COLT ENGINE MODIFICATION

Dodge Colt (1971-73)

DESCRIPTION

Exhaust emission control is accomplished by a thermostatic air cleaner, specially designed carburetor, throttle positioner, fuel cutoff solenoid and engine modifications.

Thermostatic Air Cleaner – Unit is temperature controlled type and supplies heated air to engine at a temperature of 95-104°F. Air cleaner consists of a temperature sensor, vacuum motor, manifold air heating stove, hot air duct, and the air cleaner housing which is equipped with a mixing door.

Carburetor – A two barrel Solex 28-32 DIDTA carburetor is used on all models. To reduce emissions this carburetor is equipped with a device to shorten duration of choke operation during warm up. In addition, this carburetor is equipped with a solenoid valve to prevent engine run-on when ignition is turned off. *For additional information see Solex Carburetors in CARBURETION Section.*

Throttle Positioner (Except 1973) – System includes a throttle positioner and solenoid valve, a solid state governor switch, a transmission switch and a clutch switch.

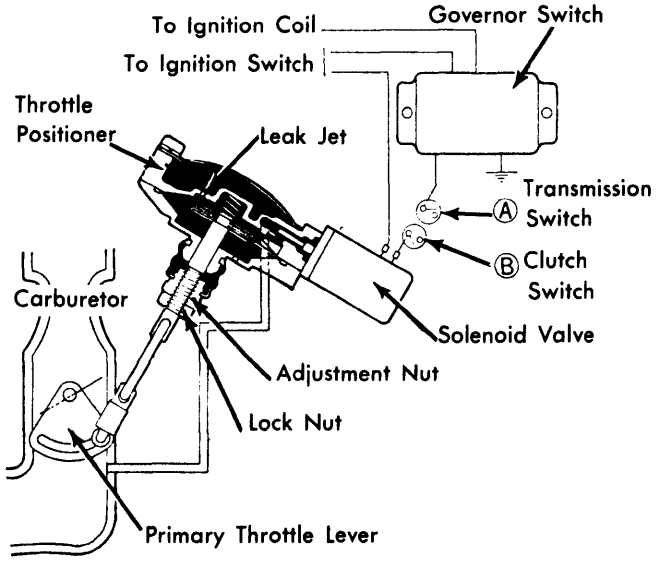
Fuel Cutoff – Purpose is to stop fuel flow through carburetor when ignition switch is turned off. System consists of a solenoid valve incorporated into slow idle circuit of carburetor.

OPERATION

Thermostatic Air Cleaner – When air temperature is low, sensor valve at bottom of air cleaner body is in closed position. This allows a great deal of vacuum to be applied to vacuum motor and mixing door is fully opened. This admits heated air to the system. When air temperature increases, sensor valve opens and reduces vacuum applied to vacuum motor. This in turn causes mixing door to admit cool air. When manifold vacuum is greater than 3.94 in Hg and exhaust manifold is heated, warm air is drawn into engine.

Throttle Positioner (Except 1973) – When engine speed of over 1600 RPM is detected by governor switch, it supplies current to solenoid of throttle positioner. This opens a valve and allows intake manifold vacuum to diaphragm of throttle positioner. This causes throttle valve to be held at 1350-1450 PM (1400-1450 RPM for 1972) at no load. When engine RPM decreases below 1600 RPM governor switch closes solenoid valve cutting off vacuum. A leak jet in throttle positioner allows throttle valve to gradually close as pressure inside chamber approaches atmospheric pressure.

Fuel Cutoff – When ignition is turned on, solenoid is energized and allows fuel to flow into carburetor. When ignition switch off, solenoid is de-energized allowing spring pressure to seat needle and stop fuel flow.



THROTTLE POSITIONER COMPONENTS (EXCEPT 1973)

ADJUSTMENT

CARBURETOR

Idle Speed & Mixture – Operate engine at idle speed for more than one minute with coolant temperature between 170°F and 190°F. Adjust mixture control screw and throttle stop screw to obtain an idle speed of 800-850 RPM and CO level of 3-5%. Increase engine speed to 2500 RPM two or three times and recheck adjustment.

Ignition Timing – Using a suitable timing light, set timing to specifications by adjusting timing adjuster of distributor with a Phillips head screwdriver. Rotate towards "A" to advance timing and "R" to retard timing. One notch on adjuster equals four degrees of engine timing.

Application	Ignition Timing
All Models	TDC @ 800 RPM

THROTTLE POSITIONER (EXCEPT 1973)

With engine at operating temperature, remove air cleaner vacuum hose and plug manifold vacuum tube, adjust as follows:

1) Disconnect negative lead wire (green) from solenoid terminal and run engine speed to 2500 RPM about four times. With engine speed at 2500-3500 RPM, ground negative lead wire against carburetor to energized solenoid.

2) Release throttle lever and confirm that positioner is set for 1350-1450 RPM (1400-1450 RPM for 1972). If not correctly set, turn adjustment nut on throttle positioner.

NOTE – Do not attempt to change setting of by-pass screw. This screw is sealed with white paint.

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COLT ENGINE MODIFICATION (Cont.)

