

TOYOTA · POWERTRAIN

P1780

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1780 · Toyota

Park Neutral Position Switch Malfunction Only For A/T

P1780 on Toyota vehicles means the powertrain control module (PCM) has detected an implausible signal from the Park/Neutral Position (PNP) switch, which tells the computer whether the automatic transmission is in Park, Neutral, or a drive gear. The PCM compares this switch input against vehicle speed and engine load, and when the combination does not match expected values, it stores this code and may disable certain functions.

SYSTEM

Powertrain

CODE TYPE

Toyota specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Transmission

Symptoms you may notice

- The check engine light or automatic transmission warning light illuminates on the dashboard.
- The engine may crank but not start in Park or Neutral because the PCM does not recognize the correct gear position.
- The reverse lights may fail to come on, or they may stay on constantly regardless of gear selection.
- The transmission may shift harshly or refuse to enter overdrive because the PCM cannot confirm the gear range.
- The vehicle may not start at all in certain gear positions, forcing the driver to jiggle the shifter.
- Often no symptoms besides the warning light, especially if the switch fault is intermittent.

Common causes, most likely first

- 1 A worn or misadjusted Park/Neutral Position switch on the transmission, which is the most common cause on older Toyota models.
- 2 Corroded, chafed, or disconnected wiring in the PNP switch circuit, particularly at the connector on the transmission case.
- 3 A faulty transmission range sensor internal contact that fails to close or open correctly in specific gear positions.
- 4 Loose or damaged mounting bolts that allow the switch to shift out of alignment with the manual valve.
- 5 A PCM that misinterprets a valid switch signal due to a software glitch or internal fault, though this is rare.
- 6 Debris or fluid contamination inside the switch connector causing intermittent electrical continuity.



How to diagnose and fix it

- 1 Use a scan tool to read the PNP switch data stream and confirm the PCM sees Park, Neutral, Reverse, and Drive correctly as the shifter is moved.
- 2 Inspect the PNP switch connector and wiring harness for corrosion, loose pins, or chafed insulation, and clean or repair as needed.
- 3 Check the switch adjustment by aligning the matchmarks on the switch body and transmission housing, then verify continuity in each gear position.
- 4 Test the switch with a multimeter for continuity between the specified terminals in Park, Neutral, and Reverse according to the Toyota service information.
- 5 Replace the Park/Neutral Position switch if it fails continuity or adjustment checks, then clear the code and verify the data stream reads correctly.
- 6 Clear the diagnostic trouble code and perform a road test to confirm the code does not return and that reverse lights and starting functions work properly.
- 7 If the code persists after switch replacement, inspect the PCM connectors and wiring for shorts to ground or power, and check for any related transmission control module codes.

Why a P1780 is often a simple switch adjustment

- Many Toyota P1780 codes are set by a switch that is simply out of adjustment rather than failed, so always check alignment before replacing parts.
- A weak or failing battery can cause the PCM to misread the PNP switch signal during cranking, setting this code even when the switch is good.
- Aftermarket remote start systems that tap into the PNP switch wiring can introduce voltage spikes or ground loops that trigger P1780 intermittently.
- The PNP switch on some Toyota models also controls the reverse lights and starter circuit, so a code may appear alongside a no-crank or no-reverse-light complaint.
- Do not confuse P1780 with P0705 or P0850, which are generic range sensor codes; P1780 is Toyota-specific and often points to the switch adjustment or connector rather than the sensor itself.

Can I keep driving with P1780?

You can usually drive the vehicle if it starts and shifts normally, but avoid relying on reverse lights or assuming the car will start every time. If the engine will not crank in Park or Neutral, do not continue driving until the fault is repaired.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Toyota service information or wiring diagram
- Socket set and ratchet
- Jack and jack stands or ramps

Reading P1780

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

Often seen with

P1781 Engine Torque Reduction Open Short To Ground · **P1781** Transmission 4x4 Low Switch Out Of Range Fault · **P1781** Upshift Delay Switchover Valve ATCC Y35 · **P1781** Transmission 4x4 Low Switch Out Of Range Fault · **P1781** 4x4 Low Switch is Out of Self-Test Range · **P0705** Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0708** Transmission Range Sensor Circuit High · **P0850** Park/Neutral Switch Input Circuit

See it working

Watch the animated explainer [V6 Engine Explained: 60° Bank and Firing Order](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/toyota-p1780/>

