



P1119 · Ford

Manifold Absolute Temperature Circuit High Input

P1119 on Ford vehicles indicates that the powertrain control module (PCM) has detected an abnormally high voltage signal from the manifold absolute temperature (MAT) sensor circuit, which typically corresponds to an intake air temperature reading that is out of range or an open circuit. The PCM expects the MAT sensor to produce a voltage within a specific range based on ambient and engine bay temperatures, and a high input means the sensor is reporting an unrealistically cold temperature or the circuit is broken.

SYSTEM Powertrain	CODE TYPE Ford specific	SEVERITY Low	FIX DIFFICULTY Intermediate	AREA Fuel and air metering
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Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or poor driveability when the engine is cold
- Decreased fuel economy due to incorrect air density calculations
- Hesitation or stumble during acceleration
- In rare cases, a no-start condition if the PCM misjudges the air-fuel mixture
- Often no symptoms besides the warning light

Common causes, most likely first

- 1 Open or damaged MAT sensor signal circuit (broken wire, corroded connector)
- 2 Faulty MAT sensor itself (internal open circuit)
- 3 Poor electrical connection at the MAT sensor or PCM connector
- 4 Short to voltage on the MAT signal circuit (less common)
- 5 Failed PCM (rare, but possible if all other circuits test good)



How to diagnose and fix it

- 1 Use a scan tool to verify the MAT sensor voltage and compare it to ambient temperature after a cold soak.
- 2 Visually inspect the MAT sensor and its connector for corrosion, damage, or loose pins.
- 3 Disconnect the MAT sensor and measure resistance across its terminals; compare to Ford's temperature-resistance chart.
- 4 Check for continuity and voltage drop on the signal and ground circuits between the MAT sensor and PCM.
- 5 If the circuit is open, repair the wiring harness or replace the faulty connector pigtail.
- 6 If the sensor resistance is out of specification, replace the MAT sensor.
- 7 Clear the code and perform a road test to confirm the repair, monitoring MAT voltage in real time.

MAT Sensor Circuit Traps on Ford Engines

- A common oversight is assuming the MAT sensor is always a separate component; on many Ford engines it is integrated into the mass airflow (MAF) sensor, so a faulty MAF assembly can set P1119 without a separate MAT part.
The code can be set by a simple loose connector that intermittently loses contact, especially after engine work that disturbs the intake tract, so always wiggle-test the harness while watching live data.
- Ford's PCM strategy may substitute a default intake air temperature value when the MAT signal is high, masking driveability symptoms and leading some technicians to wrongly condemn the PCM.
- A high input code does not always mean the sensor is bad; a poor ground connection at the sensor can cause the same voltage shift, so check grounds before replacing parts.

After repairs, the code may not clear immediately because the PCM requires a specific number of cold-start cycles to re-evaluate the MAT circuit, so a persistent light after a correct fix may simply need more drive time.

Can I keep driving with P1119?

The vehicle is generally safe to drive with P1119 because the PCM substitutes a default temperature value, but you may experience slightly reduced fuel economy or minor driveability issues. Avoid towing heavy loads or aggressive acceleration until the fault is repaired, and address the code promptly to prevent potential long-term mixture control problems.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Ford service information with temperature-resistance charts
- Wire repair kit (splices, heat shrink, electrical tape)
- Socket set and screwdrivers for sensor removal



Reading P1119

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Ford): its meaning depends on the make.
- 1** Fuel and air metering.
- 19** The exact fault within that area.

Often seen with

P1118 Oxygen Sensor Heater Circuit Open Bank 1 Sensor 2 · **P1118** Engine Coolant Temperature Above Maximum Voltage · **P1118** Manifold Absolute Temperature Circuit Low Input · **P1118** Engine Coolant Temp Signal Out-Of Range High · **P1118** Mass Or Volume Air Flow Circuit High Input Bank 2 · **P0111** Intake Air Temperature Circuit Range/Performance · **P0112** Intake Air Temperature Circuit Low Input · **P0113** Intake Air Temperature Circuit High Input · **P0127** Intake Air Temperature Too High

See it working

Watch the animated explainer [How ABS Works: Anti-Lock Brakes in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1119/>

