

GENERIC · POWERTRAIN

P205F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P205F

Reductant System Performance (Bank 2)

P205F indicates that the powertrain control module has detected a performance fault in the selective catalytic reduction (SCR) reductant system for bank 2 of the engine. The computer monitors the diesel exhaust fluid (DEF) dosing, mixing, and NOx reduction efficiency and sets this code when the bank 2 SCR system fails to reduce nitrogen oxides as expected under commanded conditions.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode triggered by the powertrain control module
- A message on the driver information display warning of low DEF or service emissions system
- Increased diesel exhaust fluid consumption as the system attempts to compensate
- Rough running or hesitation during regeneration events
- A sulfur or ammonia odor from the exhaust after shutdown

Common causes, most likely first

- 1 Degraded or contaminated diesel exhaust fluid (DEF) with incorrect urea concentration
- 2 Faulty bank 2 nitrogen oxide (NOx) sensor providing inaccurate feedback
- 3 Clogged or failed DEF injector on the bank 2 SCR catalyst
- 4 Restricted DEF supply line or a failing DEF pump causing low dosing pressure
- 5 Exhaust leak upstream of the bank 2 SCR catalyst diluting the reductant mixture
- 6 Aged or thermally damaged bank 2 SCR catalyst losing conversion efficiency
- 7 Software calibration issue in the powertrain control module affecting dosing strategy



How to diagnose and fix it

- 1 Verify DEF quality with a refractometer and replace the fluid if urea concentration is outside specification
- 2 Scan all modules for stored and pending codes, then check freeze-frame data for the conditions that set P205F
- 3 Inspect the bank 2 NOx sensor wiring and connector for corrosion or damage, and compare its live reading to a known-good sensor
- 4 Perform a commanded DEF dosing test with a scan tool and observe injector spray pattern and pressure
- 5 Pressure-test the DEF supply line and check the pump delivery volume against the manufacturer's specification
- 6 Smoke-test the exhaust system upstream of the bank 2 SCR catalyst to find leaks that skew sensor readings
- 7 After repairs, clear codes and complete the SCR efficiency monitor drive cycle to confirm the fix

What P205F really tells you about bank 2 SCR

- A common misdiagnosis is replacing the bank 2 SCR catalyst first, when a contaminated DEF fill or a lazy NOx sensor is the actual root cause in many cases.
- The code can be set by a DEF injector that sprays correctly during a static test but dribbles or clogs only under hot exhaust conditions, so a cold bench test is not conclusive.
- Bank 2 refers to the SCR system serving one bank of a V-configuration engine, so technicians who only inspect the bank 1 components will miss the fault entirely.
- An exhaust leak as small as a loose clamp upstream of the SCR can dilute the ammonia mix and trigger P205F without any visible soot trail.
- Some vehicles set P205F after a battery replacement or module flash because the DEF dosing adaptation memory is cleared and the system must relearn.

Can I keep driving with P205F?

You can usually continue driving to a repair shop, but avoid heavy loads and long highway trips because continued operation with a failed SCR system may escalate to a derate or limp mode. Do not ignore the code, as persistent NOx reduction failure can damage the catalyst and increase repair cost.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- DEF refractometer
- Exhaust smoke machine
- Digital multimeter
- Fuel pressure gauge rated for DEF system pressures



Reading P205F

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- 5F** The exact fault within that area.

Often seen with

P205E Reductant Tank Temperature Sensor A Circuit Intermittent/Err · **P2060** Reductant Injection Air Pump Control Circuit Low · **P207F** Reductant Quality Performance · **P20EE** NOx Catalyst Efficiency Below Threshold (Bank 1) · **P229F** NOx Sensor Circuit Range/Performance Bank 1 Sensor 2

See it working

Watch the animated explainer [How Misfire Detection Works: Crankshaft Speed](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p205f/>

