

INFO SHEET



EPA - REGION I
BOSTON

MOBILE SOURCE ENFORCEMENT PROGRAM

TOLL-FREE HOTLINE : 1-800-821-1237

In six New England States: Connecticut, Maine, Massachusetts,
New Hampshire, Rhode Island and Vermont

REGION I Contacts: Molly Magoon: (617) 565-3220
Pete Hagerty: (617) 565-3224 , or Jim Maloney (617) 565-4889

Since the Mid 1980's, the U.S. Environmental Protection Agency Region I office, located in Boston, has been actively performing mobile source enforcement inspections and investigations.

Field work is the responsibility of EPA inspectors in the Technical Assistance Section, a unit within the Air, Pesticides & Toxics Management Division, and a Clean Air Counselor, provided through a contract between EPA and the American Association of Retired Persons (AARP).

The program involves the inspection of service stations, repair shops, automobile dealerships, and fleet operations, and even individuals for compliance with EPA's anti-tampering prohibition and fuel regulations. Inspections are conducted to collect evidence related to possible violations involving removal or tampering with emission control equipment on vehicles and possible fuels violations involving vapor pressure, alcohol and lead content of gasoline, introduction of leaded fuel into vehicles requiring unleaded fuel, and undersized nozzles on leaded gasoline pumps, which allows "misfueling" of leaded gasoline into unleaded gasoline vehicles.

Violations identified through these inspections are referred to EPA's Field Office and Support Division (FOSD) in Washington, DC for enforcement follow-up. Region I's program compliments FOSD's existing nationwide inspection program, allowing EPA to provide quicker response time to reported violations and overall increased inspection coverage in the region. Region I includes the six state New England area.

Sites for inspection are determined based on records of previous violations, random selection, and complaints received via a widely publicized toll-free hotline established by the Region I office. Records show that the on-going presence of EPA inspectors in the field is acting as a deterrent against tampering and other mobile source violations. Region I sends violations on a regular basis to FOSD for enforcement action.

The hotline may be contacted regarding other automotive issues and other mobile sources of air pollution, among others these include: automotive imports, auto emission testing, emission control device warranties, CFC (freon) recycling and recovery regulations for repair shops and technicians, aftermarket catalytic converters replacement policy, and fuels regulations.

Region I also publishes a technical bulletin concerning mobile source issues, called "Tailpipe". It may be ordered or changes of address made by calling the Hotline toll-free number: 1-800-821-1237 or by writing the Editor, Molly Magoon at:

U.S. Environmental Protection Agency
Technical Assistance Section (ATA)
J.F.K. Federal Building
Boston, MA 02203

OTHER IMPORTANT NUMBERS:

<u>Subject:</u>	<u>Phone No.</u>
Oil Spills	
National Response Center (24 hrs.)	1-800-424-8802
EPA Regional Lab (daytime)	(617) 223-7265
Oil Spill Prevention, Control and Countermeasures (permits for above ground storage tanks)	(617) 860-4362
Hazardous Wastes (RCRA/ SUPERFUND HOTLINE)	1-800-424-9346
STATE Hazardous Waste Contacts:	
CT: (203) 566-5712	N.H.: (603) 271-2925
ME: (207) 289-2651	R.I.: (401) 277-2797
MA: (617) 292-5582	VT: (802) 244-8702
Waste Oil	(617) 573-9673
Stationary Air Pollution (asbestos, incinerators, etc.)	(617) 565-3258
Insecticides	(617) 565-3932
Underground Storage Tanks	(617) 573-9604
Underground Injection	(617) 565-3600
Toxic Substances-	
Emergency Planning and Community Right-to-Know	(617) 565-3744
Criminal Investigations	(617) 565-3636



TAILPIPE

EPA MOBILE SOURCE TECHNICAL BULLETIN SUMMER 1991



EPA - REGION 1 MOBILE SOURCE AIR POLLUTION HOTLINES:

Inside Massachusetts:

Other N.E. States: (CT, ME, NH, RI, VT)



~~1-800-633-8237~~

1-800-821-1237

IN THIS ISSUE:

TOUGHER EMISSIONS TESTS: Inspection and Maintenance Requirements Changing

PROTECTING THE OZONE LAYER: Federal Law Requires Certification of Both Motor Vehicle Air Conditioner Technicians and Their CFC Recycling Equipment

TEST PIPES ILLEGAL!!!: Potential Fines Up To \$2,500 For Each "Defeat Device" In Your Facility

FYI: Auto Recall Information, GM President to Speak at Electric Car Symposium, Gas Saving Tips

NEW CLEAN AIR ACT

The Clean Air Act has once again been amended. The new amendments were passed by Congress and signed into law by the President Bush in November of last year. The amendments are published under the heading, "An Act... To amend the Clean Air Act to provide for attainment and maintenance of health protective national ambient air quality standards, and for other purposes." The amendments will change and strengthen the federal laws made to improve and protect the quality of the air we breathe.

You can make a difference by learning about how the new law affects you!

INSPECTION / MAINTENANCE UPDATE:

The Continuing Problem: DIRTY AIR

The Upcoming Solution: New Tests and New Requirements

The new Clean Air Act includes provisions to strengthen and expand existing motor vehicle emission control system testing, inspection and maintenance (I/M) programs. In 1992, states must formulate "enhanced" I/M programs where air quality is poor. Because of the severity of carbon monoxide and ozone problems in the northeast, emission control testing and maintenance programs will now be extended to cover at least parts of all the New England states.

I/M Update (cont.)

More Cars and More Miles Travelled

The evidence of the connection between motor vehicles and air pollution is compelling. Motor vehicle emissions account for more than 90% of the carbon monoxide problem in the U.S., half of the pollutants that produce ground level ozone or "smog", and more than half of toxic air pollutants. Because of this, Congress decided to tighten up emission testing and maintenance programs nationally to reduce motor vehicles' contribution to air pollution. While car emission control devices perform far better than they did when they were first introduced, the plain fact is that there are now many more cars on the road and those cars are traveling more miles than in the past. The number of vehicle miles travelled has doubled in the last two decades.

More States Will Have Programs

While there have been I/M programs for a number of years in the southern New England states of Connecticut, Massachusetts and Rhode Island (state requirement), and for parts of southern New Hampshire, tougher air pollution reduction requirements mean that there will be new I/M programs in Vermont and Maine.

Residents in the area in and around Burlington, Vermont, will have to have their cars inspected, tested and maintained on a regular basis. Greater Portland, other parts of southern Maine and some other urban areas in the Pine State will be subject to the new requirements for I/M. The New Hampshire program will be expanded to cover a larger geographical area in the southern part of that state.

Defining I/M Program Features

Based on national audits of state I/M programs by EPA, in order to reach the ultimate goal of achieving required air pollution reductions, there is a strong preference for centralized testing and maintenance programs, unless it can be demonstrated that a decentralized program will meet the standard of performance of a centralized program. Today, the State of Connecticut in the New England region operates a centralized program, i.e. vehicle owners must use a state-managed or contractor operated central facility network for emission control equipment testing. Diagnostic information on appropriate repairs is provided by the inspection station, but repairs are done at private garages.

Under the required "enhanced" program, vehicle inspections must occur on an annual basis unless states can show that less frequent inspections will still result in compliance with tough new air quality standards. The typical means to enforce the inspection requirement will be denial of vehicle registration.

