) if, prior to that time, the criteria of paragraph (II)(c)(2)(iii)(A)(1) of this appendix are not satisfied, and the measured values are less than or equal to the applicable short test standards as described in paragraph (II)(a)(2) of this appendix.

(3) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, at any point between an elapsed time of 30 seconds ($mt=30$) and 180 seconds ($mt=180$), the measured values are less than or equal to the applicable short test standards as described in paragraph (II)(a)(2) of this appendix.

(4) The vehicle shall fail the high-speed mode and the test shall be terminated if none of the provisions of paragraphs (II)(c)(2)(iii)(A)(1), (2), and (3) of this appendix is satisfied by an elapsed time of 180 seconds ($mt=180$).

(B) A pass or fail determination shall be made for vehicles that failed the idle mode

and the high-speed mode terminated at the end of an elapsed time of 180 seconds ($mt=180$) as follows:

(1) The vehicle shall pass the high-speed mode and the mode shall be terminated at an elapsed time of 180 seconds ($mt=180$) if any measured values are less than or equal to the applicable short test standards as described in paragraph (II)(a)(2) of this appendix.

(2) The vehicle shall fail the high-speed mode and the test shall be terminated if paragraph (II)(c)(2)(iii)(B)(1) of this appendix is not satisfied by an elapsed time of 180 seconds ($mt=180$).

(3) *Second-chance idle mode.* If the vehicle fails the first-chance idle mode and passes the high-speed mode, the test timer shall reset to zero ($tt=0$) and a second-chance idle mode shall commence. The second-chance idle mode shall have an overall maximum test time of 145 seconds ($tt=145$). The test shall consist of an idle mode only.

(1) The engines of 1981-1987 Ford Motor Company vehicles and 1984-1985 Honda Preludes shall be shut off for not more than 10 seconds and restarted. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure. This procedure may also be used for 1988-1989 Ford Motor Company vehicles but should not be used for other vehicles.

(2) The mode timer shall start ($mt=0$) when the vehicle engine speed is between 350 and 1100 rpm. If the engine speed exceeds 1100 rpm or falls below 350 rpm the mode timer shall reset to zero and resume timing. The minimum second-chance idle mode length shall be determined as described in paragraph (II)(d)(3) of this appendix. The maximum second-chance idle mode length shall be 90 seconds elapsed time ($mt=90$).

(3) The pass/fail analysis shall begin after an elapsed time of 10 seconds ($mt=10$). A pass or fail determination shall be made for the vehicle and the second-chance idle mode shall be terminated as follows:

(i) The vehicle shall pass the second-chance idle mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds ($mt=30$), any measured values are less than or equal to 100 ppm HC and 0.5 percent CO.

(ii) The vehicle shall pass the second-chance idle mode and the test shall be terminated at the end of an elapsed time of 30 seconds ($mt=30$) if, prior to that time, the criteria of paragraph (II)(d)(3)(i) of this appendix are not satisfied, and the measured values are less than or equal to the applicable short test standards as described in paragraph (II)(a)(2) of this appendix.

(iii) The vehicle shall pass the second-chance idle mode and the test shall be immediately terminated if, at any point between an elapsed time of 30 seconds ($mt=30$) and 90 seconds ($mt=90$), the measured values are less than or equal to the applicable short test standards as described in paragraph (II)(a)(2) of this appendix.

(iv) The vehicle shall fail the second-chance idle mode and the test shall be terminated if none of the provisions of paragraph (II)(d)(3)(i), (ii), and (iii) of this

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appendix is satisfied by an elapsed time of 90 seconds (mt=90).

(III) Loaded Test

(a) *General requirements*—(1) *Exhaust gas sampling algorithm*. The analysis of exhaust gas concentrations shall begin 10 seconds after the applicable test mode begins. Exhaust gas concentrations shall be analyzed at a minimum rate of two times per second. The measured value for pass/fail determinations shall be a simple running average of the measurements taken over five seconds.

(2) *Pass/fail determination*. A pass or fail determination shall be made for each applicable test mode based on a comparison of the short test standards contained in Appendix C to this subpart and the measured value for HC and CO as described in paragraph (III)(a)(1) of this appendix. A vehicle shall pass the test mode if any pair of simultaneous values for HC and CO are below or equal to the applicable short test standards. A vehicle shall fail the test mode if the values for either HC or CO, or both, in all simultaneous pairs of values are above the applicable standards.

(3) *Void test conditions*. The test shall immediately end and any exhaust gas measurements shall be voided if the measured concentration of CO plus CO₂ falls below six percent or the vehicle's engine stalls at any time during the test sequence.

(4) *Multiple exhaust pipes*. Exhaust gas concentrations from vehicle engines equipped with multiple exhaust pipes shall be sampled simultaneously.

(5) The test shall be immediately terminated upon reaching the overall maximum test time.

(b) *Test sequence*. (1) The test sequence shall consist of a loaded mode using a chassis dynamometer followed immediately by an idle mode as described under paragraphs (III)(c)(1) and (2) of this appendix.

(2) The test sequence shall begin only after the following requirements are met:

(i) The dynamometer shall be warmed up, in stabilized operating condition, adjusted, and calibrated in accordance with the procedures of appendix A to this subpart. Prior to each test, variable-curve dynamometers shall be checked for proper setting of the road-load indicator or road-load controller.

(ii) The vehicle shall be tested in as-received condition with all accessories turned off. The engine shall be at normal operating temperature (as indicated by a temperature gauge, temperature lamp, touch test on the radiator hose, or other visual observation for overheating).

(iii) The vehicle shall be operated during each mode of the test with the gear selector in the following position:

(A) In drive for automatic transmissions and in second (or third if more appropriate) for manual transmissions for the loaded mode;

(B) In park or neutral for the idle mode.

(iv) The tachometer shall be attached to the vehicle in accordance with the analyzer manufacturer's instructions.

(v) The sample probe shall be inserted into the vehicle's tailpipe to a minimum depth of

10 inches. If the vehicle's exhaust system prevents insertion to this depth, a tailpipe extension shall be used.

(vi) The measured concentration of CO plus CO₂ shall be greater than or equal to six percent.

(c) *Overall test procedure*. The test timer shall start (tt=0) when the conditions specified in paragraph (III)(b)(2) of this appendix are met and the mode timer initiates as specified in paragraph (III)(c)(1) of this appendix. The test sequence shall have an overall maximum test time of 240 seconds (tt=240). The test shall be immediately terminated upon reaching the overall maximum test time.

(1) *Loaded mode*—(i) *Ford Motor Company and Honda vehicles*. (Optional) The engines of 1981-1987 Ford Motor Company vehicles and 1984-1985 Honda Preludes shall be shut off for not more than 10 seconds and restarted. This procedure may also be used for 1988-1989 Ford Motor Company vehicles but should not be used for other vehicles. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure.

(ii) The mode timer shall start (mt=0) when the dynamometer speed is within the limits specified for the vehicle engine size according to the following schedule. If the dynamometer speed falls outside the limits for more than five seconds in one excursion, or 15 seconds over all excursions, the mode timer shall reset to zero and resume timing. The minimum mode length shall be determined as described in paragraph (III)(c)(1)(iii)(A) of this appendix. The maximum mode length shall be 90 seconds elapsed time (mt=90).

DYNAMOMETER TEST SCHEDULE

Gasoline engine size (cylinders)	Roll speed (mph)	Normal loading (brake horsepower)
4 or less	22-25	2.8-4.1
5-6	29-32	6.8-8.4
7 or more	32-35	8.4-10.8

(iii) The pass/fail analysis shall begin after an elapsed time of 10 seconds (mt=10). A pass or fail determination shall be made for the vehicle and the mode shall be terminated as follows:

(A) The vehicle shall pass the loaded mode and the mode shall be immediately terminated if, at any point between an elapsed time of 30 seconds (mt=30) and 90 seconds (mt=90), measured values are less than or equal to the applicable short test standards described in paragraph (a)(2) of this section.

(B) The vehicle shall fail the loaded mode and the mode shall be terminated if paragraph (III)(c)(1)(iii)(A) of this appendix is not satisfied by an elapsed time of 90 seconds (mt=90).

(C) *Optional*. The vehicle may fail the loaded mode and any subsequent idle mode shall be omitted if no exhaust gas concentration less than 1800 ppm HC is found by an elapsed time of 30 seconds (mt=30).

(2) *Idle mode*—(i) *Ford Motor Company and Honda vehicles*. (Optional) The engines of 1981-1987 Ford Motor Company vehicles and 1984-1985 Honda Preludes shall be shut off for not more than 10 seconds and restarted. This procedure may also be used for 1988-1989 Ford Motor Company vehicles but should not be used for other vehicles. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure.

(ii) The mode timer shall start (mt=0) when the dynamometer speed is zero and the vehicle engine speed is between 350 and 1100 rpm. If engine speed exceeds 1100 rpm or falls below 350 rpm, the mode timer shall reset to zero and resume timing. The minimum idle mode length shall be determined as described in paragraph (III)(c)(2)(ii) of this appendix. The maximum idle mode length shall be 90 seconds elapsed time (mt=90).

(iii) The pass/fail analysis shall begin after an elapsed time of 10 seconds (mt=10). A pass or fail determination shall be made for the vehicle and the mode shall be terminated as follows:

(A) The vehicle shall pass the idle mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), measured values are less than or equal to 100 ppm HC and 0.5 percent CO.

(B) The vehicle shall pass the idle mode and the test shall be terminated at the end of an elapsed time of 30 seconds (mt=30) if, prior to that time, the criteria of paragraph (III)(c)(2)(iii)(A) of this appendix are not satisfied, and the measured values are less than or equal to the applicable short test standards as described in paragraph (III)(a)(2) of this appendix.

(C) The vehicle shall pass the idle mode and the test shall be immediately terminated if, at any point between an elapsed time of 30 seconds (mt=30) and 90 seconds (mt=90), measured values are less than or equal to the applicable short test standards described in paragraph (III)(a)(2) of this appendix.

(D) The vehicle shall fail the idle mode and the test shall be terminated if none of the provisions of paragraphs (III)(c)(2)(iii)(A), (c)(2)(iii)(B), and (c)(2)(iii)(C) of this appendix is satisfied by an elapsed time of 90 seconds (mt=90).

(IV) Preconditioned IDLE TEST

(a) *General requirements*—(1) *Exhaust gas sampling algorithm*. The analysis of exhaust gas concentrations shall begin 10 seconds after the applicable test mode begins. Exhaust gas concentrations shall be analyzed at a minimum rate of two times per second. The measured value for pass/fail determinations shall be a simple running average of the measurements taken over five seconds.

(2) *Pass/fail determination*. A pass or fail determination shall be made for each applicable test mode based on a comparison of the short test standards contained in appendix C to this subpart, and the measured value for HC and CO as described in paragraph (IV)(a)(1) of this appendix. A vehicle shall pass the test mode if any pair of simultaneous values for HC and CO are

AMENDMENTS TO OAR CHAPTER 340
DIVISION 24
MOTOR VEHICLES

State of Oregon Facilities Light Duty Motor Vehicle And Heavy Duty Gasoline Motor Vehicle Emission Control Test Method

340-24-309

(1) General Requirements

- (a) Exhaust gas sampling algorithm. The analysis of exhaust gas concentrations shall begin 10 seconds after the applicable test mode begins. Exhaust gas concentrations shall be analyzed at a rate of two times per second. The measured value for pass/fail determinations shall be a simple running average of the measurements taken over five seconds.
- (b) Pass/fail determinations. A pass or fail determination shall be made for each applicable test mode based on a comparison of the applicable standards listed in OAR 34-24-330 and OAR 340-24-335 and the measured value for HC and CO and described in subsection (1)(a) of this rule. A vehicle shall pass the test mode if any pair of simultaneous values for HC and CO are below or equal to the applicable standards. A vehicle shall fail the test mode if the values for either HC or CO, or both, in all simultaneous pairs of values are above the applicable standards.
- (c) Void test conditions. The test shall immediately end and any exhaust gas measurements shall be voided if the measured concentration of CO plus CO2 falls below the applicable standards listed in OAR 340-24-320 and OAR 340-24-325 or the vehicle's engine stalls at any time during the test sequence.
- (d) Multiple exhaust pipes. Exhaust gas concentrations from vehicle engines equipped with multiple exhaust pipes shall be sampled simultaneously.
- (e) The test shall be immediately terminated upon reaching the overall maximum test time.

(2) Test sequence.

- (a) The test sequence shall consist of a first-chance test and a second chance test as follows:
 - (A) The first-chance test, as described in section (3) of this rule, shall consist of an idle mode followed by a high-speed mode.
 - (B) The second-chance high-speed mode, as described in section (3) of this rule, shall immediately follow the first-chance high-speed mode. It shall be performed only if the vehicle fails the first-chance test. The second-chance idle mode, as described in section (4) of this rule, shall follow the second chance high speed mode and be performed only if the vehicle fails the idle mode of the first-chance test.
- (b) The test sequence shall begin only after the following requirements are met:
 - (A) The vehicle shall be tested in as-received condition with the transmission in neutral or park and all accessories turned off. The engine shall be at normal operating temperature (as indicated by a temperature gauge, temperature lamp, touch test on the radiator hose, or other visual observation for overheating).
 - (B) The tachometer shall be attached to the vehicle in accordance with the analyzer manufacturer's instructions.
 - (C) The sample probe shall be inserted into the vehicle's tailpipe to a minimum depth of 10 inches. If the vehicle's exhaust system prevents insertion to this depth, a tailpipe extension shall be used.
 - (D) The measured concentration of CO plus CO2 shall be greater than or equal to the standards listed in OAR 340-24-320 and OAR 340-24-325.

When the vehicle enters second-chance high-speed mode, the test timer shall start (tt=0) when the conditions specified in subsection (2)(D) of this rule are met. The first-chance test and second-chance high-speed mode shall have an overall maximum test time of 390 seconds (tt=390). The first-chance test shall consist of an idle mode following immediately by a high-speed mode. This is followed immediately by an additional second-chance high-speed mode, if necessary.

(a) First-chance idle mode.

(A) Except for diesel vehicles, the mode timer shall start (mt=0) when the vehicle engine speed is between 550 and 1300 rpm. If engine speed exceeds 1300 rpm or falls below 550 rpm, the mode timer shall reset to zero and resume timing. The minimum idle mode length shall be determined as described in paragraph (3)(a)(B) of this rule. The maximum idle mode length shall be 30 seconds elapsed time (mt=30).

(B) The pass/fail analysis shall begin after an elapsed time of 10 seconds (mt=10). A pass or fail determination shall be made for the vehicle and the mode terminated as follows:

(i) The vehicle shall pass the idle mode and the mode shall be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), measured values are less or equal to the applicable standards listed in OAR 340-24-330 and OAR 34-24-335.

(ii) The vehicle shall fail the idle mode and the mode shall be terminated if the provisions of subparagraph (3)(a)(B)(i) is not satisfied within an elapsed time of 30 seconds (mt=30).

(iii) The vehicle may fail the first-chance and second-chance test shall be omitted if no exhaust gas concentration less than 1800 ppm HC is found by an elapsed time of 30 seconds (mt=30).

(b) First-chance and second-chance high-speed modes. This mode includes both the first-chance and second-chance high-speed modes, and follows immediately upon termination of the first-chance idle mode.

(A) Except for diesel vehicles, the mode timer shall reset (mt=0) when the vehicle engine speed is between 2200 and 2800 rpm. If engine speed falls below 2200 rpm or exceeds 2800 rpm for more than two seconds in one excursion, or more than six seconds over all excursions within 30 seconds of the final measured value used in the pass/fail determination, the measured value shall be invalidated and the mode continued. If any excursion lasts for more than ten seconds, the mode timer shall reset to zero (mt=0) and timing resumed. The minimum high-speed mode length shall be determined as described under paragraphs (3)(b)(B) and (C) of this rule. The maximum high-speed mode length shall be 180 seconds elapsed time (mt=180).

(B) Ford Motor Company and Honda vehicles. For 1981-1987 model year Ford Motor Company vehicles and 1984-1985 model year Honda Preludes, the pass/fail analysis shall begin after an elapsed time of 10 seconds (mt=10) using the following procedure.

(i) A pass or fail determination, as described below, shall be used, for vehicles that passed the idle mode, to determine whether the high-speed test should be terminated prior to or at the end of an elapsed time of 180 seconds (mt=180).

(1) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), the measured values are less than or equal to applicable standards listed in OAR 34-24-330 and OAR 34-24-335.

- (II) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, at any point between an elapsed time of 30 seconds (mt=30) and 180 seconds (mt=180), the measured values are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.
- (III) Restart. If at an elapsed time of 90 seconds (mt=90) the measured values are greater than the applicable standards listed in OAR 340-24-330 and OAR 340-24-335, the vehicle's engine shall be shut off for not more than 10 seconds after returning to idle and then shall be restarted. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure. The mode timer will stop upon engine shut off (mt=90) and resume upon engine restart. The pass/fail determination shall resume as follows after 100 seconds have elapsed (mt=100).
- (IV) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, at any point between an elapsed time of 100 seconds (mt=100) and 180 seconds (mt=180), the measured values are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.
- (V) The vehicle shall fail the high-speed mode and the test shall be terminated if sub-subparagraph (3)(b)(B)(i)(IV) of this rule is not satisfied by an elapsed time of 180 seconds (mt=180).
- (ii) A pass or fail determination shall be made for vehicles that failed the idle mode and the high-speed mode terminated at the end of an elapsed time of 180 seconds (mt=180) as follows:
- (I) The vehicle shall pass the high-speed mode and the mode shall be terminated at an elapsed time of 180 seconds (mt=180) if any measured values of HC and CO exhaust gas concentrations during the high-speed mode are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.
- (II) Restart. If at an elapsed time of 90 seconds (mt=90) the measured values of HC and CO exhaust gas concentrations during the high-speed mode are greater than the applicable short test standards as described in subsection (1)(b) of this rule, the vehicle's engine shall be shut off for not more than 10 seconds after returning to idle and then shall be restarted. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure. The mode timer will stop upon engine shut off (mt=90) and resume upon engine restart. The pass/fail determination shall resume as follows after 100 seconds have elapsed (mt=100):

- (III) The vehicle shall pass the high-speed mode and the test shall be terminated if an elapsed time of 180 seconds (mt=180) if any measured values of HC and CO exhaust gas concentrations during the high-speed mode are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.
- (IV) The vehicle shall fail the high-speed mode and the test shall be terminated if sub-subparagraph (3)(b)(ii)(III) of this rule is not satisfied by an elapsed time of 180 seconds (mt=180).
- (C) All other light-duty vehicles. The pass/fail analysis for vehicles not specified in paragraph (3)(b)(B) of this rule shall begin after an elapsed time of 10 seconds (mt=10) using the following procedure.
- (i) A pass or fail determination shall be used for 1981 and newer model year vehicles that passed the idle mode, to determine whether the high-speed mode should be terminated prior to or at the end of an elapsed time of 180 seconds (mt=180). For pre-1981 model year vehicles, the duration of the high speed idle mode shall be 30 seconds and no pass or fail determination shall be used at the high speed idle mode.
- (I) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), any measured values are less than or equal to the applicable standards listed in OAR 34-24-330 and OAR 340-24-335.
- (II) The vehicle shall pass the high-speed mode and the test shall be immediately terminated if, at any point between an elapsed time of 30 seconds (mt=30) and 180 seconds (mt=180), the measured values are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.
- (III) The vehicle shall fail the high-speed mode and the test shall be terminated if none of the provisions of sub-subparagraphs (3)(b)(C)(i)(I) and (II) of this rule is satisfied by an elapsed time of 180 seconds (mt=180).
- (ii) A pass or fail determination shall be made for 1981 and newer model year vehicles that failed the idle mode and the high-speed mode terminated at the end of an elapsed time of 180 seconds (mt=180). For pre-1981 model year vehicles, the duration of the high speed idle mode shall be 90 seconds and no pass or fail determination shall be used at the high speed idle mode.
- (I) The vehicle shall pass the high-speed mode and the mode shall be terminated at an elapsed time of 180 seconds (mt=180) if any measured values are less than or equal to the applicable standards listed in OAR 340-24-330 and OAR 340-24-335.
- (II) The vehicle shall fail the high-speed mode and the test shall be terminated if sub-subparagraph (3)(b)(C)(ii)(I) of this rule is not satisfied by an elapsed time of 180 seconds (mt=180).

If the vehicle fails the first-chance idle mode and passes the high-speed mode, the mode timer shall reset to zero and the second-chance idle mode shall commence. The second-chance idle mode shall have an overall maximum mode time of 30 seconds (mt=30). The test shall consist on an idle mode only.

- (a) The engines of 1981-1987 Ford Motor Company vehicles and 1984-1985 Honda Preludes shall be shut off for not more than 10 seconds and restarted. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure.
- (b) Except for diesel vehicles, the mode timer shall start (mt=0) when the vehicle engine speed is between 550 and 1300 rpm. If the engine speed exceeds 1300 rpm or falls below 550 rpm the mode timer shall reset to zero and resume timing. The minimum second-chance idle mode length shall be determined as described in subsection (4)(c) of this rule. The maximum second-chance idle mode length shall be 30 seconds elapsed time (mt=30).
- (c) The pass/fail analysis shall begin after an elapsed time of 10 seconds (mt=10). A pass or fail determination shall be made for the vehicle and the second-chance mode shall be terminated as follows:
 - (A) The vehicle shall pass the second-chance idle mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), any measured values are less than or equal to 100 ppm HC and 0.5 percent CO.
 - (B) The vehicle shall pass the second-chance idle mode and the test shall be terminated at the end of an elapsed time of 30 seconds (mt=30) if, prior to that time, the criteria of paragraph (4)(c)(A) of this rule are not satisfied and the measured values during the time period between 25 and 30 seconds (mt=25-30) are less than or equal to the applicable short test standards listed in OAR 340-24-330 and OAR 340-24-335.
 - (C) The vehicle shall fail the second-chance idle mode and the test shall be terminated if the provisions of paragraph (4)(c)(A) and/or (B) of this rule are satisfied by an elapsed time of 30 seconds (mt=30).
- (5) If the vehicle is capable of being operated with both gasoline and gaseous fuels, then the steps in section (2) of this rule are to be followed so that emission test results are obtained from both fuels.
- (6) If it is judged that the vehicle may be emitting propulsion exhaust noise in excess of the noise standards of OAR 340-24-337, adopted pursuant to ORS 467.030, then a noise measurement is to be conducted and recorded while the engine is at the speed specified in paragraph (3)(b)(A) of this rule. A reading from each exhaust outlet shall be recorded at the raised engine speed. This provision for noise inspection shall apply only with inspection boundaries located within Clackamas, Multnomah and Washington counties.
- (7) If it is determined that the vehicle complies with OAR 340-24-320 through 340-24-337, and ORS 467.030, 468A.350 through 468A.400, 803.350 and 815.295 through 815.325, then, following receipt of the required fees, the vehicle emission inspector shall issue the required Certificate of Compliance.

5 standards

[NOTE: This rule, excluding section (6) is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

Stat. Auth.: ORS Ch. 183, 468 & 468A
Hist.:

Motor Vehicle Fleet Operation Light Duty Motor Vehicle Emission Control Test Method
340-24-310

- (1) The vehicle emission inspector is to insure that the gas analytical system is properly calibrated prior to initiating a vehicle test.

- (2) The Department-approved vehicle information data form is to be completed at the time
- (3) Vehicles having coolant, oil, or fuel leaks or any other such defects that would allow the emission test to be conducted shall be rejected from the testing area. The emission test shall not be conducted until the defects are corrected.
- (4) The vehicle transmission is to be placed in neutral gear if equipped with a manual transmission, or in park position if equipped with an automatic transmission. The hand or parking brake is to be engaged. If the brake is found to be defective, then wheel chocks are to be placed in front and behind the vehicle's tires.
- (5) All vehicle accessories are to be turned off.
- (6) An inspection is to be made to insure that the motor vehicle is equipped with the required functioning motor vehicle pollution control system in accordance with the criteria in OAR 340-24-320(3). Vehicles not meeting this criteria upon completion of the testing process, shall have a report issued to the driver stating all reasons for noncompliance.
- (7) With the engine operating at idle speed, the sampling probe of the gas analytical system is to be inserted into the engine exhaust outlet.
- (8) The steady state levels of the gases measured at idle speed by the gas analytical system shall be recorded. Except for diesel vehicles, the idle speed at which the gas measurements were made shall also be recorded.
- (9) Except for diesel vehicles, the engine is to be accelerated with no external loading applied, to a speed of between 2,200 RPM and 2,800 RPM. The engine speed is to be maintained at a steady speed within this speed range for a 10- to 15-second period and then returned to an idle speed condition. In the case of a diesel vehicle, the engine is to be accelerated to an above-idle speed. The engine speed is to be maintained at a steady above-idle speed for a 10- to 15-second period and then returned to an idle speed condition. The values measured by the gas analytical system at the raised rpm speed shall be recorded.
- (10) The steady-state levels of the gases measured at idle speed by the gas analytical system shall be recorded. Except for diesel vehicles, the idle speed at which the gas measurements were made shall also be recorded.
- (11) If the vehicle is equipped with a multiple-exhaust system; then the steps in sections (7) through (10) of this rule are to be repeated on the other exhaust outlet(s). The readings from the exhaust outlet, or the average reading from the exhaust outlets are to be compared to the standards of OAR 340-24-330.
- (12) If the vehicle does not comply with the standards specified in OAR 340-24-330, and it is a 1981 through 1987 Ford Motor Company vehicle, or if it is a 1984 or 1985 Honda Prelude, the vehicle shall have the ignition turned off, be restarted, and have the steps in sections (8) through (11) of this rule repeated.
- (13) If the vehicle is capable of being operated with both gasoline and gaseous fuels, then the steps in sections (7) through (10) of this rule are to be repeated so that emission test results are obtained for both fuels.
- (14) If it is judged that the vehicle may be emitting propulsion exhaust noise in excess of the noise standards of OAR 340-24-337, adopted pursuant to ORS 467.030, then a noise measurement is to be conducted and recorded while the engine is at the speed specified in section (9) of this rule. A reading from each exhaust outlet shall be recorded at the raised engine speed. This provision for noise inspection shall apply only within inspection boundaries located within Clackamas, Multnomah and Washington counties.
- (15) If it is determined that the vehicle complies with OAR 340-24-320, 340-24-330, and 340-24-337, and ORS 467.030, 468A.350 through 468A.400, 803.350 and 815.295 through 815.325, then, following receipt of the required fees, the vehicle emission inspector shall issue the required Certificates of Compliance.

[NOTE: This rule, excluding section (14) is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

Motor Vehicle Fleet Operation Heavy Duty Gasoline Motor Vehicle Emission Control Test Method

340-24-315

- (1) The vehicle emission inspector is to insure that the gas analytical system is properly calibrated prior to initiating a vehicle test.
- (2) The Department-approved vehicle information data form is to be completed at the time of the motor vehicle being inspected.
- (3) Vehicles having defects which make it unsafe to allow the emission test to be conducted shall be rejected from the testing area. The emission test shall not be conducted until the defects are corrected.
- (4) The vehicle transmission is to be placed in neutral gear if equipped with a manual transmission, or in park position if equipped with an automatic transmission. The hand or parking brake is to be engaged. If the brake is found to be defective, then wheel chocks are to be placed in front and behind the vehicle's tires.
- (5) All vehicle accessories are to be turned off.
- (6) An inspection is to be made to insure that the motor vehicle is equipped with the required functioning motor vehicle pollution control system in accordance with the criteria of OAR 340-24-325.
- (7) With the engine operating at idle speed, the sampling probe of the gas analytical system is to be inserted into the engine exhaust outlet.
- (8) The steady state levels of the gases measured at idle speed by the gas analytical system shall be recorded. The idle speed at which the gas measurements were made shall also be recorded.
- (9) The engine is to be accelerated, with no external loading applied, to a speed of between 2,200 RPM and 2,780 RPM. The engine speed is to be maintained at a constant speed within this range for sufficient time to achieve a steady-state condition whereupon the steady-state levels of the gases measured by the gas analytical system shall be recorded on the Department-approved vehicle information form. The engine speed shall then be returned to an idle speed condition.
- (10) The steady-state levels of the gases measured at idle speed by the gas analytical system shall be recorded on the Department-approved vehicle information form. The idle speed at which the gas measurements were made shall also be recorded.
- (11) If the vehicle is equipped with a multiple-exhaust system, then the steps in sections (6) through (9) of this rule are to be repeated on the other exhaust outlet(s). The readings from the exhaust outlets are to be averaged to determine a single reading for each gas measured in the steps in sections (8) and (9) of this rule.
- (12) The reading from the exhaust outlet, or the average reading from the exhaust outlets obtained in the steps in sections (8) and (9) of this rule are to be compared to the standards of OAR 340-24-335.
- (13) If the motor vehicle is capable of being operated with both gasoline and gaseous fuels, then the steps in sections (6) through (9) of this rule are to be repeated so that emission test results are obtained for both fuels.
- (14) If it is ascertained that the motor vehicle may be emitting noise in excess of the noise standards adopted pursuant to ORS 467.030, then a noise measurement is to be conducted in accordance with the test procedures adopted by the Commission or to standard methods approved in writing by the Department.
- (15) If it is determined that the motor vehicle complies with OAR 340-24-325 and 340-24-335, and ORS 468A.350 through 468A.400, 803.350 and 815.295 through 815.325, then, following receipt of the required fees, the vehicle emission inspector shall issue the required Certificate of Compliance.
- (16) Any motor vehicle registered on less than an annual basis pursuant to ORS 803.040 need not pass more than an annual inspection to assure compliance with ORS 815.300. Such vehicles shall be issued a Certificate of Compliance in a form provided by the Department

any element of the factory installed motor vehicle air pollution control system is modified or altered in such a manner so as to decrease its efficiency or effectiveness in the control of air pollution in violation of ORS 815.305(1), except as noted in ORS 815.305(2). For the purposes of this section, the following apply:

- (a) The use of a nonoriginal equipment aftermarket part (including a rebuilt part) as a replacement part is not considered to be a violation of ORS 815.305, if a reasonable basis exists for knowing that such use will not adversely effect emission control efficiency. The Department will maintain a listing of those parts which have been determined to adversely effect emission control efficiency;
 - (b) The use of a nonoriginal equipment aftermarket part or system as a add-on, auxiliary, augmenting, or secondary part of system, is not considered to be a violation of ORS ~~[483-825(2)]~~815.305, if such part or system is on the exemption list of "Modifications to Motor Vehicle Emission Control Systems Exempted Under California Vehicle Code Section 27156" granted by the Air Resources Board, or is on the list maintained by the U.S. Environmental Protection Agency of "Certified to EPA Standards", or has been determined after review of testing data by the Department that there is no decrease in the efficiency or effectiveness in the control of air pollution;
 - (c) Adjustments or alterations of particular part or system parameter, if done for purposes of maintenance or repair according to the vehicle or engine manufacturer's instructions, are not considered violations of ORS 815.305.
- (5) A 1981 and newer model vehicle which has been converted to operate on gaseous fuels shall not be considered in violation of ORS 815.305 when elements of the factory-installed motor vehicle air pollution control system are disconnected for the purpose of conversion to gaseous fuel as authorized by ORS 815.305.
 - (6) If a vehicle older than the 1981 model year is now equipped with other than the original engine and factory installed vehicle[s] pollution control systems, the vehicle for the purposes of determining test standards, shall be classified by the vehicle's original model year classification and current fuel system.
 - (7) A 1981 and newer vehicle shall be classified by the model year and make of the vehicle as designated by the original chassis, engine, and its factory installed motor vehicle pollution control systems, or equivalent. This in no way prohibits the vehicle owner from upgrading the engine and emission control system to a more recent model year category including a diesel (compression ignition) power plant providing that all of the new factory installed pollution control system is maintained.

[NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

[Publication: The Publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

Stat. Auth: ORS Ch. 183, 468 & 468A

Hist:

Light Duty Motor Vehicle Emission Control Standards

340-24-330

- (1) Light Duty Diesel Motor Vehicle Emission Control Standards: All - 1. ~~[0]~~5% CO - No HC Check
- (2) Light Duty Gasoline Motor Vehicle Emission Control Standards: Two Stroke Cycle: All - ~~[6.5]~~7.0% CO - No HC Check
- (3) Light Duty Gasoline Motor Vehicle Emission Control Standards: Four Stroke Cycle - Passenger Cars:
 - (a) Pre 1968 Model Year:
 - (A) Four or less cylinders: All: ~~[6.5]~~7.0% CO - 1, ~~[550]~~600 ppm HC
 - (B) More than four cylinders: All - 6. ~~[0]~~5% CO - 1, ~~[250]~~300 ppm HC
 - (b) 1968 - 1969 Model Year:

- (A) Four or less cylinders: All - ~~{5.5}~~6.0% CO - ~~{850}~~900 ppm HC
 (B) More than ~~{4}~~four cylinders: All - ~~{6.5}~~7.0% CO - ~~{650}~~700 ppm HC
- (c) 1970 - 1971 Model Year: All - ~~{4.5}~~5.0% CO - ~~{550}~~600 ppm HC
- (d) 1972 - 1974 Model Year:
 (i) ~~{4}~~Four or less cylinders: All - 4.~~{0}~~5% CO - ~~{450}~~500 ppm HC
 (ii) More than ~~{4}~~four cylinders: All - 3.~~{0}~~5% CO - ~~{350}~~400 ppm HC
- (e) 1975 - 1980 Model Year:
 (A) With Catalyst: All ~~{0.5}~~1.0% CO - ~~{175}~~220 ppm HC
 (B) Without Catalyst: All 2.~~{0}~~5% CO - ~~{250}~~300 ppm HC
- (f) 1981 and Newer Model Year: All:
 (A) At idle - ~~{0.5}~~1.0% CO - ~~{175}~~220 ppm HC
 (B) At 2,500 RPM - ~~{0.5}~~1.0% CO - ~~{175}~~220 ppm HC
- (4) Light Duty Gasoline Motor Vehicle Emission Control Standards - Light Duty Trucks:
 (a) 6,000 GVWR or less:
 (A) Pre 1968 Model Year:
 (i) Four or less cylinders: All - ~~{6.5}~~7.0% CO - 1,~~{550}~~600 ppm HC
 (ii) More than four cylinders: All - ~~{6.5}~~7.0% CO - 1,~~{250}~~300 ppm HC
 (B) 1968 - 1969 Model Year:
 (i) Four or less cylinders: All - ~~{5.5}~~6.0% CO - ~~{850}~~900 ppm HC
 (ii) More than four cylinders: All - 5.~~{0}~~5% CO - ~~{650}~~700 ppm HC
 (C) 1970 - 1971 Model Year: All - ~~{4.5}~~5.0% CO - ~~{550}~~600 ppm HC
 (D) 1972 - 1974 Model Year:
 (i) Four or less cylinders: All - 4.~~{0}~~5% CO - ~~{450}~~500 ppm HC
 (ii) More than four cylinders: All - 3.~~{0}~~5% CO - ~~{350}~~400 ppm HC
 (E) 1975 - 1980 Model Year:
 (i) With Catalyst: All - ~~{0.5}~~1.0% CO - ~~{175}~~220 ppm HC
 (ii) Without Catalyst: All - 2.~~{0}~~5% CO - ~~{250}~~300 ppm HC
 (F) 1981 and Newer Model Year: All:
 (i) At idle - ~~{0.5}~~1.0% CO - ~~{175}~~220 ppm HC
 (ii) At 2,500 rpm - ~~{0.5}~~1.0% CO - ~~{175}~~220 ppm HC
- (b) 6,001 to 8,500 GVWR:
 (A) Pre 1968 Model Year: All - 6.~~{0}~~5% CO - 1,~~{250}~~300 ppm HC
 (B) 1968 - 1969 Model Year: All - 5.~~{0}~~5% CO - ~~{650}~~700 ppm HC
 (C) 1970 - 1971 Model Year: All - ~~{4.5}~~5.0% CO - ~~{550}~~600 ppm HC
 (D) 1972 - 1974 Model Year: All - 3.~~{0}~~5% CO - ~~{350}~~400 ppm HC
 (E) 1975 - 1978 Model Year: All - 2.~~{0}~~5% CO - ~~{250}~~300 ppm HC
 (F) 1979 - 1980 Model Year:
 (i) With Catalyst: All - ~~{0.5}~~1.0% CO - ~~{175}~~220 ppm HC
 (ii) Without Catalyst: All - 2.~~{0}~~5% CO - ~~{250}~~300 ppm HC
 (G) 1981 and Newer: All:
 (i) At idle - ~~{0.5}~~1.0% CO - ~~{175}~~220 ppm HC
 (ii) At 2,500 rpm - ~~{0.5}~~1.0% CO - ~~{175}~~220 ppm HC

~~{5} An enforcement tolerance of 0.5% carbon monoxide and 50 ppm hydrocarbon will be added to the standards in sections (1) through (4) of this rule.~~

~~{6}~~5 There shall be no visible emission during the steady-state unloaded and raised rpm engine idle portions of the emission test from either the vehicle's exhaust system or the engine crankcase. In the case of diesel engines and two-stroke cycle engines, the allowable visible emission shall be no greater than 20% opacity.

~~{7}~~6 The Director may establish specific separate standards, differing from those listed in sections (1) through ~~{6}~~5 of this rule for vehicle classes which are determined to present prohibitive inspection problems using the listed standards.

[NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the

Stat. Auth.: ORS Ch. 468 & 468A

Hist.:

Heavy-Duty Gasoline Motor Vehicle Emission Control~~[Emission]~~ Standards

340-24-335

- (1) Carbon monoxide idle emission values not to be exceeded: ~~[All Vehicles:]~~
 - (a) Pre~~[]~~ 1970 Model Year: ~~[Base Standard—]6.0]5% [CO—Enforcement Tolerance—0.5.]~~
 - (b) 1970 ~~[through]~~ 1973 Model Year: ~~[Base Standard—4]5.0% [CO—Enforcement Tolerance—1.0.]~~
 - (c) 1974 ~~[through]~~ 1978 Model Year: ~~[Base Standard—3]4.0% [CO—Enforcement Tolerance—1.0.]~~
 - (d) 1979 and ~~[n]Newer~~ Model Year without catalyst: ~~[Base Standard—2]3.0% [—Enforcement Tolerance—1.0.]~~
 - (e) 1985 and ~~[n]Newer~~ Model Year with catalyst: ~~[Base Standard—0.5]1.0% [—Enforcement Tolerance—0.5.]~~
- (2) Carbon Monoxide nominal 2,500 rpm emission values not to be exceeded:~~[—All Vehicles:]~~
 - (a) Pre~~[]~~ 1970 Model Year: ~~[Base Standard—3]4.0% [—Enforcement Tolerance—1.0.]~~
 - (b) 1970 and ~~[n]Newer~~ Model Year without catalyst with carburetor: ~~[Base Standard—2]3.0% [—Enforcement Tolerance—1.0.]~~
 - (c) 1970 and ~~[n]Newer~~ Model Year without catalyst with fuel injection: No Check.
 - (d) 1985 and ~~[n]Newer~~ Model Year with catalyst: ~~[Base Standard—0.5]1.0% [—Enforcement Tolerance—0.5.]~~
- (3) Hydrocarbon idle emission values not to be exceeded:~~[—All Vehicles:]~~
 - (a) Pre~~[]~~ 1970 Model Year: ~~[Base Standard PPM—7]900 PPM [—Enforcement Tolerance—200.]~~
 - (b) 1970 ~~[through]~~ 1973 Model Year: ~~[Base Standard PPM—5]700 PPM [—Enforcement Tolerance—200.]~~
 - (c) 1974 ~~[through]~~ 1978 Model Year: ~~[Base Standard PPM—3]500 PPM [—Enforcement Tolerance—200.]~~
 - (d) 1979 and ~~[n]Newer~~ Model Year without catalyst: ~~[Base Standard PPM—2]350 PPM [—Enforcement Tolerance—100.]~~
 - (e) 1985 and ~~[n]Newer~~ Model Year with catalyst: ~~[Base Standard PPM—175—Enforcement Tolerance—50.]220 PPM~~
- (4) Hydrocarbon nominal 2,500 ~~[RPM]rpm~~ emission values not be exceed: 1985 and ~~[n]Newer~~ Model Year with catalyst: ~~[Base Standard PPM—175—Enforcement Tolerance PPM—50.]220 PPM~~
- (5) There shall be no visible emission during the steady-state unloaded engine idle and raised rpm portion of the emission test from either the vehicle's exhaust system or the engine crankcase.
- (6) The Director may establish specific separate standards, differing from those listed in sections (1) through (4) of this rule for vehicle classes which are determined to present prohibitive inspection problems using the listed standards.

[NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

Stat. Auth.: ORS Ch. 468 & 468A

Hist.:

§ 86.114-79

40 CFR Ch. I (7-1-91 Edition)

(ii) Information, acceptable to the Administrator, is provided to show that only the designated fuel would be used in customer service, and

(iii) Use of a fuel listed under paragraphs (b)(2) and (b)(3) or (b)(4) of this section would have a detrimental effect on emissions or durability, and

(iv) Written approval from the Administrator of the fuel specifications must be provided prior to the start of testing.

(c) The specification range of the fuels to be used under paragraphs (b)(2), (b)(3), (b)(4), and (b)(5) of this section shall be reported in accordance with § 86.090-21(b)(3).

(c) Fuels not meeting the specifications set forth in this section may be used only with the advance approval of the Administrator.

(d) *Mixtures of petroleum and methanol fuels for flexible fuel vehicles.* (1) Mixtures of petroleum and methanol fuels used for exhaust and evaporative emission testing and service accumulation for flexible fuel vehicles shall be within the range of fuel mixtures for which the vehicle was designed.

(2) Manufacturer testing and service accumulation may be performed using only those mixtures (mixtures may be different for exhaust testing, evaporative testing, and service accumulation) expected to result in the highest emissions, provided:

(i) The fuels which constitute the mixture will be used in customer service.

(ii) Information, acceptable to the Administrator, is provided by the manufacturer to show that the designated fuel mixtures would result in the highest emissions, and

(iii) Written approval from the Administrator of the fuel specifications must be provided prior to the start of testing.

(3) The specification range of the fuels to be used under paragraph (d)(1) of this section shall be reported in accordance with § 86.090-21(b)(3).

[55 FR 34146, Aug. 21, 1990]

§ 86.114-79 Analytical gases.

(a) Analyzer gases.

(1) Gases for the CO and CO₂ analyzers shall be single blends of CO and

CO, respectively using nitrogen as the diluent.

(2) Gases for the hydrocarbon analyzer shall be single blends of propane using air as the diluent.

(3) Gases for NO_x analyzer shall be single blends of NO named as NO_x, with a maximum NO_x concentration of 5 percent of the nominal value, using nitrogen as the diluent.

(4) Fuel for the evaporative emission enclosure FID shall be a blend of 40±2% hydrogen with the balance being helium. The mixture shall contain less than 1 ppm equivalent carbon response. 98 to 100 percent hydrogen fuel may be used with advance approval by the Administrator.

(5) The allowable zero gas (air or nitrogen) impurity concentrations shall not exceed 1 ppm equivalent carbon response, 1 ppm carbon monoxide, 0.04 percent (400 ppm) carbon dioxide and 0.1 ppm nitric oxide.

(6) "Zero grade air" includes artificial "air" consisting of a blend of nitrogen and oxygen with oxygen concentrations between 18 and 21 mole percent.

(7) The use of precision blending devices (gas dividers) to obtain the required calibration, as defined below, is acceptable, provided that the calibration curves they produce name a calibration gas within 2 percent of its certified concentration. This verification shall be performed at between 15 and 50 percent of the full scale concentration of the range and shall be included with each gas calibration incorporating a blending device. Alternative procedures to verify the validity of the analyzer calibration curves generated using a gas divider are acceptable provided the procedures are approved in advance by the Administrator.

(b) Calibration gases shall be traceable to within 1 percent of NBS gas standards, or other gas standards which have been approved by the Administrator.

(c) Span gases shall be accurate to within 2 percent of true concentration, where true concentration refers to NBS gas standards, or other gas standards which have been approved by the Administrator.

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be made for the vehicle and the mode shall be terminated as follows:

(A) The vehicle shall pass the high-speed mode and the mode shall be terminated at the end of an elapsed time of 180 seconds ($mt=180$) if any measured values are less than or equal to the applicable short test standards as described in paragraph (VI)(a)(2) of this appendix.

(B) The vehicle shall fail the high-speed mode and the mode shall be terminated if paragraph (VI)(d)(2)(iv)(A) of this appendix is not satisfied by an elapsed time of 180 seconds ($mt=180$).

(3) *Second-chance preconditioning mode.* The mode timer shall start ($mt=0$) when engine speed is between 2200 and 2800 rpm. The mode shall continue for an elapsed time of 180 seconds ($mt=180$). If the engine speed falls below 2200 rpm or exceeds 2800 rpm for more than five seconds in any one excursion, or 15 seconds over all excursions, the mode timer shall reset to zero and resume timing.

(4) *Second-chance idle mode—(i) Ford Motor Company and Honda vehicles.* The engines of 1981–1987 Ford Motor Company vehicles and 1984–1985 Honda Preludes shall be shut off for not more than 10 seconds and then shall be restarted. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure. This procedure may also be used for 1988–1989 Ford Motor Company vehicles but should not be used for other vehicles.

(ii) The mode timer shall start ($mt=0$) when the vehicle engine speed is between 350 and 1100 rpm. If the engine exceeds 1100 rpm or falls below 350 rpm the mode timer shall reset to zero and resume timing. The minimum second-chance idle mode length shall be determined as described in paragraph (VI)(d)(4)(iii) of this appendix. The maximum second-chance idle mode length shall be 90 seconds elapsed time ($mt=90$).

(iii) The pass/fail analysis shall begin after an elapsed time of 10 seconds ($mt=10$). A pass or fail determination shall be made for the vehicle and the mode shall be terminated as follows:

(A) The vehicle shall pass the second-chance idle mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds ($mt=30$), measured values are less than or equal to 100 ppm HC and 0.5 percent CO.

(B) The vehicle shall pass the second-chance idle mode and the test shall be terminated at the end of an elapsed time of 30 seconds ($mt=30$) if, prior to that time, the criteria of paragraph (VI)(d)(4)(iii)(A) of this appendix are not satisfied, and the measured values are less than or equal to the applicable short test standards as described in paragraph (VI)(a)(2) of this appendix.

(C) The vehicle shall pass the second-chance idle mode and the test shall be immediately terminated if, at any point between an elapsed time of 30 seconds ($mt=30$) and 90 seconds ($mt=90$), measured values are less than or equal to the applicable short test standards described in paragraph (VI)(a)(2) of this appendix.

(D) The vehicle shall fail the second-chance idle mode and the test shall be terminated if none of the provisions of paragraphs

(VI)(d)(4)(iii) (A), (B), and (C) of this appendix is satisfied by an elapsed time of 90 seconds ($mt=90$).

Appendix C to Subpart S—Steady-State Short Test Standards

(I) Short Test Standards for 1981 and Later Model Year Light-Duty Vehicles

For 1981 and later model year light-duty vehicles for which any of the test procedures described in appendix B to this subpart are utilized to establish Emissions Performance Warranty eligibility (i.e., 1981 and later model year light-duty vehicles at low altitude and 1982 and later model year vehicles at high altitude to which high altitude certification standards of 1.5 gpm HC and 15 gpm CO or less apply), short test emissions for all tests and test modes shall not exceed:

- (a) Hydrocarbons: 220 ppm as hexane.
- (b) Carbon monoxide: 1.2%.

