

1974-79 EXHAUST EMISSION SYSTEMS

Toyota Thermostatic Air Cleaners

All Models

DESCRIPTION

Toyota uses 2 types of thermostatic air cleaner/automatic heated air intake systems. All engines, except Land Cruiser (2F) engine, use a vacuum type unit which is controlled by a thermo valve. The 2F engine uses a wax pellet thermostatic device to control the opening and closing of air inlet door.

OPERATION

Vacuum Type - When intake air temperature is low, thermo valve is closed and intake manifold vacuum will act on vacuum diaphragm. This will cause diaphragm to pull up on air control valve, thus, closing off cool air intake and opening hot air intake. As intake air temperature rises, thermo valve will open allowing atmospheric pressure to act on diaphragm. This will cause air valve to close off hot air source and open cool air inlet. See applicable THERMO VALVE OPERATING TEMPERATURES table.

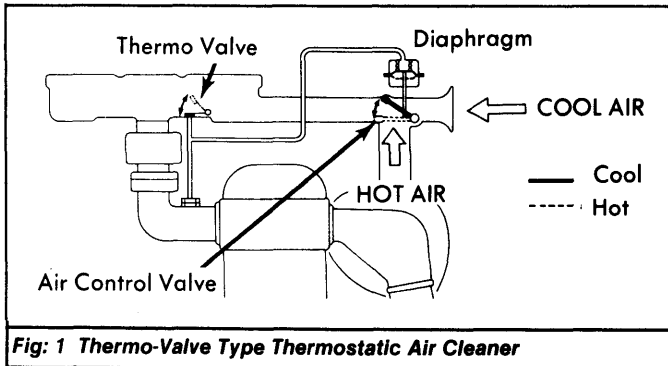


Fig: 1 Thermo-Valve Type Thermostatic Air Cleaner

Wax Pellet Type - Wax pellet contracts when cold so that link is drawn in. This opens hot air intake and closes cool air intake. As pellet heats up it expands and pushes link causing flap to open cool air inlet and close hot air inlet. Pellet contracts at about 81°F (27°C) and expands at 90°F (32°C).

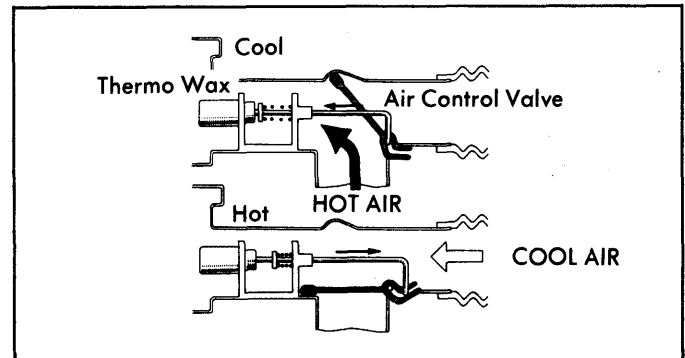


Fig: 2: Wax Pellet Type Thermostatic Air Cleaner

1975-76 THERMO VALVE OPERATING TEMPERATURES

Application	Closing Temp. °F (°C)	Opening Temp. °F (°C)
2T-C Engine	90 (32)	108 (42)
20R Engine	101 (38)	106 (41)
4M Engine	68 (20)	77 (25)

1977-78 THERMO VALVE OPERATING TEMPERATURES

Application	Closing Temp. °F (°C)	Opening Temp. °F (°C)
2T-C Engine	90 (32)	108 (42)
20R Engine	101 (38)	106 (41)
2F Engine	81 (27)	90 (32)
4M Engine	72 (22)	82 (28)

1979 THERMO VALVE OPERATING TEMPERATURES

Application	Closing Temp. °F (°C)	Opening Temp. °F (°C)
Corolla		
1200	81 (27)	91 (33)
1600	86 (30)	104 (40)
Celica, Corona,		
Pickup	101 (38)	106 (41)
Cressida	72 (22)	82 (28)
Land Cruiser	72 (22)	86 (30)

TESTING

Visually inspect all hoses for proper condition and connections. With engine idling, check that cold air intake is closed when engine is cold and open above specified temperature. If system does not respond properly at given temperatures, check wax pellet unit or thermo valve and replace as necessary.