

BRITISH LEYLAND AIR INJECTION SYSTEM

Jaguar XJ6 (Federal Only)

DESCRIPTION

Air injection is used during warm-up to improve catalytic converter performance and reduce emissions. The engine is equipped with fuel injection with feedback system (oxygen sensor), so air injection cannot be used while oxygen sensor is operating. System includes a thermal switch, check valve, air injection switching module, air switching valve and air pump.

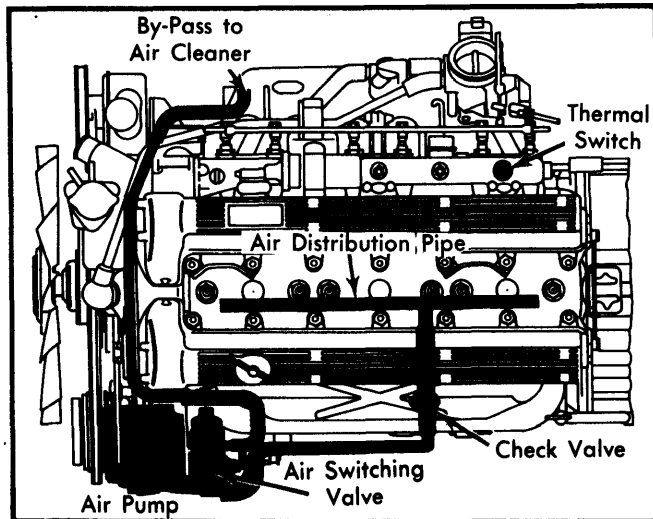


Fig. 1 Jaguar Air Injection System

OPERATION

A thermal switch supplies current to the switching module when engine coolant is below 104-122° F (40-50° C). The module

controls 3 items. It stops canister purging, blocks oxygen sensor feedback operation, and controls air switching valve to supply air to exhaust ports.

When engine coolant is above the thermal switch temperature, contacts open and no power is supplied to switching module. Air injection stops; canister purge and oxygen sensor operation begin.

The air switching valve is located at the rear of the air pump. A solenoid in the valve controls vacuum which positions the valve to allow air injection or by-pass to the air cleaner.

TESTING

- 1) Warm engine to operating temperature and allow to idle. Disconnect air by-pass hose at air cleaner. Air should be coming out with engine warm. If not, check air pump and switching valve wiring.
- 2) Disconnect electrical wiring at thermal switch and connect leads together. Air should stop at by-pass hose. If not, check wiring and switching valve operation.
- 3) Connect CO meter to both exhaust manifold check ports. With no air injection and engine warm, CO level should be 0.1-0.3%. Disconnect thermal switch leads and connect them together. Mixture should stabilize at 0.1-0.3%. If not, check vacuum to switching valve.
- 4) Disconnect air switching module connector. CO level should rise to 0.4-0.6%. Reconnect thermal switch and air switching module; CO level should return to normal. If system does not operate as describe, replace air switching module.