(II) Short Test Standards for 1981 and Later Model Year Light-Duty Trucks

For 1981 and later model year light-duty trucks for which any of the test procedures described in appendix B to this subpart are utilized to establish Emissions Performance Warranty eligibility (i.e., 1981 and later model year light-duty trucks at low altitude and 1982 and later model year trucks at high altitude to which high altitude certification standards of 2.0 gpm HC and 28 gpm CO or less apply), short test emissions for all tests and test modes shall not exceed:

- (a) Hydrocarbons: 220 ppm as hexane.
- (b) Carbon monoxide: 1.2%.

Appendix D to Subpart S—Steady-State Short Test Equipment

(I) Steady-State Test Exhaust Analysis System

(a) *Sampling system—(1) General requirements.* The sampling system for steady-state short tests shall, at a minimum, consist of a tailpipe probe, a flexible sample line, a water removal system, particulate trap, sample pump, flow control components, tachometer or dynamometer, analyzers for HC, CO, and CO₂, and digital displays for exhaust concentrations of HC, CO, and CO₂, and engine rpm. Materials that are in contact with the gases sampled shall not contaminate or change the character of the gases to be analyzed, including gases from alcohol fueled vehicles. The probe shall be capable of being inserted to a depth of at least ten inches into the tailpipe of the vehicle being tested, or into an extension boot if one is used. A digital display for dynamometer speed and load shall be included if the test procedures described in appendix B to this subpart, paragraphs (III) and (V), are conducted. Minimum specifications for optional NO analyzers are also described in this appendix. The analyzer system shall be able to test, as specified in at least one section in appendix B to this subpart, all model vehicles in service at the time of sale of the analyzer.

(2) *Temperature operating range.* The sampling system and all associated hardware shall be of a design certified to operate within the performance specifications described in paragraph (I)(b) of this appendix in ambient air temperatures ranging from 41

to 110 degrees Fahrenheit. The analyzer system shall, where necessary, include features to keep the sampling system within the specified range.

(3) *Humidity operating range.* The sampling system and all associated hardware shall be of a design certified to operate within the performance specifications described in paragraph (I)(b) of this appendix at a minimum of 80 percent relative humidity throughout the required temperature range.

(4) *Barometric pressure compensation.* Barometric pressure compensation shall be provided. Compensation shall be made for elevations up to 6,000 feet (above mean sea level). At any given altitude and ambient conditions specified in paragraph (I)(b) of this appendix, errors due to barometric pressure changes of ± 2 inches of mercury shall not exceed the accuracy limits specified in paragraph (I)(b) of this appendix.

(5) *Dual sample probe requirements.* When testing a vehicle with dual exhaust pipes, a dual sample probe of a design certified by the analyzer manufacturer to provide equal flow in each leg shall be used. The equal flow requirement is considered to be met if the flow rate in each leg of the probe has been measured under two sample pump flow rates (the normal rate and a rate equal to the onset of low flow), and if the flow rates in each of the legs are found to be equal to each other (within 15% of the flow rate in the leg having lower flow).

(6) *System lockout during warm-up.* Functional operation of the gas sampling unit shall remain disabled through a system lockout until the instrument meets stability and warm-up requirements. The instrument shall be considered "warmed up" when the zero and span readings for HC, CO, and CO₂ have stabilized, within $\pm 3\%$ of the full range of low scale, for five minutes without adjustment.

(7) *Electromagnetic isolation and interference.* Electromagnetic signals found in an automotive service environment shall not cause malfunctions or changes in the accuracy in the electronics of the analyzer system. The instrument design shall ensure that readings do not vary as a result of electromagnetic radiation and induction devices normally found in the automotive service environment, including high energy vehicle ignition systems, radio frequency transmission radiation sources, and building electrical systems.

(8) *Vibration and shock protection.* System operation shall be unaffected by the vibration and shock encountered under the normal operating conditions encountered in an automotive service environment.

(9) *Propane equivalency factor.* The propane equivalency factor shall be displayed in a manner that enables it to be viewed conveniently, while permitting it altered only by personnel specifically authorized to do so.

(b) *Analyzers—(1) Accuracy.* The analyzers shall be of a design certified to meet the following accuracy requirements when calibrated to the span points specified in appendix A to this subpart:

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Channel	Range	Accuracy	Noise	Repeatability
as hexane	401-1000	± 30	10	15
	1001-2000	± 80	20	30
CO, %	0-2.00	± 0.06	0.02	0.03
	2.01-5.00	± 0.15	0.06	0.08
	5.01-9.99	± 0.40	0.10	0.15
CO ₂ , %	0-4.0	± 0.6	0.2	0.3
	4.1-14.0	± 0.5	0.2	0.3
NO, ppm	0-1000	± 32	16	20
	1001-2000	± 60	25	30
	2001-4000	± 120	50	60

(2) *Minimum analyzer display resolution.* The analyzer electronics shall have sufficient resolution to achieve the following:

HC	1ppm HC as hexane.
CO	0.01% CO.
CO ₂	0.1% CO ₂ .
NO	1ppm NO.
RPM	1rpm.

(3) *Response time.* The response time from the probe to the display for HC, CO, and CO₂ analyzers shall not exceed eight seconds to 90% of a step change in input. For NO analyzers, the response time shall not exceed twelve seconds to 90% of a step change in input.

(4) *Display refresh rate.* Dynamic information being displayed shall be refreshed at a minimum rate of twice per second.

(5) *Interference effects.* The interference effects for non-interest gases shall not exceed ±10 ppm for hydrocarbons, ±0.05 percent for carbon monoxide, ±0.20 percent for carbon dioxide, and ±20 ppm for oxides of nitrogen.

(6) *Low flow indication.* The analyzer shall provide an indication when the sample flow is below the acceptable level. The sampling system shall be equipped with a flow meter (or equivalent) that shall indicate sample flow degradation when meter error exceeds three percent of full scale, or causes system response time to exceed 13 seconds to 90 percent of a step change in input, whichever is less.

(7) *Engine speed detection.* The analyzer shall utilize a tachometer capable of detecting engine speed in revolutions per minute (rpm) with a 0.5 second response time and an accuracy of ±3% of the true rpm.

(8) *Test and mode timers.* The analyzer shall be capable of simultaneously determining the amount of time elapsed in a test, and in a mode within that test.

(9) *Sample rate.* The analyzer shall be capable of measuring exhaust concentrations of gases specified in this section at a minimum rate of twice per second.

(c) *Demonstration of conformity.* The analyzer shall be demonstrated to the satisfaction of the inspection program manager, through acceptance testing procedures, to meet the requirements of this section and that it is capable of being maintained as required in appendix A to this subpart.

(II) *Steady-State Test Dynamometer*

(a) The chassis dynamometer for steady-state short tests shall provide the following capabilities:

(1) *Power absorption.* The dynamometer shall be capable of applying a load to the vehicle's driving tire surfaces at the horsepower and speed levels specified in paragraph (II)(b) of this appendix.

(2) *Short-term stability.* Power absorption at constant speed shall not drift more than ±0.5 horsepower (hp) during any single test mode.

(3) *Roll weight capacity.* The dynamometer shall be capable of supporting a driving axle weight up to four thousand (4,000) pounds or greater.

(4) *Between roll wheel lifts.* These shall be controllable and capable of lifting a minimum of four thousand (4,000) pounds.

(5) *Roll brakes.* Both rolls shall be locked when the wheel lift is up.

(6) *Speed indications.* The dynamometer speed display shall have a range of 0-60 mph, and a resolution and accuracy of at least 1 mph.

(7) *Safety interlock.* A roll speed sensor and safety interlock circuit shall be provided which prevents the application of the roll brakes and upward lift movement at any roll speed above 0.5 mph.

(b) The dynamometer shall produce the load speed relationships specified in paragraphs (III) and (V) of appendix B to this subpart.

(III) *Transient Emission Test Equipment [Reserved]*

(IV) *Evaporative System Purge Test Equipment [Reserved]*

(V) *Evaporative System Integrity Test Equipment [Reserved]*

Appendix E to Subpart S—Transient Test Driving Cycle

(I) *Driver's trace.* All excursions in the transient driving cycle shall be evaluated by the procedures defined in § 86.115-78(b)(1) and § 86.115(c) of this chapter. Excursions exceeding these limits shall cause a test to be void. In addition, provisions shall be available to utilize cycle validation criteria, as described in § 86.1341-00 of this chapter, for trace speed versus actual speed as a means to determine a valid test.

(II) *Driving cycle.* The following table shows the time speed relationship for the transient IM240 test procedure.

Section	MPH
0	0
1	0
2	0
3	0
4	0
5	3
6	5.9
7	8.6
8	11.5
9	14.3
10	16.9
11	17.3
12	18.1
13	20.7
14	21.7
15	22.4
16	22.5
17	22.1
18	21.5
19	20.9
20	20.4
21	19.8
22	17
23	14.9
24	14.9
25	15.2
26	15.5
27	16
28	17.1
29	18.1
30	21.1
31	22.7
32	22.9
33	22.7
34	22.6
35	21.3
36	19
37	17.1
38	15.8
39	15.8
40	17.7
41	19.8
42	21.6
43	23.2
44	24.2
45	24.6
46	24.9
47	25
48	25.7
49	26.1
50	26.7
51	27.5
52	28.6
53	29.3
54	29.8
55	30.1
56	30.4
57	30.7
58	30.7
59	30.5
60	30.4
61	30.3
62	30.4
63	30.8
64	30.4

CHAPTER 340, DIVISION 24 - DEPARTMENT OF ENVIRONMENTAL QUALITY

[NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

Stat. Auth.: ORS Ch. 468 & 468A
Hist.: DEQ 89, f. 4-22-75, cf. 5-25-75; DEQ 116(Temp), f. & cf. 7-27-76; DEQ 121, f. & cf. 9-3-76; DEQ 139, f. 6-30-77, cf. 7-1-77; DEQ 9-1978, f. & cf. 7-7-78; DEQ 22-1979, f. & cf. 7-5-79; DEQ 18-1980, f. & cf. 6-25-80; DEQ 15-1981(Temp), f. & cf. 5-6-81; DEQ 20-1981, f. 7-28-81, cf. 8-1-81; DEQ 18-1986, f. 9-18-86, cf. 10-1-86; DEQ 21-1988, f. & cert. cf. 9-12-88; AQ 1-1993, f. & cf. 3-9-93

[ED. NOTE: The text of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

Heavy-Duty Gasoline Motor Vehicle Emission Control Emission Standards 340-24-335

- (1) Carbon monoxide idle emission values not to be exceeded: All Vehicles: (a) Pre-1970: Base Standard - 6.0% - Enforcement Tolerance - 0.5. (b) 1970 through 1973: Base Standard - 4.0% - Enforcement Tolerance - 1.0. (c) 1974 through 1978: Base Standard - 3.0% - Enforcement Tolerance - 1.0. (d) 1979 and newer without catalyst: Base Standard - 2.0% - Enforcement Tolerance - 1.0. (e) 1985 and newer with catalyst: Base Standard - 0.5% - Enforcement Tolerance - 0.5. (2) Carbon Monoxide nominal 2,500 rpm emission values not to be exceeded: All Vehicles: (a) Pre-1970: Base Standard - 3.0% - Enforcement Tolerance - 1.0. (b) 1970 and newer without catalyst with carburetor: Base Standard - 2.0% - Enforcement Tolerance - 1.0. (c) 1970 and newer without catalyst with fuel injection: No Check. (d) 1985 and newer with catalyst: Base Standard - 0.5% - Enforcement Tolerance - 0.5. (3) Hydrocarbon idle emission values not to be exceeded: All Vehicles: (a) Pre-1970: Base Standard PPM - 700 - Enforcement Tolerance - 200. (b) 1970 through 1973: Base Standard PPM - 500 - Enforcement Tolerance - 200. (c) 1974 through 1978: Base Standard PPM - 300 - Enforcement Tolerance - 200. (d) 1979 and newer without catalyst: Base Standard PPM 250 - Enforcement Tolerance - 100. (e) 1985 and newer with catalyst: Base Standard PPM 175 - Enforcement Tolerance - 50. (4) Hydrocarbon nominal 2,500 RPM emission values not to be exceeded: 1985 and newer with catalyst:

Base Standard PPM 175 - Enforcement Tolerance- PPM 50.

- (5) There shall be no visible emission during the steady-state unloaded engine idle and raised rpm portion of the emission test from either the vehicle's exhaust system or the engine crankcase. (6) The Director may establish specific separate standards, differing from those listed in sections (1) through (4) of this rule for vehicle classes which are determined to present prohibitive inspection problems using the listed standard.

[NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

Stat. Auth.: ORS Ch. ORS 468 & 468A
Hist.: DEQ 136, f. 6-10-77, cf. 7-1-77; DEQ 9-1978, f. & cf. 7-7-78; DEQ 22-1979, f. & cf. 7-5-79; DEQ 18-1980, f. & cf. 6-25-80; DEQ 15-1981(Temp), f. & cf. 5-6-81; DEQ 20-1981, f. 7-28-81, cf. 8-1-81; DEQ 18-1986, f. 9-18-86, cf. 10-1-86; AQ 1-1993, f. & cf. 3-9-93

[ED. NOTE: The text of Temporary Rules is not printed in the Oregon Administrative Rules Compilation. Copies may be obtained from the adopting agency or the Secretary of State.]

Motor Vehicle Propulsion Exhaust Noise Standards 340-24-337

- (1) Light duty motor vehicle propulsion exhaust noise levels not to be exceeded as measured at no less than 20 inches from any opening to the atmosphere downstream from the exhaust ports of the motor vehicle engine: Vehicle Type Maximum Allowable Noise Level
1972 - 1974 Ferrari GTB, GTC and GTS with 4390 cc engine . . . 102 dBA
1973 - 1974 Ford De Tomaso 101 dBA
1972 - 1974 Ford Pantera 101 dBA
1972 - 1974 Jaguar XKE 96 dBA
1972 - 1973 Pontiac Firebird TransAM with 455 CID engine . . . 99 dBA
All Other Front Engine Vehicles . . . 93 dBA
All Other Rear and Mid Engine Vehicles 95 dBA
(2) Motorcycle propulsion exhaust noise levels not to be exceeded as measured at no less than 20 inches from any opening to the atmosphere downstream from the exhaust ports of the motorcycle engine: Model Year Maximum Allowable Noise Level
Pre-1976 102
1976 and newer 99 dBA
(3) The Director may establish specific separate standards, differing from those listed in sections (1) and (2) of this rule, for vehicle classes which

are determined to present prohibitive inspection problems using the listed standard.

Stat. Auth.: ORS Ch. 467, 468 & 468A

Hist.: DEQ 23-1984, f. 11-19-84, cf. 4-1-85; DEQ 24-1984, f. 11-19-84, cf. 7-1-85; DEQ 6-1985, f. & cf. 5-1-85; AQ 1-1993, f. & cf. 3-9-93

Criteria for Qualifications of Persons Eligible to Inspect Motor Vehicles and Motor Vehicle Pollution Control Systems and Execute Certificates

340-24-340

- (1) Three separate classes of licenses are established as follows:
 - (a) Motor vehicle fleet operations;
 - (b) Fleet operation vehicle emission inspector;
 - (c) State-employed vehicle emission inspector.
- (2) Application for a license must be completed on a form provided by the Department.
- (3)
 - (a) Each motor vehicle fleet operation license shall be valid through December 31 of each year unless revoked, suspended, or returned to the Department;
 - (b) Each vehicle emission inspector license shall be valid through December 31 of every other year unless revoked, suspended, or returned to the Department.
- (4) No license shall be issued until the applicant has fulfilled all requirements and paid the required fee.
- (5) No license shall be transferable.
- (6) Each license may be renewed upon application and receipt of renewal fee if the application for renewal is made within the 30-day period prior to the expiration date and the applicant complies with all other licensing requirements.
- (7) A license may be suspended, revoked, or not renewed if the licensee has violated this Division or ORS 468A.350 to 468A.400, 815.295 to 815.325.
- (8) A fleet operation vehicle emission inspector license shall be valid only for inspection of, and execution of certificates for, motor vehicle pollution control systems and motor vehicles of the motor vehicle fleet operation by which the inspector is employed on a full time basis, except: A fleet operation vehicle emission inspector employed by a governmental agency may be authorized by the Department to perform inspections and execute Certificates of Compliance for vehicles of other governmental agencies that have contracted with that agency for that service and that contract having the approval of the Director.
- (9) To initially receive or renew a license as a vehicle emission inspector, the applicant must:
 - (a) Be an employe of the Vehicle Inspection Program of the Department; or

- (b) Be an employe of a licensed motor vehicle fleet operation;
 - (c) Complete application;
 - (d) Satisfactorily complete a training program conducted by the Department. Only persons employed by the Department or by a motor vehicle fleet operation shall be eligible to participate in the training program unless otherwise approved by the Director. The duration of the training program for persons employed by a motor vehicle fleet operation shall not exceed 24 hours;
 - (e) At the completion of this training program, satisfactorily complete an examination pertaining to the inspection program requirements. This examination shall be prepared, conducted, and graded by the Department.
- (10) To be licensed as a motor vehicle fleet operation, the applicant must:
 - (a) Be the owner of 100 or more Oregon registered in-use motor vehicles, or 50 or more government-owned vehicles registered pursuant to ORS 805.040;
 - (b) Be equipped with an exhaust gas analyzer complying with criteria established in OAR 340-24-350;
 - (c) Be equipped with a sound level meter conforming to "Requirements for Sound Measuring Instruments and Personnel" (NPCS-2) manual, revised September 15 1974, of this Department.
 - (11) No person licensed as a motor vehicle fleet operation shall advertise or represent himself as being licensed to inspect motor vehicles to determine compliance with the criteria and standards of OAR 340-24-320 and 340-24-330.

[Publication: The Publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

[NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

Stat. Auth.: ORS Ch. 183, 468 & 468A

Hist.: DEQ 89, f. 4-22-75, cf. 5-25-75; DEQ 136, f. 6-10-77, cf. 7-1-77; DEQ 3-1978, f. 3-1-78, cf. 4-1-78; DEQ 9-1978, f. & cf. 7-7-78; DEQ 14-1978, f. & cf. 10-3-78; DEQ 6-1980, f. & cf. 1-29-80; DEQ 12-1982, f. & cf. 7-21-82; DEQ 19-1983, f. 11-29-83, cf. 12-31-83; AQ 1-1993, f. & cf. 3-9-93

Gas Analytical System Licensing Criteria 340-24-350

- (1) To be licensed, an exhaust gas analyzer must:
 - (a) Conform substantially with the technical specifications contained in the document "The California Bureau of Automoti

APPENDIX I

EVAPORATIVE SYSTEM PURGE AND PRESSURE DIAGRAMS

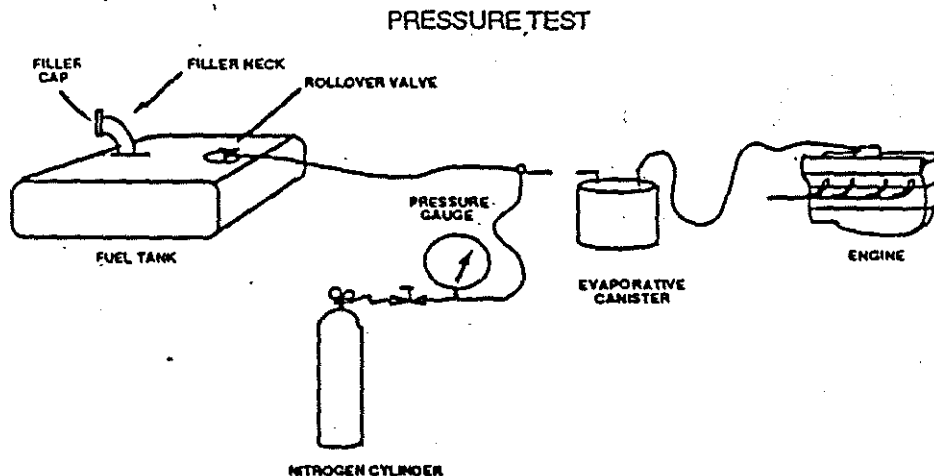
Pressure Test Procedure

The evaporative pressure test is used to determine the integrity of a vehicle's evaporative system, and fuel tank. It is conducted by introducing nitrogen pressure into the fuel tank through the tank-to-canister vapor vent line near the canister. The Nitrogen is introduced into the system until the pressure in the fuel tank stabilizes at about 14 inches of water (0.5 PSI). Fuel tank pressurization is done by continually modulating the Nitrogen flow into the fuel system by successive opening and closing of the control valve by the operator. Modulating the Nitrogen flow into the system allows a higher pressure Nitrogen flow to be safely used to pressurize the system. Without modulating the flow, the Nitrogen pressure would have to be low, thus considerably lengthening the test. If too high a pressure is used, a weak vapor hose might bulge and rupture.

After the vehicle's evaporative system is pressurized, it is allowed to stand for up to two minutes to determine if it can continue to hold pressure. A vehicle is recorded as a failure if the fuel system pressure drops to less than 8 inches of water within the 2 minute time frame.

Pressure Test Equipment

Figure 2 shows a schematic of the Pressure test set-up which is used. The required equipment includes an air or nitrogen gas bottle, a standard regulator, and a magnehelic to provide finer control while pressurizing a vehicle's evaporative system. Other pieces of equipment include clamps to close off vapor lines and other assorted fittings.



Hist.: DEQ 89, f. 4-22-75, ef. 5-25-75; DEQ 136, f. 6-10-77, ef. 7-1-77; DEQ 3-1978, f. 3-1-78, ef. 4-1-78; DEQ 7-21-82; DEQ 19-1983, f. 11-29-83, ef. 12-31-83; AQ 1-1993, f. & ef. 3-9-93

Motor Vehicle Fleet Operation Gas Analytical System Licensing Criteria

340-24-350

- (1) To be licensed, an exhaust gas analyzer must:
 - (a) Conform substantially with the technical specifications contained in the document "The California Bureau of Automotive Repair Exhaust Gas Analyzer Specification - 1979" on file in the office of the Vehicle Inspection Program of the Department.
 - (b) Be owned by the licensed motor vehicle fleet operation ~~for the Department~~;
 - (c) Be span gas calibrated and leak checked within a 14-calendar-day period prior to the test date by the licensed inspector. The calibration and leak check is to be performed following the analyzer manufacturer's specified procedures. The manufacturer's operation manual and calibration and leak check procedures are defined as an integral part of the analyzer, and shall be kept with the analyzer at all times. The date of calibration and leak check and the inspector's initials are to be recorded on a form provided by the Department for verification. Prior to any day of testing for the purposes of issuing a Certificate of Compliance, the analyzer shall be mechanically checked and corrected for zero and span drift once a day prior to performing the day's first vehicle exhaust gas inspection.
- (2) Application for a license must be completed on a form provided by the Department.
- (3) Each license issued for an exhaust gas analyzer shall be valid through December 31 of each year, unless returned to the Department or revoked.
- (4) A license for an exhaust gas analyzer system shall be renewed upon submission of a statement by the motor vehicle fleet operation that all conditions pertaining to the original license issuance are still valid and that the unit has been gas calibrated and its proper operation verified within the last 30 days by a vehicle emission inspector in their employment.
- (5) Grounds for revocation of a license issued for an exhaust gas analyzer system include the following:
 - (a) The unit has been altered, damaged, or modified so as to no longer conform with the specifications of subsection (1)(a) of this rule;
 - (b) The unit is no longer owned by the motor vehicle fleet operation to which the license was issued;
 - (c) The Department verifies that a Certificate of Compliance has been issued to a vehicle which has been emission tested by an analyzer that has not met the requirements of subsection (1)(c) of this rule.
- (6) No license shall be transferable.
- (7) No license shall be issued until all requirements of section (1) of this rule are fulfilled and required fees paid.
- (8) Effective January 1, 1999, gas analytical systems used by licensed motor vehicle fleet operations must meet the criteria established in OAR 340-24-355.

[NOTE: This rule is included in the State of Oregon Clean Air Act Implementation Plan as adopted by the Environmental Quality Commission under OAR 340-20-047.]

[Publication: The Publication(s) referred to or incorporated by reference in this rule are available from the office of the Department of Environmental Quality.]

Stat. Auth.: ORS Ch. 183, 468 & 468A

Hist.: DEQ 89, f. 4-22-75, ef. 5-25-75; DEQ 136, f. 6-10-77, ef. 7-1-77; DEQ 9-1978, f. & ef. 7-7-78; DEQ 14-1978, f. & ef. 10-3-78; DEQ 6-1980, f. & ef. 1-29-80; DEQ 20-1981, f. 7-28-81, ef. 8-1-81; DEQ 19-1983, f. 11-29-83, ef. 12-31-83; DEQ 6-1985, f. & ef. 5-1-85; DEQ 21-1988, f. & cert. ef. 9-12-88; AQ 1-1993, f. & ef. 3-9-93

State of Oregon Facilities Gas Analytical System Licensing Criteria

340-24-355

- (1) Test equipment. Computerized test systems are required for performing any measurement on subject vehicles.

(a) Performance features of computerized test systems. The test equipment shall be certified to meet the requirements of 40 CFR Part 51 Appendix D (November 5, 1992) and new equipment shall be subjected to acceptance test procedures to ensure compliance with program specifications.

(A) Emission test equipment shall be capable of testing all subject vehicles and shall be updated from time to time to accommodate new technology vehicles as well as changes to the Vehicle Inspection Program.

(B) At a minimum, emission test equipment:

(i) Shall be automated to the highest degree commercially available to minimize the potential for intentional fraud and/or human error;

(ii) Shall be secure from tampering and/or abuse;

(iii) Shall be based upon written specifications; and

(iv) Shall be capable of simultaneously sampling dual exhaust vehicles.

(C) The vehicle owner or driver shall be provided with a computer-generated record of test results, including all of the items listed in 40 CFR Part 85, subpart W as being required on the test record. The test report shall include:

(i) A vehicle description, including license plate number, vehicle identification number, and odometer reading;

(ii) The date and time of the test;

(iii) The name or identification number of individual(s) performing the tests and the location of the test station and lane;

(iv) The type of test performed, including emission tests, visual checks for the presence of emission control components, and functional, evaporative checks;

(v) The applicable test standards;

(vi) A statement indicating the availability of warranty coverage as required in section 207 of the Clean Air Act;

(vii) Certification that tests were performed in accordance with the regulations and the signature of the individual who performed the test; and

(ix) For vehicles that fail the tailpipe emission test, information on the possible causes of the specific pattern of high emission levels found during the test.

(2) Functional characteristics of computerized test systems. The test system is composed of emission measurement devices and other motor vehicle test equipment controlled by a computer.

(a) The test system shall automatically:

(A) Make a pass/fail decision for all measurements;

(B) Record test data to an electronic medium;

(C) Conduct regular self-testing of recording accuracy;

(D) Perform electrical calibration and system integrity checks before each test, as applicable; and

(E) Initiate system lockouts for:

(i) Tampering with security aspects of the test system;

(ii) Failing to conduct or pass periodic calibration or leak checks; and

(iii) A full data recording medium or one that does not pass a cyclical redundancy check.

(b) The test system shall insure accurate data collection by limiting, cross-checking; and/or confirming manual data entry.

Vehicle Inspection Program

EMISSION TEST REPORT

INSPECTION INFORMATION

LICENSE	VEHICLE I.D. NUMBER	YEAR	MAKE	TYPE	FINAL RESULTS

VEHICLE INFORMATION

ODOMETER X 1000	FUEL TYPE	TEST TYPE	PAYMENT AMOUNT

INSPECTION STATION INFORMATION

INSP. ID.	STATION ID.	LANE NO.	MO.	DAY	YR.	HR.	MIN.

EMISSION TEST RESULTS

	HC (PPM)	CO (%)	CO + CO ₂ (%)	IDLE SPEED (RPM)
STANDARDS:				
INITIAL TEST				
1ST IDLE EMISSIONS				
2500 RPM EMISSIONS				
2ND IDLE EMISSIONS				
DUAL FUEL/RESTART TEST				
1ST IDLE EMISSIONS				
2500 RPM EMISSIONS				
2ND IDLE EMISSIONS				

MISSING/ALTERED EQUIPMENT

RESULTS: PASS(P) FAIL (F)

- PCV Positive Crankcase Ventilation
- TAC Thermostatic Air Cleaner
- AIS Air Injection System
- EVP Evaporative Emission System
- FR Fill Pipe Restrictor
- EGR Exhaust Gas Recirculation
- SPK Spark Controls
- CC Computer Controls
- CAT Catalytic Converter
- VAC Vacuum Line

NOISE LEVEL DECIBEL _____ dBA OPACITY LEVEL _____ %

COMMENTS: _____

NOTE: INSPECTORS ARE PROHIBITED FROM OFFERING DIAGNOSTIC INFORMATION RELATED TO THE VEHICLE READINGS OR FROM MAKING ANY ESTIMATES OR RECOMMENDATIONS ABOUT REPAIRS OR REPAIR FACILITIES. A VEHICLE WITH AN INOPERABLE EMERGENCY BRAKE OR INACCESSIBLE EXHAUST SYSTEM MAY BE REJECTED FROM THE TEST AREA.

PLEASE TAKE THE TIME TO READ THIS REPORT COMPLETELY

**DO NOT DESTROY OR DISPOSE OF THIS REPORT.
YOU WILL NEED IT TO REGISTER YOUR VEHICLE.**

If "Pass" is printed under Final Results and fee is paid, this report becomes a Certificate of Compliance, valid for three months. It must be presented or mailed to DMV with your payment and registration application to obtain or renew your vehicle registration. This must be done before the expiration date shown below. DO NOT STAPLE THIS FORM TO REGISTRATION APPLICATION.

EXPIRATION DATE

CERTIFICATION NUMBER

VOID IF ALTERED

THANKS FOR HELPING KEEP OUR AIR CLEAN!

I-82

Oregon

DEPARTMENT OF
TRANSPORTATIONMOTOR VEHICLES
DIVISION

NOTICE TO METER SKIP USERS

FROM: BARBARA PIERCE
SUPERVISOR, COMMUNICATIONS UNIT

RE: FORMAT FOR METER SKIPS

Following is a listing of how DMV responds to requestors and the charges for meter skip request:

User generated written or typed copy = \$1.50 per record
Tape to tape = \$.02 per record (\$20 per thousand)
Tape to print =

Tapes = 1600 (6250 acceptable for input only) BPI, nine track
tape data coded in EBCDIC characters.

There will be only one type of output per request. Please specify
the type of output when you submit your request.

If you have not yet applied for an account number for billing purposes, please get in touch with our Finance Section. The telephone number is 378-6912.

Format instructions for tape users are enclosed for those who prepare your input. Attachment A is a record layout of the input/output as it will appear on your tape. Attachment B interprets flag codes that may appear in your output. It is very important to use your account number and to follow the format as shown in Attachment A.

Please label tapes either "INPUT" or "OUTPUT" and indicate the recording density. Example: 1600 or 6250 BPI. Output tapes must be 1600 BPI. Both input and output tapes must be NL (NO LABEL.)

If you have any questions regarding tape format, please call Karen Stephenson at 378-6900. If you have a problem with production, please call me at 378-6126.



FORMAT INSTRUCTIONS FOR TAPE USERS

Input Record Description for Tape:

A. First record for each user:

Position 1 thru 7 = "ACCOUNT"

8 = anything

9 thru 13 = account
number

14 = anything

^{DEQ}
15 thru 26 = name

Records will not be processed unless
the first record is correct.

Required

Comma, blank, or dash, etc.

Account number assigned. Five
numeric digits.

Comma, blank, or dash, ect

Name of city, agency, department,
etc. requesting information.

B. All other records:

Position 1 thru 7 = license
number

71 thru 80 = anything

Vehicle license number, up to seven
characters left justified without
embedded spaces.

NOTE:

Input tapes should be blocked 100 records (blk size - 8000), and output tapes
will be blocked the same.

Output Record Description for tape:

First position indicates the type of information for any particular
registration record.

"A" = First registered owner name

"B" = Registered owner address

"C" = Registered owner city, state, and zip code

Type "A" Output Format

Position 1 = type code "A"

2 thru 8 = license
number

Same as license entered

9 thru 11 = blank

12 thru 45 = name

Name of registered owner.

Format Instruction for Tape Users

Output Record Description for Tape con't.Type "A" Output Format

Position 46 thru 47 = name code

04 = Registered owner (RO) name.

05 = RO lessee.

06 = RO lessor.

07 = RO doing business as.

08 = RO business name.

09 = RO lessee business name.

10 = RO lessor business name.

11 = RO doing business as business name.

48 = blank

49 thru 56 = blank

Zero date of birth on file

= DOB

Date of birth on file with "/" to separate.

57 thru 58 = blank

59 thru 63 = make

Vehicle make

64 = blank

65 thru 66 = year

Vehicle year.

67 thru 68 = blank

69 thru 77 = last transaction date

69-70, month of last renewal;

71-72, year of last renewal;*

73-77, title year, julian date, YYDD

* There will be a minor difference in position 69-72; MMY will get a two digit year of last renewal date instead of one digit.

78 thru 79 = flag

First DMY flag on file. If "05" only vehicle description and last transaction date will be provided.

See Attachment B for flag code descriptions.

NOTE

A vehicle record with a flag 9,10, or 11 indicates the vehicle was in the hands of a dealer, wrecker, or some known individual, not necessarily the registered owner, at the time the inquiry for the registered owner's name and address was made.

Format Instructions for Tape Users

Output Record Description for Tape con't.

Type "A" Output Format

Position 80	= error code	3 = Vehicle license is not on file or invalid license number configuration.
		6 = Error in record.

NOTE:

When we are unable to locate the record requested, or there is an incorrect license number, a designation of "3" will be indicated in position 80. When there is an input/output error or incomplete record on our computer, a designation of "6" will be shown in position 80. When either a 3 or a 6 code appear, some additional information must be provided by the requestor before we can locate the record in our file.

Type "B" Output Format

Position 1	= type code	"B"
2 thru 8	= license number	Same as license entered.
9 thru 11	= blank	
12 thru 47	= address	Address of registered owner.
48 thru 80	= blank	

Type "C" Output Format

Position 1	= type code	"C"
2 thru 11	= blank	
12 thru 29	= city	
30	= blank	
31 thru 40	= state	
41 thru 42	= blank	
43 thru 47	= zip code	
48 thru 80	= blank	

SECTION 3 SUMMARY OF PROPOSED EQUIPMENT

3.1 Optional Proposals

In compliance with the Request for Proposal, we have provided prices for the following equipment configurations as specified on pages 26 and 27 of the RFP:

- 3.1.1 Primary Option** Seven fully integrated systems consisting of:
- a) 19 single position lanes
 - b) 6 two position lanes
 - c) 7 central computers, one at each station
 - d) 1 central computer at the Inspection Program Tech Center

The number of lanes at the 6 stations in Portland and the 1 station in Medford are:

- a) 4 four lane stations
- b) 2 three lane stations
- c) 1 two lane station

3.1.2 First Fall Back Option Identical to the primary option but excludes item d) central computer at the Inspection Program Tech Center. Vehicle test data will be stored on floppy disks at each station central computer and the disks transported to the Tech Center.

3.1.3 Second Fall Back Option Identical to the primary option but excludes items c) station central computers and d) central computer at the Inspection Program Tech Center. Vehicle test data will be stored on floppy disk at each individual lane and the disks transported to the Tech Center.

3.1.4 Third Fall Back Option

This is to supply:

- a) 6 two position units
- b) 14 single position unit

3.1.5 Additional Items We have also provided separate prices for equipment maintenance/service and hourly rate for software changes.

3.2 Equipment Configuration

The equipment configuration for each type of lane, station central computers and tech center computer is:

3.2.1 Single Position Lane (see Figure 3.2.1-1)

a) Computer equipment

IBM PC compatible with 486 microprocessor; 80 megabyte hard disk; 25 MHz clock; 101 key data entry keyboard; two 3 1/2" floppy disk drives; 9 pin tractor feed Okidata printer for printing Vehicle Inspection Reports; 14" VGA color monitor mounted on the FICS 4000 cabinet; 20" VGA color monitor with mounting bracket suitable for hanging from the ceiling or with a pedestal for floor mounting.

b) Software

OS/2 operating system (latest version) which can run DOS 5.0 programs and Windows; ESP application software developed with Oregon DEQ during the prototype phase and updated for the full operational program. The communications interface between positions and to the station central computer is Ethernet with LANServer for OS/2 version 1.1 communications software.

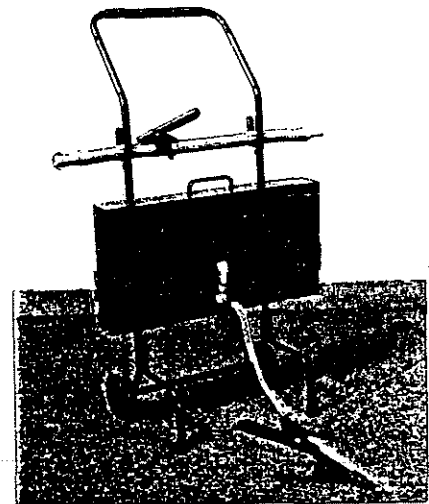
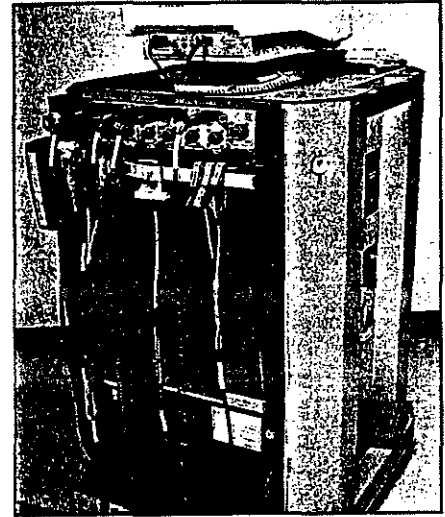
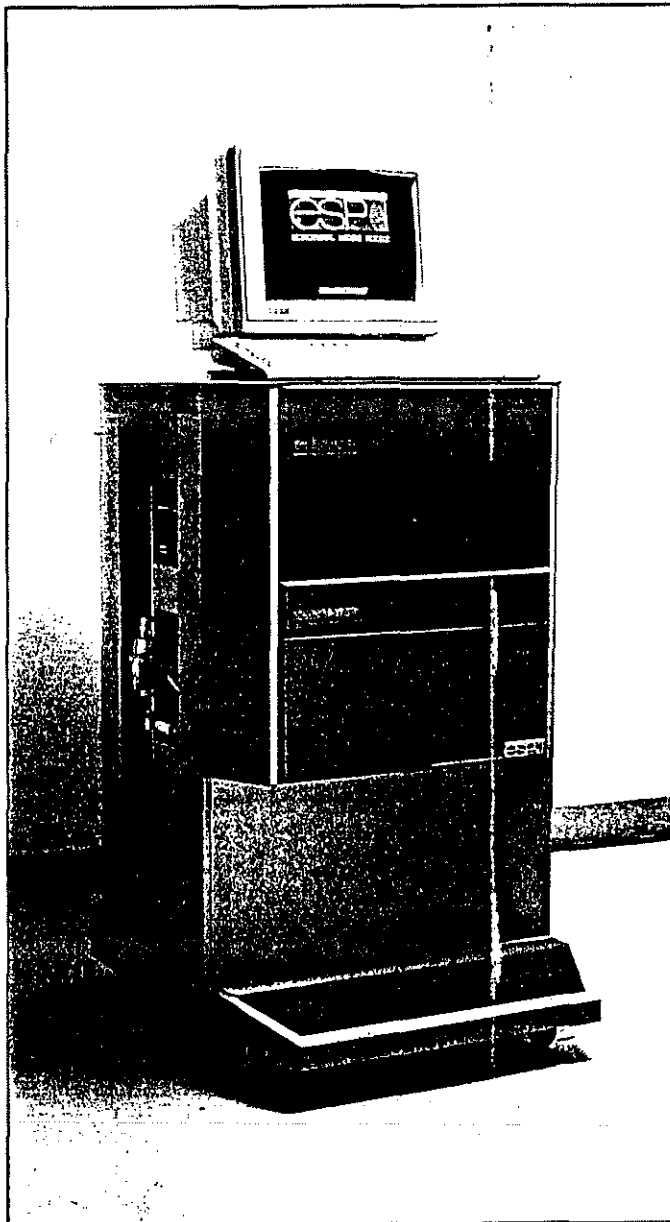


Figure 3.2-1 FICS 4000 Unit with Portable Smoke Meter and view of Backdoor

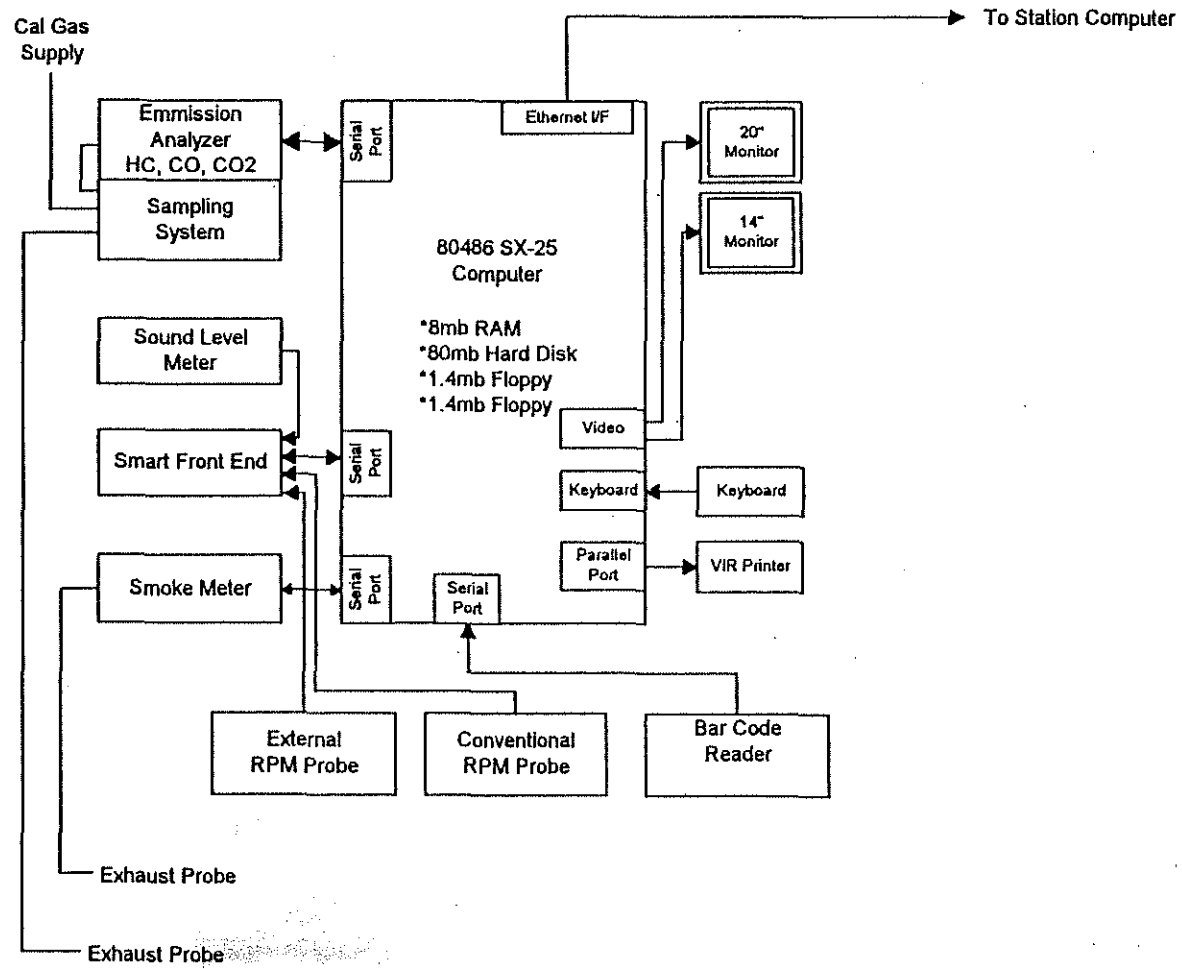


Figure 3.2.1-1 Emission / Smoke Inspection System - Single Position Operation

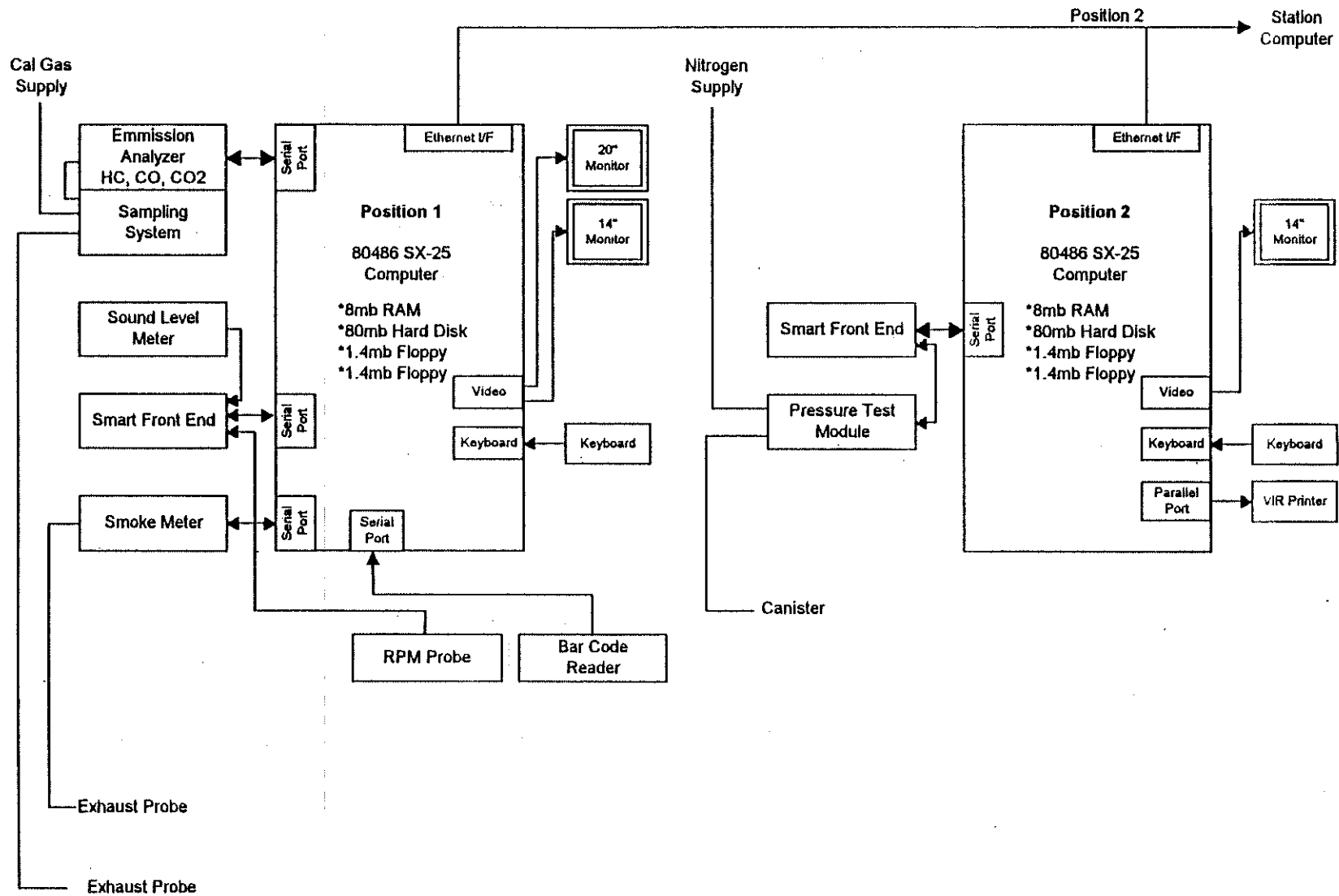


Figure 3.2.2-1 Emission / Smoke Inspection System - Two Position Operation

c) Peripherals

The peripherals required to facilitate the test sequences are:

- i) BAR 90 emissions analyzer and sampling system/exhaust probes for HC, CO, and CO₂ measurements
- ii) Remote RPM sensing using ignition electromagnetic signals
- iii) Conventional Contact backup RPM sensing
- iv) Interface to the Department supplied General Radio Model GR1983 Sound Level Meter.
- v) Interface for ESP Smoke Meter
- vi) ESP Portable Smoke Meter (one per station) model number ESP 10286-1
- vii) BAR Code reader for reading VIN's through windshield

d) Cabinet

The equipment described is mounted in the ESP FICS 4000 cabinet as illustrated in Figure 3.2-1. The portable smoke meter is also shown in Figure 3.2-1. More detailed information on the FICS 4000 unit is available in Appendix 1.

