

Emission Controls

Sources of Emissions

The combustion process produces carbon monoxide, oxides of nitrogen and hydrocarbons. The evaporation of fuel in the fuel tank also produces hydrocarbons. Control of oxides of nitrogen and hydrocarbons is very important since, under certain conditions, when subjected to sunlight, they react to form photochemical smog. Carbon monoxide does not react to form smog, but it is toxic.

Honda Motor Co., Ltd. has developed a number of systems which are highly effective in reducing carbon monoxide, oxides of nitrogen and hydrocarbons.

The Clean Air Act

The Clean Air Act requires all vehicle manufacturers to explain in writing, the operation and maintenance of their emission control systems.

Maintenance instructions are included on pages [52—57](#); the operation of each system is explained on the following pages.

Replacement Parts

The emission control systems on your new Honda were designed, built and certified to conform with the Federal regulations implementing the Clean Air Act. Honda recommends only the use of new, genuine Honda parts or their equivalent. The use of other replacement parts which are not of equivalent quality may impair the effectiveness of your car's emission control systems.

Crankcase Emission Control System

To prevent crankcase emissions, your car is equipped with a Positive Crankcase Ventilation (PCV) System which routes blowby gases from the crankcase, through the PCV valve and intake manifold, into the combustion chamber.

Evaporative Emission Control System

The Evaporative Emission Control System is designed to prevent fuel vapors from escaping into the atmosphere.

Fuel vapors from the fuel tank are directed into the charcoal canister where they are adsorbed and stored while the engine is stopped or idling. When the coolant temperature rises to a certain value, the vapors are drawn into the engine through the throttle body and the intake manifold during normal engine operation.

Engine Exhaust Emission Controls

The engine exhaust emission control systems are designed to control combustion during idle, acceleration, cruise, and deceleration. These systems are entirely separate from the crankcase and evaporative emission control systems described previously.

- **HONDA PGM-FI System**

The PGM-FI system consists of three independent sub-systems; Air Intake, Electronic Control and Fuel Control, thus allowing more accurate control of air/fuel ratios under all operating conditions. The Electronic Control Unit (ECU) detects the amount of air drawn into the cylinders and determines the amount of fuel to be injected to provide the optimum air/fuel ratio for all engine needs.

- **Ignition Timing Control System**

This system automatically controls the ignition timing to reduce the amount of HC and NO_x.

- **Exhaust Gas Recirculation (EGR)**
(HF and California automatic models only)

The EGR system is designed to control the formation of oxides of nitrogen (NO_x) caused when fuel mixture burns at high temperature. It works by recirculating exhaust gas through the EGR valve and intake manifold into the combustion chambers where it reduces peak temperature by diluting the air/fuel mixture.

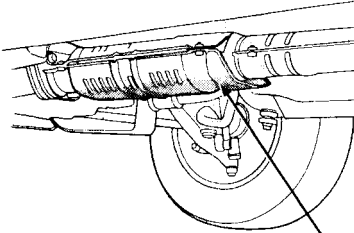
- **Catalytic Converter**
Three Way Catalyst

The catalyst is used to convert hydrocarbons (HC), carbon monoxide (CO) and oxides of nitrogen (NO_x) in the exhaust gas, to carbon dioxide (CO₂), dinitrogen (N₂) and water vapor.

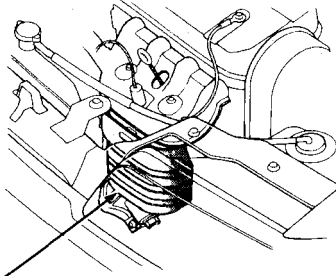
Catalytic Converter

A catalytic converter is installed in the exhaust system to help clean-up the exhaust gases that can cause air pollution.

(CRX, Si)



(HF)



CATALYTIC CONVERTER

To be effective, the converter must work at high temperature, so don't park your car over dry grass, leaves or anything else that could burn easily.

To stay effective, the converter must not be contaminated by leaded gasoline, use only unleaded gas as explained on page [38](#).

CAUTION:

The converter can be overheated and damaged if it's fed too much unburned fuel mixture from the engine, so:

- Don't push or tow the car to start it; if the battery is dead, jump start the car as shown on page [91](#).
- Don't turn the key off while the engine is running above idle speed.
- Don't change the ignition timing, or remove any emission control parts.
- Use only the spark plugs specified in this manual.
- Don't keep driving your car if it isn't running properly, or if its CHARGE warning light comes on; have it checked by your Honda dealer.