New Equipment, New Costs

Although centralized testing has been shown to be more cost effective and efficient, states, which choose states with decentralized programs will have to devote significant additional resources to implement the new requirements. Charging higher inspection fees is the most likely way to cover the increased costs of the program. While final federal guidance has not yet been completed (see below), officials anticipate that a dedicated state central computer will be needed to handle registration and inspection data.

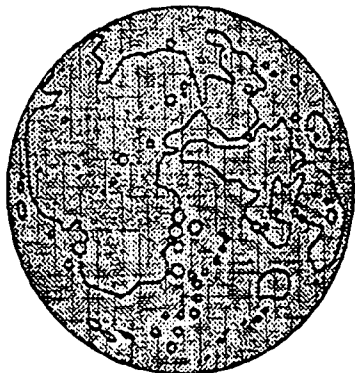
I/M Update (cont.)

Facilities performing I/M tests would have to use newly designed BAR 90 computerized analyzers linked to a central computer in the state. These analyzers cost \$12,000 to \$ 25,000.

Today many decentralized programs are spending less than a dollar per vehicle for program administration, and this figure would increase to somewhere in the neighborhood of six dollars per vehicle to comply with the enhanced I/M program requirements. Under a centralized program, on the other hand, costs would be only about one or two dollars per vehicle for program administration.

EPA I/M Guidance Due in the Fall

EPA's policy on what will be required for state I/M programs is still in the development stage. A notice will be published soon in the Federal Register. You can provide your views to the Agency through your state gasoline dealers' organization or directly as an individual.



Protecting the Ozone Layer:

Upcoming Certification Program for Both Technicians and Use of Certified Freon Refilling and Recycling Equipment

This article discusses the problem of releases of freon, scientifically called chlorofluorocarbons or CFCs, from motor vehicle air conditioners during servicing and new federal regulatory requirements that attempt to minimize the release of this chemical. The new requirements will apply to anyone engaged in the servicing of motor vehicle air conditioners, also known as "MACs".

Part of The PROBLEM: CFCs in Auto A/Cs

Freon or chlorofluorocarbons (CFCs) are synthetically produced chemicals that are used as refrigerants for air conditioners, plastic foam products, cleaning solvents and in aerosols. Scientists have learned that the earth's protective stratospheric ozone layer is destroyed by chemical reaction with freon, allowing more harmful ultraviolet radiation to hit the earth's surface. *Recent NASA satellite data indicates that stratospheric ozone depletion is occurring at twice the rate previously believed. This translates to 200,000 additional skin cancer deaths in the next 50 years in the U.S.*

Mobile Air Conditioners ("MACs")

It is estimated that MACs, account for approximately 21% of all CFCs used in the United States. Industry is currently developing more environmentally safe alternatives to freon. Until alternatives are available, the

Auto A/Cs (cont.)

training and certification of technicians and the certification of freon refilling and capture equipment are the best methods for controlling the escape of freon from MACs.

New Clean Air Act: Part of the Solution

The new Clean Air Act establishes a deadline of **November 15, 1991** as the deadline for EPA to publish standards for the servicing of MACs.

Key deadlines in the new law are the following:

January 1, 1992 - it will be unlawful for anyone to service MACs without properly using federally approved and certified CFC refrigerant recycling and capture equipment. Technicians performing such work will have to be properly trained and officially certified.

These requirements will not apply until **January 1, 1993**, at repair shop facilities that repair and service fewer than 100 MACs air conditioners in the calendar year of 1990.

Effective **January 1, 1993**, all repair shop facilities (including those that were exempted for one year because they worked on fewer than 100 MACs in calendar year of 1990), must submit certification of technicians and equipment.

Also, effective on **November 15, 1992**, it will be unlawful for anyone to sell, distribute, or offer for sale or distribution into interstate commerce to anyone other than a certified MAC technician, any freon refrigerant substance that could be used in an automotive air conditioner and that is in a container of less than 20 pounds. The purpose for this is to reduce CFC emissions by discouraging "do-it-yourself" repairs on mobile air conditioners.

Certification Requirements

EPA will establish the particulars of these requirements in the near future. They will probably include submittal of the name and address of the person who is being certified and the serial number of each piece of CFC recycling and recovery equipment used by the facility and used by each technician. The equipment certification must be signed and attested by the facility owner or another responsible officer. Certification can be accomplished by sending this required information to EPA on a standardized form provided by the manufacturer of the recycling and recovery equipment.

Technician Training Information Contacts

EPA will also establish technician certification procedures, which will probably be very similar to training already being offered privately and in some states. EPA standards for certification are due to be published in **November 1991**.

Until more guidance from EPA is received and the final regulation is approved in November, information can be obtained from the following sources:

International Mobile Air Conditioning Association, Inc. (IMACA): 2100 N. Highway 360, Suite 1300, Grand Prairie, TX 75050; phone (214) 988-6081

Mobile Air Conditioning Society (MACS): P.O. Box 97, East Greenville, PA 18041; phone (215) 541-4500

National Institute of Automotive Service Excellence (ASE): 13505 Dulles Technology Drive, Herdon, VA 22071; phone (703) 742-3800

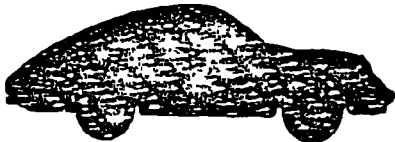
Auto A/Cs (cont.)

Recycling and Recovery Equipment

The Society of Automotive Engineers (SAE) has published their standard for the recycle equipment for MACs, titled "Extraction of Recycle Equipment for Automotive A/C Systems" (J1990). Although EPA has not officially certified any equipment, there are many companies that are already manufacturing CFC recycling equipment.

Information on the technical standards for manufacturers can be obtained from:

The Society of Automotive Engineers, Inc. (SAE): 400 Commonwealth Drive, Warrendale, PA 15096; phone: (412) 772-7100; which has also published standards for service practices, titled "Recommended Service Procedures for Containment of R-12 (CFC-12)" (J1989).



Thinking of Buying a New Car?

You may want consult the 1991 Gas Mileage Guide (by law required to be displayed in every car dealership showroom), which gives EPA's fuel economy estimates:

<u>The Best mileage:</u>	<u>mpg:</u>
Geo Metro XFI	53 city 58 Hwy.
Honda Civic CRX HF	49 city 52 Hwy.
VW Jetta	37 city 43 Hwy.

<u>The Worst mileage:</u>	<u>mpg:</u>
Lamborghini Diablo	9 city 14 Hwy.
Rolls Royce	10 city 13 Hwy.
BMW 750 IL/850I	12 city 18 Hwy.

FOR YOUR INFORMATION:

Recent Auto Recalls

05/91: 1984 and 1985 Ford and Lincoln-Mercury models for excessive hydrocarbon emissions.

01/91: 1984 Ford Pick-ups with 5.0-ltr. engines for excessive hydrocarbon and evaporative emissions.

10/29/90: 1987 Ford Thunderbirds and Mercury Cougars with 3.8-ltr. engines for excessive carbon monoxide and hydrocarbon emissions.

10/02/90: Ford LTD and LTD wagon, Thunderbird and Mustang; Mercury Cougar, Marquis, Marquis wagon, and Capri with 3.8-ltr. engines for excessive carbon monoxide and hydrocarbon emissions.

09/24/90: All 1987 Chrysler passenger cars and wagons with 2.5-ltr. engines due to fuel injectors causing excessive carbon monoxide emissions.