3.2.2 Two Position Lane (see Figure 3.2.2-1)**a) Computer equipment:**

Two - IBM PC compatibles with 486 microprocessor; 80 megabyte hard disk; 25 MHz clock; 101 key data entry keyboard; two 3 1/2" floppy disk drives;

One - 9 pin tractor feed Okidata printer for printing Vehicle Inspection Reports;

Two - 14" VGA color monitors; one mounted on each FICS 4000 cabinet

One - 20" VGA color monitor with mounting bracket suitable for hanging from the ceiling or with a station for floor mounting

b) Software:

OS/2 operating system (latest version) which can run DOS 5.0 programs and windows; ESP application software developed with Oregon DEQ during the prototype phase and updated for the full operational program. The communications interface between positions and to the station central computer is Ethernet with LANServer for OS/2 version 1.1 communications software.

c) Peripherals

The peripherals required to facilitate the test sequences are:

- i) BAR 90 emissions analyzer and sampling system/exhaust probes for HC, CO, and CO2 measurements
- ii) Remote RPM sensing using ignition electromagnetic signals
- iii) Conventional Contact backup RPM sensing
- iv) Interface to the Department supplied General Radio Model GR1983 Sound Level Meter.
- v) Interface for ESP Smoke Meter
- vi) ESP Portable Smoke Meter (one per station) model number ESP 10286-1
- vii) BAR Code reader for reading VIN's through windshield
- viii) Interface for the ESP evaporative system Pressure Test Unit
- ix) **One** - ESP Pressure Unit mounted in the second position unit.(we have given prices to add this function to additional units)

d) Cabinet

The equipment described is mounted in two ESP FICS 4000 cabinets (one for each position) as illustrated in Figure 3.2-1.

3.2.3 Station Central Computer

a) Computer equipment:

IBM PC compatible with 486 microprocessor; 120 megabyte hard disk; 25 MHz clock; 101 key data entry keyboard; two 3 1/2" floppy disk drives; 9 pin tractor feed Okidata printer for printing local reports; 14" VGA color monitor, 2400 baud Hayes compatible modem for communications to the Tech Center central computer.

b) Software:

OS/2 operating system (latest version) which can run DOS 5.0 programs and windows; the communications interface between positions and to the station central computer is Ethernet with LANServer for OS/2 version 1.1 communications software. The communications software between the station central computers and the Tech Center computer will be IBM's Communications Manager/2.

3.2.4 Tech Center Central Computer IBM PS/2 Server 85 in the Tech Center Central Computer which is a 486DX2 operating at 66 MHz, 24MB RAM, 400MB SCSI Hard Drive, enhanced 101 keyboard, 14" VGA color monitor, 2 GB Internal 4mm tape backup, ARTIC/2 eight-port interface, seven 2400 baud Hayes compatible modems for communication to the Station Central Computer and a high speed Okidata printer, Model 590.

3.2.5 Other Equipment All cables between the FICS 4000 cabinets and peripherals will be at least 25 ft. in length.

The analyzer is designed for automatic gas calibration using calibration bottles external to the FICS 4000 or disposable calibration bottles can be mounted in the unit.

3.3 Equipment Specifications

We have reviewed the specifications as defined in Performance Criteria, 4.2 and Design Characteristics 4.3. Our standard BAR 90 systems on which our proposal is based either already meet the specified requirements, or we will make the necessary changes to ensure compliance with the DEQ specification.

For example, the BAR 90 operating temperature range is 40 degrees F to 110 degrees F versus the specified 10 degrees F to 110 degrees F. We will incorporate a low power heater in the units to maintain the temperature within the BAR 90 operating range.

We have supplied over 13,000 garage based systems, including more than 6000 meeting BAR 90 specifications so we are fully conversant with the requirements for accuracy, response, resolution, drift, zero and interference effects. ESP units are designed to meet the requirements for high throughput exhaust sampling systems, electromagnetic interference and construction to withstand use in harsh environments.

In summary, ESP commits to meeting the performance and design characteristics specified in the RFP.

SECTION 4 INSPECTION SYSTEM OPERATIONS

Our proposal and software structure is perfectly suited to the DEQ requirement of a high throughput test sequence and flexibility to add new tests and features at a later stage. OS/2 is multi-user, multi-tasking enabling concurrency of numerous tasks. It also supports a modular application software structure enabling new modules, for example a new test or adding a new interface such as a dynamometer, to be added without impacting the existing routines.

The application software that is presently running under OS/2 at Portland will be the base for the production software so we foresee no difficulties in meeting the required schedule. To illustrate this, we have included some of the screens from the unit presently running at Portland. The following discussion illustrates how the specification requirements are allocated in the single and two position configurations. Most of the operations will be identical or very close to the methodology used presently on the unit at Portland. Since the DEQ personnel are familiar with these we have concentrated on the specific differences between the prototype and production units.

One specific example is the pressure test where we have developed a Fast Pass routine which saves significant time on the pressure test. We have also developed a routine to compensate for the level of fuel in the gas tank. Different levels give different indicated leak rates so it is essential to compensate for this to avoid the "ping-pong" effect where a vehicle fails at the inspection station but passes at the garage due to a different fuel level. We have included more details on this as shown in Appendix 3 of this proposal.

The Oregon DEQ can rely on ESP for incorporation of future additions to the program as and when required.

4.1 Single Position Lane

The existing application software will be modified to incorporate the following functions in the single position operation:

- Data Entry to include all the items identified in 4.5.2.1 of the RFP and the ability for inspectors to backup the screen and log-on/log-off
- First idle emissions test displaying RPM range and speed graphically and digitally

- 2500 RPM emission test displaying RPM range and speed graphically and digitally
- Second idle emission test displaying RPM range and speed graphically and digitally
- Pollution control equipment check list with pass/fail; keyboard entry and ability to enter blow-by smoke result
- Test results of emissions and equipment with pass/fail response including test standard and vehicle readings for each category: RPM; smoke; dilution; exhaust emissions; noise; pollution control equipment; blow-by smoke
- VIR printing after the customer has paid the certification fee. All the items listed on pages 32 - 34 of the RFP will be printed on the VIR based on the automatic test results or operator keyboard entry.
- Automatic gas calibration either from on-board calibration gas, a centralized calibration gas "farm", or a portable cal gas cart. The calibration records will be stored in the lane computer for at least 7 days and also transmitted to the station and tech center central computers, if incorporated.
- Accounting software will be incorporated so that the lane can operate in a "stand-alone" capacity. The accounting program will monitor issuance of VIR's, cash receipts and balances, canceled VIR's, close-outs, and will make available all status's as required by pages 34 and 35 of the RFP.

Sample screens from the prototype program are included as Figures 4.1-1 to 4.1-7.

4.2 Two Position Lane

The existing application software will be modified to incorporate the following functions in a two position operation:

Position One

- Data Entry to include all the items identified in 4.5.2.1 of the RFP and the ability for inspectors to backup the screen and log-on/log-off
- First idle emissions test displaying RPM range and speed graphically and digitally

- 2500 RPM emission test displaying RPM range and speed graphically and digitally
- Second idle emission test displaying RPM range and speed graphically and digitally
- Test results with pass/fail response including test standard and vehicle readings for each category: RPM; opacity; dilution; exhaust emissions; noise; blow-by smoke. The results will be transferred automatically to the Position Two computer.
- Automatic gas calibration either from on-board calibration gas, a centralized calibration gas "farm", or a portable cal gas cart. The calibration records will be stored in the lane computer for at least 7 days and also transmitted to the station and tech center central computers, if incorporated.

Position Two

- Pressure test with operator prompts and display of pressure during the test period
- Pollution control equipment check list with pass/fail; keyboard entry and ability to enter blow-by smoke result
- Test results with pass/fail response including test standard and vehicle readings for each category: RPM; opacity; dilution; exhaust emissions; noise; blow-by smoke and pressure test.
- VIR printing after the customer has paid the certification fee. All the items listed on pages 32-34 of the RFP, plus the pressure test results, will be printed on the VIR based on the automatic test results or operator keyboard entry.
- Accounting software will be incorporated so that the lane can operate in a "stand-alone" capacity. The accounting program will monitor issuance of VIR's, cash receipts and balances, canceled VIR's, close-outs, and will make available all status's as required by pages 34 and 35 of the RFP.

Enter the vehicle information:

License Plate

Model Year

Make

Model

Odometer

VIN

DATA ENTRY **PLATE**

Vehicle Class Light truck
M/Medium-duty
H/Heavy-duty

Test Type Initial
R/Repeat

Fuel Type Gasoline
D/Diesel
L/LPG
O/Other
B/Bio Fuel

Catalyst? Data is equipped
N/No data available

Air Injection? Air injection equipped
N/No air injection

Figure 4.1-1 Vehicle Information Screen (top)
Figure 4.1-2 Vehicle Information Screen (bottom)

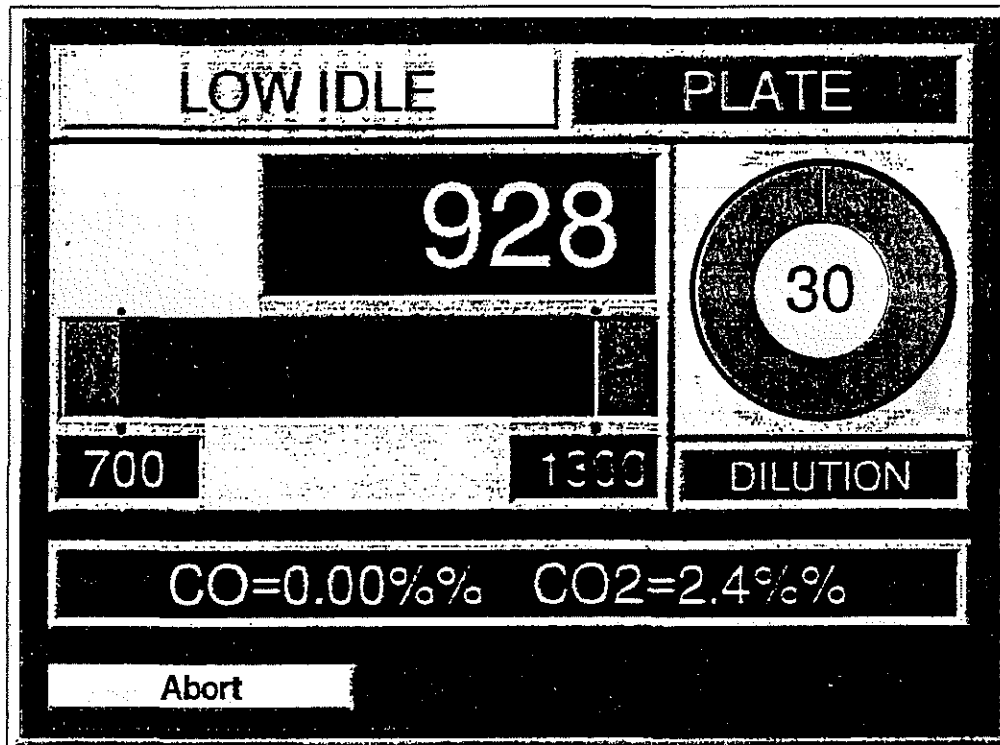
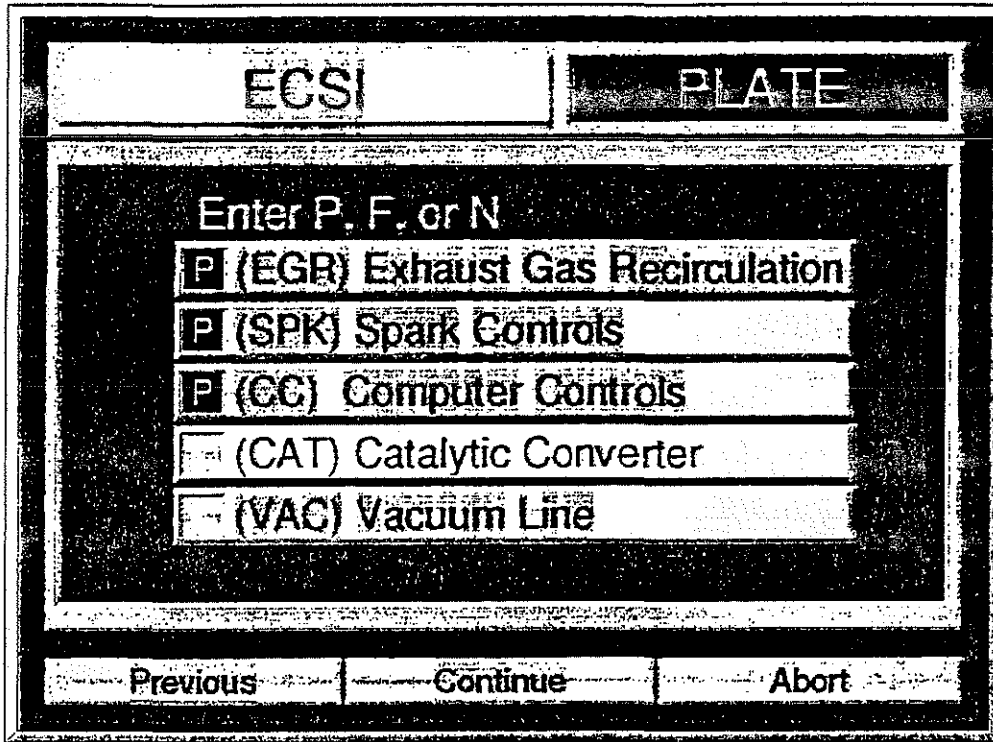


Figure 4.1-3 Pollution Control Equipment Check List (top)
 Figure 4.1-4 Emissions Test Screen (bottom)

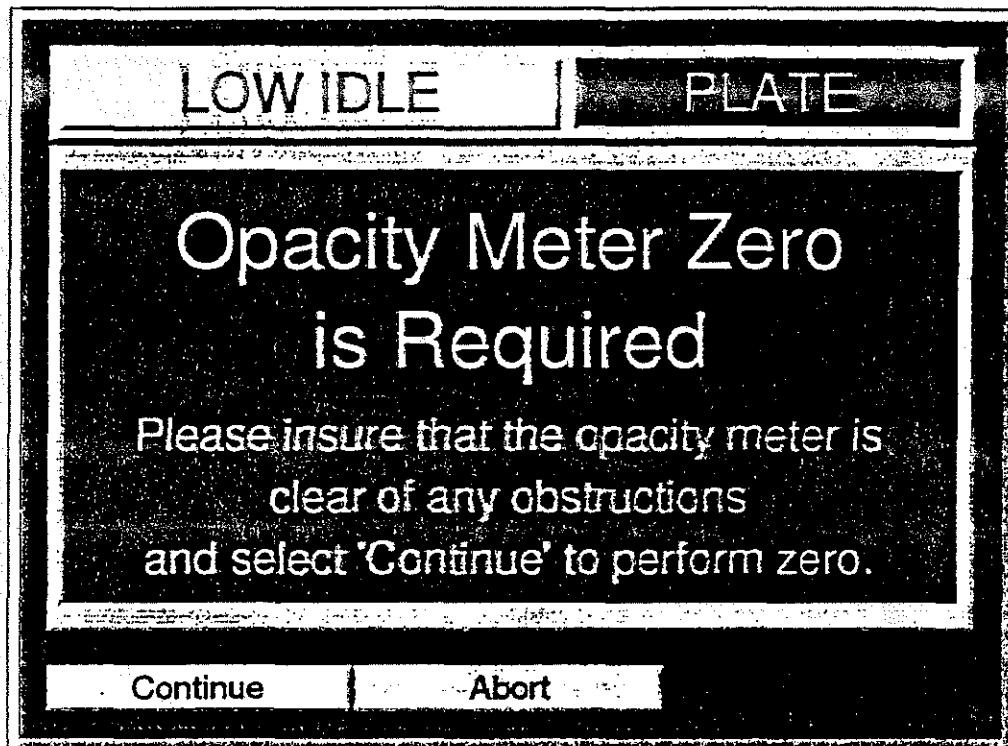


Figure 4.1-5 Opacity Test Screen (top)
Figure 4.1-6 Pressure Test Prompt (bottom)

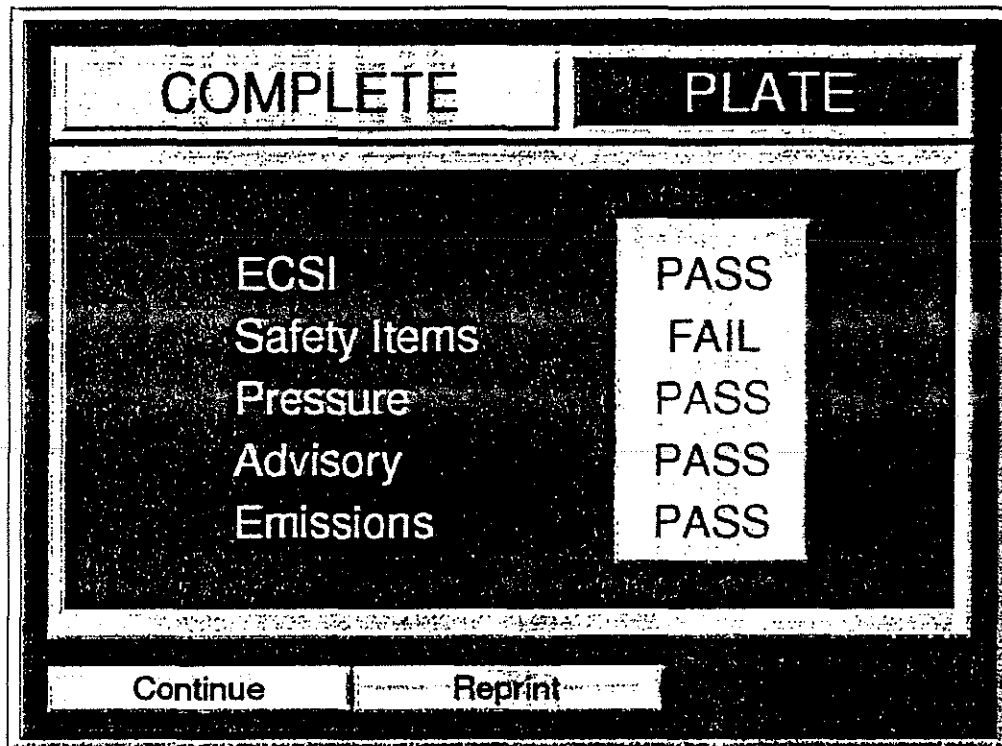


Figure 4.1-7 Test Complete Screen

4.3 Station Central Computers

The station central computers communicate with the lane computers through the high speed Ethernet network. This fully proven network is presently operational on the Mexico City ESP installations and the test lane in New Jersey which has been in operation for more than a year.

All test, calibration and accounting data is transmitted to and stored at the station computer and can be accessed by authorized personnel under password control. Most of the data is secured in "read only" files to prevent either inadvertent or deliberate changes, however the DEQ can specify which data can be edited (for example correcting a vehicle identification that was entered incorrectly at the lane).

A common data base is used so reports can be generated using DOS 5.0 data base and reporting programs. We can incorporate programs that the DEQ is familiar with, or alternatively, we can make recommendations based on the level of reporting required.

If the Tech Center central computer is incorporated, the speed of operations can be increased by automatically accessing the vehicle data base for the vehicle information. On line access to the Tech Center computer for this purpose would require the use of leased or dial-up lines, but we would assist the DEQ in evaluating the concept of storing vehicle records at the station computer for those vehicles scheduled for inspection. If a vehicle arrives outside the inspection cycle and the data is not available it can be entered manually. Every month, a new batch of records can be downloaded using a dial line and the old ones purged from the system. This would require a significant connect time but may be more economical than a leased line, depending upon record lengths. Should retest information be required and not present at a station central computer, data would be obtained over a phone line from the Tech Center computer.

4.4 Technical Center Central Computer

In configuration this is identical to the station central computers, however the functionality is different. To accommodate the total vehicle data base obtained by disk from the DMV and data storage, we have included 400 MBytes of hard disk capacity and a high density tape cassette unit to permit off loading of test results that are no longer needed "real time". We believe that this will satisfy the DEQ required functionality but additional storage can be provided at a low cost if required. The tech center system communicates to the stations via the

Hayes compatible modems running at 2400 baud. In 4.3 we discuss the concept of batch transfer of the vehicle data files to the stations using dial lines as a cost effective means of providing the inspection lanes with instant data to avoid the time and possible errors associated with manual data entry.

As with the station central computer, the tech center computer will support any DOS 5.0 commercial program for statistical analysis and reports. We will incorporate any programs preferred by the DEQ or will make recommendations based on the level of reports desired. We generate reports on other programs and will be pleased to assist the DEQ with state reports on items such as station efficiency, number of first and second failures, equipment maintenance and calibration records. We can also assist with EPA required reports on emissions inspection results, improvements, waivers and other performance related parameters. Our quoted prices include the level of support required to permit DEQ programming or data processing personnel to incorporate the required programs and access the data base.

4.5 Expansion Capability

The proposed hardware/software configuration is designed to facilitate ease of expansion to incorporate new tests, new sequences and addition of new devices such as dynamometers for loaded mode testing, diagnostic purposes or incorporation of the evaporative system purge test at a later stage.

The basic system could also be used to convert to I/M240 testing either network wide or for pilot evaluation/development purposes.

SECTION 5 WARRANTY AND MAINTENANCE

5.1 Initial Four Month Time frame

We concur totally with the warranty and maintenance provisions set out in section 5.0 of the RFP. The requirements specified give the DEQ the technical and logistic support from ESP necessary during the first 4 months while DEQ personnel are being trained on the program and equipment. After this period, DEQ personnel will be able to perform most maintenance activity but will always be able to obtain telephone or on-site assistance from ESP.

Specifically, ESP will:

1. Base an experienced, qualified technician in the Portland area for a period of 4 months commencing at the delivery of the first system. This cost is included in our price proposal.
2. During this 4 month period the technician will install all the systems; establish the communication links from the stations to the Tech Center central computer; perform Acceptance Test Procedures (ATP) on all systems and the communications; the ATP on the station and Tech Center central computers verifies that all communications are fully functional and that the data from the individual lanes is correctly stored in files that are accessible to the DEQ personnel.

Other parts of the ATP include:

- i) testing accuracy and performance of the emissions analysis with calibration gases
- ii) testing operation of the smoke sensor with the onboard calibration procedure
- iii) testing the external and underhood RPM sensors compared to a RPM standard
- iv) testing the complete operation with a "calibrated" vehicle. This includes the emissions and RPM. Checking for smoke can be performed with a known vehicle or compared to a standard smoke meter.
- v) Performing several complete inspections on different vehicles to verify that all functions for inspection, data entry/recording and VIR printing are functioning correctly.

- vi) Test operation of analyzer calibration routines.
- 3. Train DEQ inspection and maintenance personnel on the equipment operation, routine maintenance and diagnostic procedures to permit unscheduled maintenance down to the replaceable sub-unit level, such as PC boards, sensors, keyboards.
- 4. Provide software services and support to correct any errors, improve operational procedures in conjunction with the DEQ and maintain liaison with DEQ data processing personnel to ensure compatibility between the central computer data bases and the DEQ reporting/statistical software. The cost for this support is included in our cost proposal.
- 5. Deliver and maintain an inventory of spares sufficient to support the complete network. During the first year, any non-consumable parts used from this inventory will be replaced free of charge, provided the parts are not damaged due to misuse. The cost for this is included in our cost proposal.
- 6. During the initial 4 month period, the on-site technician will respond immediately, subject to other priorities established by the DEQ, to a repair notification. In most cases the repairs will be completed well within the 72 hours and if necessary we will provide additional technical support from our engineering facility in Tucson.
- 7. Each system will be provided with operating and start-up instructions. We will also provide a minimum of 5 copies of the complete maintenance manual including details on routine maintenance and troubleshooting; and wiring diagrams.

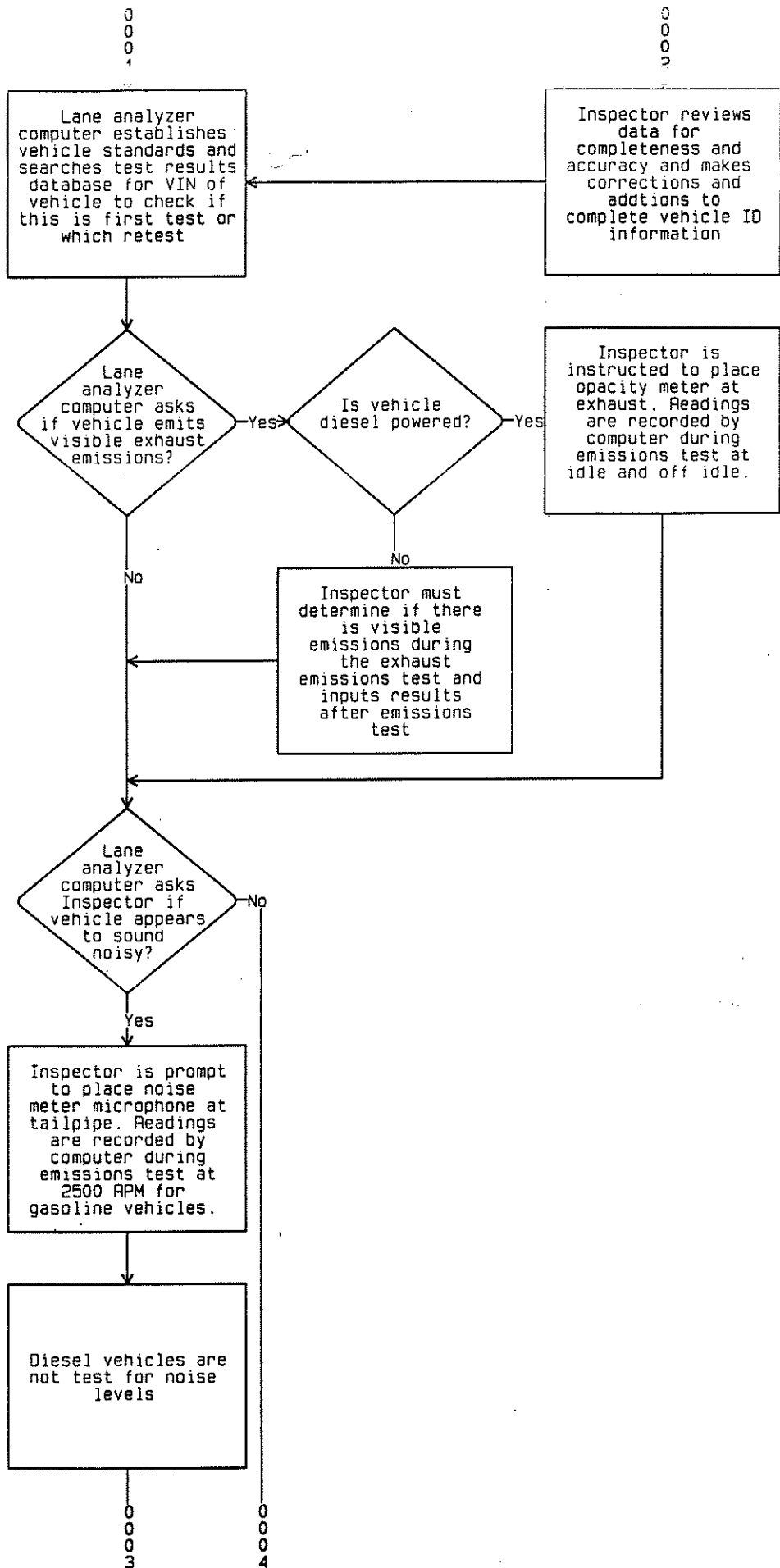
5.2 On-going Software Support

- a) For a period of one year commencing after the acceptance of the first system, ESP will provide no charge software support for any errors discovered subsequently. This is covered under the software warranty. Beyond this period any costs associated with corrections will be subject to discussion with the DEQ and the nature of the problem.
- b) Beyond the initial 4 month period, ESP will provide an estimate of time for DEQ requested software changes and if agreed by the DEQ will implement the changes at the hourly rate quoted in the cost proposal.

5.3 Service/Maintenance Contract

- a) During the first 4 month period following acceptance of the first system, all maintenance costs are included in the cost proposal. The costs for the following 8 months are for labor costs and expenses for on-site visits. During the first year, we will provide technical telephone support at no additional charge. We anticipate that the DEQ technical staff will be trained sufficiently during the 4 month period that the need for on-site service from ESP will be minimal. Our cost proposal includes an "not to exceed" dollar figure for on-site support during this 8 month period.

- b) ESP will commit to providing on-site maintenance coverage under contract for subsequent years, however the cost for this will be subject to the capabilities of the DEQ maintenance staff. We anticipate that the level of training will permit the DEQ personnel to diagnose and correct most, if not all, of problems. This capability, combined with the reliable equipment and access to telephone help will essentially make on-site support unnecessary. For purely budgetary purposes, we have included in the cost proposal an estimate for yearly on-site maintenance contract and repair/replacement costs for failed items returned to ESP. In most cases a failed item can be replaced from the on-site inventory and we will replace those items within 2 weeks. For non-inventory items, or for multiple failures of the same type of component, we will send a replacement part overnight whenever possible.



Inspector inputs if vehicle is a front or rear engine vehicle

Inspector keys in vehicle mileage by increments of 1000 miles

Inspector inserts analyzer probe(s) in the vehicle's exhaust system

Inspector examines vehicle for pollution control equipment while emission test is being conducted by the computerized exhaust gas analyzer

Computer shows screen for Inspector to select missing equipment from list for test vehicle. Also option for all equipment acceptable. Inspector checks for blowby smoke

Inspector enters equipment and blowby smoke findings

START EMISSIONS TEST

Is vehicle diesel powered?

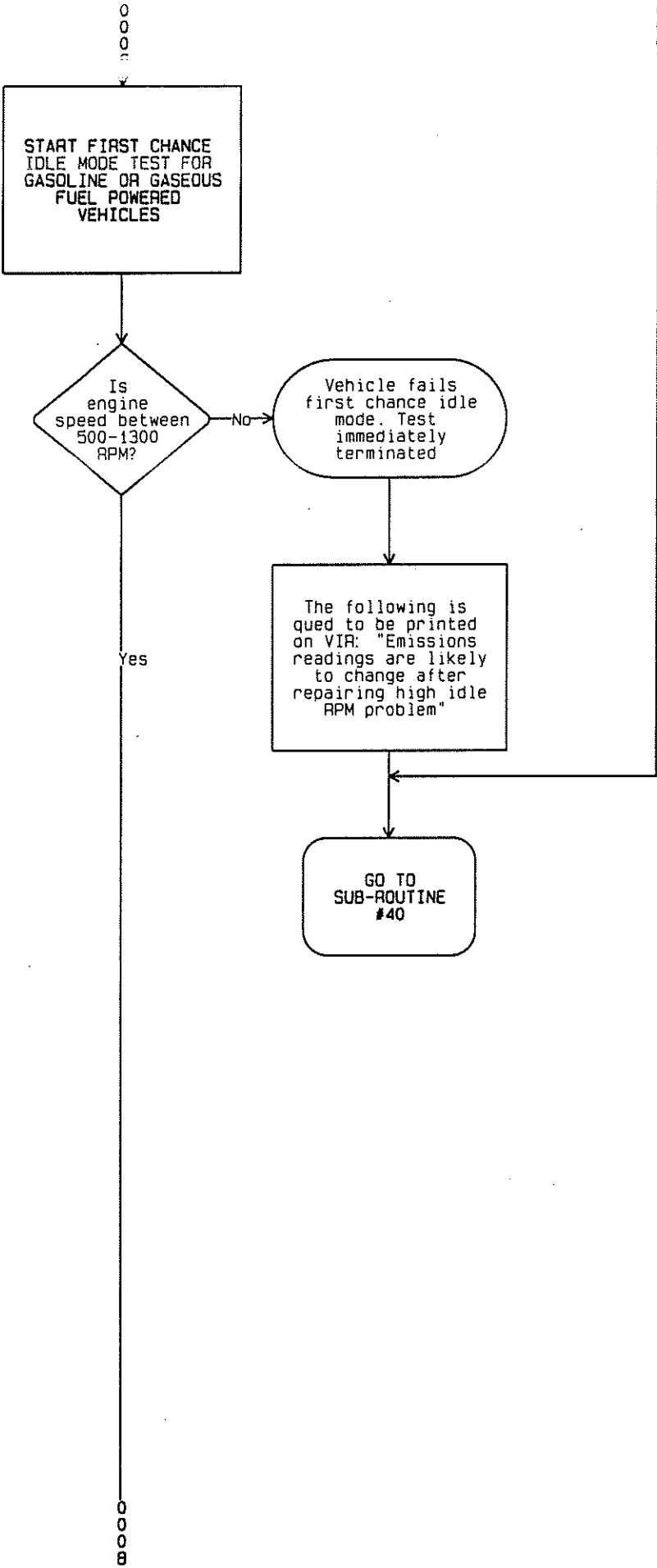
START FIRST CHANCE IDLE MODE TEST FOR DIESEL POWERED VEHICLES

0005

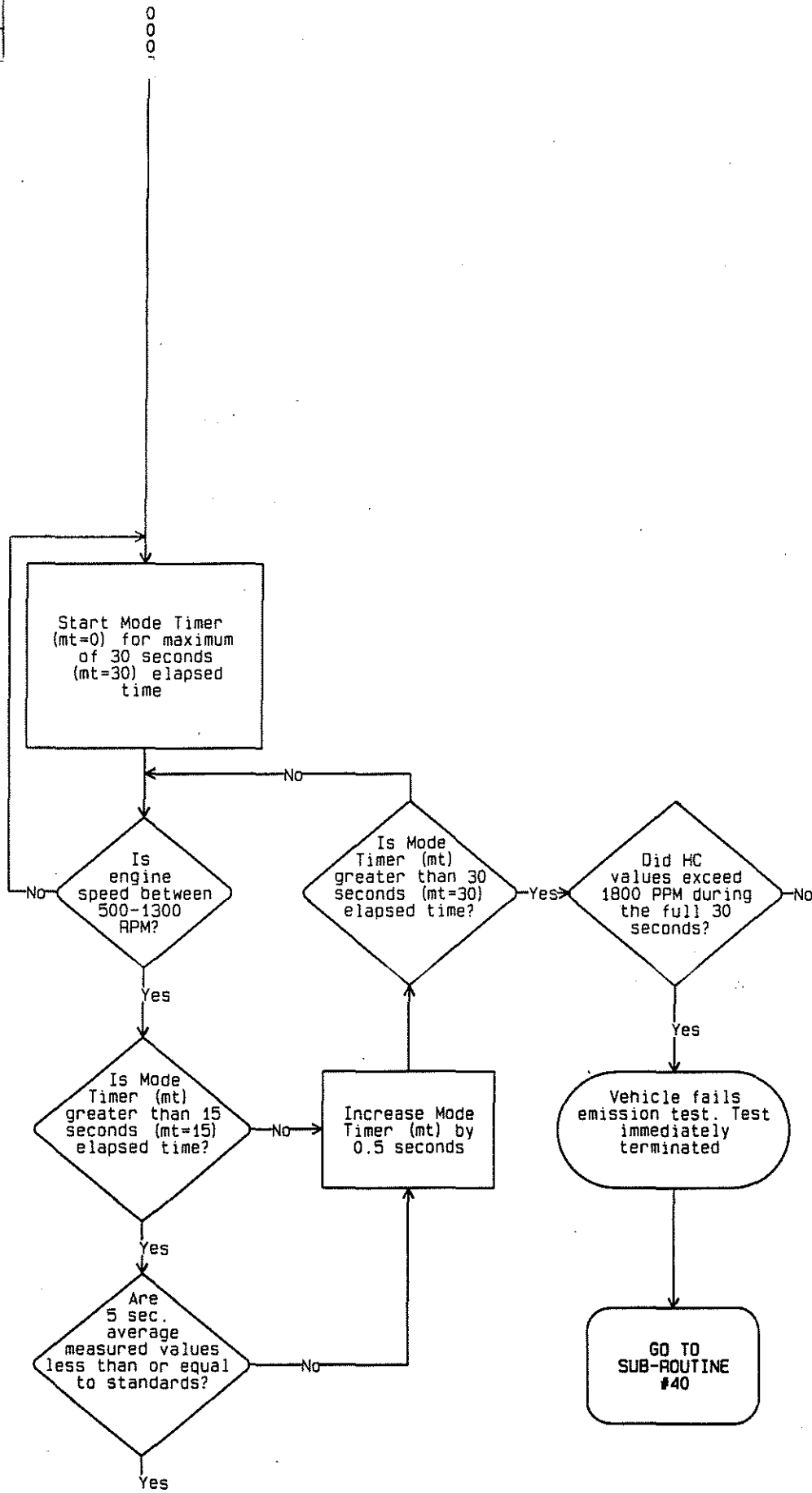
No
000
006

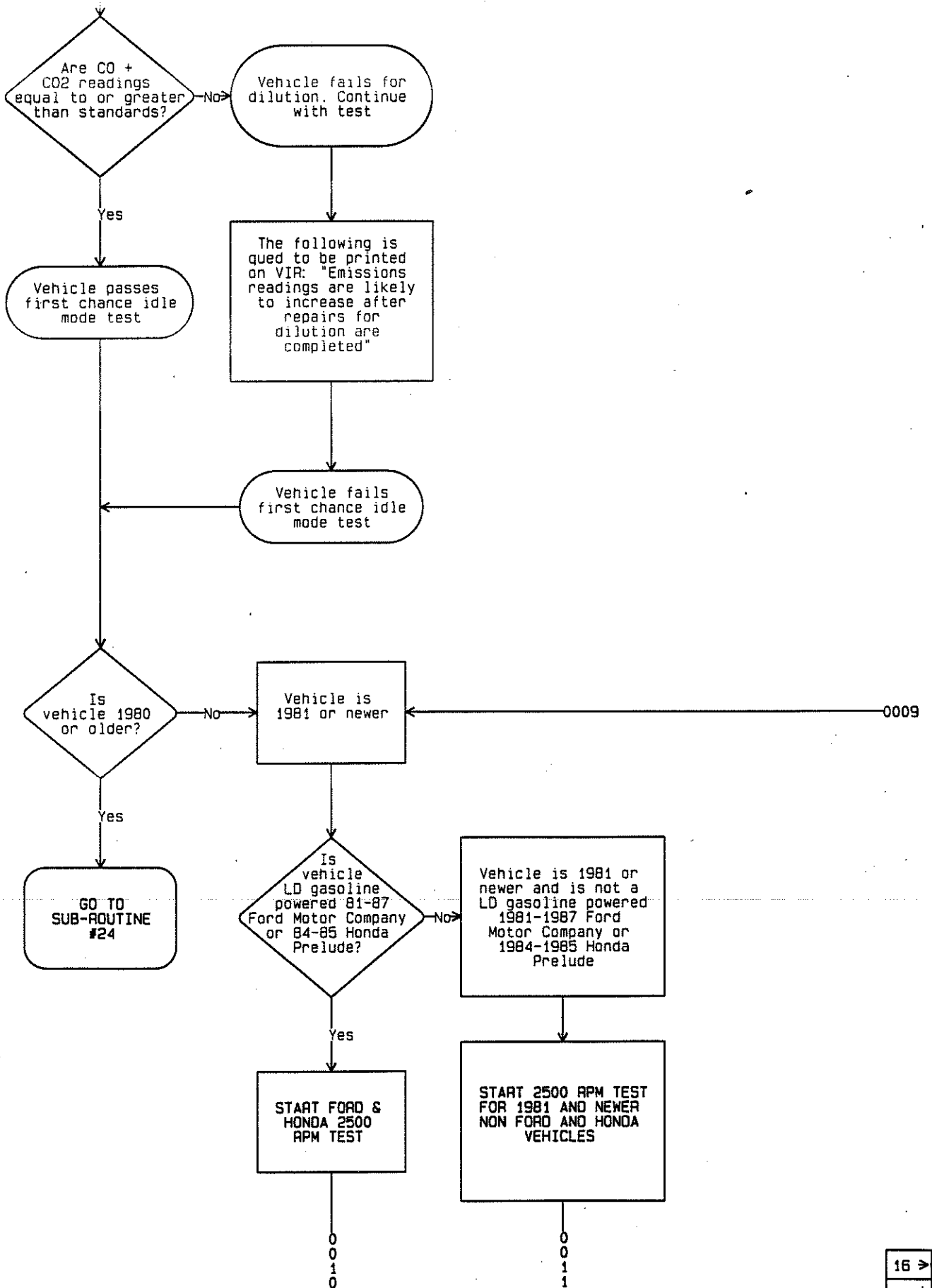
000
007

↑ 3
←



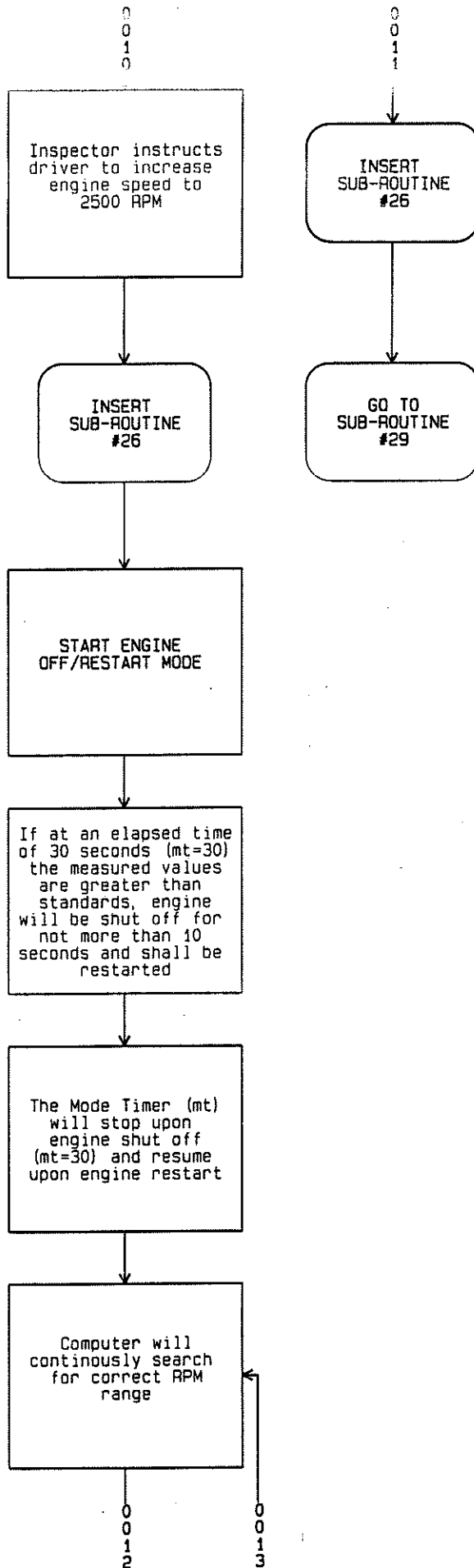
14 →
5 ↓



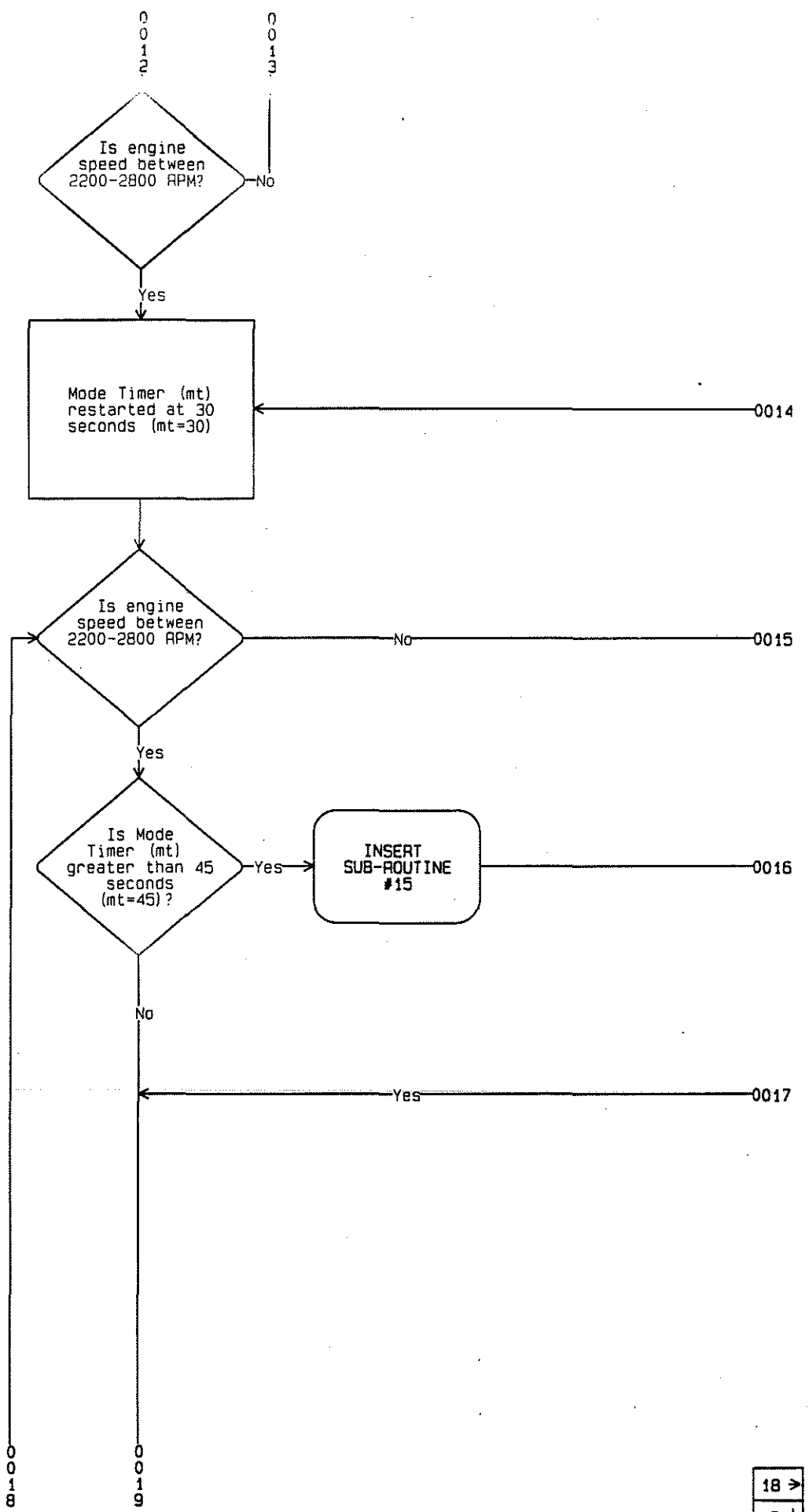




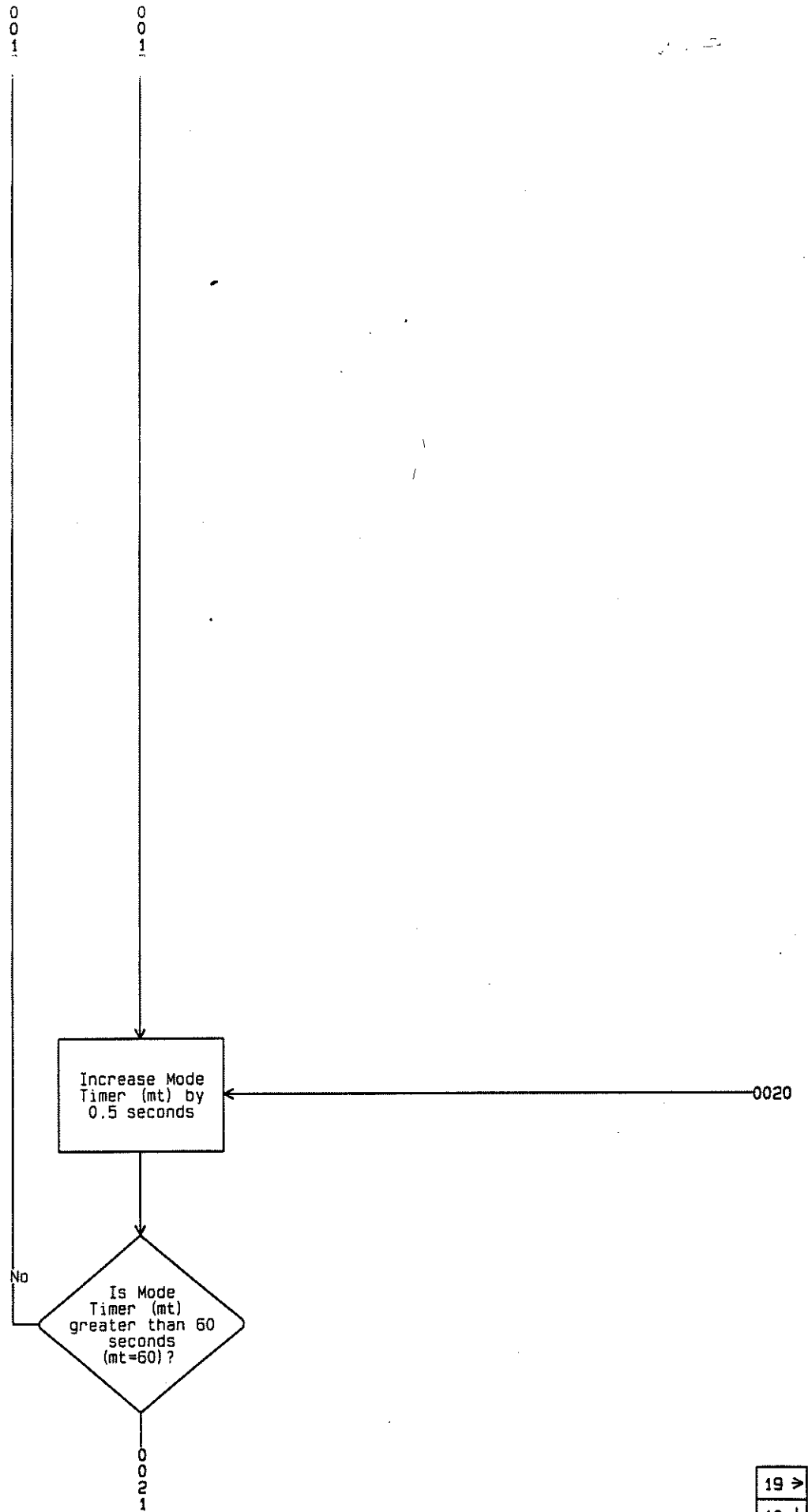
K-5



↑ 7
←

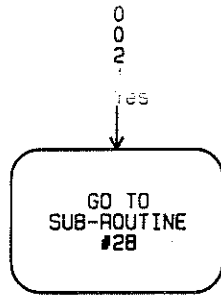


18 >
9 ↓





K-10





DEPAR
V
LI

Note #1 Vehicle ID database divides vehicle type by passenger car and truck and gives GVWR of trucks by the following classes: less than 6000 lbs, 6000 - 10000 lbs, greater than 10000 lbs. As such if vehicle is a MDV or HDV, Inspector will need to input GVWR of vehicle to determine EPA required classes. Vehicle database contains only standard issue transmission type for 1985 and newer vehicles. Non-standard and older vehicles will require Inspector to input transmission type.



