

FORD · POWERTRAIN

P1287

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1287 · Ford

Fuel Pulse In Range But Higher Than Expected

P1287 on Ford vehicles means the powertrain control module (PCM) has detected that the fuel injector pulse width is within its normal operating range but is consistently longer than the value expected for the current operating conditions. The computer is commanding the injectors to stay open longer than it should need to, which usually points to a fuel delivery or air measurement problem rather than a failed injector circuit.

SYSTEM

Powertrain

CODE TYPE

Ford specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering (injector circuits)

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the excess pulse width is small.
- A noticeable drop in fuel economy compared with normal driving.
- Rough idle or a slight stumble when accelerating from a stop.
- Black smoke or a strong fuel smell from the exhaust in more severe cases.
- Occasional hesitation or surging under light throttle.
- Longer cranking time before the engine starts when fuel pressure is marginal.

Common causes, most likely first

- 1 A weak or failing fuel pump that cannot maintain specified pressure under load.
- 2 A restricted fuel filter or a kinked or collapsed fuel supply line.
- 3 A leaking or contaminated fuel injector that delivers more fuel than commanded.
- 4 A dirty or failing mass air flow (MAF) sensor reporting less air than the engine actually receives.
- 5 A vacuum leak downstream of the MAF sensor that leans the mixture and forces the PCM to add fuel.
- 6 A faulty fuel pressure regulator or a leaking fuel pressure sensor on returnless systems.
- 7 A restricted exhaust or a lazy oxygen sensor that skews fuel trim and pulse width calculations.



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data plus long-term and short-term fuel trims at idle and at 2500 rpm to confirm the rich or lean direction.
- 2 Perform a visual inspection of the intake tract, vacuum hoses, and fuel lines for cracks, disconnected fittings, or kinks.
- 3 Measure fuel pressure with a gauge and compare it to the Ford specification for the engine, checking both key-on and running pressures.
- 4 Clean the MAF sensor with dedicated MAF cleaner and verify its reported airflow against expected values at idle and cruise.
- 5 Check for vacuum leaks with a smoke machine or by monitoring fuel trims while spraying suspected areas with carb cleaner.
- 6 Test each injector for balance and leak-down, and replace any that flow outside the acceptable range or drip when closed.
- 7 Clear the code, road-test the vehicle through several drive cycles, and confirm the pulse width and fuel trims return to normal.

What Ford techs check before injectors

- A dirty MAF sensor on Ford engines commonly under-reports airflow, which makes the PCM lengthen injector pulse width to compensate, so clean the sensor before condemning any injector.
- P1287 does not mean an injector has failed electrically; the circuit is working, and the fault is in the fuel or air delivery side of the equation.
- A restricted fuel filter or a weak in-tank pump on returnless Ford fuel systems can set this code without ever triggering a lean-bank code, because the PCM compensates within range.
- Vacuum leaks past the throttle body are a frequent cause on older Ford intake manifolds with cracked plastic or hardened gaskets, and they show up as positive fuel trims at idle.
- Replacing all injectors as a first step is a common misdiagnosis; verify fuel pressure and MAF readings first, because those faults mimic injector problems.

Can I keep driving with P1287?

You can usually drive the vehicle to a workshop, but avoid heavy throttle and towing until the fault is diagnosed, because excess fuel can wash cylinder walls and overheat the catalytic converter over time. If the engine runs rough, smells strongly of fuel, or the check engine light starts flashing, stop driving and have it towed.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Fuel pressure test gauge kit
- Mass air flow sensor cleaner
- Smoke machine for vacuum leak detection
- Digital multimeter
- Hand tools for intake and fuel line access

Reading P1287

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

Often seen with

P1288 Turbocharge Bypass Valve Short To B+ · **P1288** Accelerator Pedal Position Sensor 3 Circuit High Voltage · **P1288** Cylinder Head Temperature Sensor Out of Self-Test Range · **P1288** Intake Manifold Short Runner Solenoid Circuit Open Or Shorte · **P1288** Switching Solenoid for Air Assisted Injection Valves Bank 2 · **P0171** System Too Lean (Bank 1) · **P0172** System Too Rich (Bank 1) · **P0174** System Too Lean (Bank 2) · **P0175** System Too Rich (Bank 2)

See it working

Watch the animated explainer [How Drive-by-Wire Works: Electronic Throttle Body](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1287/>

