

FORD · POWERTRAIN

P1294

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1294 · Ford

Injector High Side Open Bank 2 Target Idle Not Reached

P1294 on Ford vehicles means the powertrain control module (PCM) commanded a target idle speed but the engine could not reach it while the high-side injector circuit for bank 2 was detected as open. The PCM monitors injector voltage and idle stability together, and it sets this code when bank 2 injectors are not receiving proper power and the engine idle falls outside the expected range.

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

Symptoms you may notice

- Check engine light illuminated, often with no other noticeable symptoms
- Rough or unstable idle, sometimes feeling like a misfire at stoplights
- Engine may stall when coming to a stop or when idling in gear
- Reduced engine performance or hesitation during acceleration
- Slightly higher or lower than normal idle speed that does not match commanded target
- In severe cases, a dead miss on one or more bank 2 cylinders

Common causes, most likely first

- 1 Open or damaged high-side power wire to one or more bank 2 fuel injectors
- 2 Corroded or loose electrical connector at a bank 2 injector
- 3 Failed bank 2 fuel injector with an open internal coil
- 4 Blown fuse or faulty relay in the injector power supply circuit
- 5 Chafed or broken wire harness near the bank 2 injector connectors
- 6 PCM driver circuit fault for the bank 2 injector high-side output
- 7 Vacuum leak or intake air leak affecting bank 2 idle stability



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then record freeze-frame data for P1294 to see idle speed and injector pulse width at fault
- 2 Inspect the bank 2 injector harness and connectors for corrosion, loose pins, or chafed wires, and repair as needed
- 3 Check the injector power supply fuse and relay, and verify battery voltage at each bank 2 injector connector with the key on
- 4 Measure resistance across each bank 2 injector and compare to the manufacturer's specification to identify an open coil
- 5 Perform a cylinder balance or injector cut-off test to isolate which bank 2 cylinder is not contributing at idle
- 6 Check for vacuum leaks at the intake manifold and bank 2 intake gaskets that could cause an idle target not reached condition
- 7 If wiring and injectors test good, diagnose the PCM high-side driver circuit with a noid light or oscilloscope before replacing the PCM

What Ford techs check before injector replacement

- A loose or corroded bank 2 injector connector often sets P1294 without any driveability complaint, so always wiggle-test connectors while watching idle quality and injector pulse width on a scan tool.
- The high-side open circuit can be caused by a single failed injector coil that opens when hot, so resistance checks must be done both cold and after the engine reaches operating temperature.
- Ford trucks and SUVs with the 4.6L or 5.4L V8 commonly route the bank 2 injector harness near the valve cover, where vibration and heat chafe the insulation and create an intermittent open.
- P1294 does not always mean the injector itself has failed; a weak fuel pump or clogged bank 2 fuel rail can cause the same idle target not reached condition without any electrical fault.
- Technicians sometimes replace all bank 2 injectors when only one connector pin is backed out, so always perform a voltage drop test at each injector before condemning parts.

Can I keep driving with P1294?

You can drive short distances to a repair shop, but avoid heavy load, sustained idling in traffic, and towing because a lean bank 2 cylinder can overheat and damage the engine. If the engine stalls repeatedly or runs very rough, stop driving and arrange a tow.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with resistance and voltage drop functions
- Noid light or injector test light
- Hand tools for removing engine covers and accessing injectors
- Oscilloscope for PCM driver circuit testing
- Vacuum gauge or smoke machine for intake leak testing

Reading P1294

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

Often seen with

P1293 CNG Pressure Sensor Voltage Too Low · **P1293** Injector High Side Open Bank 1 · **P1293** CNG Pressure Sensor Voltage Too Low · **P0171** System Too Lean (Bank 1) · **P0201** Injector Circuit Malfunction - Cylinder 1 · **P0202** Injector Circuit Malfunction - Cylinder 2 · **P0302** Cylinder 2 Misfire Detected

See it working

Watch the animated explainer [Master the Four-Stroke Engine Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1294/>