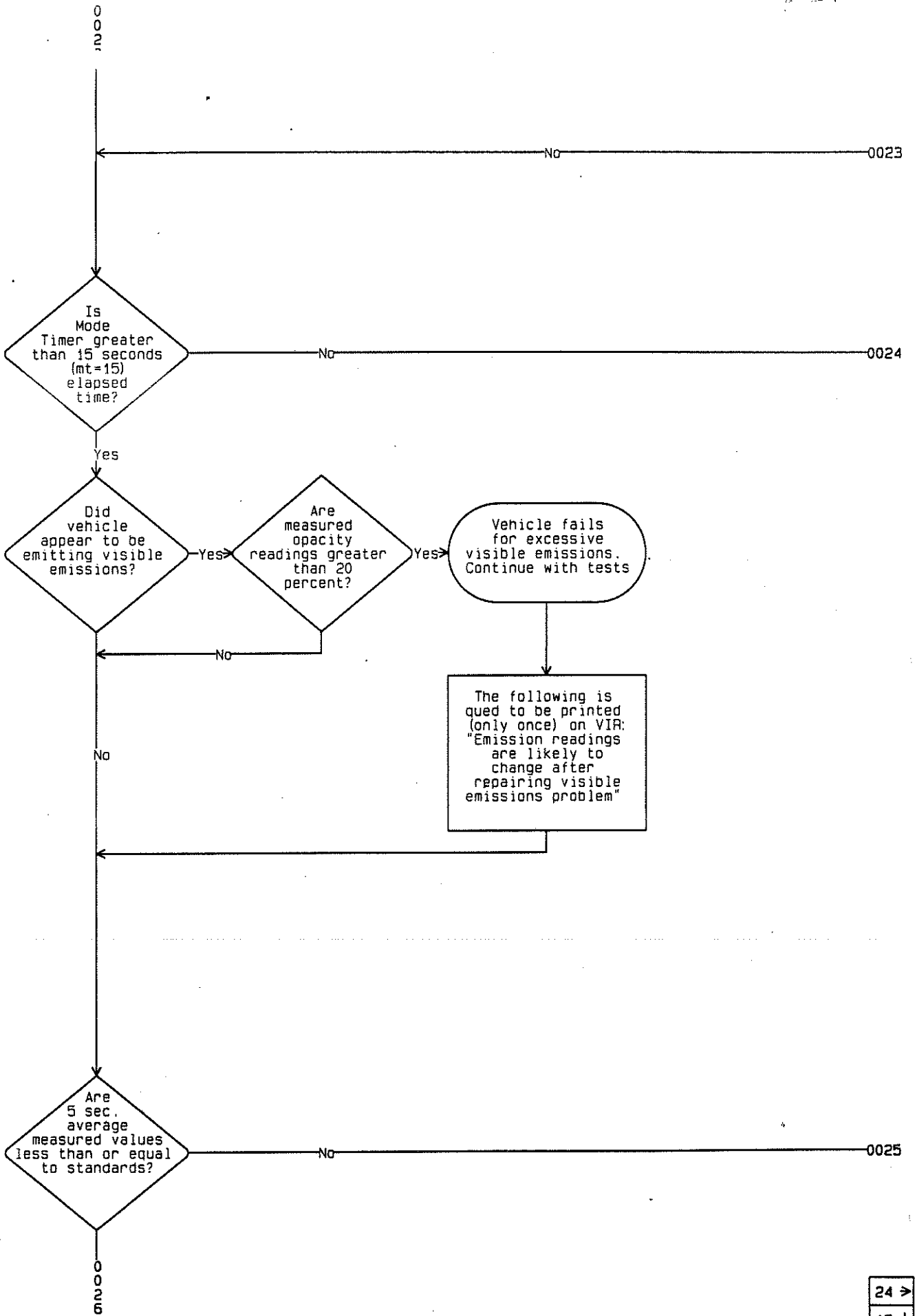
↑ 12
← 3

0005 →

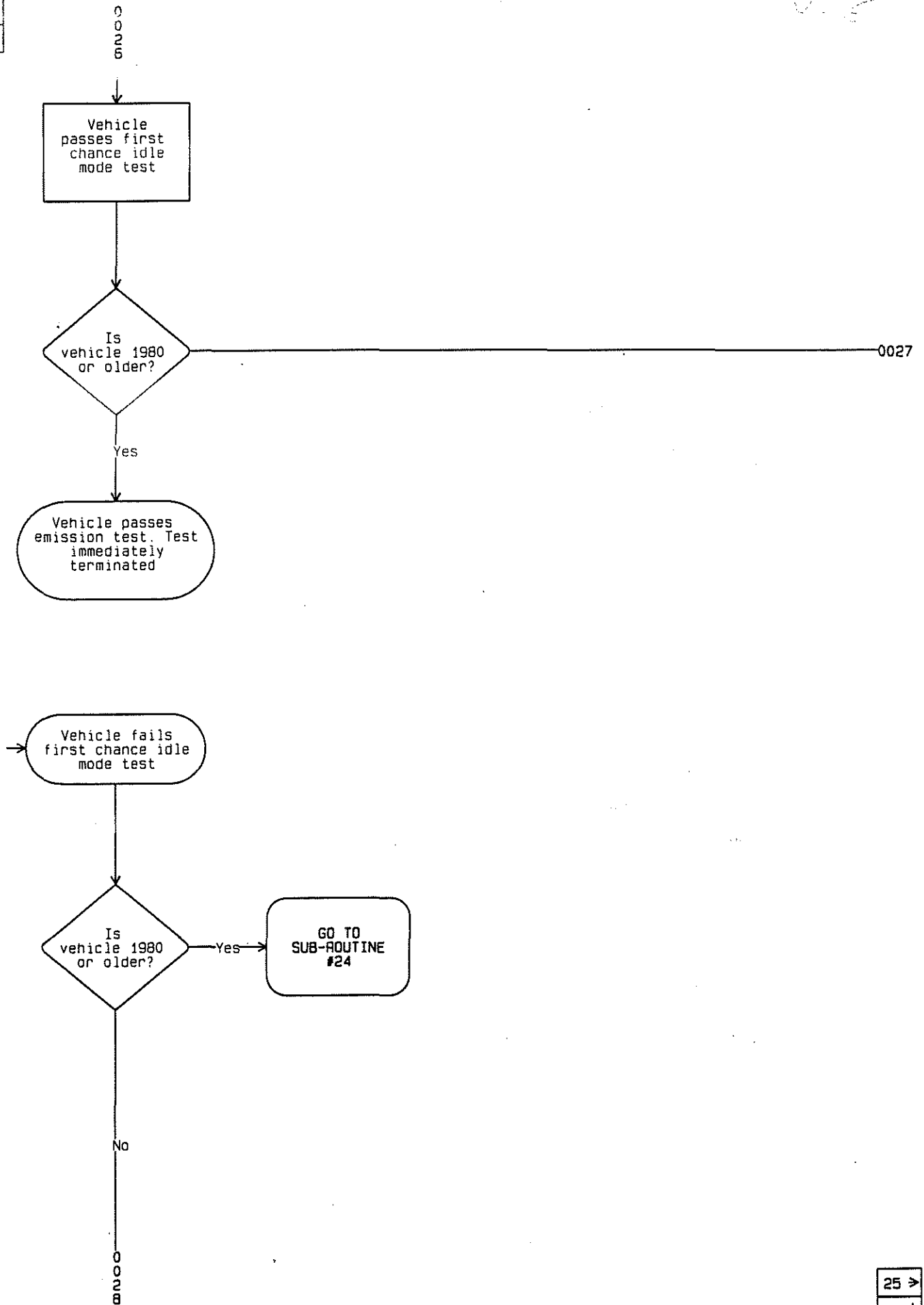
Inspector initiates
Mode Timer (mt=0)
for maximum of 30
seconds (mt=30)
elapsed time

0000

23 →
14 ↓



↑ 14
← 5



25 →
16 ↓

↑	15
←	6

0000

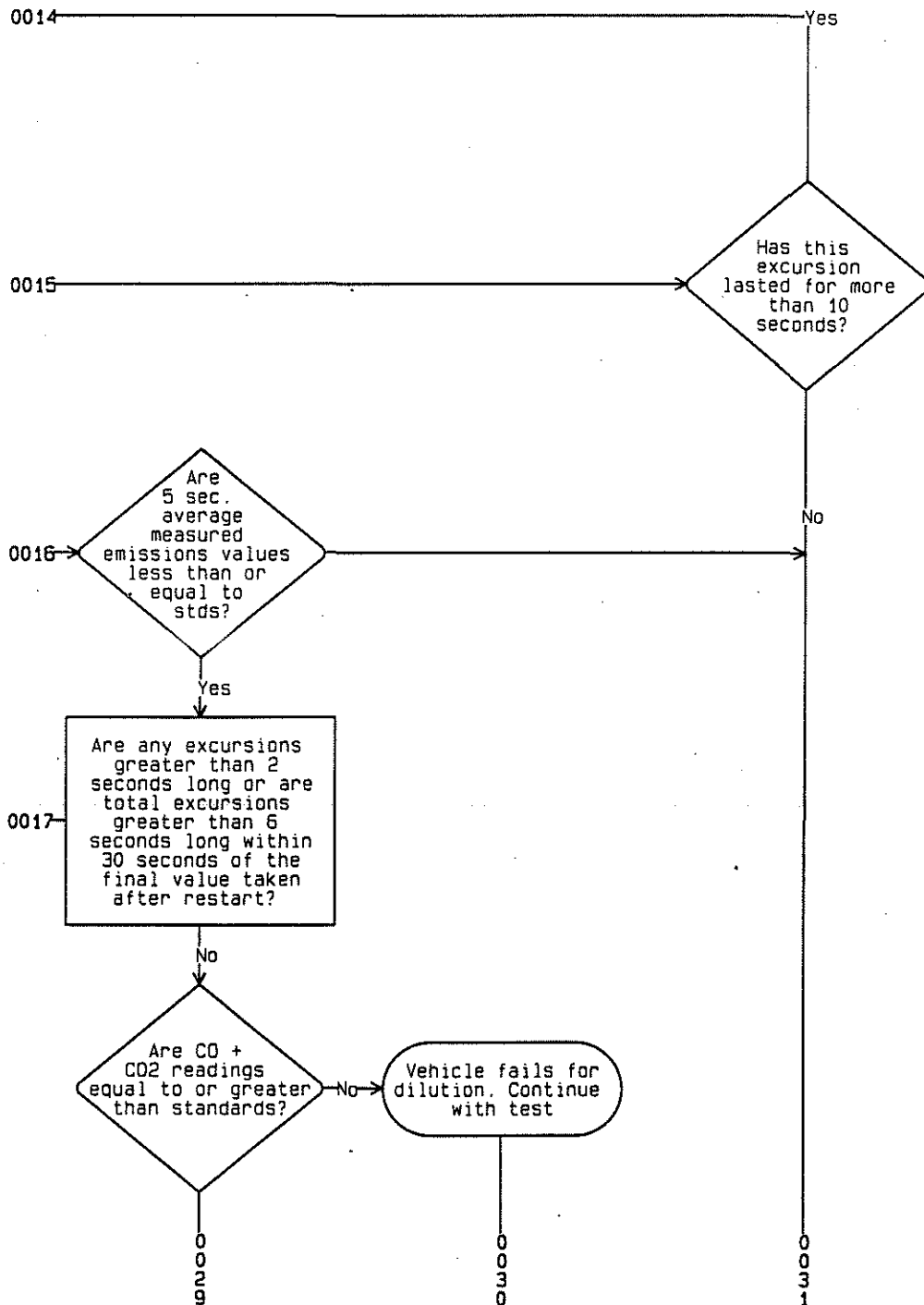
0009

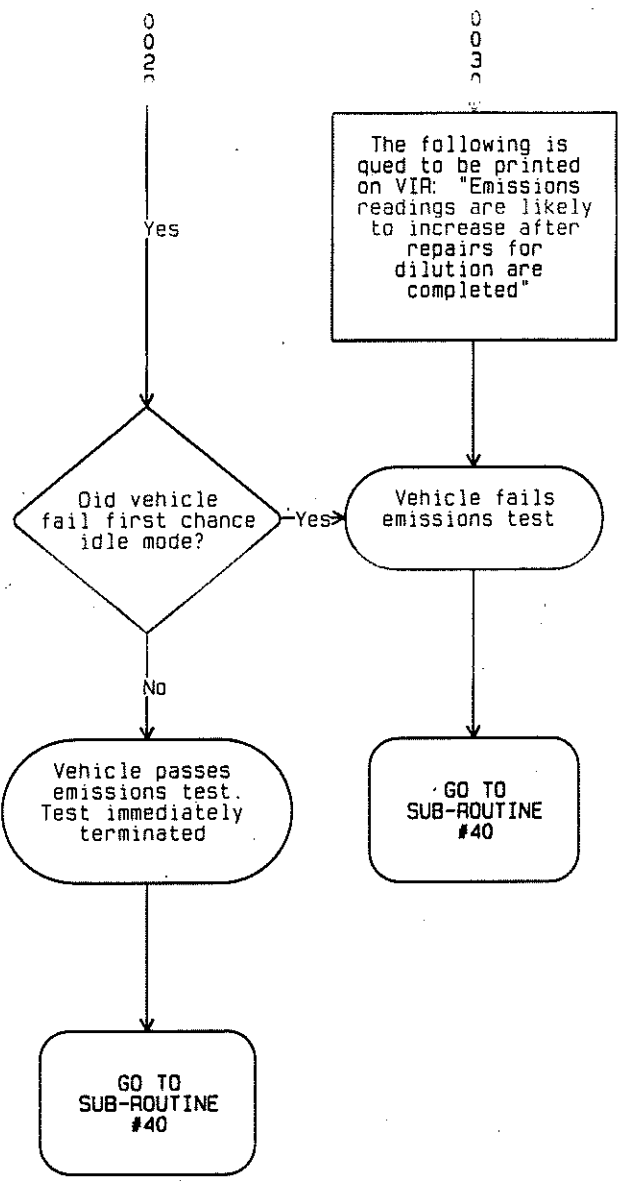
26	→
17	↓

↑ 16
← 7

17

27 →
18 ↓





0020

The following is qued to be printed on VIR: "Emissions readings are likely to increase after repairs for dilution are completed"

↑	19
←	10

X-30

30	→
	↓



DEPARTMENT OF ENVIRONMENTAL QUALITY
VEHICLE INSPECTION PROGRAM
LIGHT AND HEAVY DUTY VEHICLE
TESTING METHOD ROUTINE
SINGLE POSITION LANE



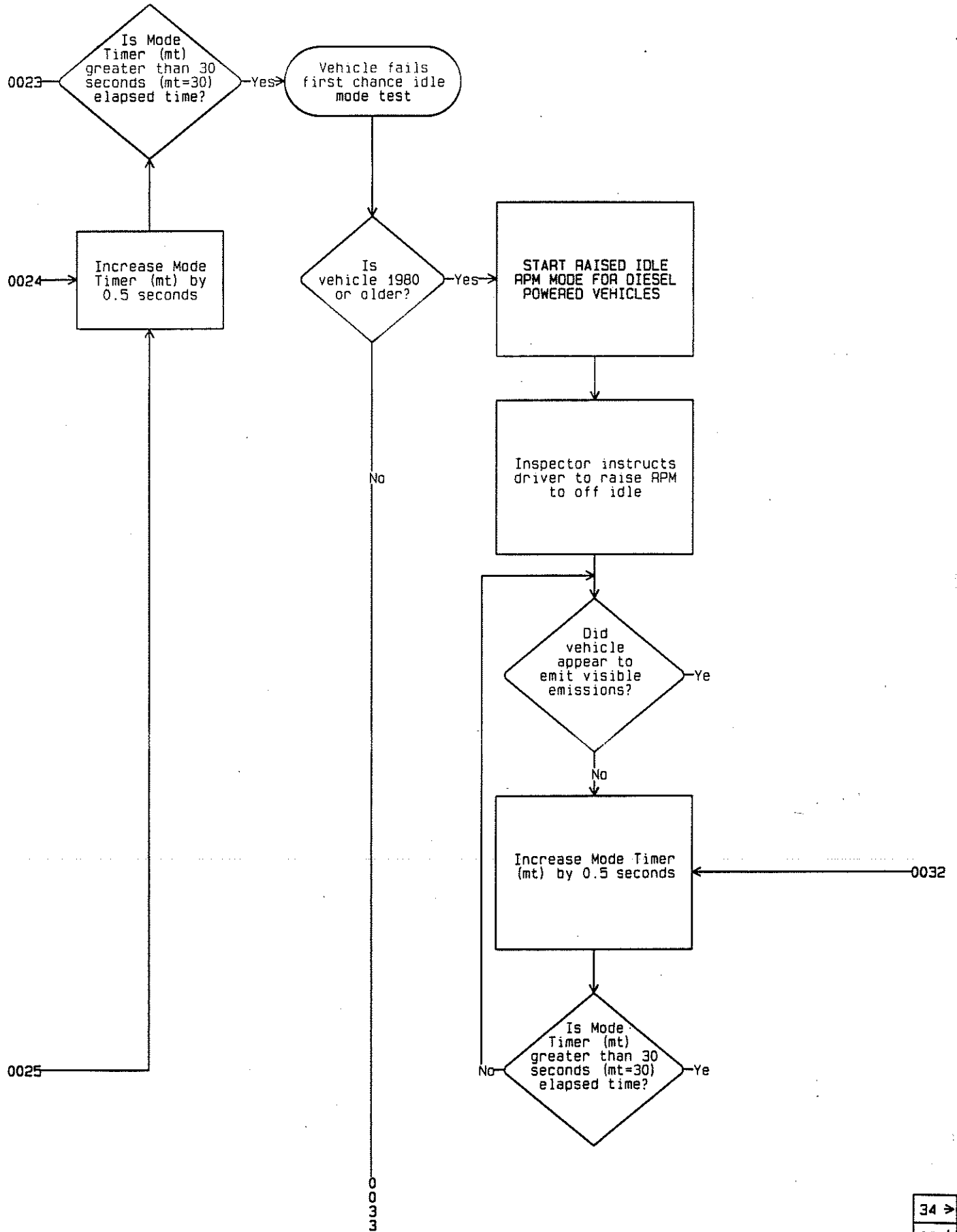
K-22

↑ 21
← 12

32 >
23 ↓

↑ 22
← 13

33 →
24 ↓



↑ 24
← 15

003

0027

START RAISED IDLE
RPM MODE FOR 1981
AND NEWER DIESEL
POWERED VEHICLES

Inspector instructs
driver to increase
engine speed to off
idle and then
initiates Mode
Timer (mt=0) for a
maximum of 180
seconds (mt=180)
elapsed time

Is Mode
Timer (mt)
greater than 15
seconds (mt=15)
elapsed time?

Did
vehicle
appear to
emit visible
emissions?

0000

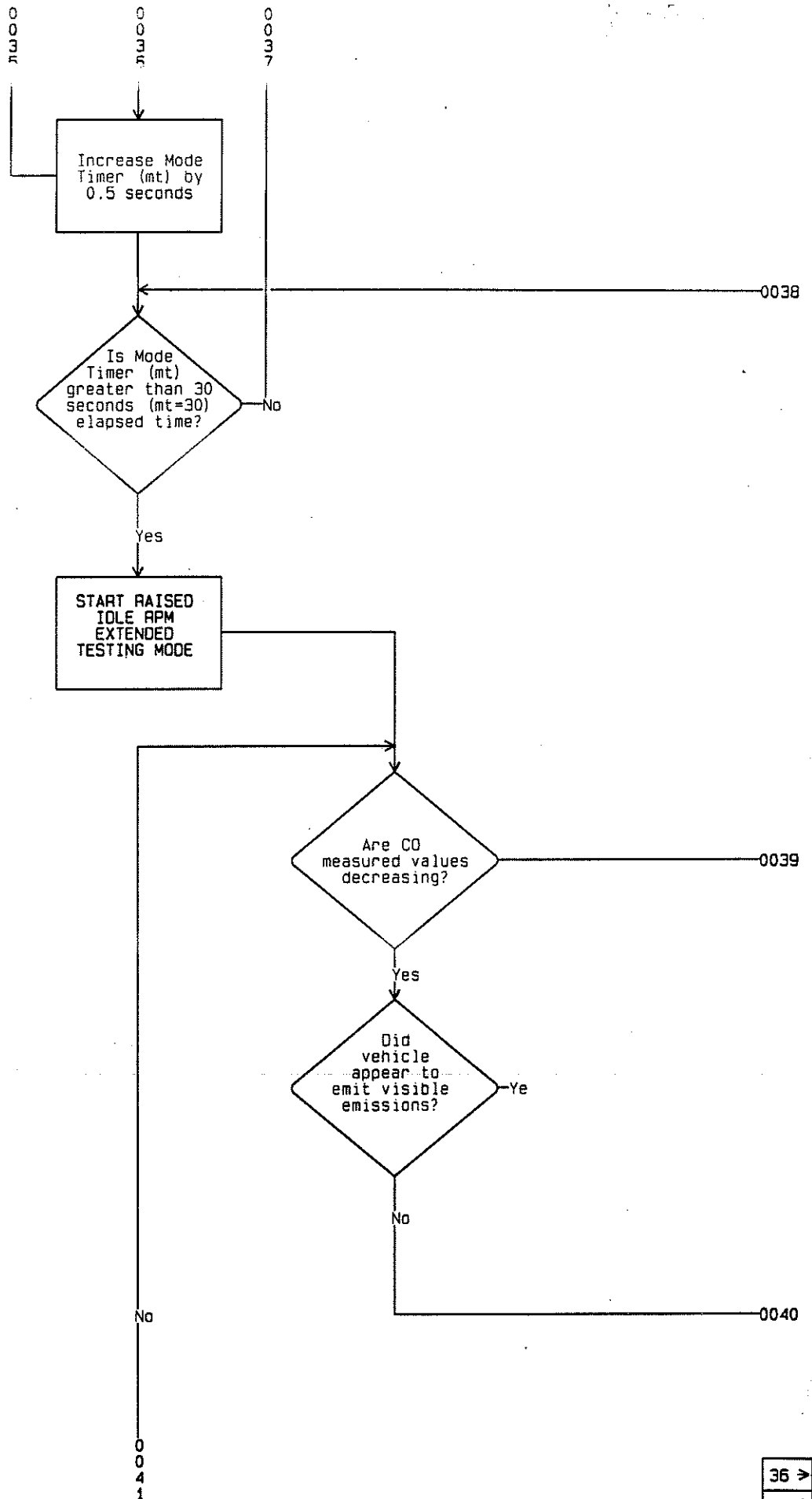
0006

0007

0034

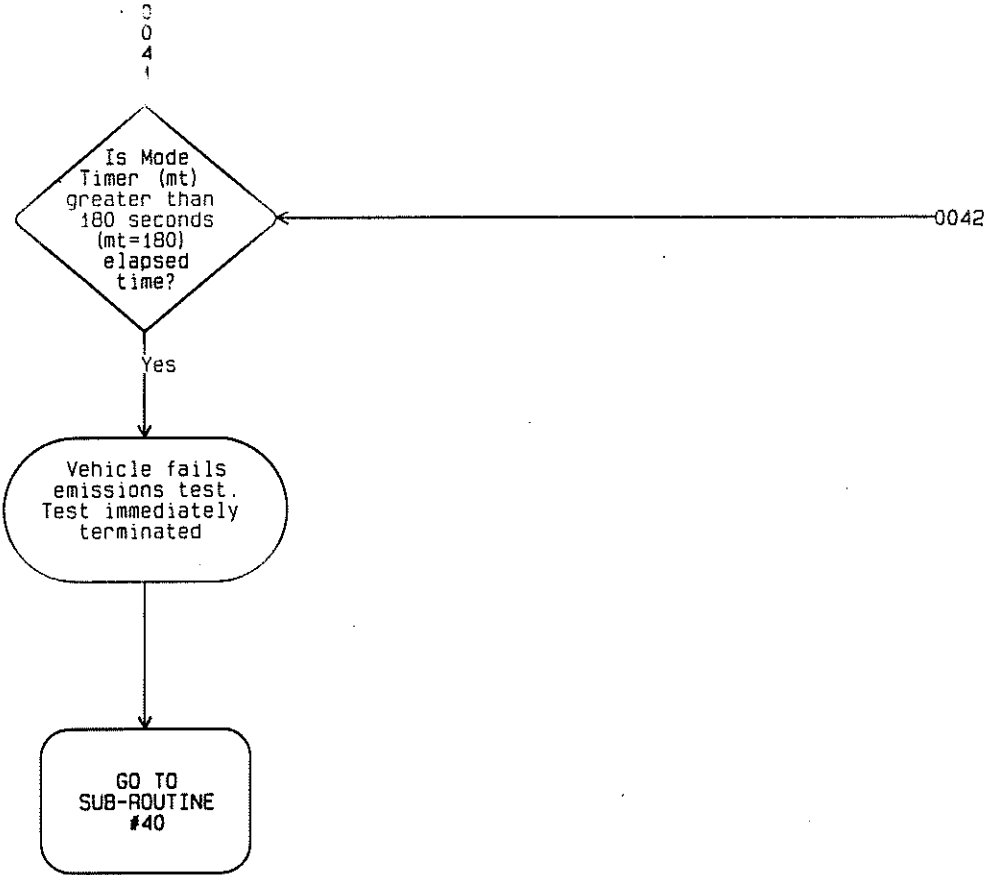
35 →
26 ↓





K-27

↑ 26
← 17



37 →
28 ↓

K-28

↑ 27
← 18

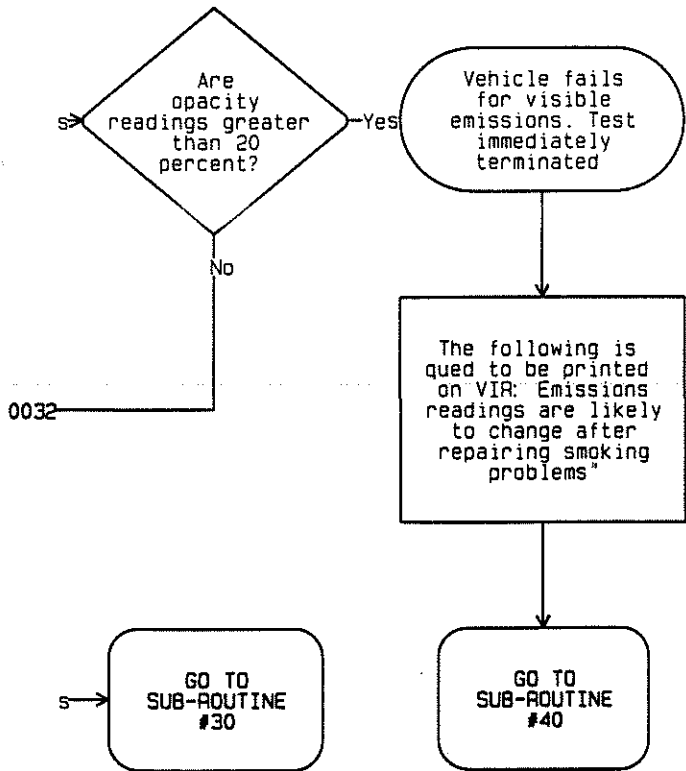
38 →
29 ↓

↑	32
←	23

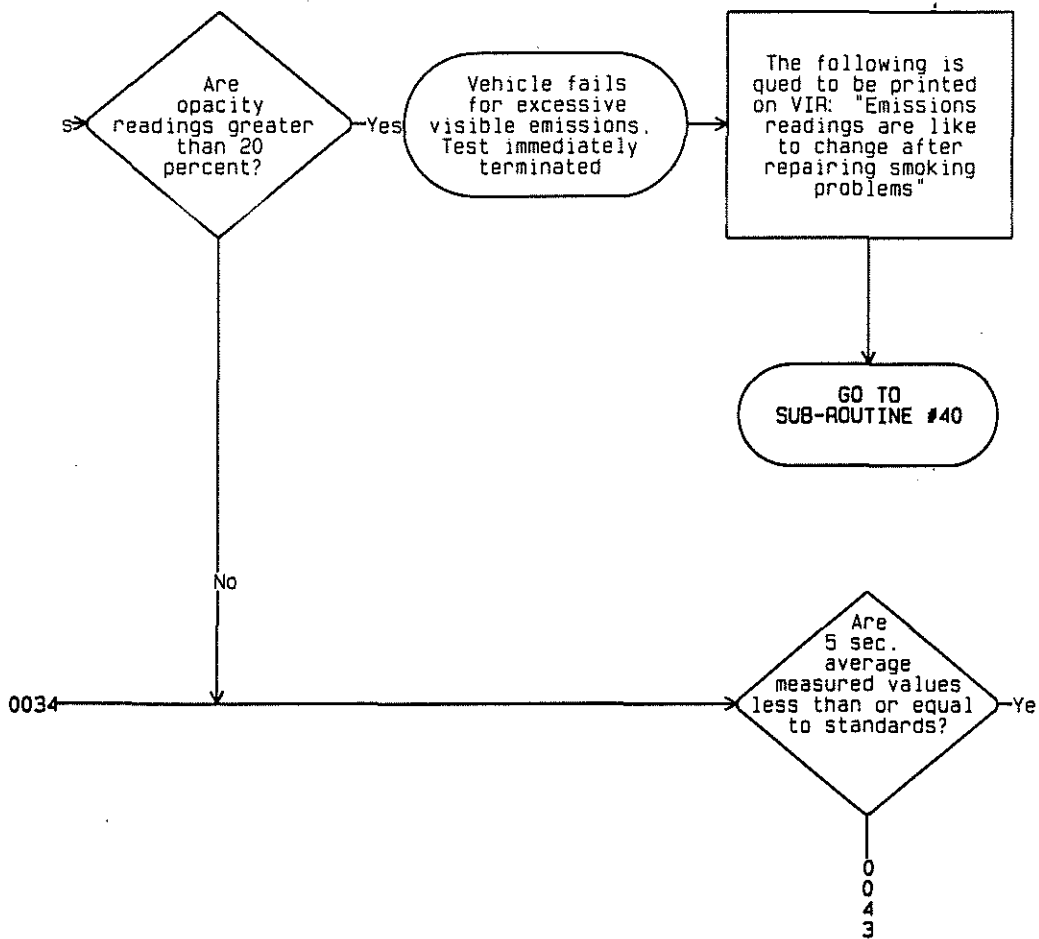
K-03

43	→
34	↓

n-37



1-105



Increase Mode
Timer (mt) by
0.5 seconds

0038

0039

No

Vehicle fails
emission test. Test
immediately
terminated

Inspector instructs
driver to return
engine speed to
idle

0044

Are
opacity
readings greater
than 20
percent?

No

Vehicle fails
for excessive
visible emissions.
Test immediately
terminated

The following is
qued to be printed
on VIR: "Emissions
readings are likely
to change after
repairing smoking
problems"

0045

0040

Are
5 sec.
average
measured values
less than or equal
to standards?

Ye

No

↑ 36
← 27

0042

↓
Increase Mode
Timer (mt) by
0.5 seconds

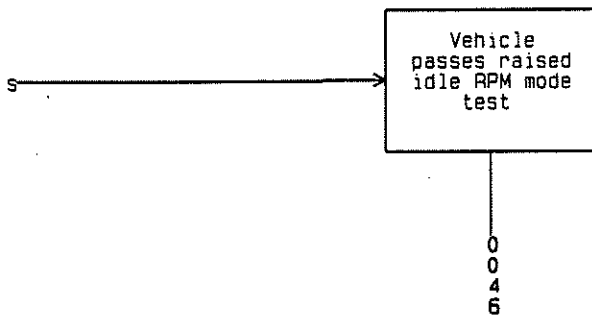
47 >
38 ↓

↑ 37
← 28

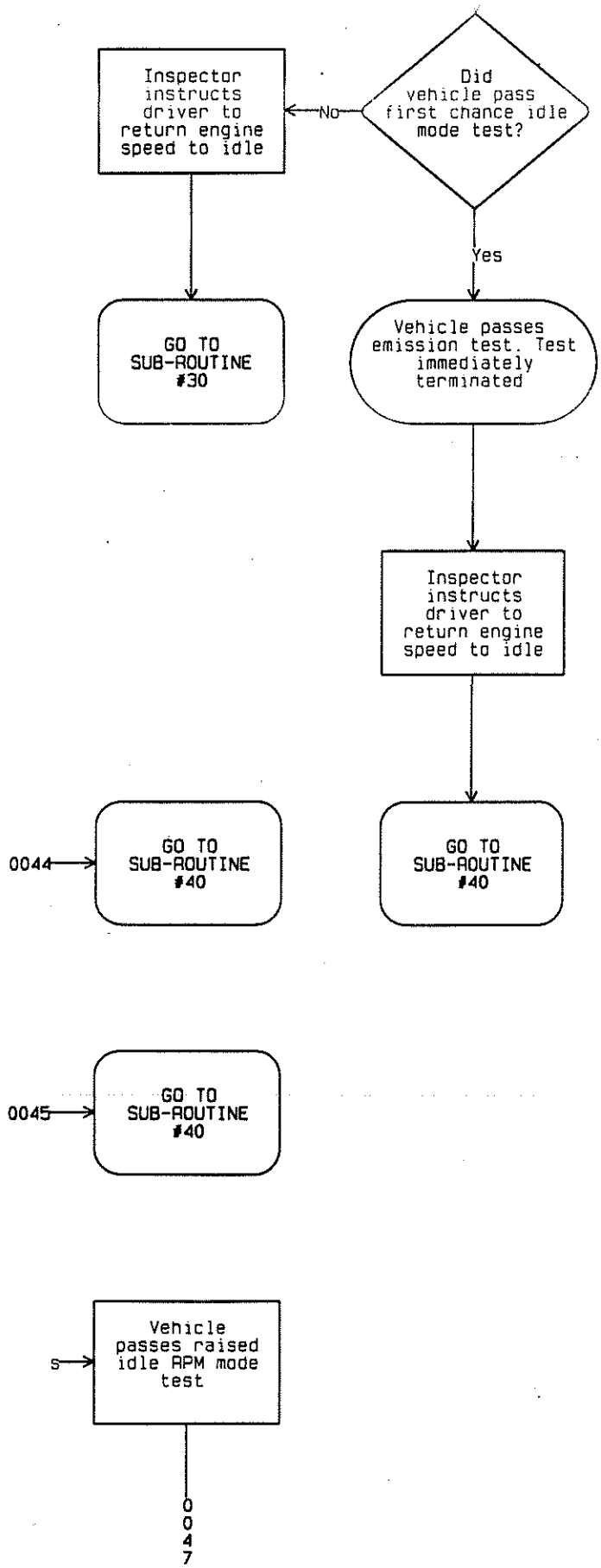
K-24

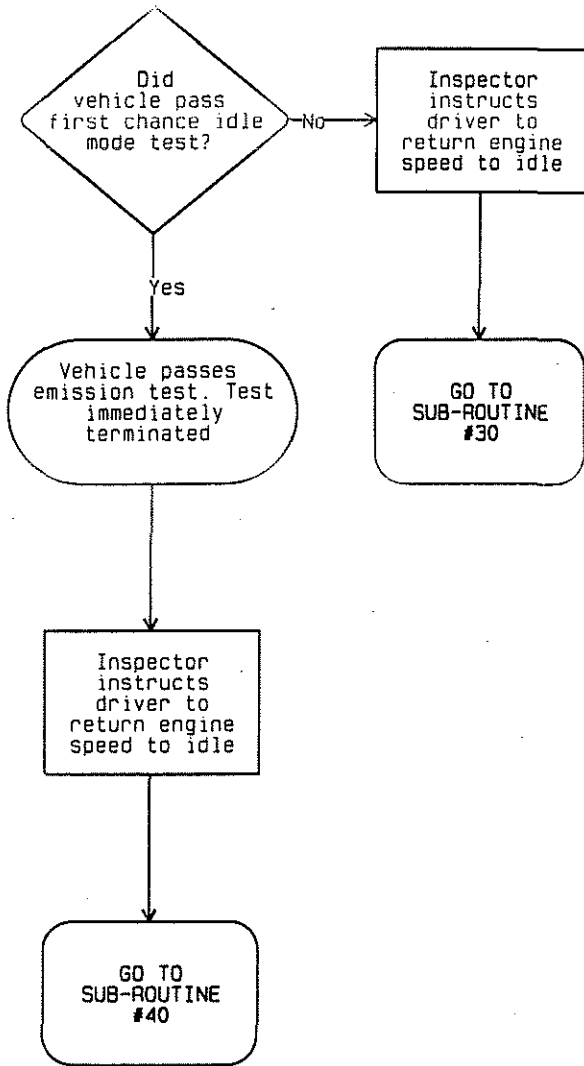
48 >
39 ↓

V-45



K-46



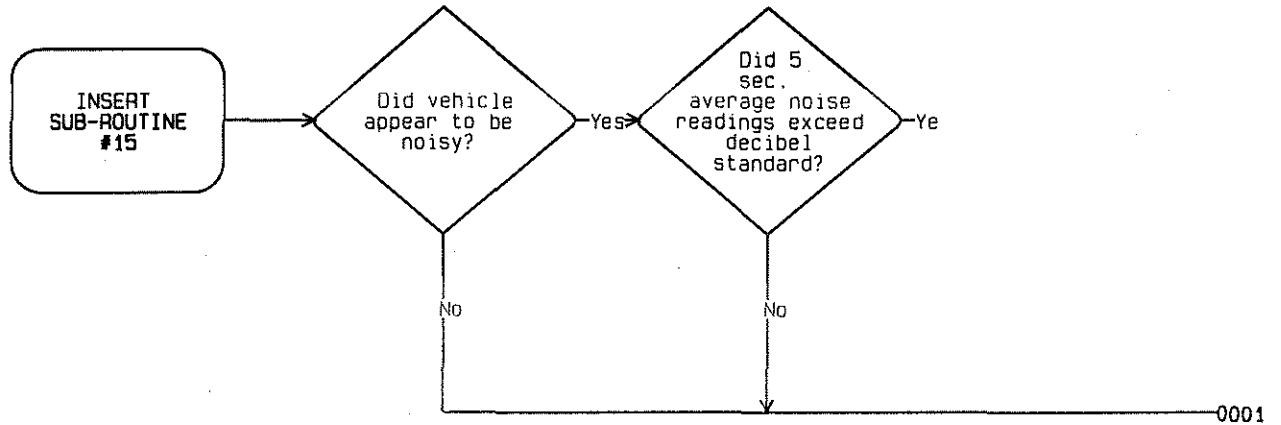


↑ 47
← 38

→
49 ↓



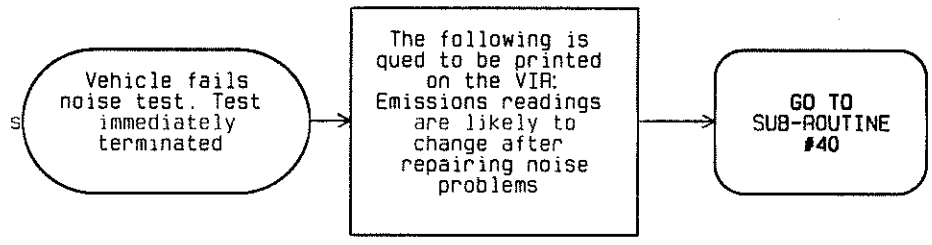
SUB-ROUTINE NOISE



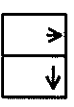


LINE #15

TEST



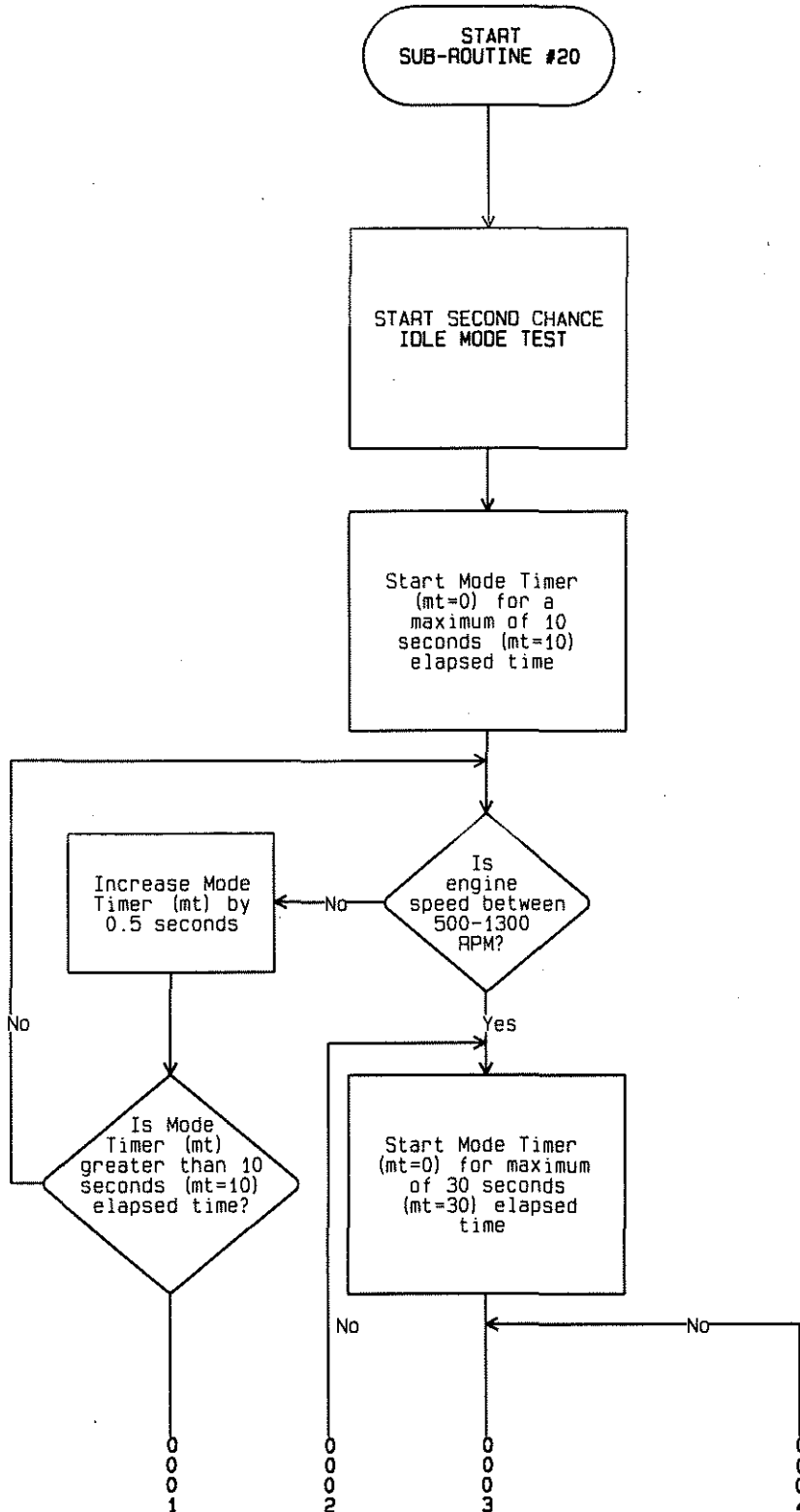
0001 →



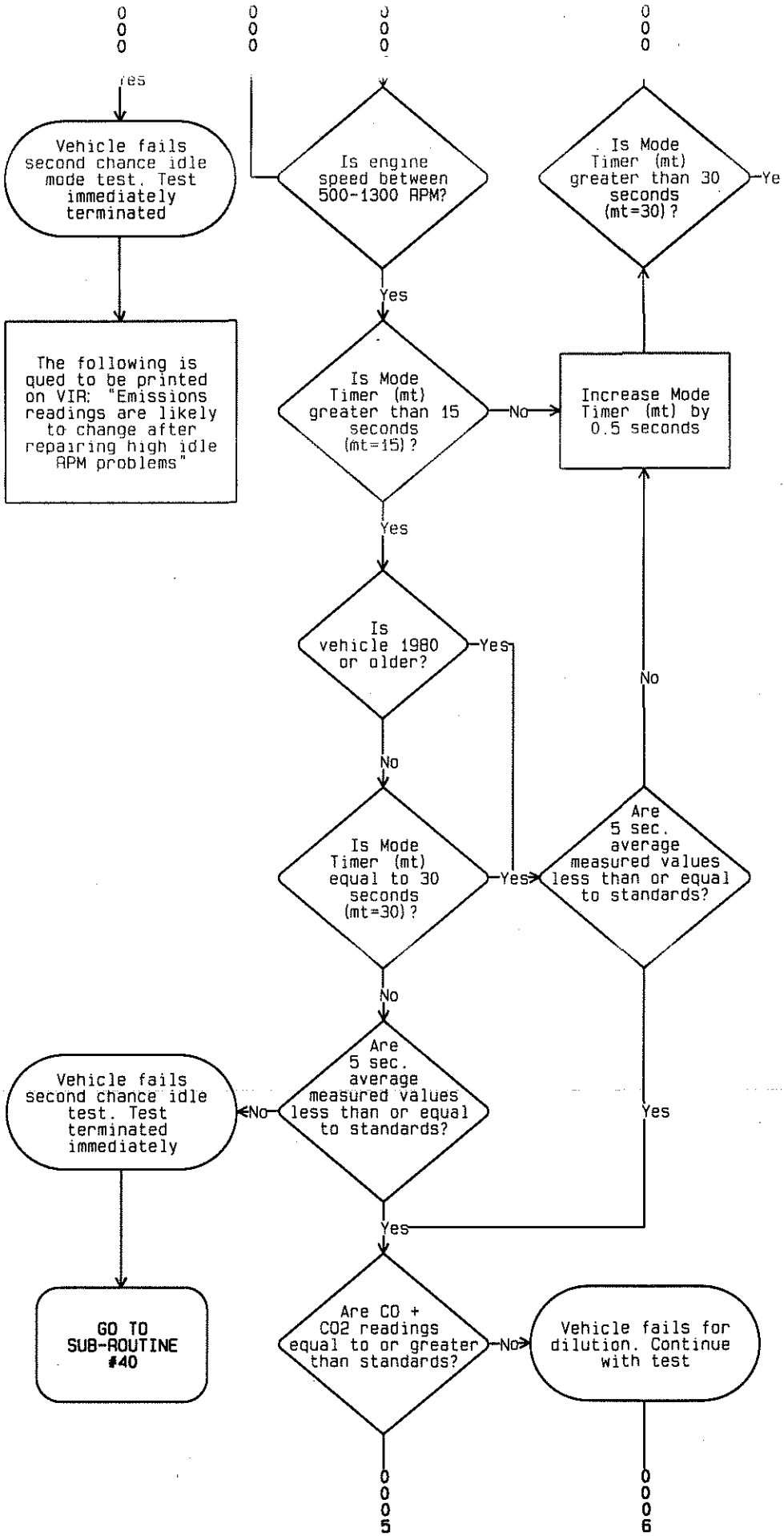


SUB-ROUTINE #20

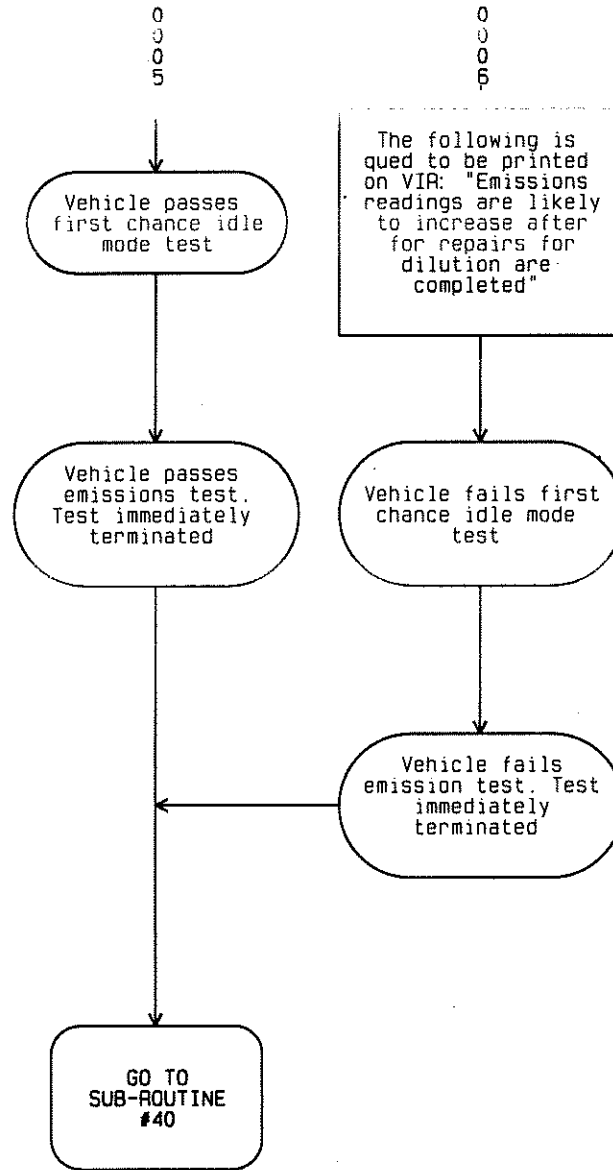
SECOND CHANCE IDLE MODE FOR GASOLINE POWERED VEHICLES



