

GENERIC · POWERTRAIN

P0786

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0786

Shift/Timing Solenoid Range/Performance

P0786 indicates that the transmission control module (TCM) has detected an out-of-range or performance fault in the shift/timing solenoid circuit, which controls hydraulic pressure for shift timing and quality. The computer compares commanded solenoid current or duty cycle against expected values and sets the code when the actual signal deviates beyond calibrated limits or fails a rationality check.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Transmission

Symptoms you may notice

- Harsh or delayed shifts, especially when cold or under light throttle
- Transmission stuck in a single gear or fails to downshift smoothly
- Flashing or illuminated check engine light with possible limp mode
- Slipping sensation or engine flare during gear changes
- Often no symptoms besides the warning light, particularly if the fault is intermittent

Common causes, most likely first

- Faulty shift/timing solenoid (worn coil, sticking valve, or contaminated internal bore)
- Dirty or degraded transmission fluid causing solenoid valve sticking or restricted flow
- Damaged wiring or corroded connector pins at the solenoid or TCM harness
- Internal transmission valve body wear or debris blocking the solenoid feed circuit
- TCM software calibration issue or faulty TCM driver circuit
- Low transmission fluid level or clogged filter reducing solenoid response

How to diagnose and fix it

- Check transmission fluid level, condition, and filter; service if contaminated or low
- Inspect solenoid connector and harness for corrosion, chafing, or loose pins
- Measure solenoid resistance and compare to manufacturer specification
- Command solenoid with a scan tool and observe current or duty cycle response
- Perform a voltage drop test on the solenoid power and ground circuits under load
- Replace the shift/timing solenoid if electrically or mechanically faulty
- Clear codes and perform a relearn or adaptive drive cycle to verify repair



What the solenoid code does not tell you

- A P0786 can be set by a fluid pressure problem rather than a failed solenoid, so always verify line pressure and fluid condition before condemning the part.
- Intermittent codes often trace to a chafed wire near the transmission case connector, not the solenoid itself, especially after recent repairs or rough road debris impact.
- Some transmissions use the shift/timing solenoid for multiple functions, so a single faulty solenoid can mimic several different shift complaints and set companion codes.
- A TCM software update or adaptive relearn can resolve a performance code on vehicles with no mechanical fault, so check for technical service bulletins before parts replacement.
- Debris from a failing torque converter or clutch can lodge in the solenoid valve, causing a repeat failure if the root contamination source is not addressed.

Can I keep driving with P0786?

You can usually drive cautiously to a repair shop, but avoid heavy throttle, towing, or long trips because poor shift timing can overheat the transmission. If the vehicle enters limp mode or shifts harshly, stop driving and arrange service to prevent internal damage.

Tools that help

- OBD-II scan tool with transmission live data and bidirectional controls
- Digital multimeter for resistance and voltage drop tests
- Transmission fluid level dipstick or scan tool fluid temperature check
- Socket and wrench set for solenoid and pan removal
- Factory service information for solenoid resistance specifications and torque values

Reading P0786

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
7	Transmission.
86	The exact fault within that area.

Often seen with

P0740 Torque Converter Clutch Circuit Malfunction · **P0750** Shift Solenoid 'A' · **P0785** Shift/Timing Solenoid · **P0787** Shift/Timing Solenoid Low · **P0788** Shift/Timing Solenoid High



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/p0786/>

