

SUBARU · POWERTRAIN

**P1301**

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

**P1301 · Subaru**

## Fire Due To Increased Exhaust Temperature

P1301 on Subaru vehicles indicates the engine control module (ECM) has detected a misfire condition severe enough to raise exhaust gas temperatures to a dangerous level, typically by monitoring crankshaft speed fluctuations and comparing them to expected values. The ECM sets this code when the misfire rate exceeds a threshold that could overheat and damage the catalytic converter or exhaust components.

SYSTEM

**Powertrain**

CODE TYPE

**Subaru specific**

SEVERITY

**High**

FIX DIFFICULTY

**Intermediate**

AREA

**Ignition system and misfire**

### Symptoms you may notice

- Check engine light illuminated, often flashing if the misfire is severe
- Noticeable engine shaking or rough idle, especially when cold
- Loss of power or hesitation during acceleration
- Poor fuel economy due to incomplete combustion
- A sulfur or rotten egg smell from the exhaust in some cases
- Often no symptoms besides the warning light if the misfire is intermittent

### Common causes, most likely first

- 1 Worn or fouled spark plugs (most common on turbocharged and high-mileage Subaru engines)
- 2 Faulty ignition coil or coil pack on the affected cylinder
- 3 Vacuum leak from intake gaskets, hoses, or the PCV system causing a lean misfire
- 4 Clogged or failing fuel injector restricting fuel delivery
- 5 Low fuel pressure from a weak pump or clogged filter
- 6 Mechanical issues such as low compression, valve problems, or a head gasket leak
- 7 Exhaust restriction or a failing catalytic converter that raises backpressure and temperature



## How to diagnose and fix it

- 1 Scan all stored and pending codes with an OBD-II scanner to identify which cylinder(s) are misfiring and check freeze-frame data
- 2 Inspect spark plugs for wear, gap, and fouling; replace them if they are due or show damage
- 3 Swap ignition coils between cylinders to see if the misfire moves, confirming a faulty coil
- 4 Perform a propane or smoke test to check for vacuum leaks around intake gaskets and hoses
- 5 Test fuel injectors for resistance and spray pattern, and check fuel pressure with a gauge
- 6 Run a compression test and cylinder leak-down test to rule out mechanical faults
- 7 Check exhaust backpressure with a pressure gauge to ensure the catalytic converter is not restricted

## Why P1301 Often Points to Ignition

- On Subaru boxer engines, the spark plug wells can collect oil from leaking tube seals, causing misfires that set P1301 without any other codes.
- A flashing check engine light with P1301 means the misfire is actively dumping raw fuel into the exhaust, which can melt the catalytic converter in minutes; stop driving immediately.
- Many technicians replace the catalytic converter first because of the 'exhaust temperature' wording, but the converter is usually the victim, not the cause.
- Subaru's ECM can set P1301 for a misfire that is too subtle to feel, so a scan tool with live misfire counters is essential for diagnosis.
- A dirty mass airflow sensor (MAF) or a failing front oxygen sensor can skew fuel trims and create a lean misfire that triggers P1301 without any ignition component being faulty.

## Can I keep driving with P1301?

If the check engine light is flashing, stop driving as soon as it is safe to do so to prevent catalytic converter damage. If the light is steady and the engine runs smoothly, you may drive cautiously to a repair shop, but avoid hard acceleration and towing.

## Tools that help

- OBD-II scanner with live data and misfire counter capability
- Spark plug socket and torque wrench
- Ignition coil tester or a known-good coil for swapping
- Vacuum gauge or smoke machine
- Fuel pressure gauge
- Compression tester



## Reading P1301

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Subaru): its meaning depends on the make.
- 3** Ignition system and misfire.
- 01** The exact fault within that area.

## Often seen with

**P0301** Cylinder 1 Misfire Detected · **P0302** Cylinder 2 Misfire Detected · **P0303** Cylinder 3 Misfire Detected · **P0304** Cylinder 4 Misfire Detected · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)

## See it working

Watch the animated explainer [How a Gyroscope Works: Gimbals and Precession](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/subaru-p1301/>