↑ 1
←



5 →
3 ↓

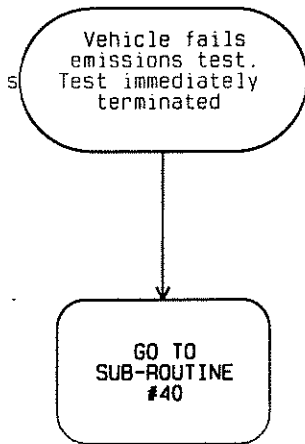




0



↑	4
←	2



→
6 ↓



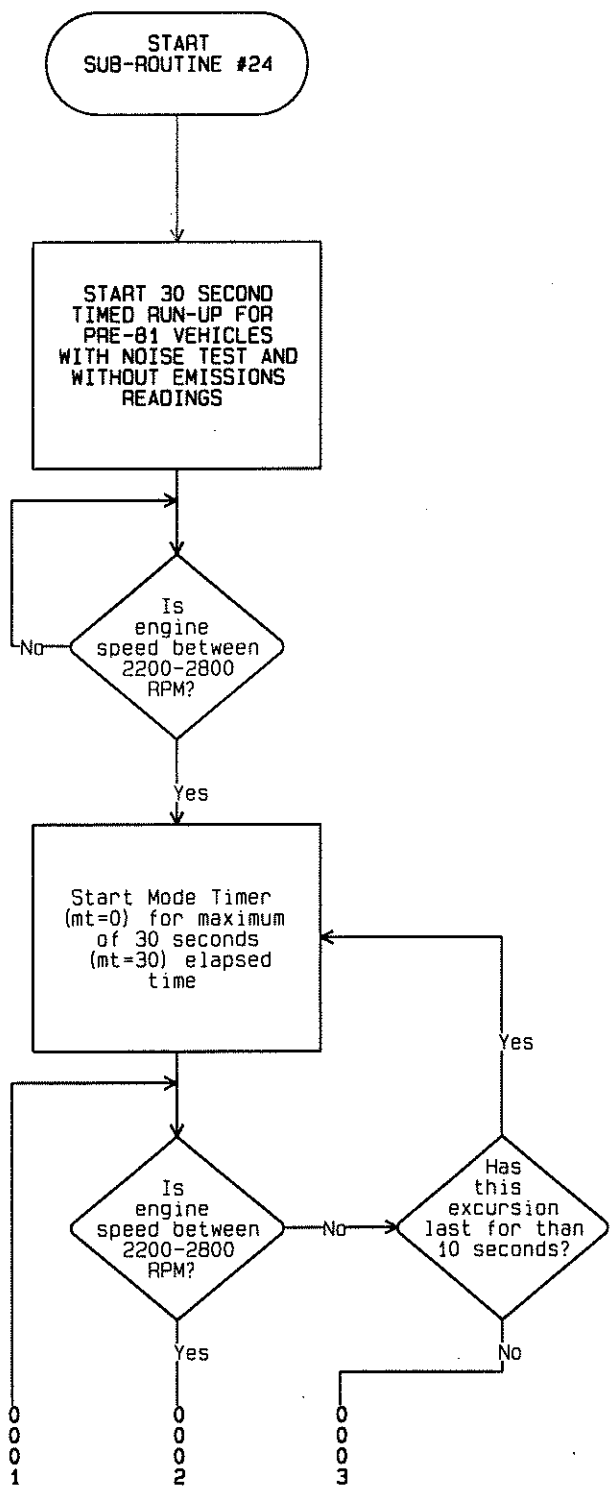
h-27



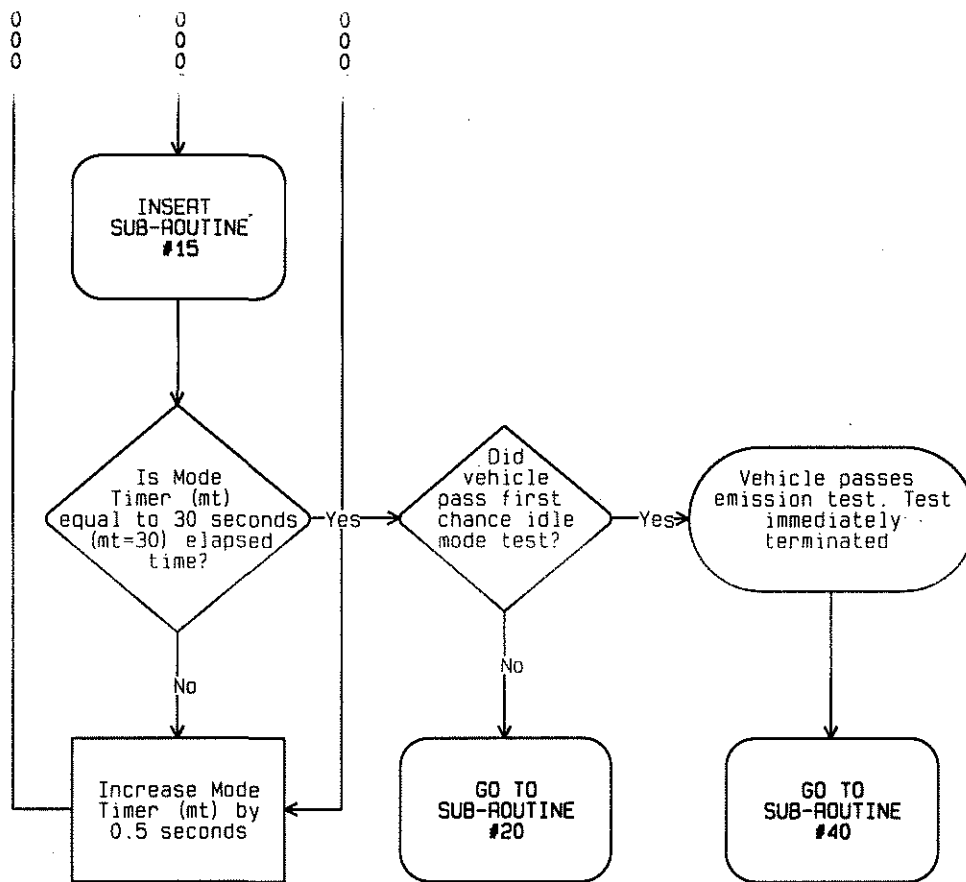


K-29

SUB-ROUTINE #24 30 SECOND TIMED RUN-UP FOR PRE-1981 VEHICLES



↑ 1
←

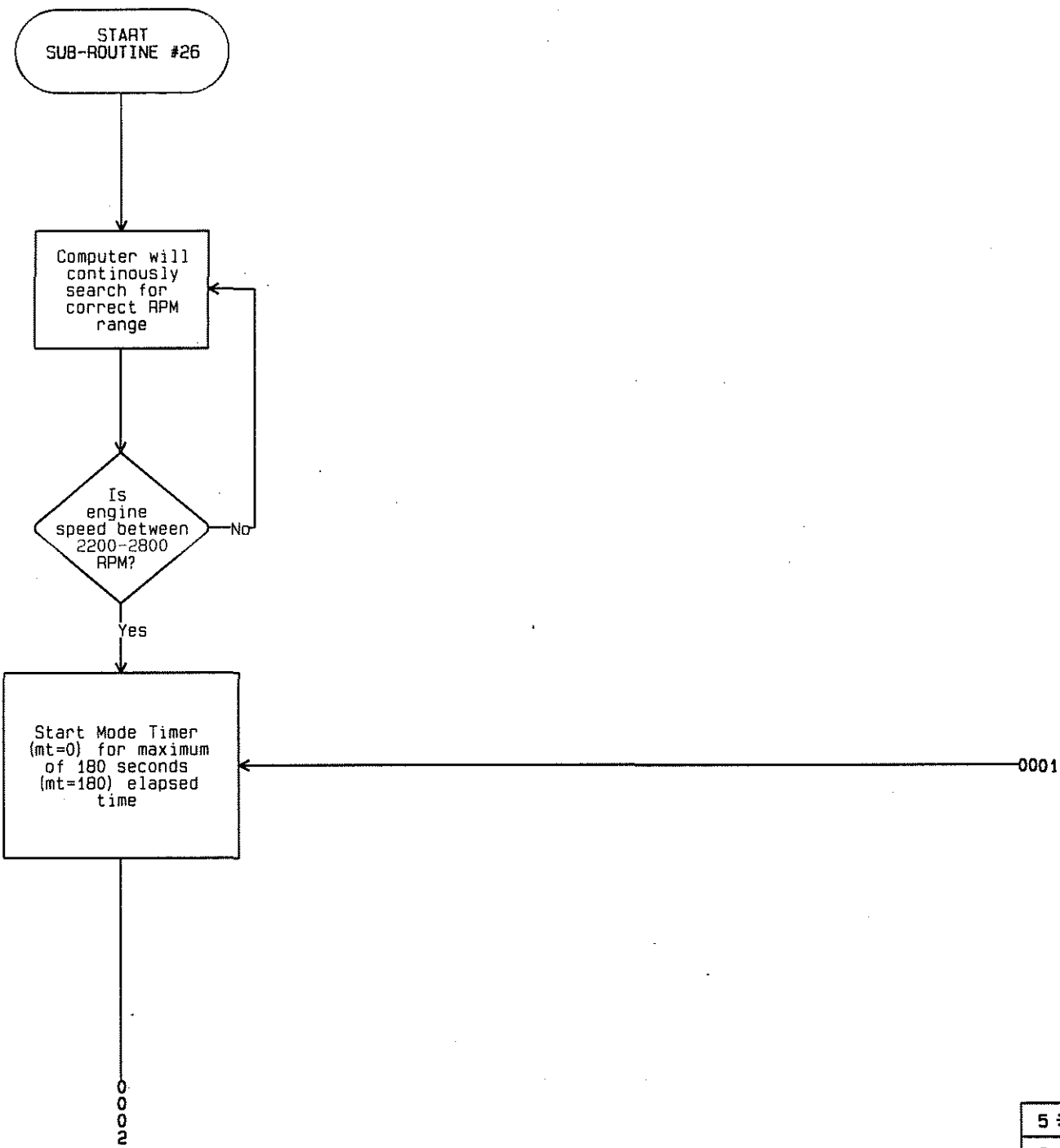


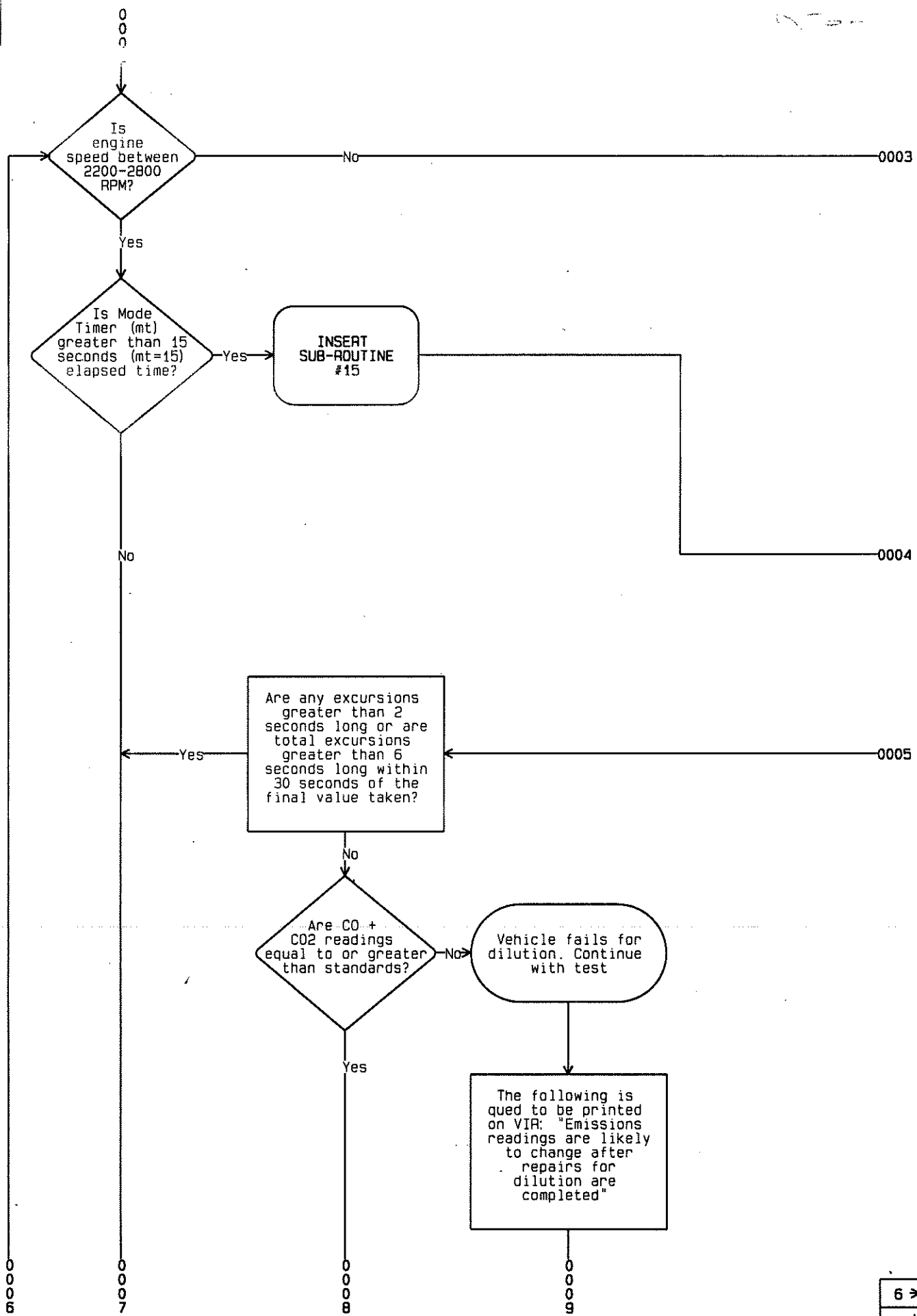
→
↓



R-21

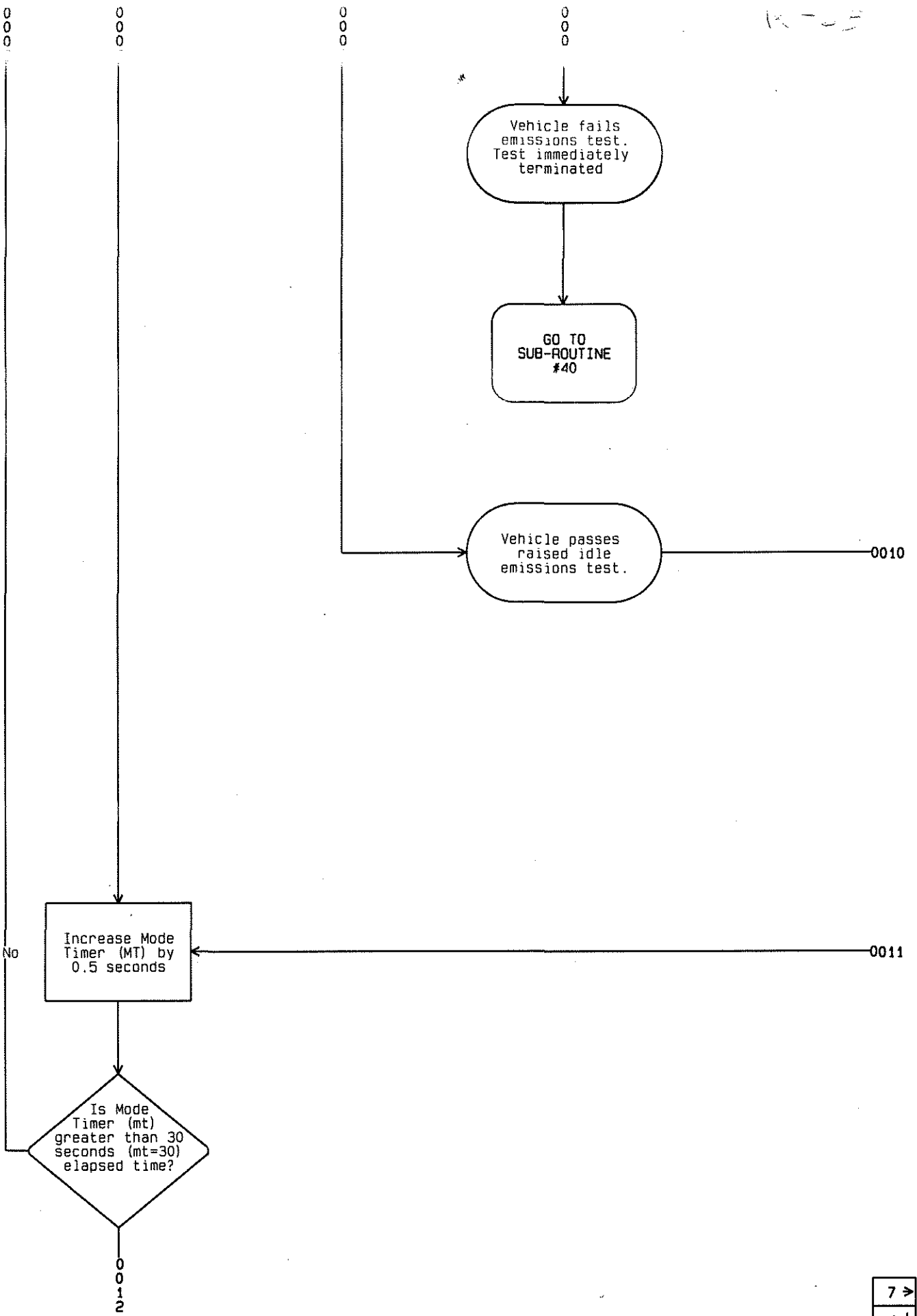
SUB-R FIRST 3 GASOLINE RAISED R





K-25

↑	2	00
←		00



7	➤
4	⬇



CONT





R-65

ROUTINE #26
30 SECONDS OF
POWERED ENGINE
RPM MODE TEST

0001

0013

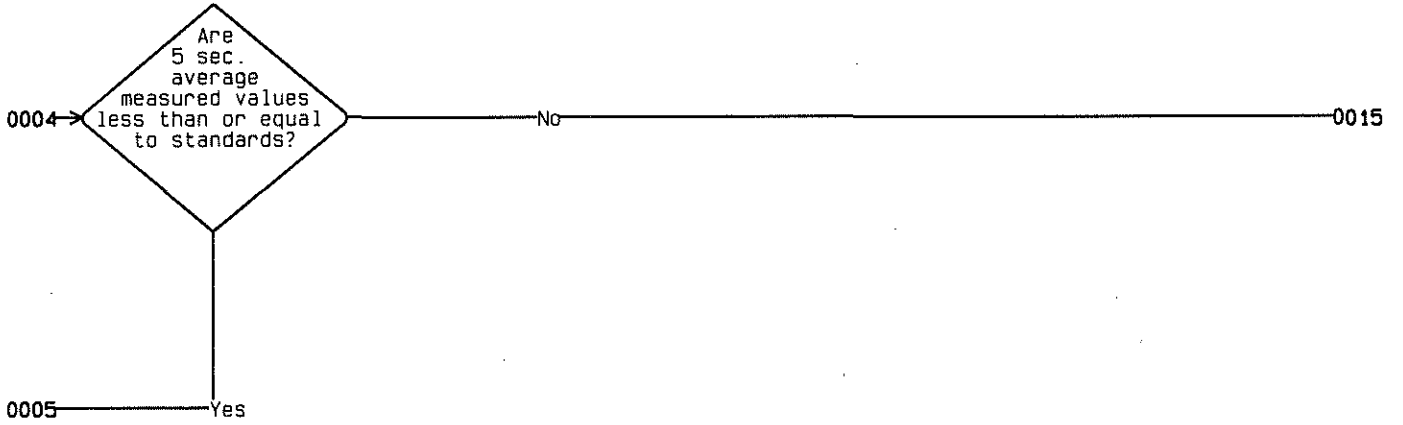


↑ 5
← 2

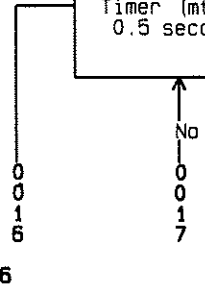
10-66

0003

0014

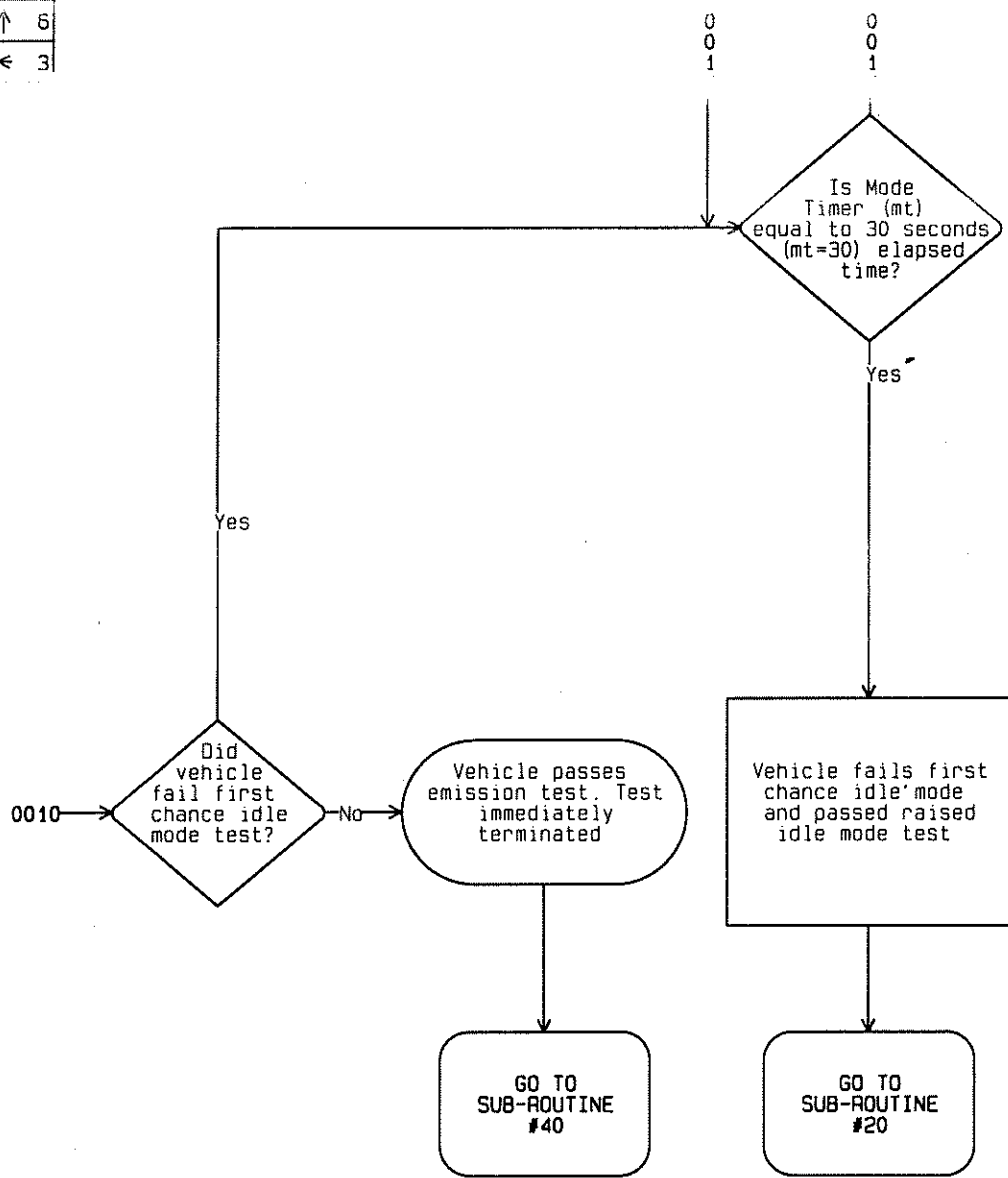


Increase Mode
Timer (mt) by
0.5 seconds



10 →
7 ↓

↑ 6
← 3



0011

0018

11 >
8 ↓





0013—Yes

0
0
1
9



↑	9
←	6

0
0
1

2-73

0014 →

Has this excursion lasted for more than 10 seconds?

No

0015 →

0200

→
11 ↓

K-71

↑	10
←	7

0000

0018

→
12 ↓



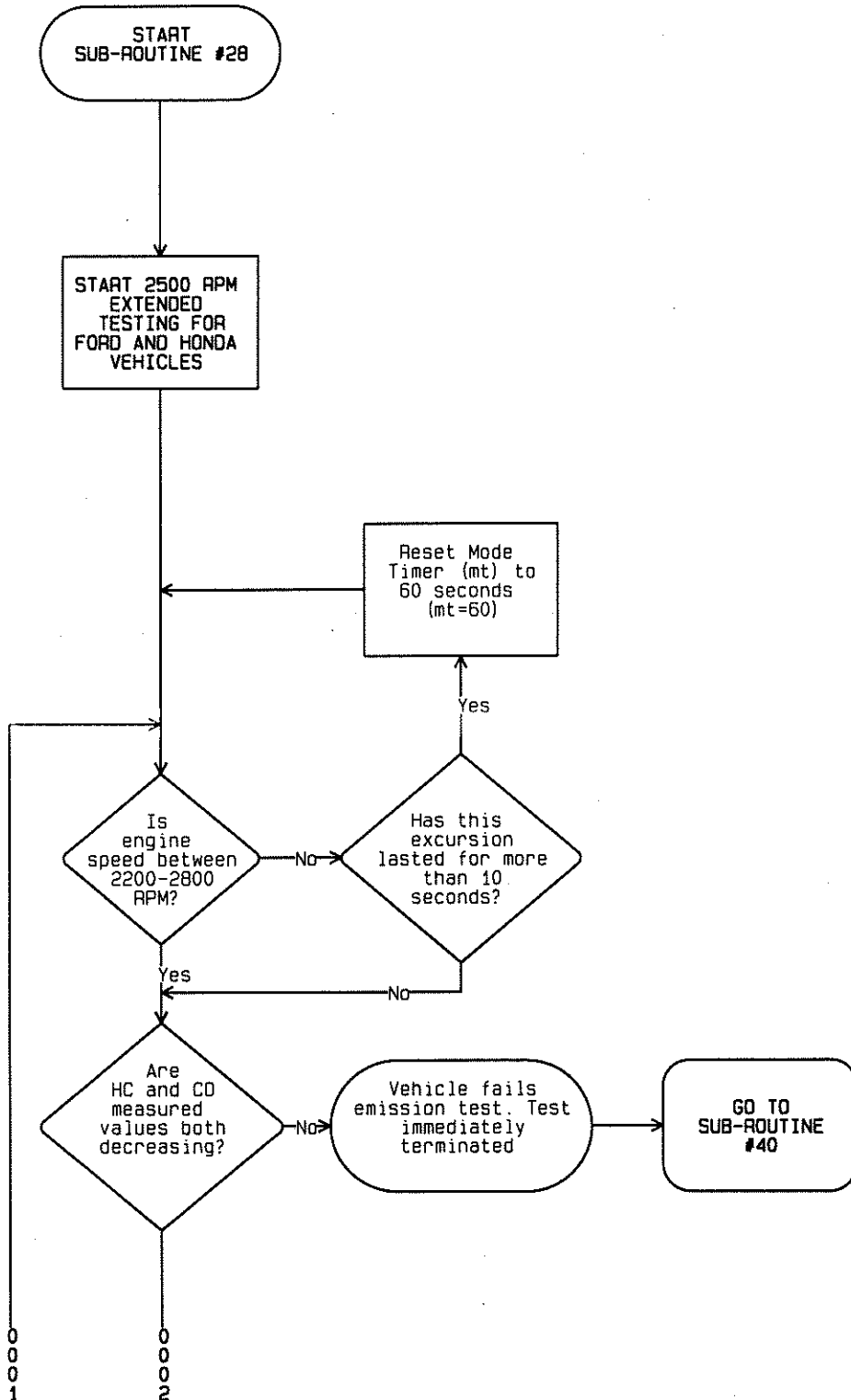
R-77





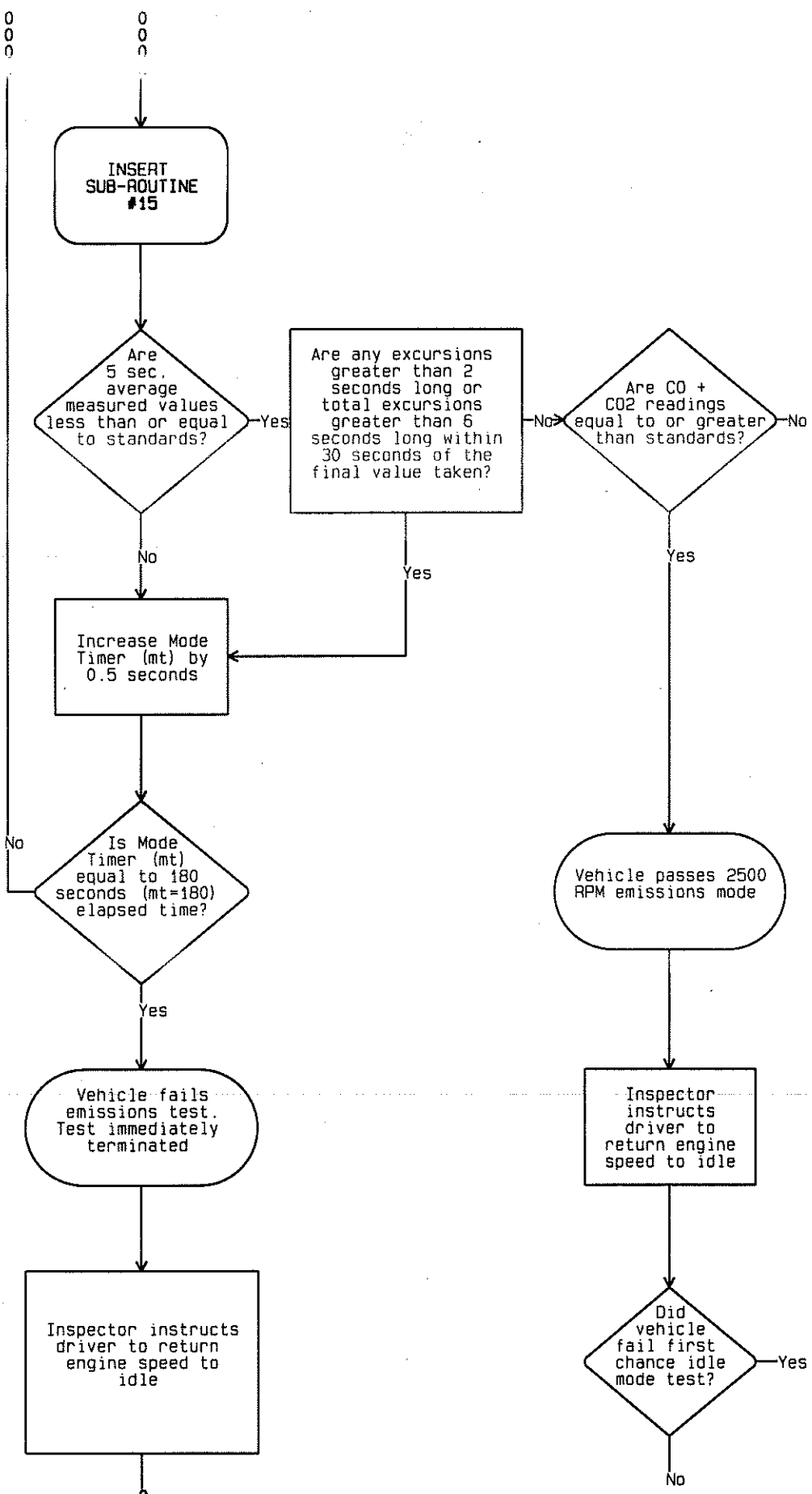
SUB-ROUTINE #28

2500 RPM EXTENDED
TESTING FOR FORD
AND HONDA VEHICLES



R-77

↑ 1 0
← 0 0



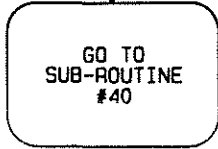
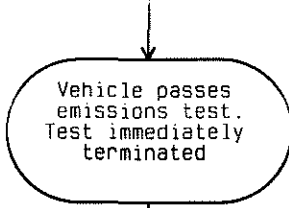
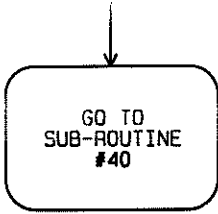
0 0 0 3

5 →
3 ↓

K-15

↑	2
←	

0
0
0

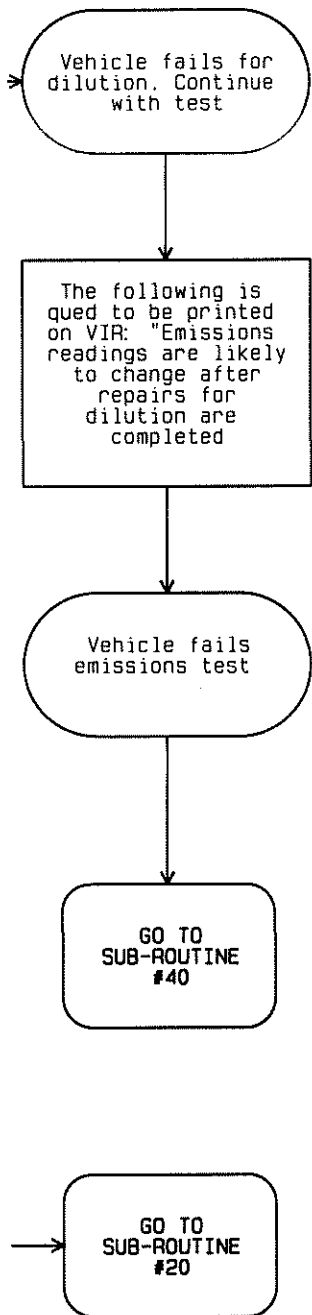


6	→
	↓



0





↑	5
←	3

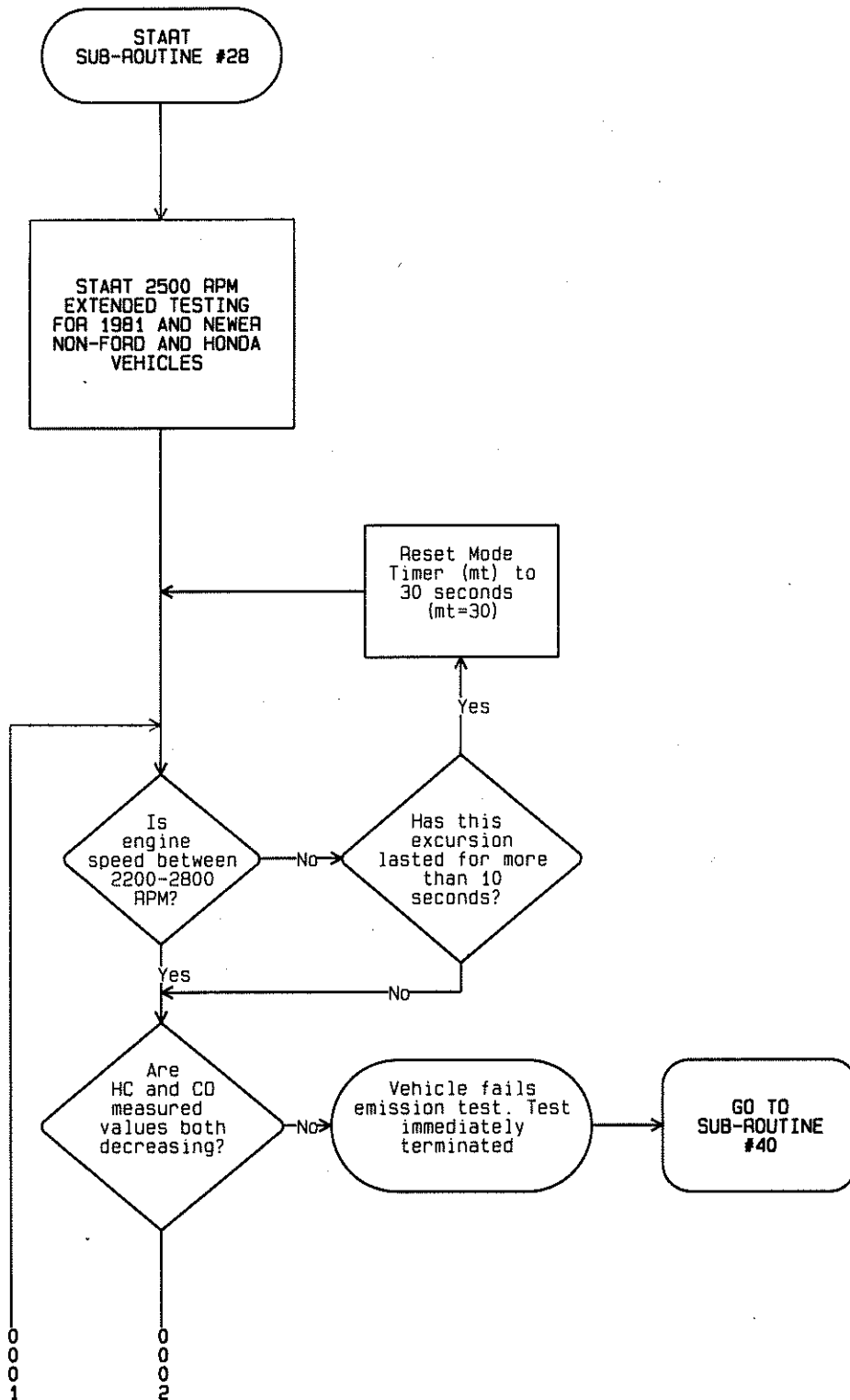
1. 1. 1

→
↓

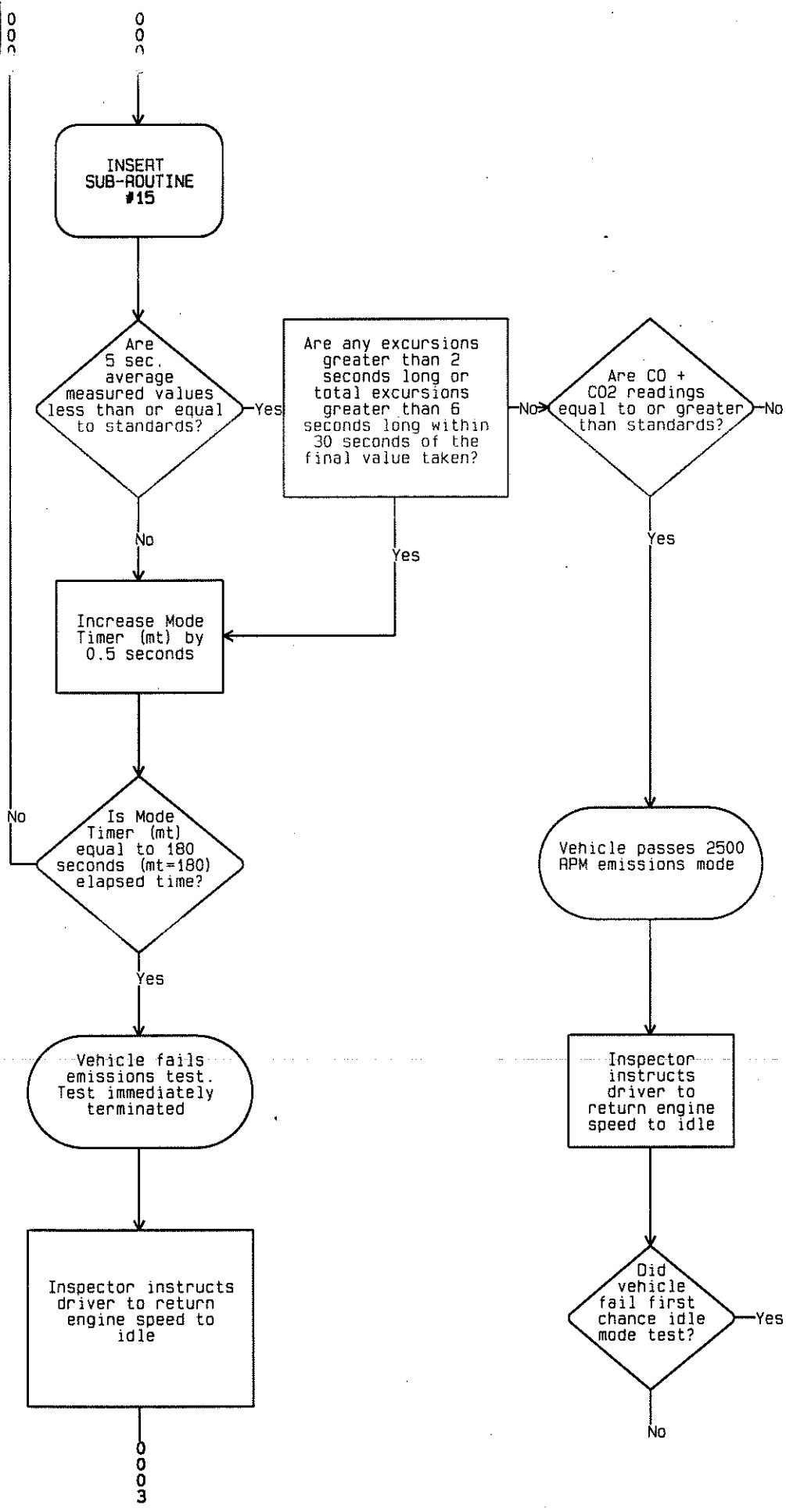


SUB-ROUTINE #29

2500 RPM EXTENDED TESTING
FOR 1981 AND NEWER NON-
FORD AND HONDA VEHICLES



↑ 1
← 00



5 →
3 ↓

↑ 2
←

00
↓

GO TO
SUB-ROUTINE
#40

↓
Vehicle passes
emissions test.
Test immediately
terminated

↓
GO TO
SUB-ROUTINE
#40

6 →
↓



9



↑	4
←	2

Vehicle fails for dilution. Continue with test

The following is quod to be printed on VIR: "Emissions readings are likely to change after repairs for dilution are completed"

