1974-79 EXHAUST EMISSION SYSTEMS
Renault Exhaust Gas Recirculation

All Models

DESCRIPTION

The exhaust gas recirculation system is designed to control formation of NOx emissions. This is done by reintroducing some exhaust gas back into the combustion chamber. The exhaust gases are lower in temperature than the combustion flame. By reducing combustion chamber temperatures, NOx formation is reduced.

Systems consist basically of an EGR valve, EGR solenoid, thermal switch, electric vacuum switch, transmission switch, vacuum (amplifier) control valve, and EGR maintenance indicator. When 4th gear is selected, the transmission switch activates the EGR solenoid which shuts off vacuum flow and stops EGR operation.

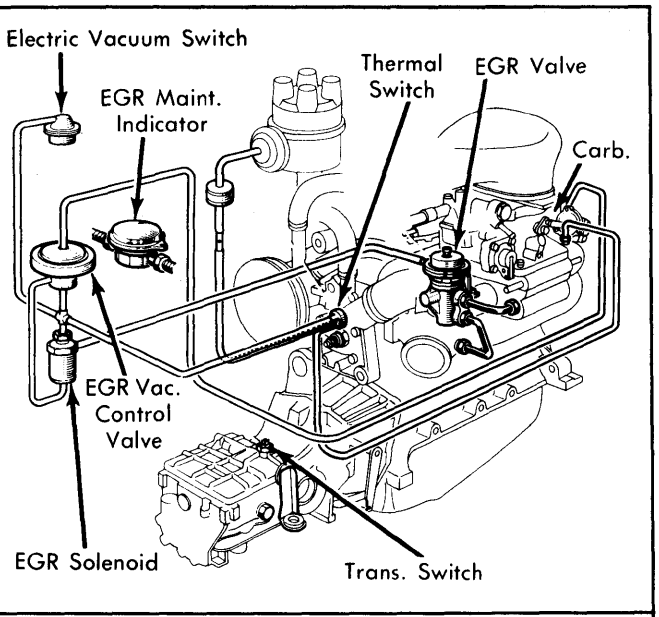

Fig. 1: Typical EGR System

OPERATION

1974-76 Models - When coolant temperature is below 113°F (45°C), coolant thermal switch is closed allowing EGR solenoid valve to be energized. When solenoid is energized, it does not permit vacuum to reach EGR valve and allows pressure from air pump to act upon valve. This causes the EGR valve to close and no exhaust gas recirculation will take place.

As engine warms up, thermal switch opens and de-energizes solenoid valve. This will allow exhaust gas recirculation to take place if throttle is between idle and wide open throttle position.

1977-79 LeCar, R-5 & R-12 - Vacuum is taken from venturi in first barrel of carburetor and sent to vacuum control valve. This valve opens and applies a controlled amount of intake manifold vacuum to the EGR valve. This opens the EGR valve and allows exhaust gas flow.

The intake manifold vacuum route goes through the thermal switch. If coolant temperature is below 113°F (45°C), no intake manifold vacuum will be applied to the EGR valve. Above this temperature the thermal switch is open and vacuum can flow.

1977-78 R-17G & Gordini - When electric current is fed from throttle plate switch, through relay and the EGR solenoid, the solenoid opens to allow manifold vacuum to reach EGR valve. A vacuum reservoir maintains a constant supply of vacuum to EGR under varying engine operating conditions.

As thermal switch also controls vacuum flow. When engine is cold, the switch is closed and no vacuum reaches the EGR valve. Above 113°F (45°C), the switch is open. When 5th gear is selected, the transmission switch deactivates the relay, which in turn, deactivates the EGR solenoid. The solenoid closes and no exhaust gas recirculation takes place.

TESTING

EGR SYSTEM

1974 Models - 1) On models without throttle (micro) switch, check EGR system with engine idling at normal operating temperature. With choke pushed fully in, apply vacuum to EGR valve. Engine should run rough at idle.

2) On models with throttle (micro) switch, check EGR system with engine idling at normal operating temperature. Move micro switch actuating blade away from control cam to cut current to EGR solenoid valve. Engine should run erratically.

