

SUZUKI · POWERTRAIN

P1250

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1250 · Suzuki

EFE Heater Circuit Fault

P1250 on Suzuki vehicles indicates that the Powertrain Control Module (PCM) has detected a fault in the Early Fuel Evaporation (EFE) heater circuit, which preheats the intake manifold on cold starts to improve driveability and reduce emissions. The PCM monitors the heater element's electrical current and sets this code when the circuit is open, shorted, or drawing current outside the expected range.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Suzuki specific	Low	Intermediate	Fuel and air metering (injector circuits)

Symptoms you may notice

- Illumination of the Check Engine Light (CEL) on the dashboard
- Often no symptoms besides the warning light, especially in warm weather
- Rough idle or stumbling during the first few minutes after a cold start
- Hesitation or flat spots when accelerating while the engine is cold
- Slightly higher fuel consumption during warm-up
- In rare cases, a noticeable burning smell from the engine bay if the heater element shorts

Common causes, most likely first

- 1 Failed EFE heater element (open circuit or burned out)
- 2 Corroded, loose, or disconnected electrical connector at the EFE heater
- 3 Damaged or chafed wiring between the EFE heater and the PCM or relay
- 4 Blown fuse or faulty EFE heater relay
- 5 PCM internal driver circuit failure (less common)
- 6 Intake manifold carbon buildup causing overheating and heater failure (indirect cause)



How to diagnose and fix it

- 1 Verify the code with a scan tool and inspect freeze-frame data for coolant temperature and intake air temperature to confirm cold-start conditions.
- 2 Locate the EFE heater (often mounted on the intake manifold) and visually inspect the connector and wiring for corrosion, looseness, or damage.
- 3 Check the EFE heater fuse and relay; test the relay operation with a multimeter or by swapping with a known-good relay.
- 4 Measure the resistance of the EFE heater element with a multimeter and compare to the manufacturer's specification (typically a few ohms); an open circuit indicates a failed heater.
- 5 Backprobe the heater connector and check for battery voltage on the power side and a good ground on the control side when the engine is cold and running.
- 6 If the circuit tests good but the code persists, check the PCM driver by commanding the EFE heater on with a scan tool and monitoring current draw or voltage drop.
- 7 Replace the faulty EFE heater, repair wiring, or replace the PCM as needed, then clear the code and verify the repair with a cold-start drive cycle.

EFE Heater Circuit Fault Diagnosis Tips

- A common misdiagnosis is replacing the EFE heater when the real problem is a corroded ground connection at the intake manifold, which mimics an open heater circuit.
- The EFE heater only operates during cold starts, so the code may not set again until the next cold morning; always perform diagnostics when the engine is cold to observe live data.
- On some Suzuki models, the EFE heater is integrated into the intake manifold gasket and a coolant leak can damage the element, so check for coolant residue around the heater.
- A faulty EFE heater can cause a lean condition during warm-up that may set lean codes (P0171) or misfire codes (P0300) without ever setting P1250 if the heater fails gradually.
- Do not overlook the EFE heater relay; it often fails due to stuck contacts, causing the heater to stay on continuously and overheat, which can melt the connector.

Can I keep driving with P1250?

The vehicle is safe to drive with P1250 because the EFE heater only affects cold-start emissions and driveability, but avoid heavy acceleration or towing until the engine is fully warmed up. Prolonged driving with a faulty heater may increase emissions and slightly reduce fuel economy, so schedule repairs soon.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Test light
- Socket and ratchet set
- Wiring diagram for the specific Suzuki model

Reading P1250

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

Often seen with

P0115 Engine Coolant Temperature Circuit Malfunction · **P0125** Insufficient Coolant Temperature for Closed Loop Fuel Control · **P0130** O2 Sensor Circuit Malfunction (Bank 1 Sensor 1) · **P0171** System Too Lean (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected

See it working

Watch the animated explainer [How a Manual Transmission Works: Four-Speed Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/suzuki-p1250/>