09/04/90: 1987 Mitsubishi models with 1.5-ltr. engines for excessive carbon monoxide emissions.

CEO of GM Will Speak At Solar/ Electric Car Show and Symposium

The CEO and Chairman of GM, Robert Stempel, will be the keynote speaker at the 3rd Annual Solar and Electric Vehicle Symposium, Car and Trade Show, taking place on October 26th and 27th, 1991, at the Boxborough Host Hotel, in Boxborough, Mass. The event is sponsored by the U.S. Dept. of Energy. "The symposium will bring together the people and products which will be instrumental in bringing non-polluting electric vehicles to market", according to Nancy Hazard, the spokesperson for the Northeast Sustainable Energy Association, the organizer of the event. For more information contact NESEA at (413) 774-6051.

[NOTE: This letter originated from EPA Headquarters and is reprinted for your information.]

U.S. Environmental Protection Agency
Washington D.C. 20460

To whom may it concern:

March 13, 1991

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,

lsl

Mary T. Smith

Director

Field Operations Support Division

[Note: This letter was originated from EPA Headquarters and is reprinted for your information.]

U.S. Environmental Protection Agency
Washington, D.C. 20460

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. [In Region I, call the Hotline number listed on the first page of this bulletin]

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 as engine chassis configuration as meeting the applicable emissions standards for the 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 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 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 when vehicle <u>entering</u> the shop	Condition of the exhaust when <u>leaving</u> the shop			
	<i>Stock exhaust with converter</i>	<i>Stock exhaust with test pipe</i>	<i>Dual exhaust with converters</i>	<i>Duals without converters</i>
Stock exhaust with converter	Yes	No	No	No
Stock exhaust, no CAT*, test pipe in its place	Yes	No	No	No
Stock exhaust, CAT, 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.

EPA's TIPS on *Saving Gas* and *Improving Mileage*

(to be shared with family and friends!)

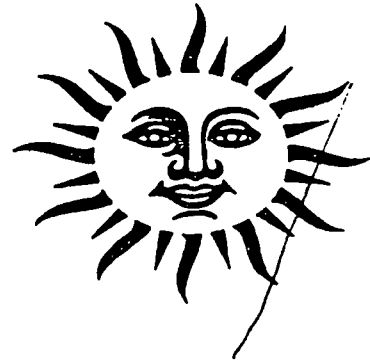
(Excerpted from "Tips to Save Gas and Improve Mileage", published by EPA's Certification Division at the EPA Motor Vehicle Emissions Laboratory in Ann Arbor, Michigan)

How to Save Gas:

1. Walk, bike, take a bus, or carpool when possible.
2. Combine errands into one trip.
3. Drive your car wisely and maintain it properly.

How to Get Better Gas Mileage:

1. Go easy on the brakes and the gas pedal.
2. Avoid long idles.
3. Avoid carrying unneeded items in the trunk.
4. Avoid high speeds.
5. Use your air conditioning only when necessary.
6. Use overdrive.
7. Keep your tires properly inflated and aligned.
8. Use energy conserving oils (motor oil labeled "EC II").
9. Get regular engine tuneups and car maintenance checks.



ATTEMPTED NOT KNOWN

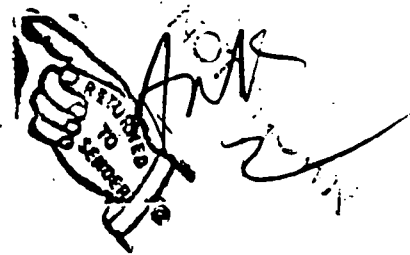
UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION I
JOHN F. KENNEDY FEDERAL BLDG.
BOSTON, MASSACHUSETTS 02203-2211
Forwarding and Address Correction Requested

Air, Pesticides and Toxics Mgmt. Div.
Technical Assistance Section (ATA)
Boston, MA 02203-2211

Official Business
Penalty for Private Use
\$300

First Class Mail
Postage and Fees Paid
EPA
Permit No. G-35

COLLEEN HANEY
PATTERSON OIL CO
110 WEST MAIN ST
MERIDEN, CT 06450



Exhaust Systems Repair guidelines: fact sheet



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 13 1991

OFFICE OF
AIR AND RADIATION

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Sincerely,

A handwritten signature in black ink, appearing to read "Mary T. Smith".

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

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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

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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.

Interim Tampering Enforcement Policy



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of Enforcement and General Counsel

June 25, 1974

Mobile Source Enforcement Memorandum No. 1A

SUBJECT: Interim Tampering Enforcement Policy

A. Purpose

The purpose of this Memorandum is to state the interim policy of EPA with regard to enforcement of the "tampering" prohibition--Section 203(a)(3)--of the Clean Air Act. This Memorandum cancels and supersedes Mobile Source Enforcement Memorandum No. 1 of December 22, 1972.

1. Section 203(a)(3) of the Clean Air Act provides:

"The following acts and the causing thereof are prohibited--

(3) for any person to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title prior to its sale and delivery to the ultimate purchaser, or for any manufacturer or dealer knowingly to remove or render inoperative any such device or element of design after such sale and delivery to the ultimate purchaser."

Section 205 of the Act provides for a maximum civil penalty of \$10,000 for any person who violates Section 203(a)(3).

2. This "tampering" provision of the law has created a great deal of uncertainty, primarily among new vehicle dealers and automotive aftermarket parts manufacturers, regarding what actions and/or use of what parts are prohibited. The terms "manufacturer" and "dealer" in 203(a)(3) refer only to motor vehicle and engine manufacturers and new motor vehicle dealers; however, the law impacts indirectly on aftermarket parts manufacturers through its applicability to vehicle dealers who are customers for their products. Other provisions in the Act establishing manufacturer warranties and authorizing compulsory recall of properly maintained vehicles also have a potential for anti-competitive effects in the aftermarket.

3. In general, it is clear that EPA's primary objective in enforcing the statutory prohibition on "tampering" must be to assure unimpaired emission control of motor vehicles throughout their useful life. It is EPA's policy to attempt to achieve this objective without imposing unnecessary restraints on commerce in the automotive aftermarket.

4. The long range solution to minimizing possible anti-competitive effects that could result from implementation of these statutory provisions may lie in some type of certification program for at least certain categories of aftermarket parts. EPA is currently studying the technical, administrative and legal problems which such a program presents. EPA has yet to develop the policy, procedures, or facilities attendant to any long range solution.

5. In the absence of a long-term solution, and in the absence of proof that use of nonoriginal equipment parts will adversely affect emissions, constraining dealers to the use of only original equipment parts would constitute an unwarranted burden on commerce in the automotive aftermarket. Pending development of a long range solution, the following statement reflects EPA's interim policy in the tampering area. This policy is intended to reduce the uncertainty which dealers now face by providing criteria by which dealers can determine in advance that certain of their acts do not constitute tampering.

6. New vehicle and engine manufacturers have also requested that they be treated, in their aftermarket parts role, similarly to other aftermarket parts manufacturers. Memorandum No. 1 was intended to avoid unnecessary adverse impacts on all aftermarket manufacturers; this revision, therefore, makes it clear that EPA's interim policy extends to vehicle and engine manufacturers.

