

Enhanced Thermostat Monitor

The enhanced thermostat monitor helps to reduce the time it takes to identify a thermostat concern. This monitor is executed once per drive cycle, during a cold start and has run duration of 300 seconds.

During a cold start, when the thermostat should be closed, the enhanced thermostat monitor uses intake air temperature, engine rpm, vehicle speed and engine load to predict the engine coolant temperature. Once the predicted temperature reaches a calibrated temperature, the actual engine cooling temperature is compared to see if it reached the same calibrated temperature. The calibrated temperature is within 11°C (20°F) below the thermostat regulating temperature. Once the engine cooling temperature exceeds the calibrated temperature after an estimated time, the engine cooling temperature is then compared to the same calibrated temperature to determine if the engine cooling temperature has warmed up enough. If the engine cooling temperature is within the calibrated temperature, the thermostat is functioning correctly. If the engine cooling temperature is too low, the thermostat may be stuck open and DTC P0128 sets.
