



P1751 · Mazda

Transmission Shift Solenoid A Mechanical Fault

P1751 on Mazda vehicles indicates that the transmission control module (TCM) has detected a mechanical fault within shift solenoid A, which controls hydraulic pressure for first and second gear shifts in many automatic transaxles. The TCM monitors solenoid response and circuit feedback, and when the expected hydraulic or electrical response does not occur, it stores this code and typically illuminates the check engine light or flashing hold lamp.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Mazda specific	Medium	Professional	Transmission

Symptoms you may notice

- Harsh or delayed shifts, especially when engaging first or second gear
- Transmission stuck in a single gear or fails to downshift when accelerating
- Flashing hold light or check engine light on the instrument cluster
- Slipping sensation or engine revving without corresponding vehicle speed increase
- Often no symptoms besides the warning light, particularly in early stages

Common causes, most likely first

- 1 Faulty shift solenoid A due to internal wear or contamination
- 2 Dirty or degraded automatic transmission fluid (ATF) causing solenoid sticking
- 3 Damaged or corroded wiring harness connector at the solenoid
- 4 Blocked hydraulic passage or valve body debris affecting solenoid operation
- 5 TCM software glitch or internal fault misinterpreting solenoid feedback
- 6 Mechanical failure inside the transmission such as a stuck shift valve

How to diagnose and fix it

- 1 Check ATF level and condition; top off or replace fluid if dark or burnt
- 2 Inspect solenoid A electrical connector and harness for corrosion or damage
- 3 Measure solenoid resistance with a multimeter and compare to Mazda specification
- 4 Perform a voltage drop test on the solenoid circuit while commanding shifts with a scan tool
- 5 Remove and clean or replace shift solenoid A if resistance is out of range or mechanically stuck
- 6 Clear the code and test-drive to verify the repair, monitoring live data for solenoid operation
- 7 If the code persists, inspect the valve body and hydraulic passages for debris or wear



Solenoid A faults often misdiagnosed

- A low or dirty ATF level can cause solenoid A to stick intermittently, setting P1751 without any electrical fault, so always check fluid condition first.
- The TCM may command a default limp mode that feels like a major transmission failure, but the root cause is often just a contaminated solenoid or clogged screen.
- Wiring harness chafing near the transmission mount is a common hidden cause on older Mazda models, so inspect the loom carefully before condemning the solenoid.
- After replacing the solenoid, some Mazda transmissions require a relearn procedure or the code may reset until adaptive learning is completed.
- P1751 can be triggered by a faulty pressure control solenoid or valve body issue that mimics solenoid A failure, so live data graphing is essential for accurate diagnosis.

Can I keep driving with P1751?

You can drive cautiously to a repair shop if the transmission still shifts, but avoid heavy acceleration or towing because prolonged driving with a faulty solenoid can cause internal transmission damage. If the vehicle enters limp mode or refuses to shift, stop driving and arrange a tow.

Tools that help

- OBD-II scan tool with live data and bidirectional control
- Digital multimeter for resistance and voltage checks
- Transmission fluid level dipstick or extraction pump
- Socket set and torque wrench for solenoid removal
- Factory service information for Mazda solenoid specifications

Reading P1751

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Mazda): its meaning depends on the make.
7	Transmission.
51	The exact fault within that area.

Often seen with

P0700 Transmission Control System Malfunction · **P0740** Torque Converter Clutch Circuit Malfunction · **P0750** Shift Solenoid 'A' · **P0755** Shift Solenoid 'B' · **P0760** Shift Solenoid 'C'



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/mazda-p1751/>

