

GENERIC · POWERTRAIN

P262A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P262A

Fuel Injector - Pilot Injection Not Learned

P262A indicates that the engine control module (ECM) has not successfully completed the pilot injection learning procedure for one or more fuel injectors. Pilot injection is a small pre-spray of fuel before the main injection event, used in modern diesel engines to reduce combustion noise and improve cold-start behaviour, and the ECM expects to learn each injector's pilot quantity offset during specific operating conditions.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Computer and output circuits

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or slight misfire when the engine is cold
- Increased engine noise, especially a sharper diesel knock during warm-up
- Hesitation or stumble during light acceleration from a stop
- Slightly higher fuel consumption over time
- In some cases, the engine may enter limp mode if the fault is accompanied by other injection codes

Common causes, most likely first

- 1 Failed or incomplete pilot injection learning procedure, often after battery disconnection or ECM reset
- 2 Worn or dirty fuel injectors that cannot deliver the expected pilot quantity
- 3 Low fuel pressure or air in the fuel system preventing stable pilot injection
- 4 Faulty fuel rail pressure sensor or pressure regulator giving inaccurate readings
- 5 ECM software issue or corrupted adaptive memory
- 6 Restricted fuel filter or contaminated fuel
- 7 Wiring or connector problem at one or more injectors



How to diagnose and fix it

- 1 Verify battery voltage and clear the code to see if it returns after a complete drive cycle
- 2 Check fuel quality and replace the fuel filter if due or suspect
- 3 Perform a fuel system pressure test and inspect for air leaks or low rail pressure
- 4 Use a scan tool to run the pilot injection learning procedure if supported, following the manufacturer's conditions
- 5 Inspect injector electrical connectors and wiring for corrosion or damage
- 6 Test injector return flow rates to identify worn or leaking injectors
- 7 If learning still fails, replace the affected injector(s) and repeat the learning procedure

Pilot injection learning pitfalls and hidden causes

- Many technicians replace injectors unnecessarily when the real problem is that the pilot learning procedure was never completed after a repair or battery replacement.
- A weak battery or poor ground connection can prevent the ECM from completing the learning routine, even though the injectors are healthy.
- The code can be set by a fuel pressure issue that only appears during the specific conditions required for pilot learning, such as low rail pressure at idle.
- Some vehicles require the engine to be at a precise temperature and the transmission in a specific range for the learning to succeed, so reading the service information is critical.
- A clogged fuel filter or air ingress can cause pilot injection quantity to be unstable, preventing the ECM from learning the injector offsets.

Can I keep driving with P262A?

You can usually continue driving with this code if the engine runs normally, but avoid heavy loads and prolonged idling until the fault is diagnosed. If the engine runs rough, misfires, or enters limp mode, have it inspected promptly to prevent damage to the injectors or catalytic converter.

Tools that help

- OBD-II scan tool with bidirectional controls and ability to run pilot injection learning
- Fuel pressure test kit
- Multimeter for electrical checks
- Injector return flow test kit
- Service information for the specific vehicle



Reading P262A

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Computer and output circuits.
- 2A** The exact fault within that area.

Often seen with

P0087 Fuel Rail/System Pressure - Too Low · **P0088** Fuel Rail/System Pressure - Too High · **P0201** Injector Circuit Malfunction - Cylinder 1 · **P0263** Cylinder 1 Contribution/Balance · **P2146** Fuel Injector Group 'A' Supply Voltage Circuit/Open

See it working

Watch the animated explainer [Excavator Simulator: Hydraulics You Can Operate](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p262a/>

