1969-74 AMERICAN MOTORS & JEEP THERMOSTATIC AIR CLEANER

DESCRIPTION

Thermostatic Controlled Air Cleaner – Used on 1969-71 American Motors V8 and on 1972-74 American Motors and Jeep 6 cylinder engines. System consists of a two-piece heat shroud positioned over exhaust manifold, a hot air hose and an air duct and valve assembly which is attached to air cleaner by two cap screws. Air duct assembly incorporates an air valve, a thermostat unit and two springs.

Thermostatic & Vacuum Controlled Air Cleaner – Used on 1972-74 American Motors & Jeep V8 engines. System consists of a heat shroud which is integral with right side exhaust manifold, a hot air hose and a special air cleaner assembly equipped with a thermal sensor, vacuum motor and air valve assembly. Thermal sensor incorporates an air bleed valve which regulates amount of vacuum applied to vacuum motor, thereby controlling air valve position.

OPERATION

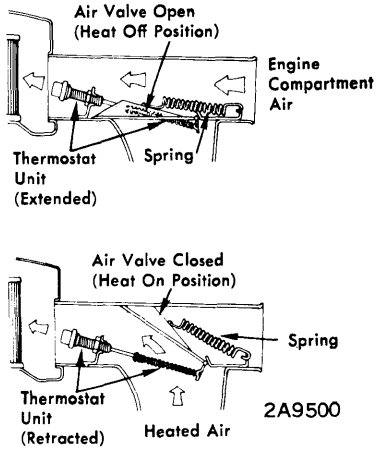
Thermostatic Controlled Air Cleaner – Thermostat unit in air duct is exposed to incoming air. Spring loaded air valve is connected to thermostat unit through linkage. Air valve spring holds valve in closed position (heat on) until thermostat unit overcomes spring tension. When air temperature entering air duct is less than 105°F, thermostat is in retracted position and air valve is held in closed position (heat on) by air valve spring. Air is then drawn from shroud at exhaust manifold. As temperature of air passing thermostat unit rises, thermostat starts to open and pulls air valve down. This allows cooler air from engine compartment to enter air cleaner. When temperature of air reaches 130°F, air valve is in open position (heat off) and only engine compartment air is allowed to enter air cleaner.

Thermostatic & Vacuum Controlled Air Cleaner – During warm-up period when underhood air temperatures are low, air bleed valve is closed and sufficient vacuum is applied to vacuum motor to hold air valve in closed (heat on) position. As intake air temperature approaches 115°F, air bleed valve opens to decrease amount of vacuum applied to vacuum motor. Diaphragm spring in vacuum motor then moves air valve into open (heat off) position, allowing only underhood air to enter air cleaner. Air valve in air cleaner snorkel will also open, regardless of air temperature, during heavy acceleration to obtain maximum air flow through air cleaner.

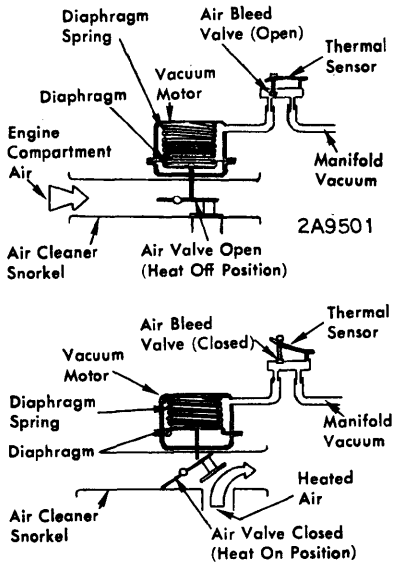
TESTING

Thermostatic Controlled Air Cleaner – Remove air duct and valve assembly from air cleaner and place it in a container of cold water making certain thermostat unit is covered by water. Place a thermometer in water and observe temperature while heating water slowly. With water temperature at 105°F or less, air valve must be in closed (heat on) position. Heat water until temperature reaches 130°F. Air valve must be in fully open (heat off) position. If air valve does not open and close as specified, check valve mechanism for a binding condition or a disconnected or defective spring. If valve mechanism is in satisfactory condition, thermostat unit is defective and air valve and duct assembly must be replaced.

Thermostatic & Vacuum Controlled Air Cleaner – Remove air cleaner assembly from engine and allow it to cool for 15 minutes at room temperature. After cooling, look through air cleaner snorkel to observe position of air valve, it should be fully open to outside air. Reinstall air cleaner and connect hot air tube and manifold vacuum hose. Start engine and observe position of air valve. It should be fully closed to outside air. Move throttle lever rapidly to approximately 1/2 to 3/4 opening and then release it. Air valve should open and then close. Allow engine to warm up to operating temperature and observe position of air valve. It should be fully open to outside air. If air valve does not close at room temperature with vacuum applied, check for mechanical bind in snorkel, vacuum motor linkage disconnected or vacuum leaks in hoses or connections at vacuum motor, thermal sensor and intake manifold. If air valve mechanism is operating freely and no vacuum leaks are detected, connect a hose from a vacuum source directly to vacuum motor. If air valve closes, thermal sensor is defective and must be replaced. If air valve does not close, vacuum motor is defective and must be replaced.



THERMOSTATIC CONTROLLED AIR CLEANER



THERMOSTATIC & VACUUM CONTROLLED AIR CLEANER