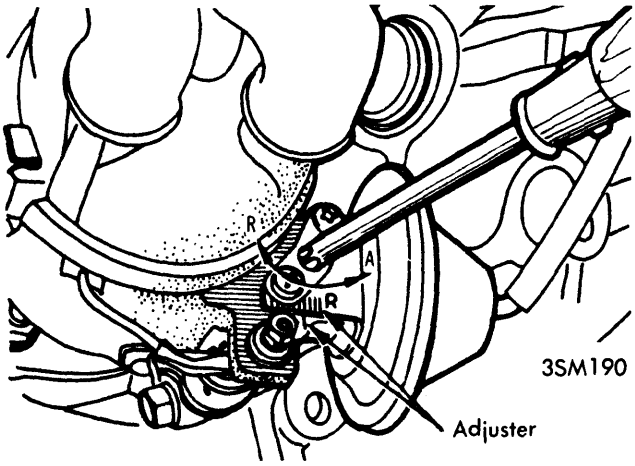
MAINTENANCE

THERMOSTATIC AIR CLEANER

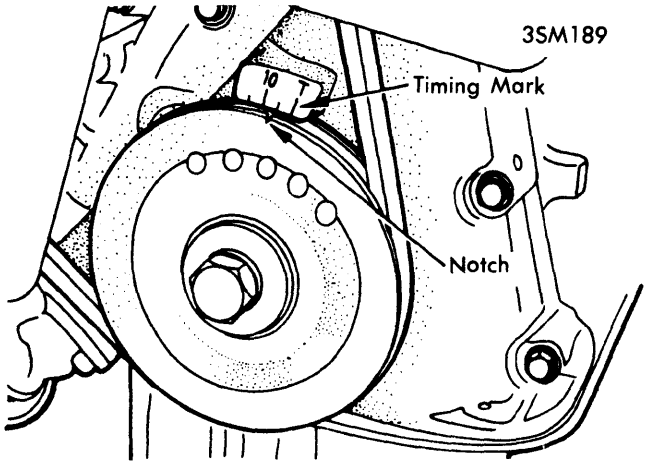
Vacuum Motor – Mixing door should close with a vacuum of 2.36-3.94 in Hg and should be open with a vacuum of 5.91-8.23 in Hg.

Temperature Sensor – Sensors have been set to a prescribed value. Check for correct temperature range of operation (95-104°F). Do not attempt to adjust the bimetal or other parts of sensors.

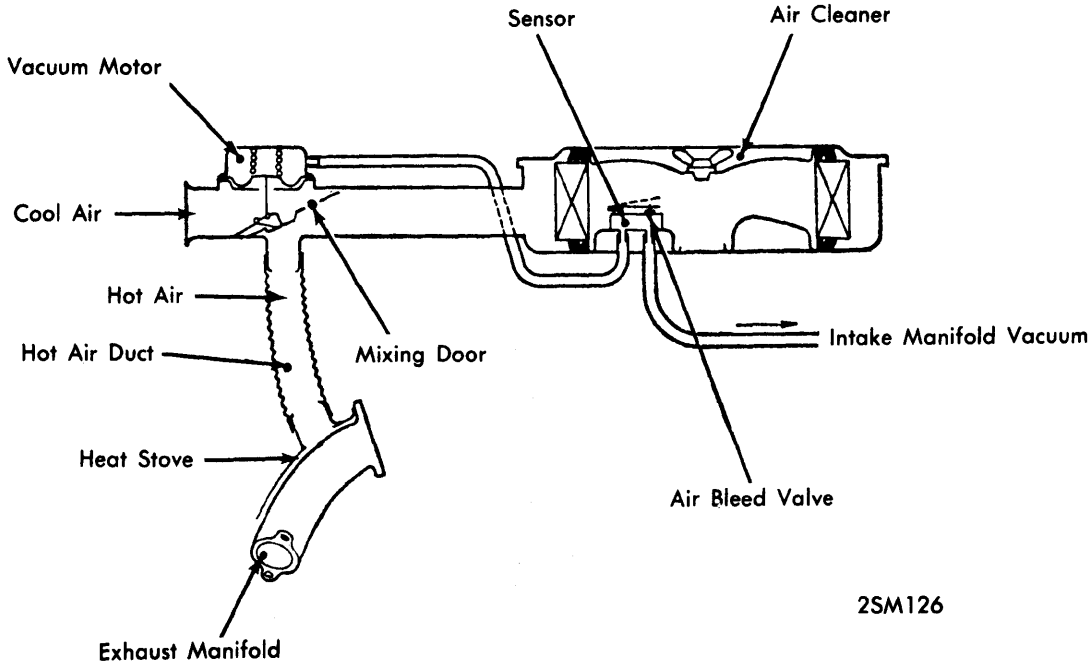
Service Intervals – Clean air cleaner housing and air filter element every 12,000 miles. Replace element every 24,000 miles. When element is reinstalled after cleaning, be sure to place oil stained area back to the blow-by gas suction port. This will keep the stained area from being enlarged.



TIMING ADJUSTER



TIMING MARKS



THERMOSTATIC AIR CLEANER

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