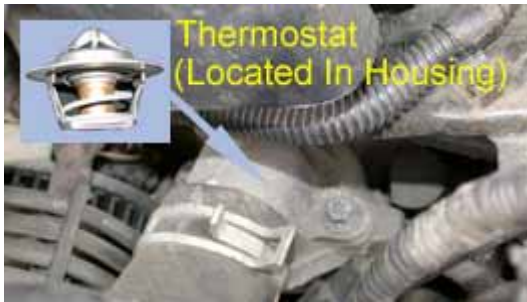


## Cooling System: Thermostat



**Description:** A typical thermostat consists of an outer body that houses a temperature-sensitive valve that opens and closes based off coolant temperature. Most thermostats operate completely off coolant temperature, but some cars use computer-controlled thermostats that are controlled by the power train control module (PCM). Most thermostats are located towards the top of the engine, in the outlet going to the radiator. In some cases, the thermostat may be mounted towards the bottom of the engine near the inlet to the engine. Thermostats have a rating in degrees that reflects the typical cooling system temperature maintained by the thermostat.

**Purpose:** The thermostat is basically the cooling system's temperature regulator. When the engine is cold, the thermostat stays closed and keeps coolant flowing within the engine itself. This helps the coolant in the engine to warm quickly. The warming coolant causes the valve in the thermostat to open slightly, allowing some of the coolant to flow to the radiator and back into the engine. As the engine continues to warm, the thermostat opens more in relation to the heat of the coolant. Under normal conditions with a fully warmed engine, the thermostat will be completely open.

**Maintenance Tips/Suggestions:** The thermostat is a critical part of the cooling system that can cause various symptoms and problems. A bad thermostat can result in low heater output, overheating, poor fuel economy, knocking or pinging when accelerating, high idle speed, an electric cooling fan that runs continuously, and low temperature gauge readings. An important footnote: a faulty thermostat can even cause your car to fail an emissions test. To determine whether your car's thermostat is operating properly, have the cooling system checked by a qualified service technician.