

MAZDA · POWERTRAIN

P1798

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1798 · Mazda

Coolant Temperature Circuit

P1798 on Mazda vehicles indicates that the powertrain control module (PCM) has detected an abnormal signal from the engine coolant temperature (ECT) circuit. The PCM expects a specific voltage range from the ECT sensor that corresponds to the actual coolant temperature, and when the signal falls outside that expected range or behaves erratically, this code is stored.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Mazda specific	Medium	Intermediate	Transmission

Symptoms you may notice

- Illumination of the check engine light on the dashboard
- Often no symptoms besides the warning light
- Poor fuel economy or rich-running condition
- Erratic or high idle speed
- Difficulty starting when the engine is cold
- Overheating or temperature gauge fluctuations

Common causes, most likely first

- 1 Faulty engine coolant temperature (ECT) sensor
- 2 Damaged or corroded ECT sensor wiring or connector
- 3 Open or short circuit in the ECT signal or ground circuit
- 4 Failed thermostat stuck open or closed
- 5 Low coolant level or air pockets in the cooling system
- 6 PCM internal fault (rare)

How to diagnose and fix it

- 1 Check coolant level and inspect for leaks or air pockets in the cooling system
- 2 Perform a visual inspection of the ECT sensor and its wiring harness for damage or corrosion
- 3 Measure the resistance of the ECT sensor with a multimeter and compare to Mazda specifications for the current temperature
- 4 Backprobe the ECT sensor connector to check for reference voltage (typically 5V) and good ground
- 5 Test the thermostat operation by monitoring coolant temperature with a scan tool during warm-up
- 6 Replace the ECT sensor if resistance is out of specification or the signal is erratic
- 7 Repair or replace damaged wiring or connectors as needed, then clear the code and verify the repair



Common Misdiagnosis Traps for P1798

- A stuck-open thermostat can cause the ECT signal to stay too low for too long, setting P1798 even when the sensor itself is good.
- Corroded terminals at the ECT sensor connector are a frequent cause on older Mazdas and can mimic a failed sensor.
- Air pockets from improper coolant bleeding can create erratic ECT readings that trigger this code intermittently.
- The code may set due to a wiring issue that only appears when the engine is hot or vibrating, so wiggle-test the harness during diagnosis.
- Replacing the ECT sensor without checking the thermostat and coolant level often leads to a repeat code.

Can I keep driving with P1798?

You can usually drive with P1798, but avoid heavy load or long trips until diagnosed because a faulty coolant temperature signal can cause poor fuel economy and overheating. If the temperature gauge shows overheating or the engine runs rough, stop and address the issue promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Infrared thermometer
- Socket set and wrenches
- Coolant refractometer or hydrometer

Reading P1798

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Mazda): its meaning depends on the make.
7	Transmission.
98	The exact fault within that area.

Often seen with

P0115 Engine Coolant Temperature Circuit Malfunction · **P0116** Engine Coolant Temperature Circuit Range/Performance · **P0117** Engine Coolant Temperature Circuit Low Input · **P0118** Engine Coolant Temperature Circuit High Input · **P0128** Coolant Thermostat (Coolant Temperature Below Thermostat Reg



See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/mazda-p1798/>