B. Interim Policy

1. Unless and until otherwise stated, the Environmental Protection Agency will not regard the following acts, when performed by a dealer, to constitute violations of Section 203(a)(3) of the Act:

- (a) Use of a nonoriginal equipment aftermarket part (including a rebuilt part) as a replacement part solely for purposes of maintenance according to the vehicle or engine manufacturer's instructions, or for repair or replacement of a defective or worn out part, if the dealer has a reasonable basis for knowing that such use will not adversely affect emissions performance; and

- (b) Use of a nonoriginal equipment aftermarket part or system as an add-on, auxiliary, augmenting, or secondary part or system, if the dealer has a reasonable basis for knowing that such use will not adversely affect emissions performance; and
- (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, or if the dealer has a reasonable basis for knowing that such adjustment or alteration will not adversely affect emissions performance.

2. For purposes of clause (1a), a reasonable basis for knowing that a given act will not adversely affect emissions performance exists if:

- (a) the dealer reasonably believes that the replacement part or rebuilt part is designed to perform the same function with respect to emission control as the replaced part, or
- (b) the replacement part or rebuilt part is represented in writing by the part manufacturer to perform the same function with respect to emission control as the replaced part.

3. For purposes of clauses (1b) and (1c), a reasonable basis for knowing that a given act will not adversely affect emissions performance exists if:

- (a) the dealer knows of emissions tests which have been performed according to testing procedures prescribed in 40 CFR section 85 showing that the act does not cause similar vehicles or engines to fail to meet applicable emission standards for their useful lives (5 years or 50,000 miles in the case of light-duty vehicles); or
- (b) the part or system manufacturer represents in writing that tests as described in (a) have been performed with similar results; or

- (c) a Federal, State or local environmental control agency expressly represents that a reasonable basis exists. (This provision is limited to the geographic area over which the State or local agency has jurisdiction).

4. For purposes of clauses (1a), (1b), and (1c):

- (a) except when necessarily done in conjunction with acts under 1(b) or 1(c) which EPA does not consider to constitute violations of Section 203(a)(3), the permanent removal or disconnecting or blocking of any part of the original system installed primarily for the purpose of controlling emissions will be presumed to adversely affect emission performance; and
- (b) the proscription and appropriate publication by EPA of an act as prohibited will be deemed conclusive that such act will adversely affect emissions performance.

C. Discussion

1. Clause (1a) will apply to new or rebuilt replacement parts, protecting the dealer when he uses such a part to conduct necessary maintenance if a person familiar with the design and function of motor vehicles and engines would reasonably believe that such a part is designed to perform the same function as the replaced part, or if there is written representation by the parts manufacturer that the part is so designed. Other reasonable bases (e.g., emissions test showing no adverse effect) may exist, but these other bases will probably not occur often in the replacement part context. If EPA gains information that certain replacement parts do adversely affect emissions, a listing of such parts will be published.

2. Clause (1b) will protect the dealer who installs add-on parts if he knows, or if it has been represented in writing to him by the part manufacturer, that emissions tests have been performed according to Federal procedures which show that such a part will not cause similar vehicles to fail to meet applicable emission standards over the useful life of the vehicle. The dealer is protected from prosecution even if the test results have not been reported to EPA. However, the aftermarket parts manufacturer who represents that such tests have been conducted should have available the data from the tests, including where, when, how and by whom the tests were conducted should EPA request it. Such add-on parts might be auxiliary fuel tanks, which would

require evaporative emission control on light-duty vehicles to the prescribed standard, or superchargers, which would require emission testing showing conformance to standards over the useful life of the vehicle or engine. Clause (1b) will also protect the dealer who installs retrofit devices to reduce emissions at the request of a State or local environmental control agency.

3. Clause (1c) applies to dealers performing necessary adjustments or alterations, according to the vehicle or engine manufacturer's instructions, of parts already on the vehicle or engine, e.g., adjustment of the carburetor or ignition timing. It also covers adjustments or alterations, as in the case of altitude "fixes", if a "reasonable basis" exists as described above.

4. This interim policy provides general guidance to dealers as to those acts which do not constitute tampering and those acts which may constitute tampering. It also allows aftermarket parts manufacturers an opportunity to protect their markets by providing dealers with assurance that their parts do not cause emissions standards to be exceeded. Vehicle and engine manufacturers also often function as aftermarket parts manufacturers. For example, many vehicle and engine manufacturers provide aftermarket parts for the in-use vehicle and engines of other manufacturers as well as for their own in-use vehicle and engines. In their aftermarket parts role, vehicle and engine manufacturers may take the same steps (set forth in this memorandum) as parts manufacturers who are not also vehicle or engine manufacturers to provide dealers with assurances that they are not in violation section 203(a)(3). However, in their role as vehicle or engine manufacturers, procedures exist whereby they may obtain approval for any emission related change in a vehicle or engine from its certified configuration or parameters (See MSAPC Advisory Circulars No. 2-B "Field Fixes Related to Emission Control-Related Components" and No. 16-2 "Approval of Emission Control Modifications for High Altitude on New Light Duty Motor Vehicles", March 5, 1974). This Memorandum does not relieve vehicle or engine manufacturers from complying with the procedures set forth in the advisory circulars except in their specific function as aftermarket parts manufacturers.

5. Any questions regarding this interim policy should be addressed to the Mobile Source Enforcement Division (EG-240), Office of Enforcement and General Counsel.



Norman D. Shulter, Director
Mobile Source Enforcement Division
Office of Enforcement and General Counsel

Engine Switching Fact Sheet



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 2 1991

OFFICE OF
AIR AND RADIATION

ENGINE SWITCHING FACT SHEET

Pursuant to frequent requests for information received by the U.S. Environmental Protection Agency (EPA) regarding the legality and effects of engine switching, this document will summarize federal law and policy pertaining to this matter, and will discuss other related issues.

A. Federal Law

The federal tampering prohibition is contained in section 203(a)(3) of the Clean Air Act (Act), 42 U.S.C. 7522(a)(3). Section 203(a)(3)(A) of the Act prohibits any person from removing or rendering inoperative any emission control device or element of design installed on or in a motor vehicle or motor vehicle engine prior to its sale and delivery to an ultimate purchaser and prohibits any person from knowingly removing or rendering inoperative any such device or element of design after such sale and delivery, and the causing thereof. The maximum civil penalty for a violation of this section by a manufacturer or dealer is \$25,000; for any other person, \$2,500.

Section 203(a)(3)(B) of the Act prohibits any person from manufacturing or selling, or offering to sell, or installing, any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine, and where the person knows or should know that such part or component is being offered for sale or is being installed for such use. The maximum civil penalty for a violation of this section is \$2,500.

EPA received many questions regarding the application of this law to a situation where one engine is removed from a vehicle and another engine is installed in its place. EPA's policy regarding "engine switching" is covered under the provisions of Mobile Source Enforcement Memorandum No. 1A (Attachment 1). This policy states that EPA will not consider any modification to a "certified configuration" to be a violation of federal law if there is a reasonable basis for knowing that emissions are not adversely affected. In many cases, proper emission testing according to the Federal Test Procedure would be necessary to make this determination.

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A "certified configuration" is an engine or engine-chassis design which has been "certified" (approved) by EPA prior to the production of vehicles with that design. Generally, the manufacturer submits an application for certification of the designs of each engine or vehicle it proposes to manufacture prior to production. The application includes design requirements for all emission related parts, engine calibrations, and other design parameters for each different type of engine (in heavy-duty vehicles), or engine-chassis combination (in light-duty vehicles). EPA then "certifies" each acceptable design for use in vehicles of the upcoming model year.