Vehicle fails emissions test

GO TO SUB-ROUTINE #20

GO TO SUB-ROUTINE #40

→
6 ↓



12

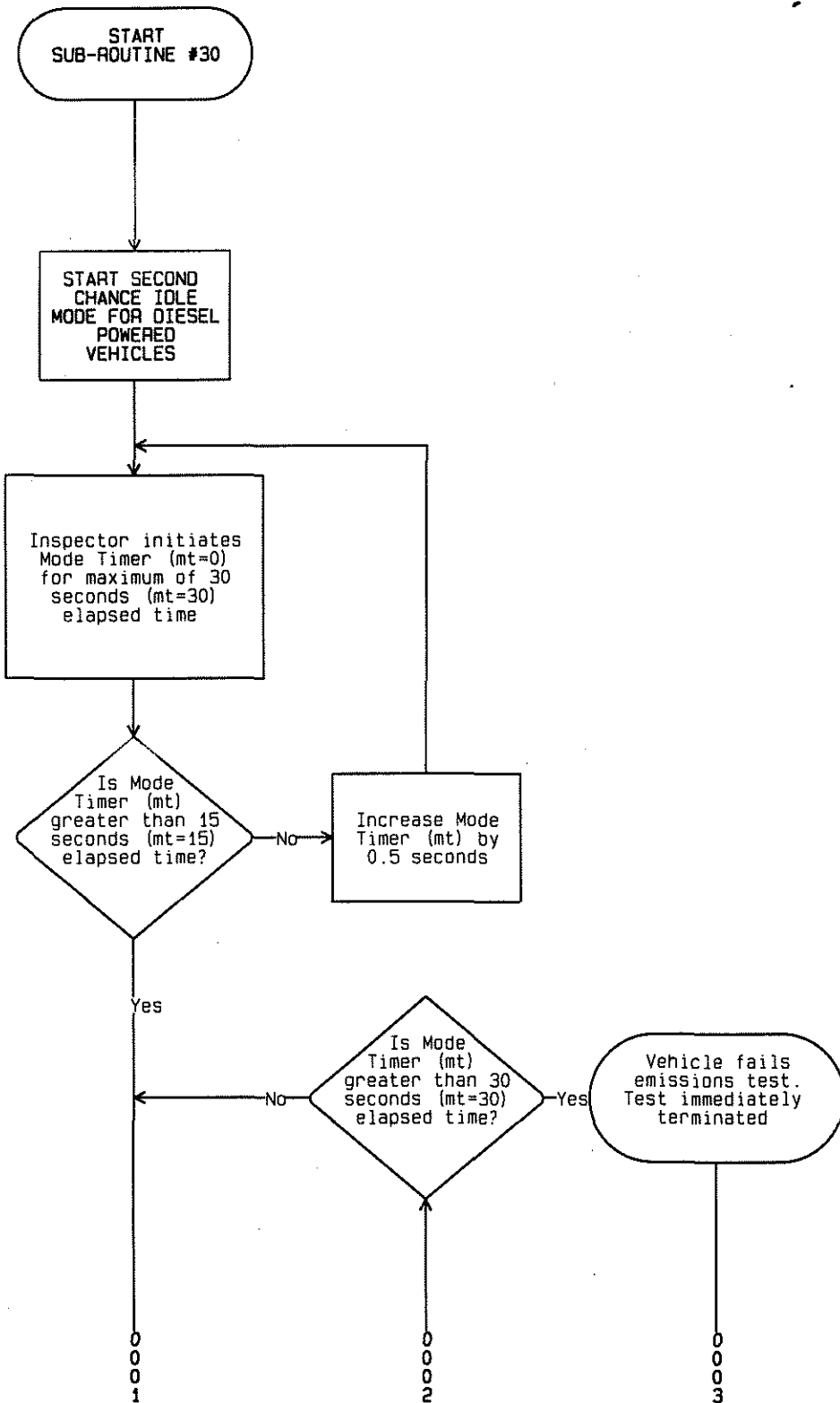




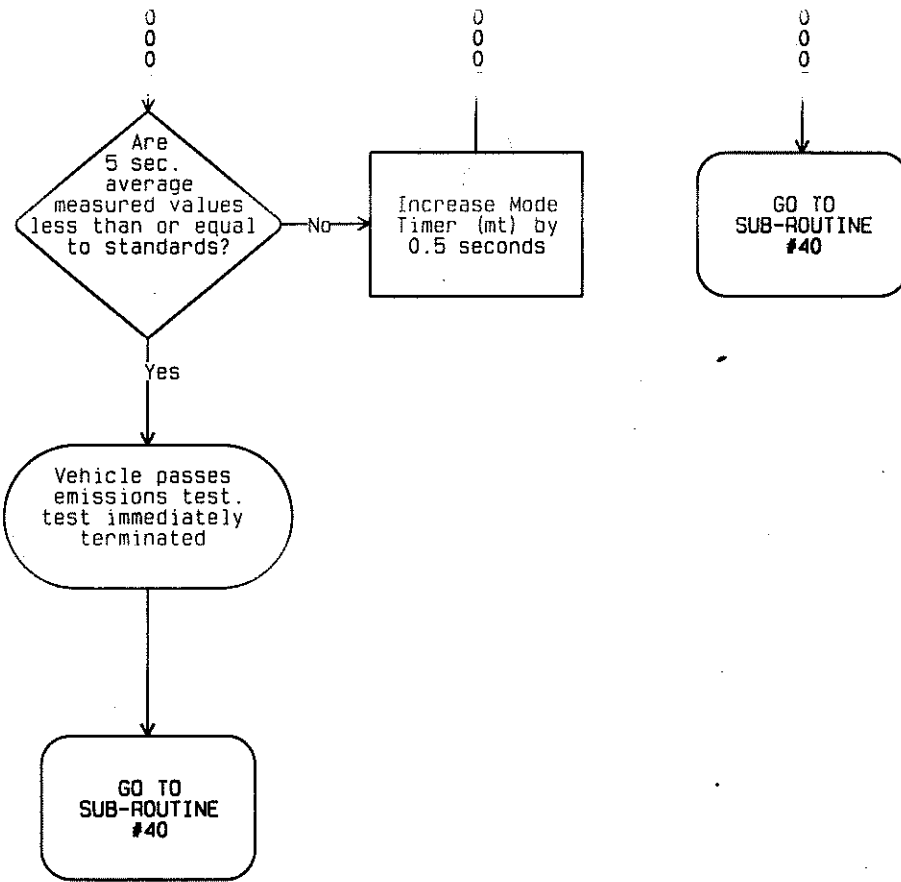
K-75

SUB-ROUTINE #30

SECOND CHANCE IDLE MODE FOR DIESEL POWERED VEHICLES



↑ 1
←



0 1 0 0

→
←

NOTICE OF PROPOSED RULEMAKING HEARING

(Rulemaking Statements and Statement of Fiscal Impact must accompany this form.)

AGENCY: Department of Environmental Quality, Air Quality Division

The above named agency gives notice of hearing.

HEARING TO BE HELD:

DATE:	TIME:	LOCATION:
April 5, 1994	7:00 pm	Rogue Valley Vehicle Testing Center 3030 Biddle Road Medford, OR
April 5, 1994	7:00 pm	DEQ Headquarters Executive Building, Room 3A 811 SW Sixth Avenue Portland, OR

Hearings Officer: Ted Wacker (Medford Hearing)
Jerry Coffey (Portland Hearing)

Pursuant to the Statutory Authority of ORS 468.375 the following action is proposed:

ADOPT: None

AMEND: OAR 340-24-005 through 340-24-350

REPEAL: None

Prior Notice Given; Hearing Requested by Interested persons

No Prior Notice Given

SUMMARY:

The proposed rules will complete the updating of the vehicle inspection programs in the Portland and Medford areas to meet new federal Environmental Protection Agency (EPA) requirements. The major program changes include adding testing and quality assurance procedures to the existing State Implementation Plan. The revised program must be in full operation before July 1, 1994. The changes are mandated by the EPA as required by the federal Clean Air Act of 1990. The changes are primarily procedural in nature and will have little impact on the public.

Interested persons may comment on the proposed rules orally or in writing at the hearing. Written comments received by **April 6, 1994, 5:00 p.m.** will also be considered. Written comments should be sent to and copies of the proposed rulemaking may be obtained from:

AGENCY: Department of Environmental Quality
ADDRESS: Air Quality Division
1301 S.E. Morrison
Portland, Oregon 97214

ATTN: Jerry Coffey

PHONE: 503-731-3049 or Toll Free 1-800-452-4011

Signature

Date

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Revision the State Implementation Plan to Reflect Changes in the Vehicle Inspection
Program

Rulemaking Statements

Pursuant to ORS 183.335(7), this statement provides information about the Environmental Quality Commission's intended action to adopt a rule.

1. Legal Authority

ORS 468.375

2. Need for the Rule

The federal Clean Air Act of 1990 required the federal Environmental Protection Agency (EPA) to define minimum requirements for vehicle inspection maintenance programs. These regulations were published by EPA on November 5, 1992. The Department's existing vehicle inspection programs in Medford and Portland do not meet all of these requirements and must be revised to incorporate EPA requirements for a basic Inspection and Maintenance (I/M) program before July 1, 1994.

3. Principal Documents Relied Upon in this Rulemaking

Federal Clean Air Act of 1990
EPA Inspection/Maintenance Program Requirements 40 CFR Part 51
Checklist for Completing the Inspection/Maintenance SIP (EPA March 1993)

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Revision of the State Implementation Plan to Reflect Changes in the Vehicle Inspection
Program

Fiscal and Economic Impact Statement

Introduction

The proposed changes in the Medford and Portland area vehicle inspection programs will have minimal economic impact. The changes deal with administrative procedures to insure motorist compliance with the testing process and specific procedures internal to the Agency.

General Public

The changes will not result in an increase in the vehicle inspection fee and will therefore have no economic impact on the Portland and Medford area communities in which the inspection program is operated.

Small Business

The proposed changes will have little if any impact on small businesses.

Large Business

The proposed changes will have little if any impact on large businesses.

Local Governments

No impact on local governments is anticipated with the internal operational procedures changes that have been proposed.

State Agencies

No impact on state agencies is anticipated with the internal operational procedures changes that have been proposed.

Assumptions

Based on discussions with EPA Region 10 staff, it is assumed that the proposed SIP changes will be accepted by EPA.

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

Rulemaking Proposal
for
Revision of the State Implementation Plan to Reflect Changes in the Vehicle Inspection
Program

Land Use Evaluation Statement

1. Explain the purpose of the proposed rules.

The proposed rules will update the vehicle inspection programs in the Portland and Medford areas to meet new federal Environmental Protection Agency (EPA) requirements. The program changes include updating procedures for vehicle testing, quality assurance, and inspector training and working guidelines. The revised program must be in full operation before July 1, 1994 as mandated by EPA.

2. Do the proposed rules affect existing rules, programs or activities that are considered land use programs in the DEQ State Agency Coordination (SAC) Program?

Yes ___ No X

a. If yes, identify existing program/rule/activity:

N/A

b. If yes, do the existing statewide goal compliance and local plan compatibility procedures adequately cover the proposed rules?

Yes ___ No ___ (if no, explain):

N/A

c. If no, apply the following criteria to the proposed rules.

Staff should refer to Section III, subsection 2 of the SAC document in completing the evaluation form. Statewide Goal 6 - Air, Water and Land Resources is the primary goal that relates to DEQ authorities. However, other goals may apply such as Goal 5 - Open Spaces, Scenic and Historic

Areas, and Natural Resources; Goal 11 - Public Facilities and Services; Goal 16 - Estuarine Resources; and Goal 19 - Ocean Resources. DEQ programs or rules that relate to statewide land use goals are considered land use programs if they are:

1. Specifically referenced in the statewide planning goals; or
2. Reasonably expected to have significant effects on
 - a. resources, objectives or areas identified in the statewide planning goals, or
 - b. present or future land uses identified in acknowledged comprehensive plans.

In applying criterion 2. above, two guidelines should be applied to assess land use significance:

- The land use responsibilities of a program/rule/action that involves more than one agency, are considered the responsibilities of the agency with primary authority.
- A determination of land use significance must consider the Department's mandate to protect public health and safety and the environment.

In the space below, state if the proposed rules are considered programs affecting land use. State the criteria and reasons for the determination.

It has previously been determined through the DEQ SAC program that the Vehicle Inspection Program is not a program that significantly affects land use. These proposed rules, which address training and quality assurance system changes, do not contain program changes that significantly affect land use.

3. **If the proposed rules have been determined a land use program under 2. above, but are not subject to existing land use compliance and compatibility procedures, explain the new procedures the Department will use to ensure compliance and compatibility.**

N/A

Air Quality Division

Division

Intergovernmental Coord.

Date

ATTACHMENT C

PRESIDING OFFICER'S REPORT ON PUBLIC HEARINGS

Public hearings were held on April 5, 1994 at 7:00 p.m in both Medford and Portland. None of the public attended either of the two meetings.

Written comments were received before April 6, 1994 at 5:00 p.m. from the following participants:

Christi Lee
Environmental Scientist
U.S. EPA Region X
1200 Sixth Avenue
Seattle WA 98101

Joanne Peterson
Manager Vehicle Programs
DMV Services
Department of Transportation
1905 Lana Avenue NE
Salem OR 97314

Rob Winthrop
Chairman - Board of Directors
155 S. Second Street
P.O. Box 3275
Central Point OR 97502

Water Comments

ATTACHMENT

D



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: AT-082

APR 0 6 1994

Jerry Coffey
I/M Program Section
Air Quality Division
1301 SE Morrison
Portland, Oregon 97214

Dear Mr. Coffey

The purpose of this letter is to provide comments on Oregon's Vehicle Inspection Program rulemaking proposal and State Implementation Plan revision which were submitted to EPA on March 10 1994. Since we have previously discussed the comments in detail I'm only including the most significant comments and touching on them briefly.

- Section 5.4.1, fourth paragraph, last sentence - Change date to reflect when the current rule revisions will be approved by the EQC.
- Section 5.4.1 - Clarify 4th paragraph.
- Section 5.4.6, second paragraph - Separate out Portland's and Medford's estimated number of vehicles licensed for road use and those which appear to avoid the I/M test from the total estimated number.
- Section 5.4.16 - Specify who the ODEQ shall report to.
- Submit most recent appendices B and C which reflect current input and output files for Mobile 5A runs.
- Submit Appendix E through L

Thanks for providing me the opportunity to comment on Oregon's draft I/M SIP revision. I look forward to the final submittal and anticipate working closely with you in the future in approving Oregon's I/M SIP revision.

Sincerely

A handwritten signature in cursive script that reads "Christi Lee".

Christi Lee
Environmental Scientist

ROGUE VALLEY Council of Governments

Transportation Department

155 S. Second Street
P.O. Box 3275
Central Point, OR 97502

(503) 664-6674, 779-6785
474-5947, FAX 664-7927

March 30, 1994

Jerry Coffey
Department of Environmental Quality
Air Quality Division
1301 SE Morrison
Portland, OR 97214

Dear Mr. Coffey,

This letter is written in support of the Department of Environmental Quality, Air Quality Division, Rulemaking Proposal - Revisions of the State Implementation Plan to Reflect Changes in the Vehicle Inspection Program - dated February 4, 1994. We have reviewed the language of the proposed rule changes and concur with the proposal to maintain the inspection and maintenance (I/M) requirements for light trucks (not specifically required by the Federal Environmental Protection Agency "basic" I/M program) and attain the emissions standard by "emission credits" in lieu of requiring a higher State compliance standard and a more stringent State enforcement program as established by the Federal Environmental Protection Agency.

There is one concern with the proposal being initiated. If government vehicles not registered in I/M areas are not required to attain the same standards as those vehicles within I/M boundaries, there is the perception that government does not have to attain the standards, and is "getting away with something." Although the impact of requiring an I/M program for all government vehicles may not significantly influence the attainment of emissions standards, it may be better to support this requirement rather than propose an emissions trade-off.

As you know, I/M is required for vehicles registered within the Medford-Ashland Air Quality Maintenance Area. There has been some concern that not all vehicles operating within the AQMA are being tested and that the I/M boundary should be expanded to include all of Jackson County. This is an issue that the Rogue Valley Council of Governments staff will be reviewing for potential implementation. We look forward to your assistance and support in this matter.

Our staff contact for this issue is Paula Brown should you have additional information or comments regarding our expressed concerns.

Sincerely,



Rob Winthrop
Chairman - Board of Directors



DATE: April 5, 1994

TO: Department of Environmental Quality
Air Quality Division
1301 S. E. Morrison
Portland, Oregon 97214

DEPARTMENT OF
TRANSPORTATION
DMV Services

Attention: Jerry Coffey - FAX 503 731-3269

FROM: Joanne Peterson, Manager
Vehicle Programs Telephone 503 945-5236

FILE CODE:

SUBJECT: DEQ Proposed Rule Changes

As discussed, we are basically in concurrence with your proposed rules changes. We do have some technical comments on your rules and the related changes to the State Implementation Plan (SIP).

1. The rule indicates that DEQ will issue a temporary exemption from I/M testing requirements. However, revisions to the state implementation plan (SIP) still refer to this as a DMV form 1402.

The references should be consistent. It would be preferable that the form be a DEQ form (something that could be distinguished from any form 1402 that still may be in existence after implementation).

2. The rule changes eliminate DMV's authority to authorize exemptions due to the vehicle being out of state. There either needs to be some flexibility in the effective date of the rule change. DMV needs the ability to accept Form 1402's for a period of time after the effective date of the rule change, regardless of whether the vehicle is located within an I and M area.

The concern here is for registrations in the pipeline. A person may have been given a Form 1402 when the renewal notice was initially mailed (i.e. up to 90 days prior to the expiration) of the registration but may not submit the registration until after the effective date of the rule.

3. There will be administrative details that do not necessarily require rule changes, but which our two agencies will need to discuss prior to implementation of this change. For example, such things as:
- How the Form 1402 will be phased out;
 - What kinds of controls or information DEQ will have on the replacement for the 1402, so that DMV knows it is acceptable in lieu of actual proof of compliance.



DEQ - April 5, 1994, Page 2

- Issues related to proof of compliance forms we might receive from other states. For example, will your agency be able to provide DMV with copies of the various states' compliance forms, how consistent is the information on such forms, what will DMV need to check to determine the validity of such forms, etc. Preferably, other than checking for critical information that should be consistent for all states (e.g. vehicle description, date of test, etc.) DMV should be able to accept the forms pretty much at face value unless there is clear reason to question a given form.
- Changes to the DEQ inserts that are mailed with registration renewal, to inform people of the need to check with DEQ for either an exemption, or information on getting the vehicle tested, if the vehicle is located out of state. This may avoid unnecessary inquiries or trips to DMV.

Thank you for the opportunity to review your proposed changes. Please keep me advised of the proceedings and provide us with a copy of the recommendation that is presented to the EQC for adoption.

Environmental Quality Commission

- Rule Adoption Item
- Action Item
- Information Item

Agenda Item D
June 3, 1994 Meeting

Title:

Proposed Amendments to the Stipulation and Final Order Addressing the City of Portland's Combined Sewer Overflows.

Summary:

The August, 1991 Stipulation and Final Order (SFO) to which the City of Portland and the Commission are party, requires the City to drastically reduce Combined Sewer Overflow (CSO) discharges to the Willamette River and Columbia Slough. The SFO specifies the level of CSO control to be achieved, but also allows the parties, by mutual agreement, to modify the required level of CSO control based on information developed in the draft facilities plan.

A "Collaborative Process Committee" composed of members of the City Council and Commission, and senior City and Department staff, sitting as an advisory body, has reviewed the findings of the draft facilities plan. A Draft Amended SFO has been developed for consideration for adoption by the City and the Commission. The principal change in the proposed amended SFO is to make the required level of CSO control for discharges to the Willamette River slightly less stringent, but at the most cost effective level.

During the Public Hearing/Written Comment process the Department conducted for the Draft Amended SFO, important facility planning and permitting issues were raised that the Department believes should be resolved during finalization of the facilities plan, but which need not be resolved as a prerequisite for Commission action on the Draft Amended SFO.

Department Recommendation:

The Department recommends that the Commission authorize execution of the Amended SFO, and that the Commission direct the Department to assure that the various planning and permitting issues raised during the public notice process are satisfactorily resolved in the final facilities plan and subsequent NPDES permit for the CSO control facilities.



Report Author



Division Administrator



Director

May 17, 1994

†Accommodations for disabilities are available upon request by contacting the Public Affairs Office at (503)229-5317(voice)/(503)229-6993(TDD).

State of Oregon
Department of Environmental Quality

Memorandum†

Date: May 17, 1994

To: Environmental Quality Commission
From: Fred Hansen, Director *Mike Hansen for*
Subject: Agenda Item D, June 3 1994, EQC Meeting

Proposed Amendments to the Stipulation and Final Order Addressing the City of Portland's Combined Sewer Overflows.

Statement of the Issue

Under terms of the August 5, 1991, Stipulation and Final Order WQ-NWR-91-75 (SFO) signed by the City of Portland (City) and the Environmental Quality Commission (Commission), the parties may by mutual agreement amend the SFO. Amendments to the SFO have been proposed. This item serves to place the proposed amendments before the Commission for consideration and to provide the Department's recommendations for Commission action.

Background

The SFO in its present form requires the City, on a specified schedule, to undertake the necessary facilities planning and implementation of corrective measures to drastically reduce the discharge of untreated sanitary sewage to the Willamette River and Columbia Slough from the City's combined sanitary sewage-storm runoff sewer system. Such discharges are called Combined Sewer Overflows (CSOs). The SFO establishes a very stringent requirement for CSO reduction. In the summer (May to October), all discharges that violate applicable water quality standards must be eliminated except those resulting from storms with a ten year return frequency or larger. In winter (November to April) all discharges that violate applicable water quality standards must be eliminated except those resulting from storms with a five year return frequency or larger. As such, the SFO requires a reduction of 99.6% of the CSO discharges that presently occur.

At the time the SFO was developed, it was understood that there was insufficient information to allow a complete characterization of the combined sewer system and the

†Accommodations for disabilities are available upon request by contacting the Public Affairs Office at (503)229-5317(voice)/(503)229-6993(TDD).

CSO discharges. The information available at the time was insufficient for determining the facilities and costs needed to meet the level of CSO reduction required by the SFO. In recognition of the limited information then available, the SFO required the City to prepare a facilities plan that includes a characterization of the CSOs and also identifies the types and cost of facilities needed to meet the required level of CSO reduction. Furthermore, the SFO contained a provision that it could be reexamined and amended with respect to alternative levels of CSO reduction based on new information and understanding that might be developed during the facilities planning process.

On July 1, 1993, in accordance with the SFO, the City submitted a draft facilities plan that includes information on facilities that would meet the CSO reduction requirements of the SFO. Information is also presented on other possible allowable CSO reduction levels including the needed facilities and costs. The range of alternatives is summarized as follows:

1. 99.6% reduction in CSO discharge volume to the Willamette River and Columbia Slough at an estimated cost of \$1 billion. Would meet requirements of current SFO.
2. 94% reduction in CSO discharge volume to the Willamette River and 99.6% reduction to Columbia Slough (equals a 96% reduction system wide) at an estimated cost of \$700 million. Would require modification of SFO.
3. 85% reduction in CSO discharge volume to the Willamette River and 99.6% reduction to Columbia Slough at an estimated cost of \$650 million. Would require modification of SFO.

In order to review the findings of the draft facilities plan and to consider if the SFO should be amended, the City and the Commission established a "Collaborative Process". A committee comprised of two City of Portland Commissioners, two members of the Environmental Quality Commission, the Director of DEQ, and the Intergovernmental Affairs Coordinator of the City's Bureau of Environmental Services held a series of six meetings between October, 1993, and January, 1994. During these meetings, public testimony was received as well as presentations by staff and consultants. The outcome of the "Collaborative Process" was a Draft Amended SFO.

At its meeting of April 20, 1994, the Portland City Council acted to authorize the Mayor to execute the Draft Amended SFO, and by letter dated April 21, 1994, the City has requested that the Commission also adopt the Draft Amended SFO.

Authority to Address the Issue

Paragraph 13 of the SFO provides for its amendment by mutual agreement of the parties, subject to "notice and opportunity for public comment".

Alternatives and Evaluation

Proposed SFO Modifications and Rationale

The most important proposed substantive change to the SFO would be to make the required level of CSO control for discharges to the Willamette River less stringent. The current SFO requires elimination of all CSOs up to the ten year return summer storm and the five year return winter storm such that there would be a reduction of 99.6% of current CSO discharge volume. The proposed revised level of control for the Willamette River (called "Enhanced Draft Federal Policy Level" in the draft facilities plan) would require the elimination of overflows up to the three year return summer storm and the four in one year return winter storm, or a reduction of 94% of CSO volume currently discharged to the Willamette River.

The essential rationale for the proposed change is that the additional cost of achieving 99.6% reduction in CSO discharge volume to the Willamette River as compared to the cost of achieving 94% reduction is disproportionately large in view of the marginal additional improvements in water quality and protection of beneficial uses that would be realized. As part of the facilities planning process, cost curves were developed which indicate that beyond the 94% level of discharge reduction, the per unit cost of additional reduction rises steeply. While it would be ideal to completely eliminate all discharges containing raw sewage, when financial resources are constrained and a concept of cost effectiveness is employed, the 94% level of control becomes most appropriate, given currently available control technology.

It should be noted that the proposed change in the required level of CSO control would not apply to the CSOs that discharge to Columbia Slough. In recognition of the sensitivity of this water body, the level of control required in the current SFO would remain in effect. However, the Draft Amended SFO would advance the date by which overflow discharges to Columbia Slough must be virtually eliminated from the year 2001 to the year 2000. A requirement in the current SFO that all large solids and floatables be removed from the discharges to the Slough by October 1, 1996, would be deleted in the Amended SFO in view of the accelerated schedule and because the needed interim

facilities would not be part of the long-term control facilities and in essence discarded after only four years of use.

The proposed amendments also include provisions that recognize that further CSO reduction beyond the level that would be required in the Draft Amended SFO is desirable, especially in the summer, if these can be implemented cost effectively. It also recognizes that as technology advances new, presently unknown, cost-effective control measures may become available. Consequently, the Draft Amended SFO would require the City, during the term of the SFO, to evaluate and implement cost-effective control measures which are not included in the facilities plan when other water quality management activities are undertaken. The revised SFO would further require the City to submit by the year 2010 a facilities plan which would outline CSO reduction measures for the period after the term of the SFO.

Thus, the Draft Amended SFO provides a basis for further CSO reductions in the coming decades beyond those specifically now required. In view of the age of much of the City's combined sewage collection system and the eventual need for replacement, future opportunities for sewer separation and implementation of other control measures are likely to be significant.

Potential Contingent and Subsequent Commission Actions

1. Neither the current SFO nor the proposed amendments would require the complete elimination of CSO discharges to the Willamette River and Columbia Slough. The Clean Water Act and implementing EPA Regulations and CSO Control Policy require that any CSO discharges meet applicable state water quality standards. However, virtually any CSO discharge is likely to cause a violation of the State's fecal bacteria water quality standard as presently formulated. The Department believes that the bacteria standard as presently formulated may not be the most appropriate means of protecting the contact recreation beneficial use. As part of the triennial review of water quality standards, the Department, with the assistance of an advisory committee, is reviewing the bacterial standard and expects to propose revisions for the Commission's consideration to make it more appropriate for the beneficial use it is intended to protect.
2. The level of CSO control for summer discharges to the Willamette River contained in the Draft amended SFO can be construed to be inconsistent with OAR-340-41-034(3)(f) which reads as follows:

Sewerage Construction programs should be designed to eliminate raw sewage bypassing during the summer recreation season (except for a storm event greater than the one in ten year 24 hour storm) as soon as practicable. A program and timetable should be negotiated with each affected source. Bypasses which occur during the remainder of the year should be eliminated in accordance with an approved longer term maintenance based correction program.....

The Department will further evaluate this rule and may propose modifications for the Commission's consideration.

3. The Department does not have recent experience developing an NPDES Permit and associated effluent discharge limits for a primary treatment facility such as the Wet Weather Treatment Facility (WWTF) described in the draft facilities plan for treatment of the captured combined sewage. In the draft plan, it is assumed that the WWTF would provide screening, sedimentation and disinfection, and that the discharge would not violate water quality standards outside of the mixing zone. However, there has been no evaluation as to the applicability of the **Minimum Design Criteria for Treatment and Control of Wastes** (e.g., effluent BOD/TSS concentration limits) set forth in OAR 340-41-455 to the WWTF. The Department intends to further review this question and may request Commission consideration of a Rule modification to clarify the applicability of Minimum Design Criteria to primary treatment facilities for CSOs.
4. Following Commission action on the Draft Amended SFO, whether approved or not, the Department, in accordance with the process set forth in either versions of the SFO, will provide the City with written comments on the Draft Facilities Plan. Within six months of receiving the Department's comments, the City must submit a final facilities plan approvable by the Department as to content and completeness. Based on the final plan, the Department will prepare recommendations for CSO control strategies and schedules for review and approval by the Commission.
5. EPA has finalized its CSO Control Policy. This policy requires "nine minimum (technology-based) controls" for all CSOs be implemented within two years from the date the requirement is established in permit or other enforcement mechanism such as an SFO. The interim controls approved by the Commission at its January, 1994, meeting are not sufficient to meet the "nine minimum controls" in EPA's CSO Policy. The primary deficiency is with the control of solid and floatable materials. The Department believes that the SFO and the permit

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Page 6

ultimately may need to be modified to incorporate the "nine minimum controls."
A schedule for implementing these controls should be negotiated with the City
after EPA provides its anticipated technical guidance document. Following
appropriate public involvement, this issue would then be brought back for
Commission consideration.

Summary of Any Prior Public Input Opportunity

As noted above, public testimony was received by the Collaborative Process Committee
during its deliberations leading to the Draft Amended SFO.

Subsequently, on April 18, 1994 at 7:00 PM at the Northwest Region Office, the
Department held a Public Hearing on the Draft Amended SFO. Written comments were
received until April 21, 1994 at 5:00 PM. The Hearing/Comment process was made
known to the public by the distribution of approximately 2,500 **Chance to Comment**
notices. Additionally, the Department issued Press Releases to area news media. Copies
of the Draft SFO and related supporting documents were provided for public inspection
at the downtown Portland and Midland branches of the Multnomah County Library.

The Public Hearing was attended by fifteen people, of which three presented testimony.
Eleven written comments were received. Of these, two were from persons who had
presented oral testimony.

The Department has reviewed the input received. The review and the written comments
are attached. Based upon our review, it is the Department's observation that most of the
discussion in the testimony/written comments does not focus on the specific question
"should the Commission adopt the proposed SFO amendments?" but rather is directed at
several facilities planning, facilities design and regulatory issues pertaining to the CSOs.
Issues raised include:

- the degree of primary treatment to be provided by the Wet Weather Treatment
Facility (WWTF)
- the effectiveness and consequences of chlorine disinfection at the WWTF
- the appropriate location of the WWTF
- the number and location of CSO discharge points that will be left in place after
the WWTF is on-line

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The Department believes these are important issues that should be resolved prior to the construction of facilities and will endeavor to do so in the facilities planning, design review and NPDES permitting process. However, they need not be resolved prior to, or as a basis for, Commission action on the Draft Amended SFO. These and similar issues will remain pertinent to the CSOs regardless of the level of CSO reduction the SFO requires.

Four of the comments the Department received indicated support for the proposed amendments, but with little discussion as to why.

Three comments indicated a preference for not changing the required level of CSO control. The reasons offered were (paraphrased):

-Portland should have to meet water quality standards and not be allowed 3-4 overflows per year

-Portland should have to meet the same 99.6 standard as everyone else

-the level of control required by the current SFO will require larger facilities that will not need replacement as soon, as population grows, and so is the more farsighted solution

During March, 1994, the City conducted several public workshops and discussion groups about the CSOs. Department staff participated in one of these. At these meetings, the City canvassed the opinions of participants and has reported that in most cases participants supported the level of CSO control in the proposed amendments.

There were other comments which the Commission should consider with the proposed modification of the SFO. The comments (**in bold**) and the Department's response are:

1. The SFO does not meet the requirements of the "nine minimum controls" set forth in EPA's CSO Control Policy with respect to dry weather discharges and control of floatables. This issue may come back to the Commission as discussed earlier in this document.

2. In the SFO, the qualifying phrase "that violate applicable water quality standards" used in reference to CSO discharges that must be eliminated, should be deleted. All CSO discharges that result from storms smaller than the specified magnitude should simply be forbidden. This is because, (1) even if the bacteria standard is met, CSO discharges represent a public health

threat, and (2) such language is difficult to enforce, requiring DEQ to demonstrate violation of the water quality standard. The Department in general agrees with this comment. The phrase would be difficult to enforce. Discharge limitations and restrictions should be in clear, unambiguous, and easily measured parameters. The Department believes, however, the precise development of effluent discharge limitations and restrictions should occur when the NPDES permit is revised pursuant to the final selected alternative in the facilities plan. Discharge limitations and restrictions in a proposed permit would be subject to public review and comment during the public notice for the permit action.

3. The stipulated penalties of the SFO provides for stipulated penalties only for violation of paragraphs 12a and 12d. What about violation of other portions of the SFO? The Department acknowledges that only certain of the requirements of the SFO are subject to stipulated penalties. These are: completion of the final facilities plan; construction of the CSO control facilities; attainment of water quality standards by CSO discharges resulting from storms smaller than the specified design storm. While other requirements are not covered by stipulated penalties, violations of these are still subject to the imposition of penalties, albeit that in such cases the amount of the penalty as well as the fact of violation are contestable. The City has informed the Department that it concurs in this interpretation. Moreover, it is the intention of the Department when the SFO is renegotiated after completion of the final facilities plan, that the specified schedule for the Cornerstone Projects, the implementation of the EPA "nine minimum controls", and the ongoing interim control measures, also be brought within the stipulated penalty provision of the SFO.

Conclusions

The Department believes that the Draft Amended SFO:

1. Clearly reflects the public policy goal of eliminating the discharge of raw sewage to public waters so as to minimize the threat to public health and safety.
2. Establishes the required reductions in CSO discharge volumes at levels which are most cost effective given the characteristics of the City's combined sewer system and currently available CSO reduction measures,

but which will also dramatically improve the protection afforded the contact recreation beneficial use on the subject water bodies.

3. Establishes a policy basis and identifies specific required actions by the City beyond those identified in the facilities plan for future further reductions in CSO discharges .

Recommendation for Commission Action

It is recommended that the Commission:

1. Authorize the Chairman and Director to execute the Amended Stipulation and Final Order No. WQ-NWR-91-75.
2. Direct the Department to:
 - a. Negotiate a schedule with the City of Portland for implementation of the "nine minimum controls" as may be necessary to achieve compliance with EPA's CSO Control Policy and return to the Commission with a proposed amendment to the SFO,
 - b. Assure that the issues relative to treatment requirements and water quality issues brought to the Commission's attention in the public notice process are addressed in the final Facilities Plan, and
 - c. Assure that the waste discharge permit developed by the Department pursuant to the selected alternative of the Facilities Plan has limitations that meet water quality standards and clear, unambiguous, easily measured limitations and restrictions for the WWTF and CSO discharge points.

Attachments

- A. Draft Amended Stipulation and Final Order
- B. Hearing Officer Report

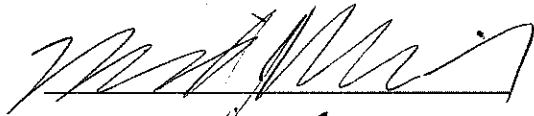
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Page 10

Reference Documents (available upon request)

Portland CSO Program: Draft Facilities Plan, June, 1993, and supporting documents.

Approved:

Section:

A handwritten signature in cursive, appearing to be "Richard J. Santner", written over a horizontal line.

Division:

A handwritten signature in cursive, appearing to be "Low Desham", written over a horizontal line.

Report Prepared By: Richard J. Santner

Phone: 229-5219

Date Prepared: May 17, 1994

RJS
PDX2.CSO
May 17, 1994

ATTACHMENT A

Note: Proposed new language is underlined. Deleted text is ~~struck through~~. Paragraph numbering has been changed as appropriate to accommodate the updated and added text. Changed paragraph numbers are not identified by underlining and strikeout. For convenience in reviewing this draft, the original paragraph number has been included in bracketed italics at the end of the paragraph.

Before the Environmental Quality Commission of the State of Oregon

DEPARTMENT OF)	
ENVIRONMENTAL QUALITY, OF)	1/31/94 Draft
THE STATE OF OREGON)	
)	AMENDED
Department,)	STIPULATION AND FINAL
)	ORDER
v.)	No. WQ-NWR-91-75
)	MULTNOMAH COUNTY
CITY OF PORTLAND,)	
)	
Respondent.)	
)	

WHEREAS:

1. On August 5, 1991, the Department of Environmental Quality (Department or DEQ) issued National Pollutant Discharge Elimination System (NPDES) Waste Discharge Permit Number 100807 (Permit) to the City of Portland (Respondent), pursuant to Oregon Revised Statutes (ORS) 468B.050 ~~[468.740]~~ and the Federal Water Pollution Control Act Amendments of 1972, P.L. 92-500, as amended. The Permit authorizes the Respondent to construct, install, modify or operate waste water treatment control and disposal facilities (facilities) and discharge adequately treated waste waters into the Columbia River, Columbia Slough and Willamette River, waters of the state, in conformance with the requirements, limitations and conditions set forth in the Permit. The Permit expires on March 31, 1996.

1 - Draft Revisions to Stipulation and Final Order

2. Respondent's sewage collection system is comprised in part of combined sewers designed to collect both sanitary sewage and storm runoff water. The combined sewer system is designed and intended to collect and transport all sanitary sewage to Respondent's sewage treatment plant during periods of dry weather; ~~Respondent's sewage treatment plant during periods of dry weather;~~ however, during some periods of wet weather, the combined sanitary sewage and storm runoff entering the system exceeds the system's capacity to collect and transport sewage to the sewage treatment plant. At such times, the excess combined sanitary sewage and storm runoff are discharged through bypass pipes, commonly referred to as Combined Sewer Overflows or CSO's, directly to the Willamette River and Columbia Slough, waters of the state, without treatment. Respondent's system includes 54 Combined Sewer Overflows. In addition, Respondent owns and operates sewage pump stations, one of which, the Ankeny Pump Station, may not be capable of pumping all incoming combined sanitary sewage and storm runoff during periods of wet weather. At such times, combined sanitary sewage and storm runoff are discharged from the Ankeny Pump Station directly to the Willamette River without treatment. The discharges of combined sanitary sewage and storm runoff from the Combined Sewer Overflows and the Ankeny Pump Station (Discharges) may cause violations of Oregon's water quality standards for Fecal Coliform bacteria and possibly other parameters in the Columbia Slough and the Willamette River.
3. Respondent's prior NPDES permit, issued on September 18, 1984, did not expressly identify the combined sewer overflow discharge points that are part of the sewer system. Prior to the development of the Department's final draft 'Oregon Strategy for Regulating Combined Sewer Overflows (CSOs)' on February 28, 1991, as a matter of policy the Department did not always list CSO discharge points in an NPDES permit but, in many instances, issued permits for an entire sewer system. EPA's Region 10 office approved the issuance of such permits. Respondent's 1984 NPDES permit is a permit for the sewer system, which includes CSO outfalls, but did not contain specific effluent limitations for CSOs.
4. Since the adoption of water quality standards for the Willamette Basin (included in Oregon Administrative Rules 340-41-445) by the Environmental Quality Commission in 1976, Respondent has discharged combined sanitary sewage and storm runoff and may have caused violations of water quality standards. These water quality standards include narrative limitations on visible solids and floatable material and numeric limitations for bacteria and other parameters.

5. DEQ and the Respondent recognize that until new or modified facilities are constructed and put into full operation, Respondent may cause violations of the water quality standards at times.
6. On August 5, 1991, Stipulation and Final Order No. WQ-NWR-91-75 (Order) came into effect. Under terms of the Order, Respondent is required to carry out necessary studies and corrective actions to eliminate the discharge of untreated overflows from Respondent's combined sewer system, up to a one in ten year summer storm event and up to a one in five year winter storm event (allowable overflow frequency).
- ~~6. Respondent presently is conducting or preparing to conduct studies and facilities planning in order to determine the quantity and quality of combined sanitary sewage and storm runoff discharged from its sewage system, and to determine appropriate methods and time schedules to eliminate violations of water quality standards.]~~
7. The August 5, 1991, Stipulation and Final Order, No. WQ-NWR-91-75, called for the following activities to be implemented by Respondent, each of which was accomplished in a timely manner:
 - a. By no later than September 1, 1991, the Respondent shall submit to the Department a draft scope of study for the facilities plan. The scope of study shall include an outline of the final facilities plan content, and sufficient detail on how the necessary information is to be obtained to complete the facilities plan. The facilities plan shall, at a minimum, include a characterization of the Discharges including volume, times of discharge, and bacterial and chemical content; alternatives for eliminating water quality violations attributable to CSO's; the environmental and other impacts of the alternatives evaluated; the estimated cost of the alternatives; an evaluation of the impact of the CSO control alternatives on the Columbia Blvd. wastewater treatment plant; if the CSO alternatives will cause permit violations at the treatment plant, an evaluation of alternatives to expand or upgrade the treatment plant so as to maintain compliance with existing discharge standards; recommended control alternatives including any required plant upgrades that will result in compliance with water quality standards for the CSO discharges and compliance with the existing treatment plant discharge standards; a detailed implementation schedule for completing the recommended actions; a detailed demonstration that the recommended actions

are the least cost/environmentally sound alternatives that will achieve the discharge limitations specified in this order; and a mechanism for financing the recommended improvements. The facilities plan shall include detailed implementation plans and financing plans for attaining compliance with applicable water quality standards at all CSO's alternatively: (1) for attaining compliance at all CSO's by December 1, 2006; and (2) for attaining compliance at all CSO's by December 1, 2011; *[was paragraph 9.a.(1)]*

- b. By no later than October 1, 1991, the Respondent shall submit to the Department a draft scope of study for an interim control measures study. The interim control measures study shall include a brief narrative description of each control measure; which CSO's would be affected by each control measure; the estimated impact of each control measure on quantity, quality, and timing of discharge; the estimated impact of each control measure on beneficial uses; the estimated capital cost and annual operation and maintenance cost for each control measure; and the estimated time needed to install or initiate each control measure. The interim control measures to be evaluated and included in the interim control measures study shall include but are not limited to the following: screens and other technologies for removing large solids and floatables; maximization of in-line storage including passive and automatic regulators; removal of new and/or existing roof drain connections from the sewer system; increased line flushing including an evaluation of timing and location of flushing activities; increased street sweeping; the review and modification of pretreatment program; and increased cleaning of catch basins; *[was paragraph 9.a.(2)]*
- c. Within thirty (30) days of receiving written comments from the Department, the Respondent shall submit to the Department final approvable scopes of study for interim control measures study and the facilities plan; *[was paragraph 9.a.(3)]*
- d. By no later than December 31, 1992, the Respondent shall submit the portion of the facilities plan that characterizes Combined Sewer Overflows; *[was paragraph 9.a.(4)]*
- e. By no later than December 31, 1992, the Respondent shall submit the draft interim control measures study to be used by the Department and the Commission to determine appropriate and reasonably practicable

interim control measures to reduce water quality impacts until such time as final compliance is attained. *[was paragraph 9.a.(5)]*

- f. Within thirty (30) days of receiving written comments from the Department, the Respondent shall submit to the Department and the Commission the final interim control measures study that is approvable by the Department as to content and completeness; *[was paragraph 9.a.(6)]*
- g. Upon submission of the final interim control measures study, the Commission, upon recommendation of the Department, shall establish the required interim control measures and the schedule for their implementation; *[was paragraph 9.a.(7)]*
- h. By no later than July 1, 1993, the Respondent shall submit a draft facilities plan to the Department; *[was paragraph 9.a.(8)]*
- i. Requiring Respondent to implement the interim control measures as specified in Attachment 1 to this Order; *[was paragraph 9.b.]*

Note: Paragraphs 1 through 10 of Attachment 1 were accomplished.
Paragraphs 3 and 7 are continuing requirements which are retained in Paragraph 12.b.

8. On July 1, 1993, as required by paragraph 7. h. above, Respondent submitted a facilities plan that included information on how Respondent intended to meet the terms of the Order. Included in the facilities plan was an evaluation of other possible allowable overflow frequencies, including environmental impacts, control technologies, costs, and other impacts of the control measures required to meet the alternative allowable overflow frequencies.

9. At the time the parties agreed to the terms of the SFO, it was understood that the Respondent did not have sufficient information necessary to adequately characterize the City's combined sewer system. Several of the activities in the schedule set out in the SFO were designed to develop that data so that an appropriate facilities plan could be implemented. Paragraph 13 of the SFO provided for amendment of the requirements of the Order, in recognition that information acquired during the facilities planning process could lead to beneficial strategies that differed from the terms of the SFO.

- a. In the course of gathering data and conducting the activities set out in the SFO, the Respondent has developed a substantial body of information about the combined sewer system: the number and duration

of overflows, the character [composition] of overflows, the impact of overflows on water quality, technology for CSO control, project costs and potential economic impacts. Also during this time the federal government developed a draft policy providing guidance to the States about CSO control.

- b. In light of relevant information developed during the facilities planning process, the Department, the Commission and the Respondent agreed to conduct a collaborative process to evaluate the requirements of the SFO in an effort to achieve an appropriate level of CSO control, pursuant to paragraph 13 of the SFO. In the fall of 1993 a Collaborative Committee (Committee) was formed, consisting of two Environmental Quality Commission Commissioners, two City of Portland Commissioners, the Director of DEQ and the intergovernmental affairs coordinator for the City's Bureau of Environmental Services.
- c. The Committee held four public informational meetings between October 18, 1993, and December 14, 1993, in which they heard presentations and public testimony about the history of the Willamette River; the value of the environment and the importance of the river to the City of Portland, the State and its residents; water quality and pollution; health risks related to CSOs; economic issue and alternative strategies for CSO control. The committee held two additional public meetings in January 1994 to discuss issues and recommendations. The Committee members held open discussions of the issues during each meeting during which there was also an opportunity for public testimony.
- d. As a result of information offered during the presentations, public comment and Committee discussions in the course of the collaborative process, the following issues were identified as fundamental to achieving consensus regarding CSO control:
- The people of the Portland Region place a high value on the Willamette River and good water quality. The River's importance to the people of Portland and the value of water quality both continue to increase over time.
 - Recreational use of the river is an important use which demands high quality water.
 - It is prudent public policy to establish the goal of eliminating untreated sewage discharges to public waters.

