

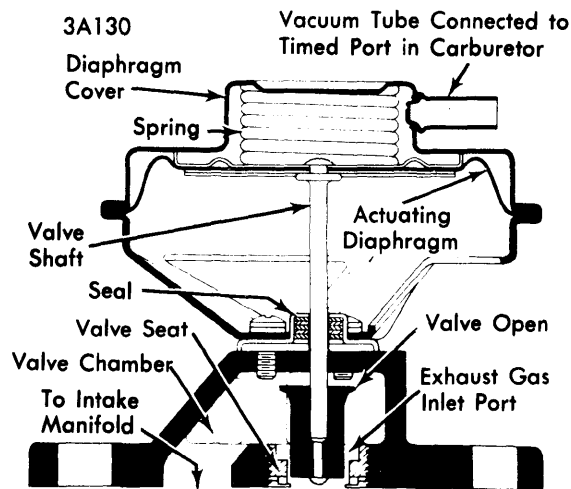
## 1972-74 GENERAL MOTORS EXHAUST GAS RECIRCULATION (EGR) SYSTEM

### DESCRIPTION

The Exhaust Gas Recirculation (EGR) system used in General Motors vehicles is designed to reduce emission of oxides of nitrogen (NO<sub>x</sub>). This is accomplished by lowering combustion temperatures of burning gases. Recirculated, metered exhaust gases are reintroduced to engine through intake manifold where they are mixed with fresh air intake. System consists of an EGR valve, EGR valve temperature switch (some models) and vacuum hose connections.

### OPERATION

EGR valve, mounted on rear of intake manifold (V-8) or on manifold under carburetor (6 cylinder), has vacuum diaphragm connected to signal port on side of carb. Signal port is exposed to manifold vacuum during off-idle and partial-throttle operations. No recirculation of gases takes place at idle or wide open throttle (such as heavy acceleration). As throttle valves open, vacuum is applied to EGR valve diaphragm. At 2"-7" Hg, diaphragm moves up to open valve in exhaust gas port. This port meters exhaust gas to intake manifold. At low temperatures EGR is delayed by a bi-metal temperature switch (some models), located in line between EGR valve and carburetor.



EGR VALVE OPEN - SECTIONAL VIEW

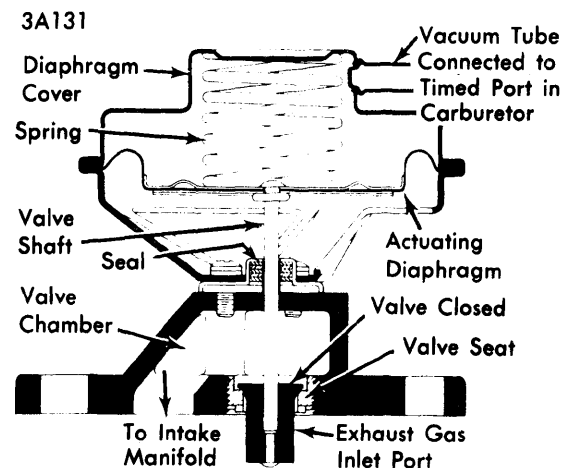
*NOTE* - EGR system on General Motors vehicles is tied in with other emission control systems. For additional information, see "General Motors Controlled Combustion System" in this section.

### MAINTENANCE & TESTING

*NOTE* - Entire EGR system should be checked for proper operation at 12 month or 12,000 mile intervals.

EGR valve cannot be disassembled and no actual service is required; however, operation of EGR valve should be checked periodically for obstructions. Check for proper movement by opening throttle to just above idle range (1200-1500 RPM). Valve shaft should move up to open position and lower when RPM is reduced to idle. Outside vacuum can also be applied to vacuum supply tube at top of vacuum diaphragm. Diaphragm should not leak down. It should move up between 8"-10" of applied vacuum. If valve does not meet test, replace it.

*NOTE* - Specific engines require specific EGR valves. Do not interchange.



EGR VALVE CLOSED - SECTIONAL VIEW