For light-duty vehicles, installation of a light-duty engine into a different light-duty vehicle by any person would be considered tampering unless the resulting vehicle is identical (with regard to all emission related parts, engine design parameters, and engine calibrations) to a certified configuration of the same or newer model year as the vehicle chassis, or if there is a reasonable basis for knowing that emissions are not adversely affected as described in Memo 1A. The appropriate source for technical information regarding the certified configuration of a vehicle of a particular model year is the vehicle manufacturer.

For heavy-duty vehicles, the resulting vehicle must contain a heavy-duty engine which is identical to a certified configuration of a heavy-duty engine of the same model year or newer as the year of the installed engine. Under no circumstances, however, may a heavy-duty engine ever be installed in a light-duty vehicle.

The most common engine replacement involves replacing a gasoline engine in a light-duty vehicle with another gasoline engine. Another type of engine switching which commonly occurs, however, involves diesel powered vehicles where the diesel engine is removed and replaced with a gasoline engine. Applying the above policy, such a replacement is legal only if the resulting engine-chassis configuration is equivalent to a certified configuration of the same model year or newer as the chassis. If the vehicle chassis in question has been certified with gasoline, as well as diesel engines (as is common), such a conversion could be done legally.

-3-

Another situation recently brought to EPA's attention involves the offering for sale of used foreign-built engines. These engines are often not covered by a certified configuration for any vehicle sold in this country. In such a case, there is no way to install such an engine legally.

EPA has recently brought enforcement actions against certain parties who have violated the tampering prohibition by performing illegal engine switches.

It should be noted that while EPA's policy allows engine switches as long as the resulting vehicle matches exactly to any certified configuration of the same or newer model year as the chassis, there are some substantial practical limitations to performing such a replacement. Vehicle chassis and engine designs of one vehicle manufacturer are very distinct from those of another, such that it is generally not possible to put an engine into a chassis of a different manufacturer and have it match up to a certified configuration. Therefore, practical considerations will generally limit engine switches to installation of another engine which was certified to be used in that same make and model (or a "twin" of that make and model, e.g., Pontiac Grand AM and Oldsmobile Calais). In addition, converting a vehicle into a different certified configuration is likely to be very difficult, and the cost may prove prohibitive.

B. State Laws

Many states also have statutes or regulations prohibiting tampering in general. Most of these laws specifically prohibit tampering by individuals. A few specifically prohibit engine switching, using provisions similar to those stated in EPA's policy. To determine the state law in any given state, the state's Attorney General's office should be contacted.

In addition, many states have state or local antitampering inspection programs which require a periodic inspection of vehicles in that area, to determine the integrity of emission control systems. Many programs have established policies for vehicles which have been engine switched. While EPA does not require these programs to fail engine switched vehicles which are not in compliance with federal policy, the Agency does strongly recommend that these programs set their requirements so as to be consistent with the federal law. State or local programs which pass illegally engine switched vehicles may mislead federally regulated parties into believing that engine switching is allowed by federal law.

Attachment

Engine Switching and Conversions:

Any repair facility that performs engine switching or engine conversions should make sure it has the facts straight. As simply as possible, here are some of the facts:

1. The repair facility must be aware of its responsibilities in switching engines or converting engines (such as from diesel to gasoline).
2. An engine being installed in a vehicle must provide at least the same amount of emission control as the certified configuration for that model year. In most cases, on 1980 and older vehicles, this means the engine must be the same model year or newer as the chassis of the vehicle into which the engine is being installed. (For example, a 1976 engine could be installed in a 1974 vehicle; however, a 1974 engine could not be installed in a 1976 vehicle.) On 1981 and newer light duty vehicles, the emission standards have been the same so theoretically these engines could be interchanged; however, all components, including computers, must be swapped with the engine. Therefore, most shops won't do an engine swap unless they can find an exact replacement engine.
3. When an engine is installed, all emissions equipment that is part of that engine's original design (how it originally came from the manufacturer) must be installed and operating with the newly-installed engine or the repair facility could be cited for tampering.
4. The original exhaust system configuration (as designed by the manufacturer) for the newly-installed engine must be present on the vehicle. This means that a single exhaust engine may not be reconfigured to dual exhaust -- unless the manufacturer happens to have a dual exhaust configuration designed for that particular engine and year (be sure it is for that engine and year).
5. Changing the original exhaust system configuration, leaving off any emissions control equipment, or reconfiguring the engine's emissions control system will usually adversely affect the engine's performance and the emission control system's ability to effectively control harmful emissions. The tailpipe test alone cannot be used to determine whether or not the vehicle's emission control system is functioning properly. (See the next section, "The Federal Test Procedure (FTP) and the Tailpipe Test.")
6. Diesel conversions to gasoline engines must include all emission controls on the engine as well as any catalytic converter(s), evaporative controls, and a fuel inlet restrictor.
7. Every vehicle sold in the U.S. has an engine or engine-chassis design which has to be "certified" (approved) by EPA prior to the production of vehicles with that design. EPA policy states that any modification to a "certified configuration" (such as not installing some or all of the emission controls that are part of

an engine design) would be considered tampering unless there is a reasonable basis for knowing that the emissions are not adversely affected. In most cases, an FTP would be necessary to make this determination. In other cases, a judgement can be made based on EPA's Tampering Enforcement Policy which states:

"...the permanent removal or disconnecting or blocking of any part of the original system installed primarily for the purpose of controlling emissions will be presumed to affect adversely emission performance..."

If an FTP is necessary to make a determination, the facility who performed the engine work is responsible for having the vehicle tested according to the FTP.

P2 in Auto Repair



*Working together to
keep you informed*

American Automobile
Association

Automotive Service
Association

Autobody Association
of Connecticut

National Automobile
Dealers Association

New England Interstate
Water Pollution Control
Commission

Professional Insurance
Agents of New England

Safety-Kleen
Corporation

U.S. Environmental
Protection Agency

Vermont Automobile
Dealers Association

Spring 1992

Preventing Pollution in the **AUTO REPAIR BUSINESS**

- Do you spend more time with government paperwork than with auto repair?
- Are you disturbed about the skyrocketing costs of managing hazardous materials?
- Do you feel threatened by high liability costs associated with waste handling?
- Don't know whom to call for information?

Do-it-Yourself Self-Inspection Checklist

INSIDE *Determine areas in your shop where you can prevent pollution*
Guide to Reducing Wastes
How to minimize most commonly produced automotive repair wastes
Whom to contact for Help and Information on Regulations
State-by-state list of regulatory and assistance programs

It's likely that you, as a repair shop owner, spend many hours filling out forms and keeping records to meet government reporting requirements for wastes — because it is so important to make sure these materials are disposed of properly and kept out of the environment. This booklet was produced to help you not only comply with government regulations to prevent groundwater pollution, but also reduce your waste management costs.

Why The Paperwork?

Almost half the people in the United States get their drinking water from wells or springs that are supplied by groundwater. Rainwater filters through the ground and collects underground in layers of porous materials known as aquifers. Wells and springs draw water from these pristine underground aquifers.

Pollution in groundwater can overwhelm the natural ability of some types of soils to filter the water, and flushing or cleaning the water may be financially impractical or physically impossible. When groundwater is polluted, it can become undrinkable for years, decades, or even centuries. As a result, hundreds of public wells and thousands of private wells have been closed in the United States because they are polluted and cannot be restored practically.

