



P1154 · Ford

Bank 2 Fuel Control Shifted Rich

P1154 on a Ford means the powertrain control module has detected that the bank 2 fuel control system has shifted rich, meaning the engine computer has had to pull fuel out beyond its normal correction range to keep the air-fuel mixture stoichiometric. The code is set when long-term fuel trim on bank 2 stays excessively negative, indicating the engine is receiving more fuel than the computer commands.

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

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the rich shift is mild.
- A noticeable drop in fuel economy as the engine runs richer than necessary.
- Black sooty exhaust smoke or a strong fuel smell from the tailpipe.
- Rough idle or misfire under load when the rich condition fouls spark plugs.
- Illumination of the check engine light, sometimes accompanied by a pending P1154 before it matures.
- Elevated carbon monoxide readings at emissions testing.

Common causes, most likely first

- 1 Leaking or sticking fuel injector on bank 2 delivering excess fuel.
- 2 A faulty bank 2 oxygen sensor biased rich, causing the computer to overcorrect.
- 3 High fuel pressure from a failing fuel pressure regulator or restricted return line.
- 4 A stuck-open or leaking evaporative emissions purge valve allowing fuel vapor into the intake.
- 5 Contaminated engine oil with fuel dilution from repeated rich running or short trips.
- 6 A restricted air intake or dirty mass airflow sensor skewing the base fuel calculation rich on bank 2.
- 7 Wiring or connector corrosion at the bank 2 oxygen sensor or injector harness causing a false rich signal.



How to diagnose and fix it

- 1 Connect a scan tool and record bank 2 long-term and short-term fuel trims at idle and under load to confirm the rich shift.
- 2 Inspect the bank 2 oxygen sensor signal with a graphing scan tool or oscilloscope to verify it is not stuck rich or slow to switch.
- 3 Check fuel pressure with a gauge and compare to Ford specification for the engine, looking for excessive pressure.
- 4 Perform an injector balance or leak-down test on bank 2 injectors to identify a leaking or sticking injector.
- 5 Test the evaporative emissions purge valve for sticking open and allowing fuel vapor into the intake.
- 6 Clean or replace the mass airflow sensor and inspect the air intake for restrictions if fuel trims are rich on both banks.
- 7 After repairs, clear the adaptive fuel memory and road-test to confirm bank 2 fuel trim returns to a normal range.

Before you replace the bank 2 oxygen sensor

- A rich code on only one bank often points to a bank-specific injector or oxygen sensor fault, but a leaking purge valve can affect both banks and is frequently overlooked.
- Fuel-contaminated engine oil from a leaking injector can cause persistent rich trims even after the injector is replaced, so an oil and filter change is part of a complete repair.
- A dirty mass airflow sensor can skew fuel trims rich on bank 2 first if the intake plumbing favors that bank, leading to unnecessary oxygen sensor replacement.
- Ford adaptive fuel learning can mask a mild rich shift for many drive cycles, so the code may appear only after sustained highway driving or a fuel pressure spike.
- Exhaust leaks upstream of the bank 2 oxygen sensor can draw in outside air and create a false lean reading that the computer corrects rich, setting P1154 without any real fuel delivery fault.

Can I keep driving with P1154?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or long trips because continued rich operation can foul spark plugs, damage the catalytic converter, and dilute engine oil. If the check engine light is flashing or the engine runs rough, stop driving and arrange a tow.

Tools that help

- OBD-II scan tool with live fuel trim and oxygen sensor graphing capability
- Fuel pressure gauge
- Digital multimeter
- Oscilloscope for oxygen sensor signal analysis
- Injector balance tester or leak-down kit
- Hand tools for intake and injector access



Reading P1154

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

Often seen with

P1153 Air/Fuel Sensor Circuit Response Bank 1 Sensor 2 · **P1153** Bank 2 Fuel Control Shifted Lean FAOSC · **P1153** O2 Sensor Low Switching (Bank 2 Sensor 1) · **P1153** Bank 2 Fuel Control Shifted Lean · **P1153** HO2S Insufficient Switching · **P1153** O2 Sensor Heater Circuit High Voltage Bank 2 Sensor 1 · **P0132** O2 Sensor Circuit High Voltage (Bank 1 Sensor 1) · **P0152** O2 Sensor Circuit High Voltage (Bank 2 Sensor 1) · **P0172** System Too Rich (Bank 1) · **P0175** System Too Rich (Bank 2)

See it working

Watch the animated explainer [How an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1154/>

