

Condition	Possible Cause	Correction
		after starting, the EGR time delay system is defective.
		(2) Check hose connections to the time delay solenoid valve and timer.
		(3) If OK, disconnect the electrical plug from the solenoid valve.
		(4) Energize the solenoid valve by grounding either terminal and connecting the other terminal to the positive battery post.
		(5) Disconnect and reconnect hose to EGR valve. If the EGR valve stem moves on the system test, the solenoid valve is defective and should be replaced.
		(6) If the EGR valve does not move, the time delay module should be tested.

AIR INJECTION SYSTEM

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GENERAL INFORMATION

An exhaust port air injection system is used on all California vehicles to reduce carbon monoxide and hydrocarbons to required levels. The system adds a controlled amount of air to exhaust gases in the exhaust ports, causing oxidation of the gases and reduction of an appreciable amount of the carbon monoxide and hydrocarbons in the exhaust stream.

A new feature called air switching has been added to the air injection systems of 225, 318 & 360 CID engines so that the air injection will not interfere with the ability of the EGR system to control NOx emissions. Air is injected at the exhaust ports for a short time during engine warmup, which also assists the oxidation process in the mini-catalyst, and then the air flow is switched to a point downstream where it will still assist the oxidation process in the main catalyst, but not interfere with exhaust gas recirculation (EGR). The downstream location is in the exhaust pipe just behind the mini-catalyst on six-cylinder engines and at the base of the right exhaust manifold, above the power heat control valve, on the 318 & 360 CID engines. Switching control is by the CCEVS switch

that actuates the idle enrichment valve and the power heat valve.

The air injection system consists of a belt-driven air pump, a combination diverter-pressure relief valve, a switching valve, rubber hoses, check valves to protect the hoses and other components from heat gases, and injection tubes. Location of the exterior mounted components is shown in (Figs. 1, 6, 7 and 8).

AIR INJECTION PUMP

The belt driven air pump is mounted on the front of the engine with power take-off at the crankshaft pulley. Intake air passes through a centrifugal fan at the front of the pump, where foreign materials are separated from the air by centrifugal force. Air is delivered to the air injection manifold and check valve tube assembly by a rubber hose through the diverter valve and switching valve. Hoses are secured to all fittings by clamps.

The air injection system is not completely noiseless. Under normal conditions, noise rises in pitch as engine speed increases. To determine if excessive noise