Light industries such as auto repair shops, drycleaners, photofinishers, and furniture strippers use chemicals and produce wastes and wastewater which can enter and contaminate groundwater aquifers if not handled carefully.



Recordkeeping and documentation are essential to good business.

How Might Auto Repair Shops Affect Groundwater?

Auto repair shops, including radiator repair shops, paint and body (collision repair) shops, service stations, and auto dealerships, produce many types of wastes which may pollute groundwater, including:

- ✦ Waste oil, lubricants, and transmission fluids
- ✦ Spent solvents
- ✦ Spent caustic parts washing solution
- ✦ Parts cleaning tank sludge
- ✦ Oily waste sump sludge
- ✦ Used antifreeze
- ✦ Used lead acid batteries
- ✦ Absorbents used to clean up spills
- ✦ Floor wash waters containing detergents, fuel, oils, solvents, and paint

These wastes can move through leaks, spills and floor drains into the ground and pollute an aquifer which may supply drinking water.

How You Can Benefit from the Suggestions in this Booklet

The techniques listed in this booklet are aimed to save you money, time, and headaches. Refer to them if you want to:

- ✦ Reduce costs by using fewer raw materials
- ✦ Reduce transportation and disposal costs
- ✦ Increase income from sale or reuse of waste
- ✦ Reduce costs for wastewater treatment
- ✦ Improve worker safety - lower risk of spills, accidents, emergencies
- ✦ Lower long-term liability and insurance costs
- ✦ Improve ability to meet new federal regulations and reduce paperwork required
- ✦ Improve your image in the community by working to prevent chemical releases to the environment

An insert to this booklet which includes a Self-Audit Checklist and a Guide to Minimizing Automotive Wastes is provided for your convenience.

One Auto Repair Shop's Experience In Using Suggested Pollution Prevention Techniques

Many auto repair shops have benefitted from practicing pollution prevention. Brown's Garage (not the real name) in southern New Hampshire is an example. Brown's is a general automotive repair garage with six employees. No body work is done and there are no gas pumps.

The garage generates 1500-2000 gallons of waste oil per year and ships its waste oil using a licensed waste oil hauler to be rerefined as lubricating oil. Even though the costs can be, in some cases, more than other methods of used oil recycling, Brown's has chosen this method to send a positive message to its customers and improve its ability to meet federal and state regulations. In addition, Brown's offers rerefined oils to its customers.

Brown's currently contracts with an outside company to recycle its antifreeze, but is now seriously considering buying its own antifreeze recycling machine as the recycling company's charges have become prohibitive. (These machines are required in some states.) The garage manager is also looking into recycling oil filters and plastic oil containers.

Though this booklet concentrates on groundwater protection, it is interesting to note that Brown's has also taken steps to prevent air pollution. Brown's recently purchased a freon recycling machine at a cost of less than \$3,000. The machine has enabled Brown's to cut its freon use by about 25%, in addition to benefitting the environment by reduced freon disposal. Since the cost of freon rose from \$30 to \$175 per cylinder in just a few years, the cost savings have been significant.

What Can Happen if a Shop Isn't Careful

On the other hand, some shops have learned too late the costs of not using safe handling practices for wastes. In southern Maine, for example, Sandy's Variety Store and Gas Station (not the real name) and Sandy's petroleum distributor have found themselves liable under Maine law for more than \$300,000 in damages for pollution of a public water supply well.

In Fall 1990, leaks were detected in the gasoline pumps at Sandy's store, which allowed gasoline to enter the groundwater flowing towards the public well. The contaminated well was shut down, leaving the affected town to purchase water from a neighboring community at a cost of about \$10,000 extra per month. Sandy's and its petroleum distributor are responsible for this extra cost, as well as for the cleanup of the well, which is underway; the total liability as of August 1991



Recycling solvents saves money and reduces wastes.

was \$300,000, with at least \$35,000 estimated additional cleanup costs to come.

How to Minimize the Hazardous Waste You Produce

Management's attitude is the most important factor in minimizing waste to prevent groundwater pollution and reduce costs. Shop owners and managers must make a commitment to reducing hazardous waste, communicate that commitment to the staff, and take an active role in their shop's waste reduction program.

Like your gas and electric bills, waste management is another cost of doing business, which can be minimized by proper planning. The insert has a checklist of things you can do to manage the wastes you produce while helping to reduce operating costs. Keep this checklist on file for your use and review it periodically. Contact the state Technical Assistance Programs listed in this booklet under CONTACTS for more detailed information on how to reduce the wastes your shop produces. The trade associations listed under CONTACTS are another source of information. Finally, EPA has two recent publications which give more detailed information on these techniques. Refer to the last section of this booklet for information on how to obtain the guides.

CONTACTS

Whom to Contact for Information on Regulations

Ground Injection Control (GIC) CONNECTICUT

Department of Environmental Protection
Bureau of Water Management
122 Washington Street
Hartford, CT 06106
(203) 566-2588

MAINE

Department of Environmental Protection
Bureau of Water Quality Control
Division of Environmental Evaluation
and Lake Studies
State House Station 17
Augusta, ME 04333
(207) 289-3901

Ground Water Discharge Permits CONNECTICUT

Department of Environmental Protection
Bureau of Water Management
Ground Water Section
122 Washington Street
Hartford, CT 06106
(203) 566-7295

MAINE

Department of Environmental Protection
Bureau of Water Quality Control
Division of Licensing, Enforcement &
Field Services
State House Station 17
Augusta, ME 04333
(207) 289-7693

MASSACHUSETTS

Department of Environmental Protection
Division of Water Supply
1 Winter Street, 9th Floor
Boston, MA 02108
(617) 292-5770

NEW HAMPSHIRE

Department of Environmental Services
Ground Water Protection Bureau
P.O. Box 95, 6 Hazen Drive
Concord, NH 03301
(603) 271-3644

RHODE ISLAND

Department of Environmental Management
Division of Ground Water
291 Promenade Street
Providence, RI 02908-5767
(401) 277-2234

VERMONT

Department of Environmental Conservation
Water Supply Division
Ground Water Supply Section
103 South Main Street
West Office Building
Waterbury, VT 05671-0403
(802) 244-1562

MASSACHUSETTS

Department of Environmental Protection
Division of Water Pollution Control
1 Winter Street, 6 & 7th Floor
Boston, MA 02108
(617) 292-5673

NEW HAMPSHIRE

Department of Environmental Services
Ground Water Protection Bureau
P.O. Box 95, 6 Hazen Drive
Concord, NH 03301
(603) 271-3644

RHODE ISLAND

Department of Environmental Management
Division of Ground Water
291 Promenade Street
Providence, RI 02908-5767
(401) 277-2234

VERMONT

Department of Environmental Conservation
Permits Compliance & Protection Division
103 South Main Street/Annex Building
Waterbury, VT 05671-0405
(802) 244-5674

Discharges to Surface Water Permits CONNECTICUT

Department of Environmental Protection
Bureau of Water Management
Industrial Section
122 Washington Street
Hartford, CT 06106
(203) 566-5903

MASSACHUSETTS

Department of Environmental Protection
Division of Water Pollution Control
1 Winter Street, 6 & 7th Floor
Boston, MA 02108
(617) 292-5673

NEW HAMPSHIRE

Department of Environmental Services
Water Quality & Permit Compliance Bureau
Division of Water Supply & Pollution Control
P.O. Box 95, 6 Hazen Drive
Concord, NH 03301
(603) 271-2457

