

TOYOTA AUTOMATIC HOT AIR INTAKE SYSTEM

Celica
Corolla
Corona
Land Cruiser
Pickup
Tercel

DESCRIPTION

All models use a thermostatic valve which controls the opening and closing of air inlet door. Corolla and Tercel models use the Hot Idle Compensator valve to operate the heated air door; all others have a separate thermal vacuum valve.

OPERATION

When intake air temperature is low, vacuum valve is closed and intake manifold vacuum will act on heated air door diaphragm. This causes diaphragm to pull up and close cool air intake. As intake air temperature rises, thermal valve opens, allowing cool air intake door to drop and unheated air into the air cleaner.

Corolla models use a check valve to ensure stable operation of the air door even when intake manifold vacuum varies. The white side of the check valve should be installed toward the air cleaner side of the vacuum line.

TESTING

1) Visually inspect all hoses for proper condition and connections.

2) With engine idling, check that cold air intake is closed when engine is cold and open above specified temperature.

3) If system does not respond properly at given temperatures, check air door or linkage for binding, and replace thermal valve as necessary.

Thermo Valve Operating Temperatures		
Application	Closing Temp. (°F)	Opening Temp. (°F)
Tercel	72	84
Corolla	86	104
Celica, Corona, Pickup	101	106
Land Cruiser	72	86

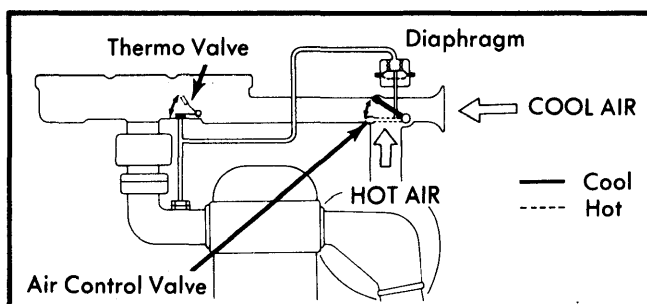


Fig. 1 Thermo-Valve Type Thermostatic Air Cleaner

TOYOTA HOT IDLE COMPENSATOR

Corolla
Tercel

DESCRIPTION

This unit is located on the air cleaner and works to supply additional air to the intake manifold when high temperature conditions exist. This helps maintain the proper air/fuel mixture under these conditions.

OPERATION

A thermo wax portion of the hot idle compensator valve (HIC) is located inside the air cleaner. This thermo wax responds to

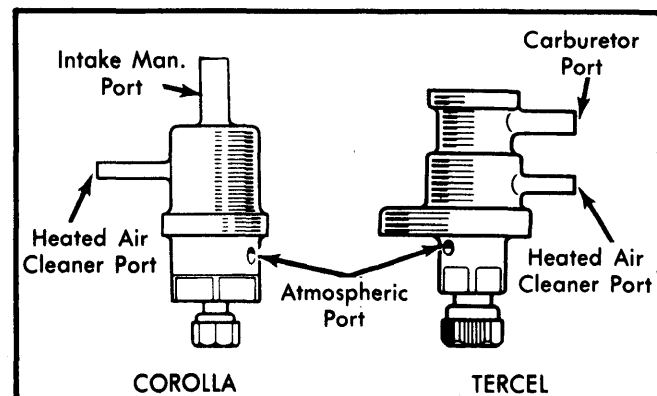


Fig. 1 Hot Idle Compensator Valves

temperature conditions. When it senses a high-heat condition, it opens to allow some air to flow directly from the air cleaner to the intake manifold.

TESTING

COROLLA

1) Remove HIC valve from air cleaner. Close intake manifold pipe with finger and blow through heated air cleaner tube. No air should come out atmosphere port below 86°F (30°C).

2) Heat valve in hot water. DO NOT allow water inside valve. Close intake manifold pipe with finger and blow through heated air cleaner tube. The valve should be open above 104°F (40°C).

3) Block heated air cleaner tube and blow through intake manifold port. A small amount of air should flow when valve is between 104-158°F (40-70°C). A large amount of air should flow when valve is above 175° (80°C).

TERCEL

1) Remove HIC valve from air cleaner. Block atmospheric port with finger and blow into heated air cleaner port. Air should come out carburetor port. Air should not pass from carburetor port to heated air cleaner port.

2) Block carburetor port and blow into heated air cleaner port. No air should escape from atmospheric port below 72°F (22°C); air should pass above 84°F (29°C).