- Discharge of untreated sewage to public waters in Oregon constitutes a potential threat to public health and safety -- even when bacteria standards are met. Bacteria standards are an imperfect measure of public health protection.
 - Untreated sewage discharges will occasionally occur, whether due to unavoidable equipment breakdowns, natural disasters, or other causes. Even under the most stringent regulatory approach imaginable, complete elimination is not realistically achievable.
 - It is therefore good public policy to require that, whenever decisions are made regarding sewerage facilities, cost effective options to reduce the frequency and quantity of untreated sewage discharges be evaluated and implemented.
 - CSOs are a significant contributor of untreated sewage discharges to the Willamette River in the Portland area and to the Columbia Slough. Prudent public policy dictates the need to reduce combined sewer overflows significantly.
 - Responsible public policy calls for a cost effective approach to CSO reduction.
 - Based on analysis of alternatives presented in the facility plan, CSO control beyond the level achieved with the Enhanced Draft Federal Policy alternative (96% reduction of overflow volume) appears to be very costly for a relatively small increment of water quality improvement.
 - New technology may emerge that will provide more cost effective methods of reducing CSOs than are available today.
 - The Cornerstone Projects, outlined in the draft facilities plan, and a phased implementation for CSO control provide an opportunity to periodically review progress and provide cost effective results.
- e. The Respondent is committed to an overall policy of water quality improvement and is implementing a comprehensive clean river strategy. Elements of this program include:
- In-process projects to increase secondary treatment capacity to serve the growing sewered population of Portland:

- Modifications to the Columbia Boulevard secondary treatment plant to increase the effective hydraulic capacity of the secondary portion of the plant from the initial design capacity of 100 mgd to 160 mgd.
- Construct a second force main from the Inverness Site to the Columbia Boulevard Secondary Treatment Plant to serve the expanding sewer population in Mid-Multnomah County. Design is scheduled for completion in June 1996. Construction completion and startup is scheduled for July 1998.
- Other in-process enhancement programs:
 - Clean Rivers Program -- This program is a comprehensive approach to surface water quality management within the city and includes stormwater management (development controls, industrial controls, erosion and sediment controls, etc.); flood control and drainage; and watershed management projects including but not limited to those in Columbia Slough, Johnson Creek, Balch Creek, and Fanno Creek in the Tualatin Basin.
 - Collection System Structural Assessment and Enhancements -- These projects are intended to identify and correct problems in the existing system to increase the storage and transport capacity and eliminate any untreated overflows during times when no rain is falling (ie. dry weather).
- Cornerstone Projects: Cost effective projects to reduce the magnitude of the problem by getting storm water out of the combined sewer system: (estimated capital cost = \$240 million in 1993 dollars)
 - Roof Drain Disconnects;
 - Storm Water Sumps;
 - Stream Diversions;
 - Selective Localized Sewer Separation.

- Columbia Slough: Implementation of a high level of control of combined sewer overflows to the Columbia Slough. Columbia Slough is considered a sensitive water body because of low natural stream flow and the very limited ability to assimilate wastes and cleanse itself. Because the Slough is a sensitive water body, Portland agrees that it requires a high level of control equivalent to the level specified in the 1991 SFO. The estimated capital cost to achieve that level of control is \$150 million in 1993 dollars for facilities for capture, storage, and treatment of combined sewer overflows, and discharge of the treated effluent to the Columbia River.

f. Willamette River CSO Control Options: The Portland Facility Plan evaluated 4 alternatives for Willamette River Control. The Cornerstone Program Projects and Columbia Slough Cleanup mentioned above are included within the capital cost estimates for each of these options. Attention was given to developing alternatives so that other community benefits would result, including relocating any remaining overflows to minimize impact on high priority beneficial use areas.

The "Enhanced Draft Federal Policy Level" alternative reflects a policy decision which seeks to responsibly balance competing demands and priorities, costs and benefits. This option consists of the following basic components:

- 96% reduction of overflow volume
- An estimated \$700 million capital investment (in 1993 dollars, including Cornerstone Projects and Columbia Slough Cleanup).
- Winter design storm equivalent: 3-4 overflows per year. 250 mg overflow in typical year;
- Summer design storm equivalent: storm that would have a 1 in three year occurrence frequency. Based on last 15 years of data, rainfall would have produced 2 overflow events of 2 days duration each in the last 15 years.
- Overflows would cause bacteria standards to be exceeded 65 hrs in winter.
- 5 mile tunnel, primary treatment and disinfection, discharge to Willamette. (Larger facilities than in the Draft Federal Policy Level alternative.)
- Average monthly sewer rate projected to be \$38-41 by 2010 (in 1993 dollars).

- g. The Respondent is committed to a public outreach and notification program to encourage community action and involvement and increase public awareness about CSO control and water quality issues.
- h. The Respondent is committed to incorporating CSO reduction activities into its ongoing sewer system planning and water quality management efforts beyond the termination of the requirements of this Order.
- i. The Department, with the assistance of an advisory committee, is presently reviewing several water quality standards, including the bacteria standard, as part of the federally required triennial review process. Following receipt of the committee report, the Department expects to propose revisions to the bacteria standard to make it a more meaningful indicator of beneficial use protection.
- j. The Department, within the limits of budgetary authority and federal constraints, is attempting to increase the effectiveness of controls on non point sources of water pollution in all areas of the state. In these efforts, the Department's fundamental commitment is to approach all sources of pollution on a comprehensive, watershed management basis.
10. The Department and Respondent recognized that the Environmental Quality Commission (Commission) ~~had~~ has the power to impose a civil penalty and to issue an abatement order for violations of water quality standards. Therefore, pursuant to ORS 183.415(5), the Department and Respondent have settled ~~wish to settle~~ those possible past violations referred to in Paragraph 4 and wish to limit and resolve the future violations referred to in Paragraph 5 in advance by this Amended Stipulation and Final Order. In light of the recent development of EPA and Departmental strategies ~~strategy~~ and policies ~~policy~~ governing permitting and evaluation of CSO impacts on water quality, imposition of a civil penalty at this time is not deemed appropriate by the Department. *[was paragraph 7]*
11. This Amended Stipulation and Final Order is not intended to limit, in any way, the Department's right to proceed against Respondent in any forum for any past or future violations not expressly settled herein. *[was paragraph 8]*

NOW THEREFORE, it is stipulated and agreed that:

12. The Commission hereby issues a final order:

- a. Requiring the Respondent to eliminate all Discharges to the Columbia Slough that violate applicable water quality standards from November 1 through April 30 except during storms greater than or equal to a storm with a five year return frequency and to eliminate all Discharges that violate applicable water quality standards from May 1 through October 31 except during storms greater than or equal to a storm with a ten year return frequency; and requiring Respondent to eliminate all Discharges to the Willamette River that violate applicable water quality standards from November 1 through April 30 except during storms greater than or equal to a storm with a four in one year return frequency and to eliminate all Discharges that violate applicable water quality standards from May 1 to October 31 except during storms greater than or equal to a storm with a three year return frequency, as soon as reasonably practicable, but no later than the following schedule: [was paragraph 9.a.]
- (1) Within six months of receiving written comments from the Department on the draft facilities plan submitted to the Department on July 1, 1993, the Respondent shall submit to the Department a final facilities plan that is approvable by the Department as to content and completeness. The Department will review the facilities plan and prepare recommendations to the Commission for CSO control strategies and schedules for implementing them. Final approval of the control strategies and schedules to eliminate applicable water quality standards violations attributable to CSO's will be by the Commission; [was paragraph 9.a. (9)]
 - (2) By no later than December 1, 1997, the Respondent shall submit final engineering plans and specifications for construction work required to comply with Section 12.a.(4); [was paragraph 9.a. (11)]
 - (3) By no later than May 1, 1998, the Respondent shall begin construction required to comply with Section 12.a.(4); [was paragraph 9.a. (12)]
 - (4) By no later than December 1, 2001, the Respondent shall eliminate discharges that violate applicable water quality standards, subject to the storm return frequencies specified in Paragraph 12.a. of this Order, at 20 of the CSO discharge points, including ~~all~~ discharges to Columbia Slough, consistent with the

facilities plan approved by the Commission; however, the Respondent shall eliminate all CSO discharges that violate applicable water quality standards in the Columbia Slough, subject to the storm return frequencies specified in Paragraph 12.a. of this order, by no later than December 1, 2000; *[was paragraph 9.a. (13)]*

Note: Paragraph 9.a.(10) of the original order required removal of all large solids and floatables from discharges to the Columbia Slough by October 1, 1996. This requirement was deleted in favor of the accelerated schedule reflected in this paragraph and because the required facilities would not be part of the final control facilities.

- (5) By no later than December 1, 2001, the Respondent shall submit final engineering plans and specifications for construction work required to comply with Section 12.a.(7); *[was paragraph 9.a. (14)]*
- (6) By no later than May 1, 2003, the Respondent shall begin construction required to comply with Section 12.a.(7); *[was paragraph 9.a. (15)]*
- (7) By no later than December 1, 2006, the respondent shall eliminate discharges that violate applicable water quality standards, subject to the storm return frequencies specified in Paragraph 12.a. of this Order, at 16 of the remaining CSO discharge points, consistent with the facilities plan approved by the Commission; *[was paragraph 9.a. (16)]*
- (8) By no later than December 1, 2006, the Respondent shall submit engineering plans and specifications for construction work required to comply with Section 12.a.(10); *[was paragraph 9.a. (17)]*
- (9) By no later than May 1, 2008, the Respondent shall begin construction required to comply with Section 12.a.(10); *[was paragraph 9.a. (18)]*
- (10) By no later than December 1, 2011, the Respondent shall eliminate discharges that violate applicable water quality standards, subject to the storm return frequencies specified in Paragraph 12.a. of this Amended Order, at all remaining CSO

discharge points, consistent with the facilities plan approved by the Commission; *[was paragraph 9.a.(19)]*

(11) By no later than September 1 of each year that this Amended Order is in effect, the Respondent shall submit to the Department and to the Commission for review an annual progress report on efforts to minimize and eliminate discharges that violate water quality standards. These annual reports shall include at a minimum work completed in the previous fiscal year and work scheduled to be completed in the current fiscal year. *[was paragraph 9.a.(20)]*

b. Requiring Respondent to implement the following interim control measures: ~~[as specified in Attachment 1 to this Order;]~~ *[was paragraph 9.b.]*

(1) Respondent shall inspect all diversion structures on a weekly basis and clean the structures as necessary to maintain hydraulic performance. Respondent shall report all blockages at diversion structures that result in dry weather discharges on Respondent's Daily Monitoring Report submitted to the Department on a monthly basis. Respondent shall record whether or not a discharge is occurring from each diversion structure to an outfall, as observed at each diversion structure during the weekly inspections, and shall make this report available to the Department upon request by the Department. *[was paragraph 3. of Attachment 1]*

(2) Respondent shall prohibit all dischargers who request Respondent's approval prior to a non-permit, periodic, or one-time batch discharge from discharging during rain events. Exceptions shall be made only if extenuating circumstances can be demonstrated to show that it is unreasonable to apply this restriction. *[was paragraph 7. of Attachment 1]*

c. Requiring Respondent to comply with all the terms, schedules and conditions of the Permit, except those modified by Paragraph 12.a. above, or of any other NPDES waste discharge permit or modified permit issued to Respondent while this Amended Order is in effect. *[was paragraph 9.c.]*

- d. Requiring Respondent to demonstrate that each discharge is in compliance with applicable water quality standards, by a means approved by the Department, within twelve months of the scheduled date when compliance is required in this Amended Order. (Nothing in this paragraph shall prevent the Department from enforcing this Amended Order during the twelve month demonstration period.) *[was paragraph 9.d.]*
 - e. Requiring Respondent to identify each discharge that is converted to a storm sewer discharge only. *[was paragraph 9.e.]*
 - f. Requiring Respondent, in the event that Respondent chooses to retain a Discharge with any connected sanitary wastes, to apply for a modification of Respondent's permit requesting a waste load increase and appropriately sized mixing zone. (Nothing in this paragraph shall affect the Department's or the Commission's discretion over granting such a request.) *[was paragraph 9.f.]*
 - g. Requiring Respondent, upon receipt of a written notice from the Department for any violations of the Amended Order, to pay the following civil penalties: *[was paragraph 9.g.]*
 - (i) \$1,000 for each day of each violation of each provision of the compliance schedules set forth in Paragraph 12.a. ~~and Attachment 1.~~
 - (ii) \$2,500 per outfall per day for each CSO outfall for which Respondent fails to demonstrate compliance with applicable water quality standards as specified in 12.d. Discharges that are listed and regulated in Respondent's Permit as may be allowed in 12.f. shall not be subject to stipulated civil penalties under the terms of this Order.
13. Respondent agrees that the requirements and dates specified in Paragraph 12 above are firm commitments to undertake and complete those tasks within ~~for~~ the ~~maximum~~ time required for the completion of each task subject only to extraordinary events beyond Respondent's reasonable control which causes or may cause a delay or deviation in performance of the requirements of this Amended Order. In the event of such an extraordinary event, Respondent shall immediately notify the Department verbally of the cause of delay or deviation and its anticipated duration, the measures that have been or will be taken to prevent or minimize the delay or deviation, and the timetable by which

Respondent proposes to carry out such measures. Respondent shall confirm in writing this information within five (5) working days of the onset of the event. It is Respondent's responsibility in the written notification to demonstrate to the Department's satisfaction that the delay or deviation has been or will be caused by circumstances beyond the control and despite due diligence of Respondent. If Respondent so demonstrates, the Department shall extend times of performance of related activities under the Stipulation and Final Order as appropriate. Circumstances or events beyond Respondent's control include, but are not limited to, acts of nature, unforeseen strikes, work stoppages, fires, explosion, riot, sabotage, or war. Increased cost of performance or consultant's failure to provide timely reports shall not be considered circumstances beyond Respondent's control. *[was paragraph 10.]*

14. Regarding the violations set forth in Paragraphs 4 and 5 above, which are expressly settled herein without penalty, Respondent and the Department hereby waive any and all of their rights to any and all notices, hearing, judicial review, and to service of a copy of the final order herein. The Department reserves the right to enforce this order through appropriate administrative and judicial proceedings. *[was paragraph 11.]*
15. Regarding the schedule set forth in Paragraph 12.a. above, Respondent acknowledges that Respondent is responsible for complying with that schedule regardless of the availability of any federal or state grant monies. *[was paragraph 12.]*
16. The terms of this Amended Stipulation and Final Order may be amended by the mutual agreement of the Commission and Respondent, after notice and opportunity for public comment; or with respect to the compliance schedules or limitations herein, by the Commission if it finds, after review and evaluation of the facilities plan including alternative discharge limitations and the alternative schedules required under Paragraph 7.a., that modification of this Amended Order is reasonable. *[was paragraph 13.]* It is understood that the draft facility plan submitted on July 1, 1993, has provided substantial additional information that was not available when the original order was entered. Therefore, it is intended that any modification of this order under this paragraph be justified by a showing of substantial and new circumstances or substantial and new technologies.
17. Respondent acknowledges that it has actual notice of the contents and requirements of the Amended Order and that failure to fulfill any of the requirements hereof would constitute a violation of this Amended Order and

subject Respondent to payment of civil penalties pursuant to Paragraph 12.g. above. *[was paragraph 14.]*

18. This Amended Order shall terminate 60 days after Respondent demonstrates full compliance with the requirements of the schedule set forth in Paragraph 12.a. above. *[was paragraph 15.]*
19. If it becomes necessary to allocate wasteloads as a result of either the Willamette River or the Columbia River being designated as Water Quality Limited, the parties agree that Respondent's reductions in discharges pursuant to this agreement will be considered as contributing to Respondent's share of the obligation to achieve water quality standards. Nothing in this paragraph shall affect the Commission's authority to revise water quality standards pursuant to applicable law. *[was paragraph 16.]*
20. The Respondent shall continue to implement the Cornerstone Projects, as outlined in the draft facilities plan which was submitted to DEQ on July 1, 1993, on a schedule that is approved in the final facilities plan.
21. The Respondent may submit to the Department no later than December 1, 2001, and December 1, 2006, or at other appropriate times during the implementation of the facilities plan, an updated facilities plan report evaluating the effectiveness of CSO control technologies, including, if appropriate, recommendations for reevaluation of activities necessary to accomplish the requirements of this Order if new information or technology has become available. DEQ shall approve or disapprove the recommendations within six months of receipt of the updated facilities plan.
22. The Respondent shall implement CSO control measures as outlined in the facilities plan in a phased approach, with the highest priority for control of CSO discharges in high contact recreation areas.
23. Respondent, the Commission, and the Department agree that further reductions in untreated discharges beyond the level to be achieved through the Enhanced Draft Federal Level alternative, particularly in the period of May 1 through October 31, are desirable if the reductions can be done in a cost effective manner. Further, it is recognized that during the term of the Order advances in technology may result in additional cost-effective control measures not currently known or available.
 - a. During the period of this order, whenever sewerage planning, capital improvement projects, operation and maintenance planning, and other

water quality management activities are undertaken that are not included with the approved facility plan, an evaluation shall be made of opportunities to achieve further reductions in the frequency and volume of CSOs. Such evaluation shall take into account generally accepted technologies, potential innovative technologies, cost effectiveness, and environmental benefit achieved. Potential innovative technologies will include measures used elsewhere that may have application in Portland as well as those pioneered by Portland. Technologies evaluated should include, but not be limited to, the following:

- Separation of sewers in selected basins where determined to be beneficial.
- Continual replacement of deteriorated trunk and interceptor lines with larger diameter pipes to provide additional inline storage to convey more wastewater for treatment.
- Implementation of operational enhancements to reduce the quantity of pollutants discharged when overflows do occur: e.g., sewer flushing, street cleaning by vacuuming/washing, etc.
- Addition of further treatment technology to the wet weather treatment facility to further reduce the pollutants being discharged.
- Enhanced inflow and pollutant source control: e.g., organic composting stormwater filters and permeable pavements.
- Comprehensive and multi objective water quality improvement strategies in all tributaries to the Willamette River within Portland. Such strategies should include preservation and enhancement of riparian environments and wetland systems, storm water management, water conservation, implementation of BMPs, source control of roadway runoff including pretreatment facilities, implementation of land use policies and requirements that benefit water quality, development of private property stewardship programs, and other strategies designed to prevent pollutants from reaching the Willamette River.

The respondent shall implement all measures which are cost effective.

- b. The Respondent shall report on the evaluations undertaken and the projects implemented as part of the annual report required by Section 12.a.(10).
- c. For the purposes of this Order, cost effective shall be as defined in the final facilities plan required by Paragraph 12.a.(1), subject to review and approval by the Commission.
- d. Respondent shall submit to DEQ no later than September 1, 2010, an approvable facilities plan report outlining the methods for achieving further reductions in the frequency and volumes of CSOs after the term of this Amended Order. Methods evaluated should include, but not be limited to, those listed in Section a. of this paragraph. This facilities plan shall be subject to approval by the Environmental Quality Commission.

24. The Respondent shall report to the Commission in a public forum its progress for CSO reductions as outlined in paragraph 23, above, at a time established by the Commission and the Respondent in the years 2001 and 2010.

RESPONDENT

Date (Name) _____
(Title) _____

DEPARTMENT OF ENVIRONMENTAL QUALITY

Date Fred Hansen, Director

FINAL ORDER

IT IS SO ORDERED:

ENVIRONMENTAL QUALITY COMMISSION

Date

William W. Wessinger, Chairman
Environmental Quality Commission

Note: This attachment would be deleted from the Order under the proposed revisions.

ATTACHMENT 1

1. Respondent shall clean and/or flush sewers in three sub-basins, from the diversion structures to one-half mile up the sewer lines, during August, 1991 and during August, 1992. The three sub-basins shall be: (a) a sub-basin representative of sub-basins having the heaviest settleable solids accumulation; and (b) two sub-basins expected to have average settleable solids accumulation. The respondent shall estimate the volume of settleable solids captured in each sub-basin during the annual flushing and cleaning, and shall analyze a representative sample of the settleable solids captured in each sub-basin for biochemical oxygen demand, total suspended solids, fecal coliform bacteria, silver, arsenic, cadmium, chromium, copper, mercury, nickel, lead, zinc, and cyanide. Respondent shall include all test results in the interim control measures study specified elsewhere in this Order.
2. Respondent shall intensify street cleaning in three sub-basins and study the effects of the intensified street cleaning on reducing pollutants entering the combined sewer system. Street cleaning shall be completed once per month, ending when the interim control measures study is approved by the Department. Respondent shall submit to the Department by no later than September 1, 1991 a draft sampling program for measuring the impact of the intensified street cleaning. Within 30 days of receiving written comments from the Department, the Respondent shall submit a final approvable sampling plan and implement the intensified street cleaning and monitoring program. Respondent shall include all test results in the interim control measures study specified elsewhere in this Order.
3. Respondent shall inspect all diversion structures on a weekly basis and clean the structures as necessary to maintain hydraulic performance. Respondent shall report all blockages at diversion structures that result in dry weather discharges on Respondent's Daily Monitoring Report submitted to the Department on a monthly basis. Respondent shall record whether or not a discharge is occurring from each diversion structure to an outfall, as observed at each diversion structure during the weekly inspections, and shall make this report available to the Department upon request by the Department.
4. Respondent shall modify diversion structures #SW55, WC58, SJ31, E5, E7, and EC7 to assure proper hydraulic performance by October 31, 1991.

5. Respondent shall design and install two innovative, "low technology" screening methods proposed by the Respondent by December 1, 1991. Respondent shall evaluate the effectiveness of each screening device and include the results in the interim control measures study specified elsewhere in this Order.
6. By no later than August 1, 1992, Respondent shall evaluate the feasibility of converting each Significant Industrial User with batch discharges to dry weather only discharges. Upon permit renewal and where reasonable, Respondent shall modify such industrial discharge permits to prohibit batch discharges during rain events.
7. Respondent shall prohibit all dischargers who request Respondent's approval prior to a non-permit, periodic, or one-time batch discharge from discharging during rain events. Exceptions shall be made only if extenuating circumstances can be demonstrated to show that it is unreasonable to apply this restriction.
8. By September 1, 1991, Respondent shall post signs at each CSO discharge location indicating the presence of the CSO structure and the inadvisability of water contact activities in these locations during and subsequent to rain storms.
9. As soon as practicable, but by no later than October 31, 1992, Respondent shall install seventeen additional level flow monitoring stations at diversion structures approved by the Department. Respondent shall include in each flow monitoring installation a telemetry device that will indicate an alarm at Respondent's control terminal whenever a discharge during dry weather occurs. Respondent shall attempt to eliminate the immediate cause of any dry weather discharge within one hour of an alarm. Respondent shall report all dry weather discharges on the Daily Monitoring Report submitted to the Department monthly. The Department may require flow monitoring stations at additional diversion structures if dry weather discharges are observed.
10. Respondent shall conduct and submit to the Department a study that evaluates each CSO discharge for the presence of syringes. Respondent shall submit to the Department a draft study plan for evaluating the presence of syringes in CSO discharges by no later than October 1, 1991. Within six months of receiving written comments from the Department, Respondent shall submit the study to the Department.

ATTACHMENT B

State of Oregon
Department of Environmental Quality

Memorandum

Date: May 17, 1994

To: Environmental Quality Commission
From: Richard J. Nichols, Northwest Region
Subject: Hearing Officer Report:
Public Hearing and Written Comment Period for Receipt of Public Input
Pertaining to Draft Amended Stipulation and Final Order WQ-NWR-91-75
Addressing the City of Portland's Combined Sewer Overflows.

The above cited Public Hearing was held on April 18, 1994, at 7:00 PM at the Department's Northwest Region Office in Portland. The closing time for receipt of written comments was April 21, 1994 at 5:00 PM. Three people made statements at the Hearing. Eleven written statements were received. Copies of the Hearing sign-in sheet and written statements are attached.

Below are summaries or paraphrases of the statements made and the Department's responses.

Comment: The level of CSO control required in the Draft Amended SFO is appropriate. (No justification for the preference provided.)

Response: The Department agrees that the degree of CSO control required in the Draft Amended SFO is appropriate in that it will result in a drastic reduction in CSO discharges at the most cost effective level, given presently available control measures. Additionally, the SFO requires the City to continue to evaluate and implement further cost effective control measures as they may become known and available in the future, both during the term of the SFO and afterward.

Comment: Portland should have to meet water quality standards and not be allowed to overflow 3 or 4 times per year.

Response: In accordance with the Clean Water Act and implementing EPA Regulations and CSO Control Policy, all CSO discharges must meet applicable state water quality standards. However, virtually any CSO discharge is likely to cause a violation of the State's fecal bacteria water quality standard as presently formulated. The Department believes that

bacteria standard as presently formulated may not be the most appropriate means of protecting the contact recreation beneficial use. The Department expects to propose revisions for the Commission's consideration to make it more appropriate for the beneficial use it is intended to protect.

Comment: Portland should be made to meet the requirements of water quality protection laws the same as other Oregon cities and industries, and be held to the 99.6% standard.

Response: The "99.6% standard" for CSO control contained in the current SFO is in fact not derived from a water quality protection law, but rather is derived from a design criteria the Department has used for the last several years in the review of engineering plans for sewage treatment and collection facilities to define the necessary hydraulic capacity of these facilities. Because of the uniquely massive size and cost of the Portland CSO problem, the Department believes that use of the cost effectiveness concept for defining the required level CSO control is appropriate. However, in establishing the required level of control for Portland's CSOs, just as in establishing treatment and discharge limits for any other discharger, the fundamental objective of the Department will be the attainment of applicable water quality standards and the protection of designated beneficial uses.

Comment: The 99.6% level of control should be kept because the necessary facilities will provide twice the capacity that will last twice as long, as population grows. It is the farsighted approach.

Response: In fact, the design population and life expectancy of the facilities needed for the 96% level of control are the same as those for the 99.6% level of control. The storage and treatment facilities for the 99.6% level of control are so much larger because the flow volume generated by the five year return storm is so much larger than the flow volume generated by the four in one year storm.

Comment: The SFO does not meet the requirements of the "nine minimum controls" set forth in EPA's CSO Control Policy with respect to dry weather discharges and control of floatables.

Response: EPA's CSO Control Policy has been in draft until April, 1994, when it was issued in final form by the Administrator of EPA, Carol M. Browner. The final policy does require nine minimum technology-based controls to be applied to combined sewer systems by no later than two years after the requirement is included in an NPDES permit or other enforceable mechanism. EPA is proposing to provide "extensive guidance on the nine

Memo To: Environmental Quality Commission
May 17, 1994
Page 3

minimum controls". The guidance is targeted for completion in September, 1994.

The Environmental Quality Commission approved specific interim control measures for the Portland CSOs at its January, 1994, meeting. The Commission was informed at that time that EPA was developing its CSO policy, but that it had not yet been finalized. The Department recommended, once new requirements were established, that the permit be modified to include them. This process would include an opportunity for public comment. The Department felt that this was the appropriate time to consider the additional controls, if any were required.

The interim controls approved by the Commission are not sufficient to meet the "nine minimum controls" in EPA's CSO Policy. The primary deficiency is with the control of solid and floatable materials. The Department agrees that the SFO and the permit ultimately should be modified to incorporate the "nine minimum controls." A schedule for implementing these controls should be negotiated with the City after EPA provides its guidance. In addition, once negotiated, the proposed schedule should be placed upon public notice as part of the process to modify the SFO and permit. The Department does not believe that the current proposed modification of the SFO should be delayed while EPA completes its guidance.

With respect to dry weather discharges, the current NPDES Waste Discharge Permit for the City of Portland Columbia Boulevard Wastewater Treatment Plant prohibits discharges from CSOs during dry weather periods. Dry weather periods are defined as periods when it is not raining and has not rained in the Portland metropolitan area for the previous eight hours. At this time, the City does periodically have dry weather discharges and is under a separate SFO to address the dry weather discharges.

Comment: In the SFO, the qualifying phrase "that violate applicable water quality standards" used in reference to CSO discharges that must be eliminated, should be deleted. All CSO discharges that result from storms smaller than the specified magnitude should simply be forbidden. This is because, (1) even if the bacteria standard is met, CSO discharges represent a public health threat, and (2) such language is difficult to enforce, requiring DEQ to demonstrate violation of the water quality standard.

Response: The Department in general agrees with this comment. The phrase would be difficult to enforce. Discharge limitations and restrictions should be in clear, unambiguous, and easily measured parameters. The Department believes the precise development of effluent discharge limitations and restrictions should occur when the NPDES permit is revised pursuant to the selected alternative in the final facilities plan, however. Discharge limitations and restrictions in a proposed permit would be subject to public review and

comment during the public notice for the permit action.

Comment: The stipulated penalties scheme of the SFO is unclear and incomplete. More specifically, does violation of paragraph 12d also constitute a violation of paragraph 12a? If so, would the penalties for violation of paragraph 12a [as stated in subparagraph 12g(i)] also be assessed in addition to the penalties for violation of paragraph 12d [as stated in subparagraph 12g(ii)]? In addition, the SFO provides for stipulated penalties only for violation of paragraphs 12a and 12d. What about violation of other portions of the SFO?

Response: The Department does not agree that a violation of paragraph 12d should be considered as also a violation of paragraph 12a.

The Department acknowledges that only certain of the requirements of the SFO are subject to stipulated penalties. These are: completion of the final facilities plan; construction of the CSO control facilities; attainment of water quality standards by CSO discharges resulting from storms smaller than the specified design storm. While other requirements are not covered by stipulated penalties, violations of these are still subject to the imposition of penalties, albeit that in such cases the amount of the penalty as well as the fact of violation are contestable. The City has informed the Department that it concurs in this interpretation. Moreover, it is the intention of the Department when the SFO is renegotiated after completion of the final facilities plan, that the specified schedule for the Cornerstone Projects, the implementation of the EPA "nine minimum controls", and the ongoing interim control measures, also be brought within the stipulated penalty provision of the SFO.

Comment: The ability of the proposed Wet Weather Treatment Facility (WWTF) to adequately treat for the removal of pollutants other than bacteria found in combined sewage, such as heavy metals and toxic chemicals, is questionable. The detention times proposed in the facilities plan for primary treatment may not be adequate.

Response: The Department regards defining the required degree of treatment of the captured combined sewage to be provided by the WWTF, and the establishment of design criteria to assure that the required level of treatment is achieved, as a very important issues which are yet to be resolved. In the draft plan, it is assumed that the WWTF would provide screening, sedimentation and disinfection, and that the discharge would not violate water quality standards outside of the mixing zone. At a minimum, the Department will set the effluent discharge limits in the NPDES Permit for the WWTF at levels which will ensure that there are no water quality standards violations resulting from the discharge. However, the Department has not yet evaluated the applicability of the **Minimum Design Criteria for Treatment and Control of Wastes** (e.g., effluent BOD/TSS concentration limits) set forth in

OAR 340-41-455 to a primary treatment facility such as the WWTF. The Department intends to further review this question and may request Commission consideration of a Rule modification to clarify the applicability of Minimum Design Criteria to primary treatment facilities for CSOs. In summary, the Department recognizes that there are significant planning, design and permitting issues that must be resolved prior to construction of the WWTF, but which are outside the scope of the SFO amendments under consideration.

Comment: The effectiveness of chlorine disinfection in the combined sewage storage tunnels is questionable because of the high suspended solids levels of the combined sewage. In any case, the chemical byproducts of disinfection by chlorine are themselves dangerous and undesirable.

Response: The Department acknowledges that the effectiveness of disinfection of the captured combined sewage at the WWTF, whether by chlorine or some other mode, and the potential adverse environmental consequences of the use of chlorine are extremely important issues which should be addressed in the final facilities plan and permit for the WWTF. In the draft facilities plan, chlorination-dechlorination was assumed for purposes of estimating facility costs. It is the Department's understanding that the City also regards determination of the means of disinfection as an open issue. However, this issue is outside the scope of the SFO amendments under consideration.

Comment: The accumulation of pollutants in the sediments at the CSO and the WWTF outfalls is of concern. The SFO and facilities plan should address this issue and should make provision for sediment sampling to determine the extent of accumulation and environmental impact.

Response: The Department believes this issue is outside the scope of the SFO amendments under consideration. The issue is important, however, but should be addressed in the final facilities plan being developed by the City of Portland and in the permit for the WWTF.

Comment: Location of the WWTF at the Columbia Boulevard Wastewater Treatment Plant site is more expensive but would have the advantages of removing the combined sewage receiving primary treatment from the Willamette River altogether, and optimizing the ability to provide secondary treatment for a portion of the combined sewage.

Response: The City and its engineering consultant thus far in the facilities planning process have determined that it is considerably less expensive to locate the WWTF at the Willamette River site, and that there is no advantage with respect to optimizing the ability to provide

secondary treatment by locating at the Columbia Boulevard site. The Department defers to the judgement of the City and its consultant to determine if further examination of this question is warranted in the development of the final facilities plan. Because the Department intends to write the permit for the WWTF such that its discharge will not violate water quality standards, the Department has not determined that WWTF discharge to the Columbia River is preferable. These issues, however are outside the scope of the SFO amendments under consideration

Comment: The modified SFO will result in shifting the allowed CSO discharges away from the wealthy downtown Portland area to the low income minority neighborhoods on the lower Willamette.

Response: The Department believes that the current practice of uncontrolled and untreated CSO discharges affect all residents of the City of Portland. Some of these existing, uncontrolled CSOs currently affect low income minority neighborhoods. The results of an upgraded sewage collection system as prescribed by the SFO will improve water quality for all citizens.

Comment: The modified SFO should incorporate the TMDL process for the Willamette River and Columbia Slough which are required by the 1987 Consent Decree.

Response: First, the Willamette River was not one of the water bodies listed in the 1987 Consent Decree. Columbia Slough is listed, but the TMDL for it is being developed. The Department agrees that a TMDL might be useful in addressing high background levels of fecal bacteria coming from suspected nonpoint sources up stream. The Department does not understand how a TMDL would be useful in addressing the reduction of CSO discharges as proposed in the original or modified SFO. At such time as a TMDL is developed for Columbia Slough or is determined to be a proper and necessary approach to problems on the Willamette River, the Department believes the facilities currently being considered by the City of Portland will be compatible with the appropriate TMDL.

Comment: A first step in the clean-up of Columbia Slough would be to open it up to fresh water from the Columbia River to flush it out.

Response: Flow augmentation for the Slough is one of the management options discussed in draft Program Plan prepared by the City as part of the development of TMDLs for the Slough. The draft Program Plan is under review by the Department. This issue, however, is outside the scope of the SFO amendments under consideration.

Memo To: Environmental Quality Commission
May 17, 1994
Page 7

Comment: DEQ needs more resources to oversee management of this very large project. The City should be required to provide these funds.

Response: The Department believes it has sufficient resources, in its current budget, to oversee this project.

Comment: The Department's approach to addressing the CSOs is unacceptable and DEQ should give the NPDES permit program back to EPA. The SFO should be dissolved so that it would not serve as a shield to prevent third parties from enforcing the requirements of the Federal Clean Water Act through civil suit.

Response: The Department believes the Commission's SFO as proposed meets the requirements of the Clean Water Act and, in fact, is more stringent than would be achieved if EPA were the permitting authority.

SIGN-IN SHEET

①

PLEASE PRINT

NAME	ADDRESS	CITY, STATE, & ZIP
1. TROY CLARK	2821 NE KICKITAT	PORT. 97212
2. Kathy Goss	12200 SE McLoughlin	Mulw, 97222
3. Gordy Euler	2811 NE Schuyler	PDX 97212
4. Amy Spring	11009 SW Park Ave. #301	Portland OR 97204
5. Nina Bell	3113 NE Skidmore	Portland OR 97211
6. Adrian Bell Rosolie	3113 NE Skidmore	97211
7. Cathryn Collis	1120 SW 5th Rm 400.	97204
8. Claudia Zahorak	9620 Barbur Blvd #200	Portland 97219
9. Glen Ellis	13750 SE Ridgecrest	Portland OR 97236
10. Don Francis	2155 NW Gilliam #2	" 97210
11. Matt Love	1665 S.E. Spokane	Portland 97202
12. Jim Michael Jones	2412 N Mississippi	97229
13. Joe [unclear]	70 2515	97208
14. Lester Lee	1120 SW 5th Rm 400, Portland	97204
15. JOE HUI	6707 N BROADWAY	PTLD 97217

5/91 signin.deq

Public Hearing Re: Portland CSO: SFO Amendments
 5/18/94 2:00 pm. DEQ: NWR
 Dick Nichols - Hearing Officer

DEPT OF ENVIRONMENTAL QUALITY State of Oregon
RECEIVED DEPARTMENT OF ENVIRONMENTAL QUALITY
APR 01 1994 RECEIVED
MAR 29 1994
NORTHWEST REGION

Dear Fred Hansen,

OFFICE OF THE DIRECTOR

Congratulations on the recent agreement to amend the sewage overflow projects to reduce overflows to a 96% level.

As a financial analyst for one of the regions major banks, I applaud this decision as fiscally responsible. As a father of two, I also applaud you for continuing on a path which will greatly improve the water quality, fish and other wildlife habitat in the Willamette.

Since I live close to Fanno Creek, it is very important to us that this project results in better watershed management of the Willamette tributaries.

Thanks.

Eugene Lewins
6410 SW Hamilton Street
Portland, OR, 97221

DEQ

4-16-94

Portland, Ore.

It is unlikely that I'll be able to testify at the 4-20-94 council meeting on the SFO debate. However since you urged me to come I felt perhaps there might be some value in writing out my opinions. There are four points I would seek to express if there.

1. Every local act can be considered against a global backdrop. On a global scale it is critical to embrace severe measures to repair our collective environment. If Portland opts to relinquish the original SFO agreement we are choosing short-range and shortsighted values. We are in effect reiterating the dubious opinion that environmentally things are not all that bad.

2. Eventually there will be no alternatives for the world or for Portland, Oregon. Eventually some generation will have to bite the bullet and put up the money to eliminate all pollution entering the Willamette watershed. Maybe my children's generation or the next will do it right. It is sad to think that we won't do all we can today for the health of Portland in the future.

3. The point that concerns me most is the finality that accompanies the decision. Once the choice is made between a 12 foot diameter pipeline 6 miles long with a processing capacity of 360 MGD or a 24 foot diameter pipe 10 miles long with a processing capacity of 700 MGD a certain irreversibility of values emerges. Portland will have to live a long long time with the consequences.

At first glance the difference between the competing SFO's is a small 5% distinction in CSO elimination. This is the selling point for the 1994 revision. Yet the long term difference in carrying capacity between the two systems reveals that the 1991 SFO provides double the capacity of the revised SFO. Hence the \$300 million in question is buying much more than a mere 5% greater outfall remediation. And since few of us today can predict the impending growth demands on our sewer system it seems foolish to me to think small.

4. Of course the bottom line is money. While endorsing the 1991 SFO I have also pondered other revenue sources besides the Portland rate payers. I asked Ron Wyden at a town meeting on 4-4-94 about the possibility of Federal funds under the Clean Water Act to make up the difference between the two primary SFO options. I was not surprised by a careful shrug. I haven't done much better. However I remain adamant that the revenue can be found to join the 99.6% clean-up goal of the original SFO and the \$700 million price tag of the revised plan favored by many Portland rate payers. If it is not Federal funds then perhaps a city tax on motor vehicles or motor vehicle products. Granted the problem is specifically Portland's making motor vehicle taxes problematic. My ultimate concern is that we turn every stone, explore every option and never give up the highroad envisioned by the 1991 SFO.

Thank you for your attention
and patience,

Troy Clark

B-10

Copies of the current SFO and the draft amended SFO, are available by writing to Oregon Department of Environmental Quality, Northwest Region Office, 2020 SW Fourth Avenue, Suite 100, Portland, OR 97201, or by calling Deborah Nesbit at (503) 229-5340. People may also call toll free in Oregon 1-800-452-4011. People with a hearing impairment can receive help by calling Northwest Region's TDD number at (503) 229-5471. Copies of the SFO and related documents are also available for inspection in the government documents section of the Multnomah County Library's Central and Midland Branches.

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EQC:
Sounds like a
cop out on part of the
Commission. Why shouldn't Portland
have to meet water quality standards instead
of continuing to allow overflows (3-4 a year)?
We, the public, are sick of polluted rivers
in Oregon - to allow this to continue is
unthinkable.
I hope the Commission will stiffen
its backbone and insist on stopping
the flow of sewage into the Willamette
& Columbia. Please enter this
in the record.
Pat Wallace

APR 21 1994

Jamal Kadri
11 Pine Avenue
Takoma Park, MD 20912

NORTHWEST REGION

April 18, 1994

Fred Hansen
Oregon Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, Oregon 97204
fax: 503-229-5124
5850

Dear Fred,

I am writing with comments on the City of Portland's Combined Sewer Overflow pollution abatement efforts. Although I have been working for EPA on the National CSO Policy since July of 1991, and represented the Agency at one of the City and the Environmental Quality Commissions' "Collaborative Process" meetings, the following comments are my own, not EPA's.

I am concerned that the questions currently being asked about the "level of control" for Portland's CSOs focus too much on the volume to be "controlled," and not enough on the level of treatment that will be considered adequate or the pollutant removals which could be expected from the engineering options currently under consideration.

In estimating the nationwide cost of implementing the CSO Policy, EPA developed a methodology based on one of the design criteria in the "presumption" approach; the goal of "the elimination or capture for treatment of no less than 85% by volume of the combined sewage collected in the combined sewer system during precipitation events on a system-wide annual average basis..." For the purposes of the cost estimating exercise, the assumption was made that CSO abatement would be provided by primary treatment and disinfection with storage/sedimentation basins.

In order to estimate the necessary sedimentation basin volumes for 1100 CSO communities nationwide, analyses of hourly rainfall data over a 20 year period were performed for twenty representative CSO locations, in 6 regions divided by their rainfall patterns. Design storm durations were calculated to determine the length of the period of peak rainfall intensity for which the CSO facilities should be designed to result in 85% treatment.

According to Metcalf & Eddy, the consulting firm assisting EPA in the CSO cost estimates, a typical design criteria for sedimentation basins is a hydraulic overflow rate of 1,000 gpd/sf on an average basis. This flow rate results in a two hour detention time if a sidewall depth of 11.2 ft is assumed (10-12 is typical). For treatment of CSOs, a peak flow rate of 2.5 times the

average rate was assumed, resulting in detention times of 48 minutes.

When a sedimentation basin is designed to treat at least 85% of the CSO flows at a peak rate of 2500 gpd/sf, the pollutants are removed through several mechanisms:

- A. For small rainfall events, when the total rainfall for a rainfall event is less than the volume of the sedimentation basins, all of the combined sewage collected from this rainfall event will be stored and diverted back to the main treatment plant for full treatment, assumed to be at secondary treatment level, where at least 85% BOD and TSS removals could be expected.
- B. Through a careful design, most of the "first flush" from frequently occurring storms of moderate intensity will also be collected and treated at the secondary treatment plants. After the sedimentation basins are filled, the flow will go through the sedimentation basin at rates well below the maximum design overflow rate. The percent removal of TSS and BOD will be higher during storms with lower intensities, as the CSO flows will have longer detention time in the sedimentation basin.
- C. During larger rainfall events (e.g. the 10 largest storms per year) sedimentation systems will work at or near the maximum design flow and the pollutant removal efficiencies during the peak of these large rainfall events will be at the expected removal rate for peak design flows. A portion of the CSO from these larger storms will still be returned to the secondary treatment plant and at the tail end of these rain events the removal efficiencies will increase.
- D. About 4-6 times per year storm intensities will result in CSO flows that would exceed the design rate of the sedimentation tanks to the point where pollutant removal efficiencies would be negligible. During these overflow events, 15% of total annual flow will be discharged without any measurable treatment.

The copy of Portland's CSO Facility Plan that I reviewed includes very different assumptions regarding primary sedimentation than EPA used in calculating the costs and benefits of the national CSO Policy. The technical appendix on the proposed design concept for Portland's wet weather treatment facilities (TM 8.2) claims that "the design overflow rate for primary treatment plants typically ranges from 3,000 to 3,500 gpd/sf with a tank depth of 9 feet." On the basis of testing at Seattle Metro's Renton treatment plant which shows an expected removal efficiency of 30 percent BOD and 50 percent TSS at the peak overflow rate of 4,860 gpd/sf, "a design overflow rate of 4,000 gpd/sf and a tank depth of 15 feet

are recommended." After I contacted consultants at CH2M HILL who are familiar with the facility plan, they confirmed that these estimated removal efficiencies are unrealistic.

In fact, the higher overflow rates in Portland's plans would mean much smaller sedimentation tank volumes with shorter detention times, compared to the larger tanks that EPA assumed for the purposes of the costing estimates. Smaller sedimentation tanks would be overloaded earlier and work at lower efficiencies for longer periods. Furthermore, the smaller tanks would result in smaller volumes and annual percentage of CSO flows which could be captured completely and conveyed to the Columbia Boulevard WWTF for secondary treatment.

I believe some of the assumptions regarding the level of treatment provided for in Portland's CSO Plan when compared to EPA's CSO Policy will need to be scrutinized before conclusions can be made regarding how Portland's CSO abatement recommendations as they are currently written compare with the criteria in the CSO Policy's "presumption" approach. This analyses will benefit not only DEQ's ability to make informed decisions regarding what will be considered to be adequate treatment for the city's CSOs, but also EPA staff who are in the process of writing guidance documents to facilitate the implementation of the CSO Policy. If DEQ were to request EPA's assistance in evaluating Portland's facility plan, we may be able to conduct a detailed review as part of EPA's guidance development efforts.

In evaluating the storage, conveyance, and treatment alternatives in Portland's draft CSO Management Plan, we could conduct some analysis to determine which control schemes would maximize the flows that could be captured to receive secondary treatment, and the differences in pollutant removals which could be expected.

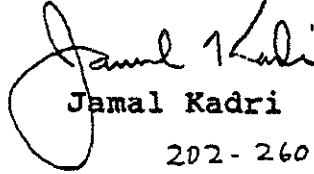
Although all of the options in Portland's plan include recommendations to relocate the discharges to the Columbia Slough, I do not think that the relative benefits of the Columbia Boulevard WWTF configuration option are adequately emphasized. This option, though approximately \$50 million more expensive than the preferred Willamette River WWTF option, would remove CSO discharges completely from the Willamette River where there are many recreational uses, and discharge treated effluent to a portion of the Columbia with greater assimilative capacity and fewer potential human health threats. Furthermore, the Columbia Boulevard WWTF configuration option would result in much lower total annual pollutant discharges than any of the other alternatives.

The additional capital costs of the Columbia Boulevard option buy more tunnel which would provide more storage capacity and flow management options to optimize secondary treatment capacity. These costs may be offset in the long term, however, by savings in land

acquisition and long term operation and maintenance costs that would be realized by siting the new CSO control facilities adjacent to the existing secondary treatment plant at Columbia Boulevard.

I would be grateful for any opportunity to assist you in your efforts to ensure that the design and construction of Portland's CSO controls achieve the environmental benefits Oregonian's should expect from such a significant investment in wastewater infrastructure.