RHODE ISLAND

Department of Environmental Management
Division of Water Resources
291 Promenade Street
Providence, RI 02908-5767
(401) 277-6519

VERMONT

Department of Environmental Conservation
Permits Compliance & Protection Division
103 South Main Street/Annex Building
Waterbury, VT 05671-0405
(802) 244-5674

RCRA (Hazardous Waste Regulations)

CONNECTICUT

Department of Environmental Protection
Bureau of Waste Management
Site Remediation & Closure Division
122 Washington Street
Hartford, CT 06106
(203) 566-5486

MASSACHUSETTS

Department of Environmental Protection
Division of Hazardous Wastes
1 Winter Street, 5th Floor
Boston, MA 02108
(617) 292-5857

RHODE ISLAND

Department of Environmental Management
Division of Air & Hazardous Materials
291 Promenade Street
Providence, RI 02908-5767
(401) 277-2797

MAINE

Department of Environmental Protection
Bureau of Hazardous Materials & Solid
Waste Control
Division of Licensing & Enforcement
State House Station 17
Augusta, ME 04333
(207) 289-2651

NEW HAMPSHIRE

Department of Environmental Services
Waste Management Division
Hazardous Waste Compliance Section
6 Hazen Drive
Concord, NH 03301
(603) 271-2942

VERMONT

Department of Environmental Conservation
Hazardous Materials Division
103 South Main Street/West Office Building
Waterbury, VT 05671-0404
(802) 244-8702

CONTACTS

Underground Storage Tank (State) Program [UST]
Some states may also have local UST programs. For example, in some Massachusetts and Connecticut communities. Check with your local fire department for any additional requirements.

CONNECTICUT

Department of Environmental Protection
 Bureau of Waste Management
 Oil & Chemical Spills Response Division
 122 Washington Street
 Hartford, CT 06106
 (203) 566-4630

MAINE

Department of Environmental Protection
 Bureau of Hazardous Materials & Solid Waste Control
 Division of Licensing & Enforcement
 State House Station 17
 Augusta, ME 04333
 (207) 289-2651

MASSACHUSETTS

Department of Public Safety
 UST Program
 P.O. Box 490
 Tewksbury, MA 01876-0490
 (508) 851-9813

Hazardous Waste Tanks

Department of Environmental Protection
 Division of Hazardous Waste
 1 Winter Street
 Boston, MA 02108
 (617) 292-5898

NEW HAMPSHIRE

Department of Environmental Services
 Division of Water Supply & Pollution Control
 Ground Water Protection Bureau
 P.O. Box 95, 6 Hazen Drive
 Concord, NH 03301
 (603) 271-3644

RHODE ISLAND

Department of Environmental Management
 UST & Oil Pollution Control Section
 291 Promenade Street
 Providence, RI 02908-5767
 (401) 277-2234

VERMONT

Department of Environmental Conservation
 Hazardous Materials Division
 103 South Main Street/West Office Building
 Waterbury, VT 05671-0404
 (802) 244-8702

Whom to Contact for Additional Information

State Technical Assistance Programs

CONNECTICUT

ConnTAP
 Technical Assistance Program
 900 Asylum Avenue, Suite 360
 Hartford, CT 06105-1904
 (203) 241-0777

MAINE (no Technical Assistance Program)

Department of Environmental Protection
 Office of Pollution Prevention
 Commissioner's Office
 State House Station 17
 Augusta, ME 04333
 (207) 289-4152

MASSACHUSETTS

Executive Office of Environmental Affairs
 Office of Technical Assistance
 100 Cambridge Street
 Boston, MA 02202
 (617) 727-3260

NEW HAMPSHIRE

Department of Environmental Services
 Technical Assistance Program
 Waste Management Planning Bureau
 6 Hazen Drive
 Concord, NH 03301
 (603) 271-2918

RHODE ISLAND

Department of Environmental Management
 Technical Assistance Program
 Office of Environmental Coordination
 291 Promenade Street
 Providence, RI 02908-5767
 (401) 277-3434

VERMONT

Department of Environmental Conservation
 Pollution Prevention Program
 103 South Main Street
 Waterbury, VT 05671-0404
 (802) 244-8702

Organizations Which Provided Information for this Booklet

American Automobile Association
 Public Affairs
 1050 Hingham Street
 Rockland, MA 02370-1090
 1-800-222-8252

Automotive Service Association
 P.O. Box 929
 Bedford, TX 76095-0929
 (817) 283-6205

Auto Body Association of Connecticut
 P.O. Box 529
 Branford, CT 06405
 (203) 488-7626

U. S. Environmental Protection Agency
 Groundwater Management Section
 JFK Federal Building (WGP-445)
 Boston, MA 02203
 (617) 565-3500

National Automobile Dealers Association
 Regulatory Affairs
 8400 Westpark Drive
 McLean, VA 22102
 (703) 821-7040

New England Interstate Water
 Pollution Control Commission
 85 Merrimac Street
 Boston, MA 02114
 (617) 367-8522

Professional Insurance Agents of
 New England
 1 Ash Street
 Hopkinton, MA 01748
 1-800-742-6363

Safety-Kleen Corporation
 392 East Merrow Road
 Tolland, CT 06084
 (203) 871-0027

Vermont Automobile Dealers Association
 73 Main Street, P.O. Box 561
 Montpelier, VT 05601
 (802) 223-6635

Additional copies of this booklet are available from these organizations.

The booklet sponsors have provided pollution prevention tips and techniques. In addition, information was obtained from state publications prepared by California, Oregon, New York, and Pennsylvania. This booklet was prepared by Barry Lawson Associates, Inc., under contract with the New England Interstate Water Pollution Control Commission.

**Opportunities for Training and Education in
Pollution Prevention**

This booklet focuses on groundwater protection issues. Companion publications by EPA for the automotive repair and maintenance industry encompassing air, land, and water pollution concerns are forthcoming.

EPA has published pollution prevention waste minimization guidance manuals for the automotive repair and automotive refinishing industries, which give details on the tips and techniques listed. Ask for:

Guides to Pollution Prevention: The Automotive Repair Industry (EPA/625/7-91/013)

Guides to Pollution Prevention: The Automotive Refinishing Industry (EPA/625/7-91/016)

The guides are available from: EPA Office of Research and Development, Publications, (513) 569-7562 or from the RCRA/Superfund Hotline (1-800-424-9346)

In addition, EPA's Office of Pollution Prevention publishes an annual guide of approximately 40 pages, *Pollution Prevention Training Opportunities*, listing training courses, workshops, and seminars being offered in each state, along with contact names and addresses. The resource guide also lists such available materials as fact sheets, instruction manuals, and videos, as well as additional resources to obtain pollution prevention information, including updated lists of State and Federal contacts. Free copies of the guide can be obtained from:

Abby Swaine, Manager
Pollution Prevention Program
U.S. EPA - Region I
J.F.K. Federal Building (WGP)
Boston, MA 02203
(617) 565-4523

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VERMONT AUTOMOBILE DEALERS
ASSOCIATION, INC.

