



**Minnesota
Pollution
Control
Agency**

Metro District,
Operations &
Planning

Vehicle Tampering Detection

Air/December 1998

Since motor vehicle pollution is often colorless and odorless, it's not often obvious that your vehicle's pollution control equipment is missing or not working. Of course, the discovery of disconnected, loose or cut hoses or belts under the hood could be an obvious sign that tampering has occurred.

A better understanding of the pollution-control equipment built with most 1975 and later vehicle models can help you spot a tampered vehicle.

How are emissions controlled?

One of the most important pollution control devices on your car is the catalytic converter, which controls the pollution from the vehicle's tailpipe. The catalytic converter burns fuel that was not completely consumed in the engine and, therefore, reduces the amount of pollutants emitted.

When looking under your vehicle, you should be able to see two "swellings" in the long series of pipes that make up the exhaust system. On most vehicles, the device closest to the engine is the catalytic converter. The other device is the muffler, which reduces engine noise. If your engine is not running loudly and only one device is present, it is possible the catalytic converter has been removed.

Other devices, such as the air pump, exhaust gas recirculation (EGR) valve and thermostatic air cleaner also help reduce

emissions by promoting a cleaner, more complete combustion (see chart on next page).

The vehicle's emission control equipment label, usually found under the hood, can also tell you the pollution control equipment that your vehicle should have.

How to avoid buying a tampered vehicle

You should always check that all pollution controls are intact before you purchase a vehicle.

Check the front of the vehicle title to see if the owner has completed the information in the section entitled "Assignment by seller or transferor". This disclosure means that the owner believes all the vehicle's pollution control equipment is present and working properly.

This information, however, should not be a car buyer's only means of determining that emission controls are intact. Whenever possible, the vehicle should be checked by an automotive technician who can make sure the proper control equipment is in place and operating.

If you discover a vehicle has faulty or missing emission equipment before the sale, you can request that the seller repair or replace the equipment before making the purchase.



What to do if you have already purchased a tampered vehicle

If you have already purchased a vehicle missing emission controls, you should follow these guidelines:

1. Document the events that have occurred since you bought the vehicle. This will be useful for future reference and/or litigation.
2. Do not repair the vehicle, since this may only complicate the issue. The previous owner may be willing to resolve the issue, but could become hesitant if you present a repair bill for work that the seller could have had done at a lower cost.
3. Have a qualified automotive technician make a complete, itemized list of missing or altered emission-control devices.
4. Decide whether you want to return the vehicle and receive all or most of your money back (it is between you and the previous owner to decide if time in possession and miles driven should be a factor) or keep the vehicle and have the previous owner “make

good” on the repairs at no cost to you. *Keep in mind that even vehicles purchased without warranties (“as is”) must still comply with the federal and state tampering laws.*

5. If an agreement cannot be reached, write a letter to the previous owner that briefly describes the situation, set a date by which you want a response and mail your letter with a certified return receipt. You may want to inform the seller of the action you will take if he or she refuses to cooperate.
6. If you wish to pursue legal action, decide whether you will file a complaint in a Small Claims Court or an upper level court. For information on how to file a complaint, contact your county court offices. *Keep in mind, however, that the MPCA can not take legal action on behalf of either party.*

Where to call

If you know of an automobile repair shop or dealership that has tampered with vehicles or sold a tampered vehicle, call the MPCA Air Quality complaint line at (651) 296-7300, or toll-free/TDD at (800) 657-3864.

A summary of some emission control systems and their basic principle of operation		
EMISSION CONTROL SYSTEM	POLLUTANT CONTROLLED	PRINCIPLE OF OPERATION
Positive Crankcase Ventilation (PCV)	Hydrocarbons (HC)	HC gases that are forced past the piston rings are recirculated back into the engine's combustion chamber.
Thermostatic Air Cleaner (TAC)	Hydrocarbons (HC) Carbon monoxide (CO)	Air cleaner (snorkel) door automatically mixes hot air from around exhaust manifold with cooler (under hood) air.
Air Injection Reaction (AIR)	Hydrocarbons (HC) Carbon monoxide (CO) (After combustion)	Air is injected into the exhaust system to promote further burning of CO and HC emissions as they leave the cylinder.
Fuel Evaporation Control (FEC)	Hydrocarbons (HC) (Evaporation from tank and carburetor)	Fuel vapors evaporating from the tank and carburetor are stored in a canister to be later purged and circulated back into the engine to be burned.
Catalytic Converter (oxidizing) (CAT)	Hydrocarbons (HC) Carbon monoxide (CO)	Exhaust gases containing CO and HC pass over a catalytic agent and continue to burn (oxidize), reducing the amount of emissions.
Exhaust Gas Recirculation (EGR)	Nitrogen oxides (NOx) (Formed in combustion chamber)	A precisely controlled amount of exhaust gas is reintroduced into the engine's combustion chamber where it dilutes the mixture and lowers the peak combustion temperature.

Information in this chart was provided by Colorado State University.