EGR THROTTLE SWITCH

1975 Models - Insert a .125-.156" (3-4 mm) feeler gauge under throttle opening screw. Switch should not feed current to EGR solenoid valve. Adjust if necessary. With engine idle in at normal operating temperature, press switch contacts to cut current to solenoid valve. Engine should run erratically.

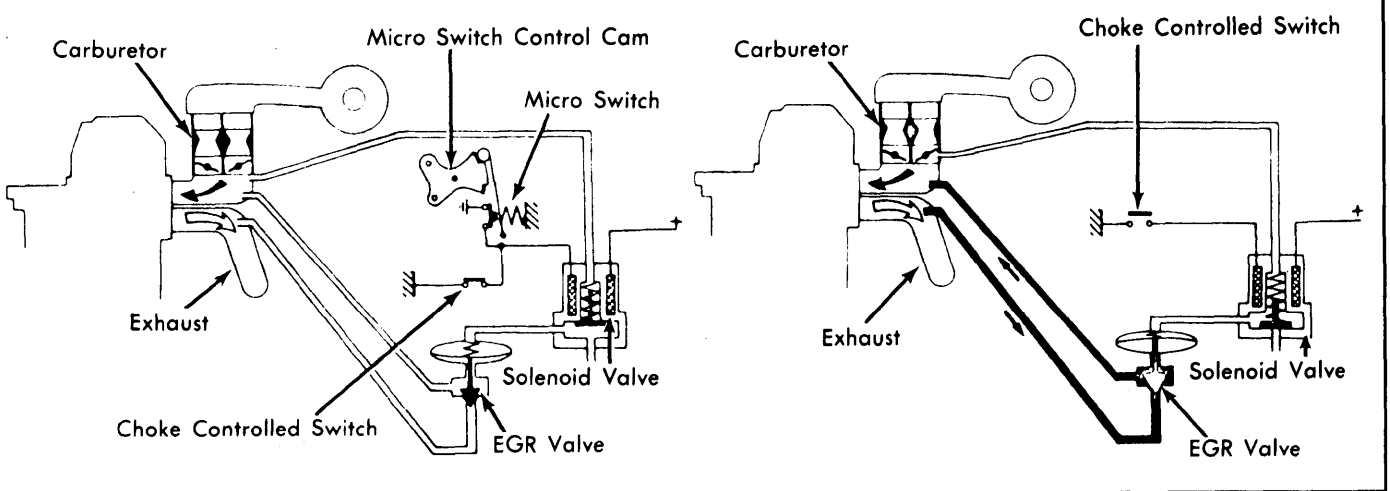

Fig. 2: 1974 EGR System Wiring/Vacuum Schematics

1974-79 EXHAUST EMISSION SYSTEMS
Renault Exhaust Gas Recirculation (Cont.)

MAINTENANCE

EGR MAINTENANCE LIGHT RESET

1) System must be cleaned and checked every 25,000 miles. At this interval the EGR maintenance warning indicator light will come on (located on instrument cluster).
2) After servicing system, maintenance button must be reset. On R-5, the maintenance switch is located on the air filter bracket. On R-17G and Gordini, switch is located on left side of engine compartment.
3) Remove safety wire from cover and lift cover off switch. Turn reset button 1/4 turn counterclockwise (toward "O" mark). *See Fig. 3*. The EGR warning light should be off and switch reset for next 25,000 mile cycle. Replace cover and attach new safety wire.

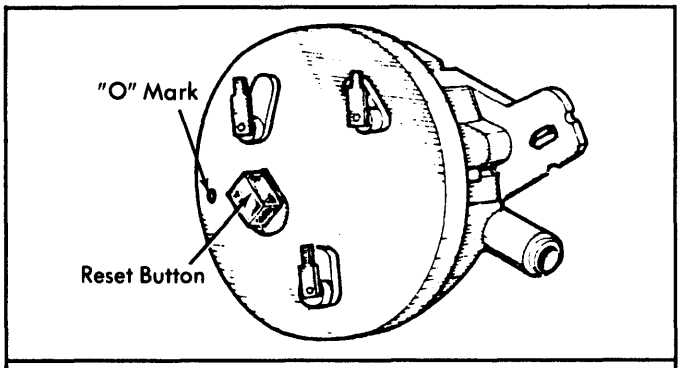

Fig. 3: EGR Maintenance Switch