NEW ENGLAND STATE AIR PROGRAM CONTACTS

Connecticut Department of Environmental Protection
Bureau of Air Management
165 Capitol Avenue
Hartford, CT 06106
(203) 566-4030

Maine Department of Environmental Protection
Bureau of Air Quality Control
State House Station 17
Augusta, ME 04333
(207) 289-2437

Massachusetts Department of Environmental Protection
Division of Air Quality Control
One Winter Street, 7th Floor
Boston, MA 02108
(617) 292-5630

New Hampshire Department of Environmental Services
Air Resources Division
64 North Main Street, Caller Box 2033
Concord, NH 03302-2033
(603) 271-1370

Rhode Island Department of Environmental Management
Division of Air and Hazardous Materials
291 Promenade Street
Providence, RI 02908-5767
(401) 277-2808

Vermont Department of Environmental Conservation
Air Pollution Control Division
Bldg 3 South, 103 South Main Street
Waterbury, VT 05676
(802) 244-8731

Recycling Refrigerant
from Motor Vehicles



RECYCLING REFRIGERANT FROM MOTOR VEHICLE AIR CONDITIONERS

A new regulation, recently signed by the Administrator of the United States Environmental Protection Agency (EPA), requires that motor vehicle air conditioning refrigerant be recycled. This fact sheet will help you become familiar with this new law and address some of your concerns.

Our Threatened Ozone Layer

The stratospheric ozone layer shields the earth from harmful ultraviolet (UV) radiation. Scientists worldwide believe that synthetic chemicals such as chlorofluorocarbons (CFCs, also known by the trade name Freon) are slowly destroying this layer of gas 10 to 20 miles above the earth's surface. Ozone loss of 3.5% globally has already been recorded and is greatest over Antarctica, where a seasonal ozone "hole" occurs. Recent data strongly suggests that substantial losses may also develop over the North Pole, exposing parts of the U.S. to increasing levels of UV radiation.

Ozone loss in the atmosphere is likely to lead to an increase in skin cancer and cataracts and could weaken the human immune system. Agriculture, as well as plant and animal life, may also be dramatically affected.

Impact of Motor Vehicle Air Conditioners

One of the single largest uses of CFCs in the U.S. is as a refrigerant in automobile air conditioners. CFC-12 in motor vehicles accounts for over 20% of all CFC use in this country.

Commonly released into the air when car or truck air conditioners are

serviced, CFCs rise to the stratosphere where they can remain active for up to 120 years. Solar rays break these molecules apart, releasing chlorine. A single chlorine atom can destroy over several thousand ozone molecules.

Worldwide Action to Protect the Ozone Layer

The United States joined 75 other countries in a global effort to protect the ozone layer as a Party to the international treaty known as the Montreal Protocol. In 1990, these countries agreed to phase out production of ozone-depleting substances, including CFC-12, by the year 2000. The 1990 Clean Air Act Amendments (the Act) incorporated this production phaseout date and also addressed the use and emission of these chemicals. President Bush later pledged to halt almost all U.S. production of CFCs by the end of 1995.

Section 609 of the Act gives the EPA the authority to establish requirements to prevent the release of refrigerants during the servicing of motor vehicle air conditioners. Recycling of CFCs can occur at minimal cost and without damaging motor vehicle A/C systems. The following sections describe the requirements of the law and its potential impact on the service industry.

Clean Air Act Requirements

Approved Equipment

Technicians repairing or servicing motor vehicle air conditioners must use either refrigerant recover/recycle or recover-only equipment approved by EPA. Recover/recycle equipment

both *recovers* the refrigerant from the motor vehicle and *processes* it through an oil separator, a filter, and a dryer. Approved recover/recycle machines meet the technical specifications of SAE Standard J-1990 and must have the capacity to purify used refrigerant to SAE Standard J-1991 for safe and direct return to the air conditioner following repairs.

Recover-only equipment removes the refrigerant from the A/C unit as specified by SAE Standard J-2209 and transfers it into a holding tank. Technicians are then required by law to either recycle the used refrigerant on site or send it to an off-site reclamation facility to be restored to ARI Standard 700-88 before it can be used to recharge A/C equipment.

A list of both types of approved equipment is available from EPA at the address on the back of this fact sheet. Most certified equipment will be labeled as "design-certified to SAE standards."

Technician Training and Certification

Technicians who repair or service motor vehicle air conditioners must be trained and certified by an EPA-approved organization. Training programs must cover use of recycling equipment in compliance with SAE Standard J-1989, the regulatory requirements, the importance of refrigerant containment, and the effects of ozone depletion. To be certified, technicians must pass a test demonstrating their knowledge in these areas. A list of approved testing programs is available from EPA at the address on the back of this fact sheet.

Small Business Extension

The Act allows small businesses, defined as those that performed under 100 service jobs involving refrigerant in 1990, until January 1, 1993 to purchase equipment. To qualify for this extension, shops must send a signed statement that in 1990 they serviced fewer than 100 air conditioners to EPA at the address on the bottom of this fact sheet. The Agency will accept these statements up until the effective date of the regulations.

Small Container Restriction

The sale of containers of CFCs under 20 pounds to anyone other than certified technicians is prohibited after November 15, 1992. This provision is intended to discourage "do-it-yourselfers" who recharge their own air conditioners. Such individuals often release refrigerant because they typically do not have access to recycling equipment. The Agency encourages "do-it-yourselfers" to bring their cars to certified technicians who can properly fix air conditioners using approved equipment. This avoids damage to A/C equipment by improper charging and helps protect the environment.

Recordkeeping Requirements

Service shops must certify to EPA that they own approved equipment. If refrigerant is recovered and sent to a reclamation facility, the name and address of that facility must be retained.

Impacts on A/C Service

Because of the planned CFC phaseout and the tax on CFCs, shops that service air conditioners can expect the price of CFC-12 to increase and its availability to decrease. Refrigerant recycling could reduce the need for new CFC-12 and thus help keep costs down.

Refrigerant recycling is an important step towards the goal of eliminating CFC use. It means that car owners can have their air conditioners fixed until alternatives to CFC-12 are

Important Dates

January 1, 1992	Motor vehicle A/C service establishments must have approved equipment. Certified technicians must use the equipment.
July 14, 1992	EPA final regulations published.
August 13, 1992	Effective date of EPA regulations.
November 15, 1992	Small container sales restriction goes into effect.
January 1, 1993	Small service establishments must have approved equipment and certified technicians. All shops must certify their equipment to EPA.

developed. Several substitute refrigerants are being tested for use in motor vehicle air conditioners, and research is being done to see if cars can be retrofitted for these alternatives. Possible replacements include HFC-134a (which will be used in some cars starting in model year 1992) and ternary blends of HCFCs. These substitutes cost more than CFC-12, making recycling more economical. Blends that include any CFCs or HCFCs are already subject to EPA's recovery and recycling requirements. By November 15, 1995, all substitute refrigerants will also have to be recycled.

Support for Recycling

The current CFC recycling program has come about through the success of joint EPA-industry voluntary programs and support from a variety of organizations. Many groups endorse refrigerant recycling in motor vehicle air conditioners and have participated in EPA's Stratospheric Ozone Protection Advisory Committee, Subcommittee for Servicing of Motor Vehicle Air Conditioning.

By complying with the new regulations, you will help preserve

the ozone layer for future generations.

For further information, please contact:

MVACs Recycling Program Manager
Stratospheric Ozone Protection
Branch (6202J)
U.S. Environmental Protection
Agency
401 M Street, SW
Washington, DC 20460

- or -

The Stratospheric Ozone
Information Hotline:
1-800-296-1996
(10am-4pm EST, Monday-Friday,
except federal holidays).

