



P201A

Reductant Injection Valve Circuit Range/Performance (Bank 2 Unit 1)

P201A indicates that the powertrain control module has detected an out-of-range or performance fault in the reductant injection valve circuit for bank 2 unit 1, which is part of the selective catalytic reduction system on diesel engines. The computer monitors the valve's electrical circuit and its effect on reductant dosing, and it sets this code when the commanded versus actual behavior falls outside the expected range.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	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 dashboard indicating poor diesel exhaust fluid quality or a countdown to speed limitation
- Rough running or hesitation during regeneration events
- Increased diesel exhaust fluid consumption or a sudden drop in fluid level
- Exhaust smoke or an ammonia odor from the tailpipe

Common causes, most likely first

- 1 Faulty reductant injection valve with a stuck or worn internal pintle
- 2 Damaged or corroded wiring harness or connector at the reductant injection valve
- 3 Clogged or restricted reductant injection nozzle or supply line
- 4 Failed reductant pressure sensor or temperature sensor feeding incorrect data to the control module
- 5 Internal failure in the dosing control module or powertrain control module driver circuit
- 6 Exhaust system leaks upstream of the injection point affecting reductant distribution
- 7 Contaminated diesel exhaust fluid causing valve sticking or poor spray pattern



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then verify the P201A is current and not history
- 2 Inspect the reductant injection valve connector and wiring for corrosion, chafing, or loose pins
- 3 Measure the resistance of the reductant injection valve and compare it to the manufacturer's specification
- 4 Check diesel exhaust fluid quality and level, and verify the fluid is not contaminated or diluted
- 5 Command the reductant injection valve on with the scan tool and listen for a click or observe spray pattern if accessible
- 6 Test the reductant pressure and check for restrictions in the supply line or nozzle
- 7 If electrical and fluid checks pass, replace the reductant injection valve and clear codes, then perform a relearn or adaptation procedure

Reductant valve faults that mimic other codes

- A weak or failing diesel exhaust fluid pump can cause low pressure at the reductant injection valve, setting P201A even when the valve itself is healthy.
Corrosion inside the reductant injection valve connector is a frequent cause that is often overlooked because the outside of the connector looks clean.
- The code can be set by a software calibration issue in the dosing control module, so check for technical service bulletins before replacing hardware.
- Exhaust backpressure or a restricted diesel particulate filter can alter reductant spray characteristics and trigger this range/performance code.
After replacing the reductant injection valve, some vehicles require a scan-tool reset of the learned adaptation values to prevent a repeat code.

Can I keep driving with P201A?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy loads and long trips because the powertrain control module may derate engine power or trigger a speed limitation. If the check engine light begins flashing or a countdown to limp mode appears, stop driving and seek service immediately.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter for resistance and voltage checks
- Hand tools for connector and valve removal
- Diesel exhaust fluid refractometer to check fluid quality
- Pressure gauge kit for reductant system testing



Reading P201A

- 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.
- 1A** The exact fault within that area.

Often seen with

P201B Intake Manifold Runner Control Actuator Supply Voltage Low (· **P201C** Intake Manifold Runner Control Actuator Supply Voltage Low (· **P201D** Intake Manifold Runner Control Actuator Internal Performance · **P20E8** Reductant Pressure Too Low · **P20E9** Reductant Pressure Too High

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p201a/>

