

GENERIC · POWERTRAIN

P09A8

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P09A8

Gate Select Position Circuit C Low

P09A8 indicates that the transmission control module (TCM) has detected a low-voltage condition on the gate select position circuit C, which is used to confirm the physical position of the gear selector in vehicles with an electronic shift system. The circuit voltage is below the expected threshold, so the TCM cannot reliably determine the selector's position and sets this code.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Transmission

Symptoms you may notice

- Illumination of the check engine light or transmission warning light
- Often no symptoms besides the warning light
- Inability to shift into certain gears or the selector feeling unresponsive
- Transmission may default to a limp mode or fail to engage drive or reverse
- Intermittent or erratic gear position display on the instrument cluster
- Harsh or delayed shifting due to the TCM using default strategies

Common causes, most likely first

- 1 Faulty gate select position sensor or switch
- 2 Damaged or corroded wiring harness or connector at the sensor
- 3 Open or short to ground in circuit C
- 4 Poor electrical connection at the TCM
- 5 Internal TCM fault
- 6 Mechanical binding or misalignment of the shift mechanism

How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in the TCM
- 2 Inspect the gate select position sensor connector and wiring for damage or corrosion
- 3 Measure resistance and voltage on circuit C according to the manufacturer's specification
- 4 Check the sensor's ground and power supply circuits
- 5 Test the sensor's output signal while moving the gear selector through its range
- 6 Replace the gate select position sensor if faulty
- 7 Repair or replace damaged wiring or connectors, then clear codes and retest



Circuit C Low Is Not Always the Sensor

- A low voltage on circuit C often results from a poor ground connection rather than a failed sensor, so always check ground points first.
- The gate select position sensor may share its ground or reference voltage with other sensors, and a fault in a shared circuit can set this code.
- Mechanical wear in the shift linkage can cause the sensor to read out of range, mimicking an electrical fault.
- After repairs, the TCM may require a relearn procedure for the gate select positions, which is often overlooked.
- This code can be set intermittently by water intrusion into the connector, so inspect for signs of moisture or corrosion.

Can I keep driving with P09A8?

If the vehicle drives normally, you can drive to a repair shop, but avoid relying on the gear selector display and be prepared for a possible limp mode. If the transmission fails to engage gears or behaves erratically, stop driving and have the vehicle towed to prevent damage.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Wiring diagram for the specific vehicle
- Socket set and trim removal tools
- Contact cleaner and dielectric grease

Reading P09A8

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
9	Transmission.
A8	The exact fault within that area.

Often seen with

P0705 Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P09A7** Gate Select Position Circuit C Range/Performance · **P09A9** Gate Select Position Circuit C High



See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p09a8/>

