



P1211 · Ford

Injector Control Pressure Sensor Above Below Desired

P1211 on Ford vehicles means the powertrain control module (PCM) has detected that the injector control pressure (ICP) sensor signal is outside the desired pressure range during engine operation. The PCM commands a target oil pressure for the high-pressure oil system that fires the injectors, and the ICP sensor feedback does not match that target within the allowed calibration window.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Ford specific	Medium	Professional	Fuel and air metering (injector circuits)

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Hard starting or extended cranking, especially when cold
- Rough idle, misfire, or engine stumble under acceleration
- Reduced engine power or limp mode
- Excessive black smoke or poor fuel economy
- Stalling or intermittent shutdown while driving

Common causes, most likely first

- 1 Faulty injector control pressure (ICP) sensor or contaminated sensor connector
- 2 Leaking or failed high-pressure oil pump (HPOP) or its discharge line
- 3 Sticking or failed injection pressure regulator (IPR) valve
- 4 Low engine oil level, wrong oil viscosity, or severely degraded oil
- 5 Wiring harness damage, chafed wires, or corroded ICP/IPR connectors
- 6 Restricted oil filter or oil cooler causing low oil pressure to the high-pressure pump
- 7 PCM calibration issue or internal driver fault (less common)



How to diagnose and fix it

- 1 Check engine oil level, condition, and viscosity; top off or change oil and filter if needed
- 2 Inspect ICP sensor and IPR valve connectors and wiring for corrosion, chafing, or loose pins
- 3 Use a scan tool to read ICP pressure and IPR duty cycle at idle and during a road test, comparing commanded versus actual pressure
- 4 Perform a high-pressure oil system leak test per Ford service procedure to rule out pump or line leaks
- 5 Test the ICP sensor signal with a multimeter or oscilloscope and replace if out of specification
- 6 Test the IPR valve for sticking or incorrect resistance and replace if faulty
- 7 Clear codes and verify repair with a road test; reprogram PCM if a calibration update is available

Before you replace the high-pressure oil pump

- A low oil level or the wrong oil viscosity is a common cause of P1211 that is often overlooked because the engine may still run normally.
- The ICP sensor can fail intermittently and only set the code when oil is hot or under load, so a cold-engine scan may look normal.
- A sticking IPR valve can mimic a failed high-pressure oil pump, and replacing the pump without testing the IPR wastes time and money.
- P1211 does not always mean the ICP sensor is bad; wiring harness chafing near the valve cover is a frequent culprit on higher-mileage Ford engines.
- After repairs, the PCM may need a drive cycle or relearn procedure before the code clears permanently.

Can I keep driving with P1211?

You can usually drive a short distance to a repair shop if the engine runs smoothly and the check engine light is steady, but avoid heavy acceleration or towing. If the engine misfires, stalls, or enters limp mode, stop driving and have the vehicle towed to prevent damage to the high-pressure oil system.

Tools that help

- OBD-II scan tool with live data and Ford-specific PID support
- Digital multimeter
- Oscilloscope (for ICP sensor signal analysis)
- High-pressure oil system leak test kit
- Basic hand tools and socket set
- Oil pressure gauge (mechanical)



Reading P1211

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

Often seen with

P1210 Intake Valves For Cylinder Shut-Off Short To B+ · **P1210** Traction Control System Signal Fault · **P1212** ABS TCS Communication Line · **P1212** Mass Airflow Circuit Intermittent Low · **P1210** Injector Control Pressure Above Expected Level · **P1212** Injector Control Pressure Not Detected During Crank · **P1212** Mass Air Flow Circuit Intermittent Low · **P0230** Fuel Pump Primary Circuit Malfunction · **P0231** Fuel Pump Secondary Circuit Low · **P0232** Fuel Pump Secondary Circuit High

See it working

Watch the animated explainer [How a Fuel Injector Works: Pulse Width and Spray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1211/>

