

## JEEP SYSTEMS & SERVICE PROCEDURES

### DESCRIPTION

Several systems are used to control emission of pollutants. System usage depends on model, engine, and transmission combinations. Each system is designed to control a particular vehicle emission. In addition, specially calibrated carburetors, distributors and modified combustion chambers are used with these systems.

**Thermostatic Air Cleaner** — The TAC assembly is used to keep the incoming air in the carburetor at a stable temperature which is able to promote complete combustion (resulting in fewer emissions). The system consists of a heat shroud at the exhaust manifold, a hot air hose, an air cleaner assembly with a thermal sensor, an air door, a vacuum motor and a delay valve on all models. *For additional information, see "Jeep Thermostatic Air Cleaners" in this section.*

**Air Injection** — Air injection system consists of an air pump, diverter valve, check valve, and various air distribution lines necessary to inject fresh air adjacent to exhaust valves. Injection of fresh air adjacent to exhaust valves creates an after-burn which further consumes unburned material in engine's exhaust. *For additional information, see "Air Injection Systems—Air Pump Type" in this section.*

**EGR** — Exhaust gas recirculation system uses a vacuum operated EGR valve to introduce metered amounts of exhaust gas into engine's combustion chambers. This introduction of inert exhaust gas lowers peak combustion temperatures and thus lowers NOx formations.

**C-4 Computer Emission System** — Used on 4 cylinder California CJ models, this system reduces exhaust emissions by maintaining an optimum air/fuel mixture in the carburetor. System consists of an Electronic Control Module, an oxygen sensor in the exhaust manifold, a mixture control solenoid, 4 sensors to monitor engine conditions and a 3-way catalytic converter. *For additional information, see "Jeep C-4 Emission Systems" in this section.*

**Spark Control Systems** — Jeep spark control systems are designed to control vacuum spark advance operation. Two systems are used: Coolant Temperature Override (CTO) and Non-Linear Vacuum Regulator (NLVR). The CTO system improves driveability by alternating vacuum advance source between manifold vacuum and carburetor ported vacuum, depending upon temperature. The NLVR system supplies vacuum advance unit with a regulated combination of

manifold and carburetor ported vacuum when engine load is low and switches to supply only carburetor ported vacuum as load increases. In addition, a forward delay valve, a reverse delay valve, a thermal vacuum spark control valve and a vacuum spark control delay valve are used with various applications. *For additional information, see "Jeep Spark Control Systems" in this section.*

**Catalytic Converter** — The converter is installed in the vehicle's exhaust system to aid in the reduction of exhaust emissions. This unit changes unburned hydrocarbons (HC) and carbon monoxide (CO) into water vapor and carbon dioxide. *For additional information, see "Catalytic Converters" in this section.*

**Positive Crankcase Ventilation** — Positive crankcase ventilation system is used to control crankcase blow-by gases. This system takes blow-by gases from crankcase and recirculates them back into combustion chamber for reburning. Key device in PCV system is vacuum-controlled PCV valve. *For additional information, see CRANKCASE VENTILATION Section.*

**Evaporative Emission Control** — All models use this closed tank (sealed) system, which retains raw fuel vapors and routes them to intake manifold for burning. A carbon canister stores vapors until they are burned. *For additional information, see appropriate article in FUEL EVAPORATION Section.*

## SERVICE PROCEDURES

### IGNITION TIMING

*See appropriate article in TUNE-UP SERVICE PROCEDURES.*

### CARBURETION

#### Carburetor Models

Application	Models
151" 4-Cyl. ....	Rochester 2SE & E2SE
258" 6-Cyl. ....	Carter BBD
304" V8 .....	Motorcraft 2100
360" V8 .....	Motorcraft 2150

### IDLE SPEED & MIXTURE

*See appropriate article in TUNE-UP SERVICE PROCEDURES.*