BRITISH LEYLAND CARBURETED MODELS
EXHAUST GAS RECIRCULATION (EGR) SYSTEM

MGB
Spitfire
TR7
TR8

DESCRIPTION

The Exhaust Gas Recirculation (EGR) system is designed to reduce the formation of oxides of nitrogen (NOx). This is accomplished by recirculating a metered amount of exhaust gases back into the intake manifold to lower combustion temperatures, thereby reducing NOx emissions. The system consists of an EGR control valve, various connecting hoses and pipes and a fuel trap to prevent fuel from entering the EGR valve.

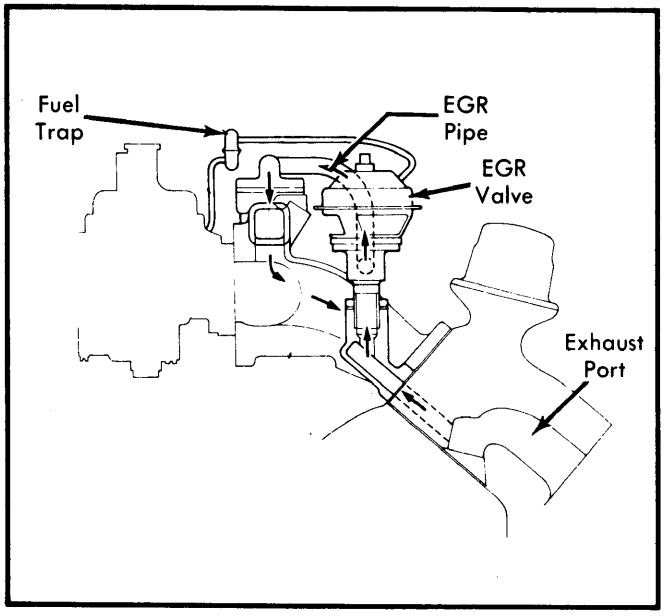

Fig. 1 Triumph TR7 Exhaust Gas Recirculation (MGB and Spitfire Similar)

OPERATION

The EGR valve, mounted on the exhaust manifold, controls the flow of exhaust gases from the exhaust manifold to the intake manifold. The vacuum signal which controls the EGR valve is taken from a throttle edge tapping which gives no recirculation at idle speed or at full throttle, but gives a varying amount of recirculation between these two extremes depending on vacuum signal and metering profile of the valve. A fuel trap is installed in the vacuum line to the EGR valve to prevent liquid fuel from entering the valve.

TESTING

1) Check condition of all lines and connections. Start engine and run until normal operating temperature is reached.

2) While watching EGR valve, open and close throttle several times. The EGR valve should open and close with RPM change, and close immediately when throttle is closed.

3) Using a hand operated vacuum pump, apply vacuum to EGR valve. Valve diaphragm must retain vacuum when open. If not, clean or replace EGR valve as necessary.

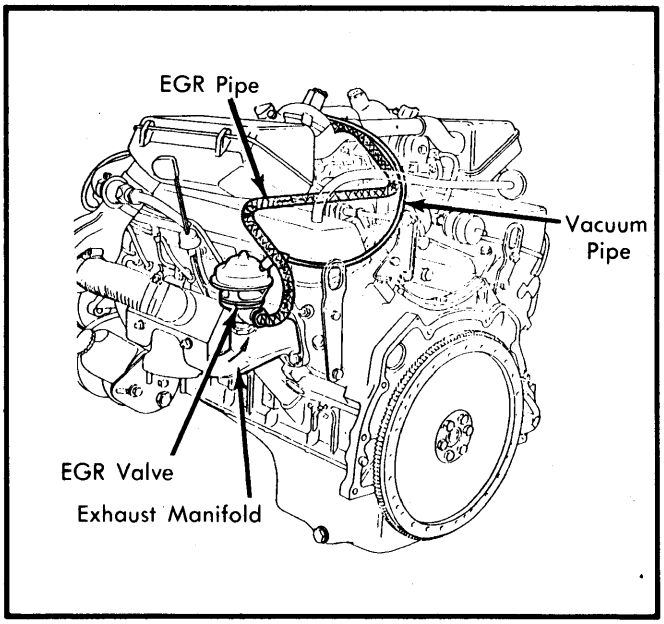

Fig. 2 Triumph TR8 Exhaust Gas Recirculation

MAINTENANCE

1) Remove EGR valve and clean base of valve with a wire brush. Using a spark plug cleaner, clean valve seat and metering valve by holding the diaphragm upward. Blast valve at 30 second intervals until clean.

2) Remove all traces of carbon and cleaning compound (from spark plug cleaner) using compressed air. Inspect ports in manifold for carbon build-up. Light deposits are acceptable. If heavy deposits have accumulated, the manifold must be removed for cleaning.

3) Install EGR valve and bring engine to normal operating temperature. Repeat EGR test as previously described.