



P1301 · Honda

Cylinder 1 Misfire

P1301 on a Honda means the powertrain control module (PCM) has detected a misfire specifically on cylinder 1, based on crankshaft speed fluctuations that deviate from the expected firing pattern. The PCM monitors the crankshaft position sensor signal and flags this code when cylinder 1 fails to contribute its share of engine torque, often counting misfire events over a specific drive cycle.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Honda specific	Medium	Intermediate	Ignition system and misfire

Symptoms you may notice

- Check Engine Light illuminated, often flashing if the misfire is severe enough to risk catalytic converter damage
- Noticeable engine shake or vibration at idle, especially when cold
- Rough running or hesitation during acceleration
- Loss of power and reduced fuel economy
- Often no symptoms besides the warning light when the misfire is intermittent or mild
- A sulfur or rotten egg smell from the exhaust if unburned fuel is reaching the catalytic converter

Common causes, most likely first

- 1 Worn or fouled spark plug in cylinder 1, especially on older Honda engines with high mileage
- 2 Failed ignition coil or coil-on-plug boot for cylinder 1
- 3 Faulty fuel injector for cylinder 1, including clogged nozzle or electrical failure
- 4 Vacuum leak at the intake manifold runner or injector seal specific to cylinder 1
- 5 Low compression on cylinder 1 from worn rings, burned valve, or head gasket issue
- 6 Valve clearance out of specification on engines with adjustable valves, common on older Honda four-cylinders
- 7 Wiring or connector fault in the cylinder 1 injector or coil circuit



How to diagnose and fix it

- 1 Scan all stored and pending codes with a capable scan tool to confirm P1301 is the only misfire code and check for related codes like P0301
- 2 Inspect the spark plug in cylinder 1 for fouling, wear, or incorrect gap, and replace if worn
- 3 Swap the ignition coil from cylinder 1 with another cylinder and see if the misfire follows the coil
- 4 Perform a cylinder balance test or use a scan tool with misfire counters to verify which cylinder is actually misfiring
- 5 Check fuel injector operation with a noid light or listen for clicking, and test injector resistance if accessible
- 6 Run a compression test and, if low, a leak-down test on cylinder 1 to rule out mechanical faults
- 7 Inspect intake manifold gaskets and vacuum lines near cylinder 1 for leaks using a smoke machine or carb cleaner

Honda Cylinder 1 Misfire Diagnosis Traps

- A P1301 can be set by a marginal ignition coil that tests fine when cold but breaks down under load, so always swap-test the coil rather than relying on a bench test.
- Honda engines with adjustable valve clearances can develop a misfire on one cylinder when the exhaust valve clearance tightens, and this often does not show up as low compression until the valve burns.
- The PCM may set P1301 without illuminating the Check Engine Light if the misfire count is below the threshold for a hard fault, so a pending code scan is essential.
- A dirty or failing mass airflow sensor can cause a lean condition that affects cylinder 1 first due to intake manifold design, so check fuel trims before condemning ignition parts.
- After replacing a spark plug or coil, the PCM may need several drive cycles to clear the misfire counter, so do not assume the repair failed if the light stays on briefly.

Can I keep driving with P1301?

You can drive a short distance to a repair shop if the misfire is mild and the Check Engine Light is steady, but avoid hard acceleration and sustained highway speeds. If the light is flashing, stop driving immediately because unburned fuel can overheat and destroy the catalytic converter.

Tools that help

- OBD-II scan tool with misfire counter and live data capability
- Spark plug socket and torque wrench
- Ignition coil puller or appropriate socket
- Compression tester
- Noid light or fuel injector test kit
- Vacuum gauge or smoke machine



Reading P1301

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

Often seen with

P1399 Engine RPM Signal Short To B+ · **P1399** Wheel Speed Sensor 2 G-Sensor Circuit Intermittent · **P1399** Glow Plug Circuit High Side High Input · **P1399** Wait To Start Lamp Circuit Open Or Shorted · **P0171** System Too Lean (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0301** Cylinder 1 Misfire Detected · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

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