Sincerely,

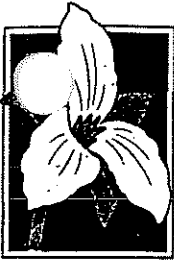


Jamal Kadri

202-260-3848

cc: Mike Lindberg
Commissioner
City of Portland
fax: 503-823-6995

NORTHWEST ENVIRONMENTAL ADVOCATES



April 21, 1994

Fred Hansen
Oregon Department of Environmental
Quality
811 S.W. 6th Ave.
Portland, OR 97204

RECEIVED

APR 21 1994

DEPARTMENT OF ENVIRONMENTAL QUALITY
PUBLIC AFFAIRS

Dear Fred:

We are pleased to provide the following comments on the proposed revised SFO for the City of Portland's Combined Sewer Overflows (CSO).

We support the new design goals for frequency of CSO discharges that are incorporated in the proposed SFO. We are not confident, however, that this SFO and associated facilities plans will result in as much environmental protection as can be achieved with the amount of funds currently projected for this project. Nor are we confident that the proposals meet the requirements of the law, as discussed below.

We remain concerned that the SFO does not require full compliance with EPA's nine minimum controls, as set forth in its National CSO Strategy (see 58 Fed. Reg. 4994 (Jan. 19, 1993)). While compliance with these minimum controls always has been important, it now appears to be increasingly so as Congress appears to be likely to incorporate EPA's national strategy into the Clean Water Act through its ongoing reauthorization efforts. It makes no sense for DEQ to settle for less than what Congress will require as DEQ now goes through the SFO revision process. It also makes no sense to ignore these control strategies from the standpoint of gaining the maximum protection for the environment and public health, both in the interim period and upon final completion of the project.

The SFO's most glaring deficiencies regarding the nine minimum controls pertain to dry weather discharges and the control of floatables. EPA's national strategy requires a prohibition on dry weather discharges. EPA states:

Discharges during dry weather have always been prohibited by the NPDES program. Such discharges create serious public health and water quality problems. EPA will use its CWA Section 308 monitoring, reporting, and inspection authorities ... to locate these violations, and to determine their causes. Appropriate remedies and penalties will be sought for CSO discharges during dry weather.

B-16

The SFO, by contrast, required modifications to diversion structures in an effort to eliminate dry weather discharges. Note this requirement is actually in the draft facilities plan, the full version of which will be incorporated into paragraph 20 of the SFO by reference, but nowhere does it contain the required prohibition of dry weather overflows. To comply with federal law, the SFO must require the City to commit to the collection of these discharges, not just to a construction schedule that it hopes -- but will not warrant -- will achieve that result.

The second major deficiency concerning the nine minimum controls relates to the control of solid and floatable materials. The draft facilities plan recommends that screens not be implemented because they "would remove less than 5 percent of solids, would present significant ongoing maintenance programs, and would provide negligible water quality benefits." However, this ignores that the national strategy requires a floatables control program. The draft SFO has none. It also ignores the fact that other technologies or methodologies are available, such as the use of booms or the implementation of an enhanced street cleaning program. The draft facilities plan did not consider the former and summarily rejected the latter. DEQ should not let the City so blithely ignore the requirements of federal law.

We also have two major concerns regarding the drafting of the SFO itself. Most significantly, we note that the SFO consistently requires the City to eliminate -- according to predetermined schedules -- CSO discharges "that violate applicable water quality standards" except during storms greater than specified frequencies. We urge DEQ to eliminate the qualifying phrase "that violate applicable water quality standards" and simply require the City to eliminate all CSO discharges other than during the specified storm events. As noted in paragraph 9d of the SFO, all discharges of untreated sewage constitute "a potential threat to public health and safety -- even when bacteria standards are met." This is because, as also noted in that paragraph, "[b]acteria standards are an imperfect measure of public health protection."

The proposed deletions would also render the SFO more enforceable from DEQ's standpoint. At a minimum, it would eliminate the need for DEQ to make a specific showing that any impermissible discharges actually caused a violation of water quality standards. Rather, DEQ would only need to show a discharge during other than a specified storm event. Additionally, the Ninth Circuit's recent decision in the City of Portland case sheds significant doubt on the enforceability of the current language. A major part of the

court's rationale in that case was that narrative conditions generally requiring compliance with water quality standards are too vague to be enforceable. An absolute bar on CSO discharges during other than the specified storm events would pose no such vagueness problem.

The troubling language appears in at least paragraphs 12a (4 times), 12a(4), 12a(7), 12a(10), and 12a(11). Additionally, minor tinkering would have to be done with paragraphs 12a(1), 12d and 12g(11). We would be happy to supply proposed revision upon request.

Our second drafting concern relates to the stipulated penalties provision (paragraph 12g). First, the difference between subparagraphs (i) and (ii) is unclear. Paragraph 12d, which subparagraph 12g(ii) incorporates by reference, itself incorporates many of the deadlines in paragraph 12a. The violations of these deadlines would then appear to be subject to penalties under both subparagraphs (i) and (ii) of paragraph 12g. DEQ should clarify this scheme.

More significantly, many of the requirements of the SFO simply are left uncovered in the stipulated penalties provision. Most importantly, this includes paragraph 20, which incorporates the Cornerstone projects into the SFO. It also includes paragraphs 12b, 12c, 12e, and 12f. All of these provisions should be incorporated into the stipulated penalties scheme.

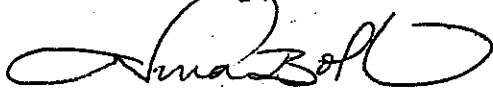
Turning to more general comments, we are concerned about the level of treatment that will be achieved for the wastes that are partially treated according to the City's plans. We do not believe that either the SFO or the plans adequately address pollutants other than bacteria which are present in CSO discharges, namely heavy metals and toxic chemicals. The only way to do this is by gathering sufficient information, including point of discharge sediment sampling in the vicinity of each outfall, and then addressing the problem in an appropriate fashion, including the performance of Total Maximum Daily Loads where warranted.

In addition, we are concerned that the level of treatment in the wet weather treatment facilities is insufficient for all pollutants, including bacteria, and may very well make a mockery of the expense of building them. We question the use of chlorine which may provide very little benefit and is guaranteed to produce dangerous toxic chemicals.

Finally, we strongly doubt that DEQ currently has the ability to oversee a project of this magnitude. We again urge you to require the City to provide funds to an independent ombudsperson or DEQ employee to perform this

important function. The additional cost of this would far outweigh what we stand to lose both financially and environmentally from inadequate oversight over the development of this project.

Sincerely,

A handwritten signature in cursive script, appearing to read "Nina Bell".

Nina Bell
Executive Director

B-19



CITY OF PORTLAND ENVIRONMENTAL SERVICES



1120 S.W. Fifth Ave., Room 400, Portland, Oregon 97204-1972
(503) 823-7740, FAX (503) 823-6995

April 21, 1994

Oregon Department of Environmental Quality
Northwest Region Office
2020 S.W. 4th, Suite 400
Portland, Oregon 97201

Thank you for the opportunity to comment on the proposed amendments to the Stipulation and Final Order (SFO) addressing the City of Portland's Combined Sewer Overflows (CSOs). The collaborative process and the resulting recommendation to amend the SFO are of major importance to the City. We appreciate the opportunity to voice our support.

First we would like to commend the EQC and the Department for participating in the collaborative process which led to the proposed amendments. We view this process as an important change in the way regulatory matters can be addressed. By creating and actively participating in this innovative process where the State and the City came together in the spirit of cooperation, to determine the best solution for the environment, public health and rate payers, you have established a new standard for the development of sound environmental policy.

The City supports the proposed amendments to the SFO in their entirety. Yesterday, April 20, 1994, the City Council voted unanimously in favor of the proposed amendments. Additionally, public testimony offered at the Council hearing ran overwhelmingly in favor of the proposed amendments. People such as Senator Ron Cease, Don McClave of the Portland Chamber of Commerce, and Mike Houck of the Urban Streams Council all voiced their support for both the collaborative process and the resulting proposed amendments to the SFO.

In addition to the support offered at the Council hearing, the City has conducted several discussion groups and public workshops aimed at determining the level of support from the general public for amending the SFO. I have attached a summary of those proceedings. You will notice from this summary that in almost every case, after a description of the choices, the public choose to support the level of CSO control and other changes represented by the amendments.

The City urges the EQC to accept the proposed amendments to the SFO.

Sincerely,

Cathryn Collis
Intergovernmental Programs Manager

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APR 21 1994

NORTHWEST REGION



Bring People Back Into the Environmental Equation.

4-21-94

247 Commercial NE
Salem, OR 97301
Telephone (503) 363-8582
Fax (503) 363-6067

Department of Environmental Quality
Northwest Region Office
2020 SW 4th Avenue
Portland, OR 97201

On behalf of the Oregon Lands Coalition, representing 82,000 Oregonians statewide including many rural residents, I urge you to reject the City of Portland's negotiated sewage plan. We firmly believe in the responsible multiple use of natural resources, but the City of Portland's continued fouling of Oregon water with raw sewage is in no way responsible. Portland's attempt to shirk its duty to obey the state's water quality laws is untenable.

Portland has been indefensibly defying Oregon's clean water laws for decades. This utter lack of regard for water quality and wildlife habitat is shocking. Do Portland city officials hold themselves above the law? How can they expect state officials to force other cities to comply, while Portland officials continue their unlawful practices?

250 million gallons of human waste and other pollutants dumped into the Willamette River and the Columbia Slough every year is absolutely unacceptable. Portland must be held to the 99.6 standard, the same standard as every other Oregon city.

Logging companies, mills, farmers, ranchers, and miners must comply with strict water protection measures- often at great cost. Portland and its residents must equally adhere to the law, even if it costs vast sums. Our environment must be protected for future generations.

We will be watching closely to make sure state laws are followed and enforced equally and fairly by all.

Sincerely,

A handwritten signature in cursive script that reads 'Tom Hiron'.

Tom Hiron
Oregon Lands Coalition

B-21

April 21, 1994

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Mr. Fred Hansen, Director
Oregon Department of
Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390

APR 26 1994

NORTHWEST REGION

re: amended SFO with Portland

Dear Mr. Hansen:

I have two serious concerns with the proposed SFO requiring abatement of Portland's CSOs:

First, the current facility plan, if built, would provide limited primary treatment, followed by disinfection of combined sewage. Yes, fecal coliform levels would be substantially reduced, but very little removal of pesticide and fertilizer runoff, heavy metals, grease, oil and other pollutants would result from this treatment technology. Not good news for the Willamette River and a poor return on a \$700 million investment.

Second, toxic pollutants from CSO discharges dropout into the sediment of the receiving water body. Sydney Australia, Seattle and the Columbia Slough are examples where CSOs have caused sediment contamination. These pollutants accumulate in the sediment and then enter the ecosystem through re-suspension into the water column and through the food chain starting with benthic fauna. Health threats of both aquatic fauna and humans can be linked to contaminated sediment, e.g. those posed by the Columbia Slough.

Neither of these issues is addressed in the amended SFO. I strongly urge DEQ and the EQC to change the amended SFO to include the following:

Require Portland to provide significant removal of TSS and other pollutants. Longer retention time in settling ponds and/or constructed wetlands are treatments methods worth considering. Reduction of TSS and associated pollutants is an effective way to offset some of the impacts to rivers caused by past and future growth in the region.

DEQ should know the degree to which toxins have effected the Willamette River's sediment and ecosystem. The amended SFO should require the Portland to perform sediment sampling and testing at and downstream of CSOs discharging to the Willamette River. And due to the likelihood of future channel dredging, core sampling should be included.

Not addressing both of these issues in the amended SFO would be a serious error by DEQ and the EQC. We know the Willamette River receives significant amounts of pollutants from CSOs. The proposed CSO treatment facility would fail to get the best pollutant removal for the buck. Improving the proposed facility to decrease total pollutants is a wise investment in the future.

Sydney and Seattle have performed sediment remediation at CSO locations. Sediment analysis is simply prudent. We need to fill the knowledge gap regarding Willamette River sediments. Sediment characterization is a standard requirement of aquatic polluters. DEQ requires sediment analysis of industrial polluters, it should do the same with Portland. Requiring Portland to perform sediment analysis is a reasonable and necessary requirement.

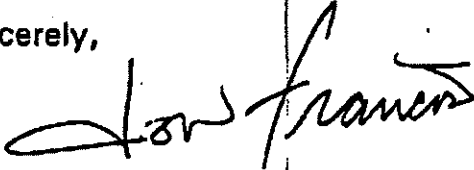
B-22

Page 2, letter to Fred Hansen regarding Portland's CSOs

In both situations the time to take action is now.

Thank you for taking time to read my letter. I urge you to give the suggestions serious consideration. I look forward to receiving your response.

Sincerely,



Don Francis

2155 NW Glisan St. #2
Portland, OR 97210-3474
(503)224-7854

cc:

EQC board
Anne Squier
Commissioner Mike Lindberg
Linda Dobson
Mike Houck

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APR 21 1994

NORTHWEST REGION

C:NEDC.SFO

TO: OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHWESTERN REGION OFFICE
2020 SW FOURTH, SUITE 400
PORTLAND, OR 97201

FR: NORTHWEST ENVIRONMENTAL DEFENCE CENTER
NORTHWESTERN SCHOOL OF LAW
10015 SW TERWILLIGER BLVD.
PORTLAND, OR 97219

COMMENTS ON PROPOSED AMENDMENTS TO THE PORTLAND'S SFO

The proposed amendments to Stipulation and Final Order (SFO) for Portland's Combined Sewer Overflows (CSO's) are unsatisfactory for several reasons.

First, NEDC is skeptical that the modified SFO can actually achieve its aim. DEQ has failed to provide sufficient data proving that the modified SFO could actually reduce or eliminate flows. If the modified SFO fails to reduce or eliminate flows, the plan will merely result in the CSO's movement downstream. As stated in the modified SFO, "[A]ttention was given to developing alternatives....including relocating any remaining overflow to minimize impact on high priority beneficial use areas." Draft SFO Revisions, pg. 9.

This alternative would result in overflow containing raw sewage and contaminated stormwater being shifted away from the affluent downtown Portland areas and into the low income minority neighborhoods on the Lower Willamette. Such a result is environmentally unjust and would be unacceptable.

The modified SFO does not define or provide objective factors for determining what constitutes "high priority beneficial use areas." However from the context of the SFO, it appears that this phrase is a euphemism for "wealthy areas of Portland." The modified SFO recognizes that "untreated sewage discharges will occasionally occur." Draft SFO, pg. 7. If the modified SFO merely allows these "occasional" sewage discharges to be relocated to economically disadvantaged neighborhoods on the Lower Willamette, it would be both morally and legally inadequate.

Second, the modified SFO does not appear to provide a reduction in the concentration of pollutants. Instead the modified SFO provides for a 5 mile rock tunnel for primary treatment and disinfection before discharge to Willamette. Draft SFO, pg. 9. Disguised as treatment and disinfection, this provision will actually allow discharge of an additional carcinogenic pollutant, chlorine. Beside being carcinogenic,

B-24

C:NEDC.SFO

chlorine is a known contributor to dioxin related problems.

Chlorine is not useful as disinfectant for untreated sewage which contains solids. The bacteria inside the solids within the sewage will be shielded from any of the chlorine's disinfectant capabilities. At best, the chlorine will provide a temporary cosmetic remedy, however the bacteria will remain. Once discharged into the Willmatte, regrowth of the harmful bacteria will occur. DEQ's primary premise that disinfection can occur within the 5 mile tunnel is fatally flawed because chlorine cannot effectively treat large solids in raw sewage.

Furthermore, a substantial number of toxic substances are byproducts of reactions of chlorine with organic materials present in domestic wastewater. For example when chlorine is mixed with organic materials present in domestic sewage, a class of chemicals called trihelomethane is produced. Trihelomethane causes skeleton deformities in fish.

The addition of chlorine disinfection does not provide any benefits. In fact, the addition of chlorine disinfection will only harm the environment. Such a solution, if it could be called a solution, conflicts with the modified SFO's desire to use "prudent public policy to establish the goal of eliminating untreated sewage discharges." Draft Revision to SFO, pg. 6.

Third, the modified SFO states that the Committee has reached a consensus that it is prudent public policy to "establish the goal of eliminating untreated sewage discharge." Revised SFO, pg.6. Although it is prudent public policy to have this goal, it is not prudent public policy to decide to establish a goal which has already been established. Congress established the requirement of eliminating untreated sewage discharge over 20 years ago by passing the Clean Water Act (CWA).

CWA §101(a) establishes the "goal that discharge of pollutants into navigable water be eliminated." 33 U.S.C. §1251 (1993). The time for determining that it is prudent policy to establish a goal of eliminating discharge has long since passed. Nor is it the Commission's or DEQ's role to determine that this is prudent public policy. The SFO language reflects an apparent willingness of the Commission and DEQ to drag their feet while the problem continues. The Commission and DEQ need to cease establishing goals and begin to establish effective implementation procedures instead.

Fourth, the modified SFO fails to incorporate or take into account Total Maximum Daily Loads (TMDL). Clean Water Act, 33 U.S.C. §1313(d). Pursuant to a 1987 Consent Decree, DEQ is required to establish TMDL's for a number of waterbodies in Oregon. The Willamette River and Columbia Slough are included within the Consent Decree.

C:NEDC.SFO

Without incorporating TMDL's, DEQ is violating the intent of the consent decree. Any solution to Portland's combined sewage overflow problem must incorporate TMDL's, otherwise DEQ will be violating the 1987 Consent Decree and the Clean Water Act.

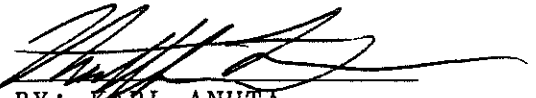
The modified SFO states "[t]he Respondent is committed to an overall policy of water quality improvement and implementing a comprehensive clean river strategy." Revised SFO, pg. 7 (*Emphasis added*). How can DEQ be committed to implementing a comprehensive clean river strategy while ignoring the very means for implementing that strategy? Incorporating TMDL's into the SFO would provide a mechanism for addressing the CSO problem and implementing a comprehensive clean river strategy.

The modified SFO failure to incorporate TMDL's conflicts DEQ's "fundamental commitment....to approach all sources of pollution on a comprehensive, watershed management basis." Revised SFO, pg. 10. Without incorporating TMDL's, DEQ is merely giving lip service to this crucial component of the modified SFO.

By incorporating the TMDL process, DEQ would ensure consistent implementation of its regulatory policies and procedures. Such incorporation of the TMDL process will ensure DEQ will not have to repeat this administrative process when TMDL's are established for the Willamette River.

Sincerely,

NEDC



BY: KARL ANUTA
MATT LOVE

Lawrence Barber

6422 N. Kerby Avenue • Portland, Oregon 97217 • (503) 285-4220

April 20, 1994

Oregon Department of Environmental Quality
Northwest Regional Office
Parkside Center, 4th Floor
2020 S. W. Fourth Avenue
Portland, Oregon 97201

DEPT OF ENVIRONMENTAL QUALITY
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APR 20 1994

NORTHWEST REGION

Gentlemen:

Enclosed are several copies of published statements bearing on the matter of collecting sanitary sewage along Columbia Slough and cleaning up the waters of the slough.

Having cruised up the navigable 8-mile portion of this slough 30 or more times in my own boat and leading organized cruises by up to 50 boats several times, I feel deeply that the first step should be a flushing out of this fine waterway as was the case before governmental authorities began tinkering with it back in 1915.

That is, admit water from the Columbia River in the vicinity of Portland International Airport in sufficient quantity and force to wash away much of the pollutants that have settled in the slough as a result of sluggish flow over a long period of years.

If you will check back in history you will find that originally water flowed into the slough from the river in three places in the area now occupied by the airport. Then, about 1915 the U. S. government and adjacent drainage districts constructed a huge levee along the south bank of the river to protect lowlands from annual flooding. The effect was to stop the steady flow down the slough and settlement to the bottom of pollutants and debris, including sawmill waste and sawdust, human waste, manure from hog farms and other agricultural pursuits, etc.

The hue and cry from residents and businesses along the slough resulted in construction of the then-called City Canal- now Peninsula Drainage Canal- in 1919 to bring fresh water from the river to the slough at about N. E. 17th Avenue to flush the slough.

Old-timers claimed this was successful. The slough again was sweet and clean.

But, in 1946, after 27 years of fairly clean water, with fish and wildlife in the slough, steps were taken to close down the canal by construction of a levee across the river end, with two 48-inch diameter pipes to admit a small, controlled, flow of water. The 1948 flood partially filled the pipes with sand, effectively shutting off the flow. That was 46 years ago.

B-27

Then, in 1958 the U. S. Army Engineers filled the north end of the canal for a distance of 1500 feet with sand dredged from a Columbia River side channel to Portland Yacht Club. Columbia-Edgewater Country Club now occupies this fill with its parking lot and claims possession.

The result, of course, is stagnation of the slough for eight miles and the building up of the present polluted condition.

Thus, it appears obvious that a good flushing would be the first step toward a permanent clean-up. Then, tackle a more permanent improvement of connecting the 13 combined sewer ~~augmentation~~ overflows with the treatment plant.

See several options suggested by the Portland Bureau of Environmental Services 1992 Columbia Slough Augmentation Report, pages 1-3, 1-4, 3-2, figures 3-2, 3-3, 3-4, page 8-2, and more. It appears the estimated costs are higher than necessary, but that's bureaucracy in action.

Columbia Slough has great possibilities as a scenic and interesting recreational facility for boats, canoes, kayaks, hiking paths and bird-watching. It should be cleaned out, kept in its semi-wilderness state for the lower 8-miles of unvarnished waterway. What other city has such promising jewel within the city limits?

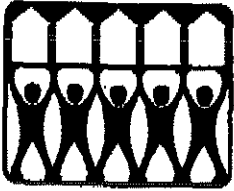
Don't worry about polluting the big river with the relatively small amount of pollutants from the little slough. The river's daily flow is hundreds of times as great as that of the slough, even with the suggested inflow up at N. E. 17th Ave., and stuff from the slough soon would be lost without harming a thing except the fears of extreme environmental theorists.

Let's move on- sooner the better, and cheaper for the taxpayer who must meet the bill.

Environmentally yours,


Lawrence Barber

P.S. My experience included 36 years as Marine Editor and Boating Editor of The Oregonian. Now long retired, I look back from the age of 92. LB.



Southeast Uplift Neighborhood Program

3534 SE Main Street • Portland, Oregon • 97214 • Phone 232-0010

A non-profit coalition supporting citizen participation and community development in Southeast Portland.

April 20, 1994

Mr. Fred Hansen
Director
Department of Environmental Quality
Northwest Region Office
2020 SW 4th, Suite 400
Portland, OR 97201

Dear Mr. Hansen:

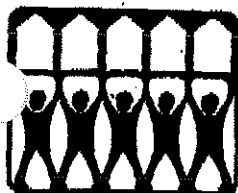
The Southeast Uplift Land Use and Transportation Committee today sent the enclosed letter regarding the proposed amendments to the CSO Stipulation and Final Order to the Mayor and Commissioners of the City of Portland. We would like our comments in that letter to be included as part of the DEQ record on the SFO amendments.

Thank you for your consideration.

Sincerely,

A handwritten signature in cursive script that reads "Ellen C. Ryker".

Ellen C. Ryker
Neighborhood Planner



Southeast Uplift Neighborhood Program

3534 SE Main Street • Portland, Oregon • 97214 • Phone 232-0010

A non-profit coalition supporting citizen participation and community development in Southeast Portland.

April 19, 1994,

Mayor Vera Katz and Members of the City Council
City Hall
1220 SW Fifth Ave.
Portland, OR 97204

Dear Mayor Katz and members of the City Council:

The Southeast Uplift Land Use and Transportation Committee would like to follow up on its January 17, 1994 letter and address the proposed amendment to the Stipulation and Final Order (SFO) and the ramifications of the chosen methodology on Southeast Portland.

We are in agreement with the following individual provisions of the amendment SFO:

1. Reduction of overflows to the 94% level in the Willamette River and 99.6% in the Columbia Slough. See Note 1 below.
2. Cornerstone Projects. See Note 2 below.
3. Comprehensive watershed management program. See Note 3 below.

We also submit the following comments for consideration by the Council in its decision-making:

4. Whatever technological and non-technological solutions are implemented, all options need to be considered before rates are increased.
5. Uniform cost-sharing: There must always be consideration given to low-income persons, those on fixed incomes, and others who might suffer a financial hardship as a result of the Mid-County Sewer Project. Otherwise, spreading the cost equally across all ratepayers is a reasonable method of financing the project. Note Note 4 below.

6. **Eastbank interceptor pipe:** Should the eastbank be expanded into the river as part of the Eastbank Park Master Plan, consider incorporation the interceptor pipe into the fill, thus eliminating the costly building of a special tunnel. We also want assurance that, wherever the pipe is located, the Bureau will work closely with the Parks Bureau as the Esplanade is constructed.
7. **Regional cost-sharing:** The City should actively pursue making this a regional project, as well as one of watershed significance. See Note 5 below.
8. **Motor Vehicle/Transportation Fees:** Since automobiles, through their need for roads, parking facilities, wreckage yards, and use of oil and gas, are one of the prime causes of the CSO problem, some ISTEA and gas tax money should be allocated toward this problem. We realize that this would require an amendment to the Oregon Statutes.

Note 1. The Slough deserves full-scale treatment, whether or not a flushing action is instituted, as some have suggested. The idea of "pulling the plug" has enough merit to at least deserve a study of the ramifications. But, even if that were to occur, there must be a reduction of future pollutants into the Slough.

Note 2. As we mentioned in our January letter, the Cornerstone Projects should receive top priority and implementation. These "low-tech" methods should be used throughout the city, preferably on a volunteer basis, but mandated if necessary. Further, the Cornerstone Project-type thinking should be expanded, exploring, for example, the use of porous paving for parking lots, wetlands treatments similar to those instituted by OMSI, perhaps incorporating these and the construction of drywells, detention basins, rain barrels, and splash blocks in the Building and Zoning Codes.

Note 3. We realize that there are two issues which sometimes get confused: a) the issue of the actual water quality of the river/slough and b) the issue of the amount of pollutants that issue forth from the 55 separate outfall pipes which drain directly into the river/slough. Like many people in the city, some on our Committee have held the mistaken impression that, by cleaning up the CSOs, whatever percentage level is chosen, that this translates into a corollary cleanliness of the river/slough.

Clearly, this not the case, as the river will still be significantly degraded because of the non-point, primarily agricultural, logging, construction, and transportation-related, pollutants from upstream. (Presumably, the slough, being more independent, will attain a level of cleanliness commensurate with the cost of that portion of the project.) Committee members question

why we are asked to pay so much for a project that will impact so little. Even John Lang, manager of the CSO program, said in a January, 1994 news article that "If you used the same billion dollars to go upstream, you'd probably improve the quality of the river more than simply eliminating all the CSOs in Portland." In fact, the 1993 Legislature, recognizing that farming practices contribute substantial pollutants to the river, gave the Agriculture Department authority to regulate farming practices in river basins with serious water pollution problems.

Like most people in the city, our Committee wants the river and slough cleaned up and a means for assuring its cleanliness in perpetuity. Given the nature of other pollutants in the water, therefore, it is short-sighted on the part of the State and Federal governments to require cities and industries to clean up their portion of the mess without simultaneously requiring other polluters along the river to do the same - at whatever cost is necessary to assure cleanup on a similar scale.

The January 9, 1994 Oregonian article notes that "The Oregon Department of Environmental Quality estimates that up to 80% of the pollution entering the Willamette comes from "nonpoint" sources such as farms, forest and asphalt surfaces. More than 90% enters the river during the rainy season." This being the case, it is ridiculous to think that Portland residents are being asked to fund a portion of the cleanup, while farmers, loggers, drivers, and construction companies pay little or nothing, toward cleanup of the river.

We, therefore, support the amended SFO only on the condition that, prior to any rate increases on Portland ratepayers, a special Willamette Watershed Task Force be established to assess implementation strategies for point and non-point source cleanup of the entire river, including methods of cost disbursement for all users of/contributors to the Willamette River and watershed system outside of the cities, which are paying for their portion through their sewer assessments.

Note 4. Like many people, we are concerned about how this program will be financed and how the costs will be divided up among those who benefit from a clean Willamette River and a clean Columbia Slough. We addressed some of our concerns in our earlier letter. The Southeast Uplift Board addressed the issue of overall fees in a May, 1993 letter. We'd like to expand on the concerns particular to our residents who live in the Mid-County area.

We have, within Southeast Uplift's boundaries, residents who contribute directly to the CSO problem by virtue of being on the combined sewer system, as well as residents in the Mid-County Sewer Project area who contribute only indirectly to the problem. The issues which must be adequately addressed before equity can be achieved are the following:

1. Many homes in inner Southeast flood consistently during heavy rains. There is the feeling that no matter what they do, any effort they make to alleviate the problem is just patchwork on an old system which doesn't function well anymore.
2. Residents of Mid-County are having to pay mandated hookup charges, sometimes quite large, even though most had perfectly functioning septic systems for which they also paid. For most people, sewage hookup fees were incorporated into the cost of a house purchase, most of which have long been amortized. For those with new homes being hooked up to a new sewer, the cost is simply added to the overall cost of the purchase price.

That is not true of the 55,000 homes in the Mid-County area. This was a mandated hookup fee. While there is still grumbling and complaining, most people recognize the value and benefit of being on a safe sewer system and have been willing to pay the required cost. The trouble is that the CSO project is following so closely on the heels of the Mid-County project that the City does not give people a chance to recover from the tremendous outlay of money for hookup fees.

Everyone in the city benefits from a clean river and slough. Therefore, the costs should be shared equally and the rates should be levied according to the formula now in place for residential, commercial, industrial and other uses. However, there must be some provision for persons in the Mid-County area who can show financial hardship to obtain some relief. The rationale of the City that such a system would be too cumbersome to administer does not make sense to us. Computer systems and programs now exist to allow case-by-case analysis in situations of hardship. The City will likely institute a program of subsidies for low-income residents. This indicates the ability to do the same for other situations.

Note 5. Not only will everyone in the city benefit from a clean river and slough, but, indeed, everyone in the region will as well. In a December 9, 1992 letter to Rena Cusma, Gail Achterman, Chair of the Clean River funding Task Force made several points which this Committee also feels needs to be addressed: "...good water quality in the Willamette River is a result of sound water quality practices upstream and in the tributaries...what is good for the Portland economy, or what harms that economy, has effects beyond the incorporated boundaries of the City. This has led to questions about whether it might be appropriate to begin to look at not just the CSOs, but the entire water quality issue, from a broader perspective - a regional perspective. Would it make sense to have a regionally owned and operated waste water collection and treatment system?"

B-33

We would like the City to request Metro to determine the ramifications of cleaning up the waters of the region, including the Willamette River, on a regional basis and with a regional fee basis being established. To reiterate, this is a regional problem and needs a regional solution and regional cost-sharing.

In conclusion, cleaning up the river and slough and maintaining that cleanliness are important. However, the residents of Portland should not be asked to pay for a system that will only clean up a minimal portion of the river, unless there is a corresponding insistence on non-point source polluters paying their fair share as well. As one member stated, the City may have a revolution on its hands if it charges \$50 for water and \$50 for sewers per month. Even this, though, perhaps could be justified if the river really were cleaned up and all polluters shared in the financing of that cleanup.

As the Cornerstone Projects begin to be phased in, we would like to be included in all discussions of a land use or transportation nature. This would include such things as location, construction, and O&M expectations for swales, public sumps, and artificial wetlands and revisions to the Zoning and Building Codes regarding such things as landscaping coverage, splash blocks, and dry wells. As the larger study ensues, we want to work closely with the Bureau on the alignment of all interceptor pipes, as well as drop shafts and treatment facilities located in Southeast.

Thank you again for the opportunity to respond.

Sincerely,

Bill Boyd (ev)

Bill Boyd
Co-Chair

Don MacGillivray (ev)

Don MacGillivray
Co-Chair

cc Noam Stamfer, Director Bureau of Environmental Services
John Lang, Manager, CSO Project
Fred Hansen, Director, Department of Environmental Quality
Representatives and Senators from Southeast Portland
Metro Representatives from Southeast Portland

B-34

Environmental Quality Commission

- Rule Adoption Item
 Action Item
 Information Item

Agenda Item E
June 3, 1994 Meeting

Title:

Information Report on Rule Adoption by the Oregon Board of Forestry for the Classification and Protection of Waters of the State

Summary:

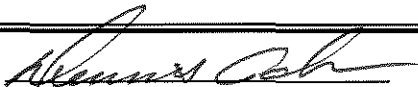
Staff from the Oregon Department of Forestry and DEQ will present information on the recent rule package adopted April 21, 1994, by the Board of Forestry to protect waters of the state on state and private forest land. The rules include important changes in the classification of streams, lakes and wetlands and how these waterbodies will be protected during commercial forest operations. The rules describe a desired condition to be achieved in riparian areas after timber harvest and site preparation and provide general and alternate prescriptions to meet these conditions. These desired conditions will generally provide for the maintenance or enhancement of water quality and beneficial uses.

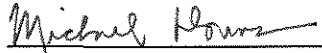
Although substantial improvements have been made to many aspects of the rules, DEQ staff are concerned that water quality standards may not be achieved in all waterbodies at all times. DEQ and Department of Forestry staff are working together to address these uncertainties and evaluate the effectiveness of the new rules at protecting water quality and beneficial uses. The Board of Forestry is committed to meeting these environmental objectives.

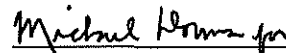
Staff will also describe how the EQC may petition the Board of Forestry to review individual elements of the Forest Practices Rules to ensure that beneficial uses are being protected.

Department Recommendation:

This is an informational item and it is recommended that the Commission accept this report.


Report Author


Division Administrator


Director

†Accommodations for disabilities are available upon request by contacting the Public Affairs Office at (503)229-5317(voice)/(503)229-6993(TDD).

SW\WC12\WC12607.5

State of Oregon
Department of Environmental Quality

Memorandum[†]

Date: 9 May 94

To: Environmental Quality Commission
From: Fred Hansen, Director *Mike Powers for*
Subject: Agenda Item E, June 3, 1994, EQC Meeting

Information Report on Rule Adoption by the Oregon Board of Forestry
for the Classification and Protection of Waters of the State

Statement of Purpose

This report is to inform the Commission about the recent rule package adopted by the Board of Forestry on April 21, 1994. The rules apply to commercial forest operations in Oregon on private and state forest lands and include a new water classification system and new protection measures for water quality, aquatic habitat, and wildlife habitat. Oregon Department of Forestry (ODF) staff will provide a summary of how the rules were developed and how they will control nonpoint sources of water pollution resulting from forest operations. DEQ staff will present additional comments on the new rules.

Background

The 1991 Oregon Legislature passed Senate Bill 1125 to amend the Oregon Forest Practices Act. This legislation required that the Board of Forestry review its classification and protection rules for waters of the state. SB 1125 also required the Board to establish best management practices for forest operations as necessary to insure that to the maximum extent practicable nonpoint source discharges resulting from forest operations on forest lands do not impair the achievement and maintenance of the water quality standards. Factors to be considered by the Board in establishing best management practices shall include, where applicable, but not be limited to:

Beneficial uses of waters potentially impacted;

The effects of past forest practices on beneficial uses of water;

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Appropriate practices employed by other forest managers ;

Technical, economic and institutional feasibility; and

Natural variation in geomorphology and hydrology.

The Department of Forestry began to review and develop new water protection rules in November, 1991. This included a series of technical meetings to examine specific topics such as classification of waters of the state on forest land, water temperature and riparian vegetation relationships, aquatic habitat quality, and wildlife issues. Input was provided by researchers in these fields, staff from other state agencies, and interested parties. In April, 1993, ODF formed an advisory committee with representatives from the timber industry and landowners, environmental interests, DEQ and other state agencies, and a representative of municipal water utilities. This group negotiated and developed many of the elements found in the final rule language approved by the Board.

The rule package addresses many aspects of commercial forest operations that occur near water including:

- the felling and yarding of trees;
- site preparation activities;
- stream enhancement activities;
- re-establishing conifer in brush and hardwood dominated stands;
- salvage activities;
- chemical application near community water supplies;
- fish passage issues; and
- stream-crossing design criteria for roads.

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The new rules will increase riparian area protection along many streams, lakes and wetlands. They describe a desired riparian condition for each forest georegion (i.e. Coast Range, Siskiyou, Interior Valleys, Western Cascades, Eastern Cascades, and Blue Mountains) and provide operators with general prescriptions to achieve that condition. The rules also allow for alternate and site-specific strategies that will better accomplish landowner objectives and still meet the intent of the rules.

Near fish-bearing waters for example, forest operators are required to retain sufficient vegetation so that over time, average riparian conditions on commercial forest land will become similar to mature, naturally regenerated streamside stands. Mature stands provide ample shade over the stream channel, channel-influencing root masses along the edge of the channel, and regular nutrient inputs through litterfall. For streams without fish, sufficient vegetation is to be retained to support domestic uses and the processes and functions of downstream uses. When the desired riparian stand condition is not likely to be achieved in a timely manner with the general prescription, landowners may follow an alternate prescription or propose a site-specific plan that will achieve the environmental objective.

Substantial improvements have been made to many aspects of the forest practices rules, but despite these improvements there is no assurance that numerical water quality standards will be met in all waterbodies at all times. For example, in the Coast Range and Western Cascades georegions the rules encourage, but do not require, the retention of unmerchantable vegetation along small streams without fish. In contrast, in the more arid regions of the state where vegetation is slower to recover from disturbance, operators are required to retain unmerchantable vegetation along these small stream channels.

EPA's national nonpoint source policy statement provides for flexibility in water quality standards to address the variability of natural conditions, the magnitude and frequency of nonpoint source impacts, and the level of acceptable risk. The forest practices rules will generally decrease the magnitude and frequency of disturbance from forest management activities along medium and large streams and those waterbodies that support sensitive fish species, but allow for greater levels of disturbance and risk along smaller streams and waterbodies relative to background rates. Disturbances such as the loss of riparian vegetation along small streams may last several years, but little information is available to predict what the long-term onsite and offsite effects on water quality and beneficial uses might be. DEQ is working with Forestry staff to address some of these uncertainties and evaluate the effectiveness of the proposed rules at protecting water quality and beneficial uses.

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Authority of the Commission with Respect to the Issue

Section 20 of SB 1125 requires the Board of Forestry to consult with the EQC in the adoption and review of best management practices and other rules to address nonpoint source discharges of pollutants resulting from forest operations on forestlands. DEQ staff have participated throughout the ODF rulemaking process. SB 1125 also provides that the EQC, or any other interested person or agency, may submit a written petition to the Board of Forestry requesting a review of the best management practices. The petition must allege with reasonable specificity that nonpoint source dischargers of pollutants from forest operations are a significant contributor to water quality standards violations. The Board is required to respond to the EQC petition within 90 days and shall not terminate the review of a particular BMP without the concurrence of the Commission.

Alternatives and Evaluation

DEQ, Oregon Department of Fish and Wildlife, and forest landowners are supporting ODF efforts to evaluate the effectiveness of the new rules to meet the water quality objectives of SB 1125. Based on findings of these studies, the EQC could petition the Board of Forestry to review individual aspects of the new rules and revise as necessary. The rules will not be fully implemented until September 1, 1994, and it is unlikely that adequate information will be available to recommend a rule change for nearly two years.

Summary of Public Input Opportunity

The Department of Forestry held several public meetings to address the technical aspects of the new rules beginning in late 1991. This was followed with numerous Board of Forestry tours and meetings that were open to the public. There were also at least four opportunities to submit written comments to the Board during the two and one-half year rule development process. Finally, there were also opportunities for public comment during Regional Forest Practices Committee meetings and rulemaking hearings.

Conclusions

Overall, DEQ staff are satisfied with the Waters of the State Classification and Protection Rules. These rules greatly improve protection of many streams, lakes and wetlands. The new rules are based on a stated riparian objective that will provide for the protection of water quality, aquatic habitat and riparian habitat along many more

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waterbodies that previously protected. The Board and Department of Forestry are committed to evaluating the effectiveness of these rules at meeting their water quality and other environmental objectives.

Department staff plan to work with ODF to address outstanding concerns including:

- 1) The adequacy of the new rules to minimize management effects on water temperatures and sediment dynamics in small streams that do not have fish. The effectiveness of the rules to protect these streams and their beneficial uses will be greatly improved if landowners retain unmerchantable vegetation along these waterbodies;
- 2) Stream temperature response to conifer regeneration or "restoration" efforts in riparian areas;
- 3) The adequacy of the understory retention standard for most streams. In many situations this standard along with leave tree requirements will be adequate to maintain an effective vegetative buffer between the harvest unit and the adjacent stream. However, care must be taken during the felling and yarding of trees and site preparation activities to maintain the value and functions of this narrow strip.

DEQ biomonitoring staff are continuing to refine stream monitoring capabilities and reference site characterization. These developments will allow staff to better evaluate the near-term and long-term effects of the new rules and forest management on the ecological integrity of forest streams.

Intended Future Actions

Department staff will continue to work with ODF monitoring staff to evaluate the effectiveness of the new rules as well as existing rules for erosion control. Staff will also participate in other ODF projects identified in SB 1125 including cumulative effects studies and a review of the chemical application rules.

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Department Recommendation

It is recommended that the Commission accept this report, discuss the matter, and provide advice and guidance to the Department as appropriate.

Attachments

None

Reference Documents (available upon request)

Senate Bill 1125, 66th Oregon Legislative Assembly. 1991.

Final Draft Rules for the Waters of the State Classification and Protection Project.
Oregon Department of Forestry, April, 1994. 128 pages.

Approved:

Section:

Andrew Z. Schaedel

Division:

Michael Houn

Report Prepared By: Dennis Ades

Phone: 229-5053


Date Prepared: May 5, 1994.

Dennis Ades:crw
SW\WC12\WC12560.5
9 May 94

State of Oregon
Department of Environmental Quality

Memorandum[†]

Date: May 11, 1994

To: Environmental Quality Commission
From: Fred Hansen, Director 
Subject: Informational Item, June 4, 1994 EQC Meeting

Background and Purpose

At the January 28 EQC meeting, the Commission adopted an interim revision to OAR 340-41-470(1), the three basin rule. The Commission directed the Department to begin formal review of the rule, and specified two dates by which recommendations were needed:

- June 3, 1994: The EQC asked for recommendations regarding any necessary changes in the interim rule
- September, 1994: Recommendations for revising the permanent rule were requested

The purpose of this memo is to inform the Commission of the Department's recommendation on the interim rule, and to report progress-to-date on the permanent rule review.

Alternatives and Evaluation--The Interim Rule

The Commission asked whether types or levels of discharges not permitted under the interim rule should be added to the list of allowable discharges. The Department considered several alternatives, which are outlined in Attachment A. The alternatives were presented to the Advisory Committee formed to review OAR 340-41-470(1). The opinion of the Department, and the consensus view of Advisory Committee members is that the interim rule should not be revised. This recommendation results from the following conclusions:

[†]Accommodations for disabilities are available upon request by contacting the Public Affairs Office at (503)229-5317(voice)/(503)229-6993(TDD).

- 1) There are no compelling reasons to change the interim rule. Potential gains do not appear to outweigh the costs of the revision process itself.
- 2) Revisions to the interim rule could have policy implications that might affect review of the permanent rule. Advisory Committee members were unwilling to make implicit policy statements at this point.

Progress to Date on the Permanent Rule Review

A public Advisory Committee was formed, with representatives of stakeholder groups in the three basins and across the state. Joe Richards, former EQC chairman, agreed to chair the Committee. Advisory Committee meetings were held in March and April, and are planned monthly through August. To date, the Committee has adopted bylaws, agreed on a recommendation for the interim rule, and considered whether to form subcommittees. At the May meeting the Committee will begin the process of reviewing alternatives for revising the permanent rule. To allow for citizen input, a public comment period has been held at each meeting. In addition, meeting notices and draft notes are mailed to a list of almost 400 interested persons.

Conclusions

No action is required by the EQC at this time. The interim revision to OAR 340-41-470(1) is acceptable as currently written.

Approved:

Section:

Thomas J. Lewis

Division:

Wildlife Program

Report Prepared By: Lynne Kennedy

Phone: 229-5371

Date Prepared: May 11, 1994

**Three Basin Rule Advisory Committee
ALTERNATIVES FOR REVISING THE INTERIM RULE
(OAR 340-41-470 (1))**

Type of Change	Alternative	Possible Benefits	Possible Drawbacks
No Change	A. No change in the interim rule or its interpretation	<p>Important activities with nominal impact on water quality are allowed</p> <p>Allowable discharges are temporary and have no implications for the permanent rule revision</p> <p>Staff and Committee time would be available for review of the permanent rule</p>	Some nominal impacts may be cumulative over time
Some Change	B. Change the rule to allow municipal stormwater permits in that part of the Clackamas Basin that is within urban growth boundaries	<p>Many existing discharges will occur even if permits are not issued, so this would make the rule consistent with reality</p> <p>Cities would not be required to change their land-use plans</p>	<p>Could be construed to have implications for the permanent rule</p> <p>A rule change would take staff time away from the permanent rule review</p> <p>The new rule would be effective for about four months</p>
	C. Change the rule to allow other permitted activities that are neither short-term nor emergency	Could allow important activities with nominal water quality impact that have not been foreseen	<p>Could be construed to have implications for the permanent rule</p> <p>Could result in a perception that adequate public process was not followed</p> <p>A rule change would take staff time away from the permanent rule review</p> <p>The new rule would be effective for about four months</p>
	D. Disallow some specific short-term discharges allowed in the interim rule	Could result in reduced turbidity and sediment deposition near sites of permitted activities	<p>Could be construed to have implications for the permanent rule</p> <p>A rule change would take staff time away from the permanent rule review</p> <p>The new rule would be effective for about four months</p> <p>Was not the intention of the EQC</p>
Repeal the Interim Revisions	E. Repeal the interim rule revisions	Could result in reduced turbidity and sediment deposition near sites of permitted activities	<p>Could be construed to have implications for the permanent rule</p> <p>A rule change would take staff time away from the permanent rule review</p> <p>The new rule would be effective for about four months</p> <p>Was not the intention of the EQC</p>

ATTACHMENT B

THREE BASIN RULE ADVISORY COMMITTEE
LIST OF MEMBERS

Committee Chairman

1. Joe Richards, Attorney and former Environmental Quality Commission chairman

A. Commercial Interests

2. Associated Oregon Industries - Jim Whitty
3. North Santiam Chamber of Commerce - John Hall
4. Eugene - Springfield Metro Partnership - John Lively
5. Oregon Forest Industries Council - Ward Armstrong
6. Homebuilder's Association of Portland - Drake Butsch
7. Kinross and Other Mining Interests - Chuck Bennett

B. Counties and other Organizations

8. Marion County - Mary Pearmine
9. Lane County - Roy Burns
10. Clackamas County - Dan Helmick
11. Association of Clean Water Agencies - Cathryn Collis
12. League of Oregon Cities - Joni Low

C. Water Suppliers/Cities

13. Salem - Frank Mauldin
14. Eugene Water and Electric Board - Laurie Power
15. South Fork Water Board - Larry Sparling
16. Springfield Utility Board - Ken Cerotsky
17. Stayton - Craig Johns
18. Estacada - Bill Straun

D. Environmental Organizations

19. Sierra Club - Elizabeth Frenkel
20. Northwest Environmental Defense Center - Bart Brush
21. Oregon Trout - David Moskowitz
22. Pacific Rivers Council - Megan Smith
23. Northwest Environmental Advocates - Nina Bell

E. Independent Citizen

24. Martha Shrader