

GENERIC · POWERTRAIN

P07BF

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P07BF

Input/Turbine Shaft Speed Sensor A Circuit Low

P07BF means the transmission control module (TCM) has detected a low-voltage signal on the input/turbine shaft speed sensor A circuit, which measures how fast the transmission input shaft is spinning. The computer expects a fluctuating AC voltage from the sensor but sees a signal that stays below the minimum threshold for too long.

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

Symptoms you may notice

- Illumination of the check engine light or transmission warning light, often with no other noticeable symptoms
- Harsh or delayed shifting, especially when the transmission tries to adapt to changing speeds
- The transmission may enter limp mode or default to a fixed gear ratio
- Incorrect or erratic speedometer readings on some vehicles that share the sensor signal
- Poor fuel economy or increased engine RPM at cruising speeds due to improper shift scheduling
- A stored P07BF code with no drivability complaints if the fault is intermittent

Common causes, most likely first

- 1 Damaged, frayed, or corroded wiring in the input/turbine speed sensor circuit, especially at connectors or where the harness bends
- 2 A failed input/turbine shaft speed sensor that no longer produces a proper signal
- 3 Metal debris or clutch material buildup on the sensor tip, blocking the magnetic pickup
- 4 A poor electrical ground or reference voltage issue at the TCM or sensor connector
- 5 Internal transmission mechanical wear causing the input shaft to wobble and damage the sensor
- 6 A faulty TCM that misinterprets a good sensor signal, though this is less common
- 7 Aftermarket or incorrect sensor installation that leaves the air gap out of specification



How to diagnose and fix it

- 1 Scan all modules for stored codes and freeze-frame data to confirm P07BF is the primary fault and not a secondary symptom
- 2 Visually inspect the sensor, connector, and wiring harness for damage, corrosion, or loose pins, and repair as needed
- 3 Measure the sensor resistance and compare it to the manufacturer's specification to rule out an open or shorted sensor
- 4 Check the sensor air gap and clean any metallic debris from the sensor tip if accessible
- 5 Back-probe the sensor signal circuit at the TCM and observe the AC voltage waveform with a lab scope while rotating the input shaft by hand or during a road test
- 6 Verify the sensor reference voltage and ground at the connector with a multimeter, repairing any voltage drop or ground issue
- 7 Replace the input/turbine shaft speed sensor if all electrical checks pass but the signal remains low, then clear codes and perform a relearn or adaptation drive cycle

What a low input speed signal really means

- A low signal does not always mean the sensor is dead; a short to ground in the harness or a poor connector terminal can pull the signal voltage down and mimic a failed sensor.
- Metal shavings on the sensor magnet are a common cause that many technicians miss because the sensor still tests good on a bench, but the debris prevents a clean signal.
- The input/turbine speed sensor is often shared with the speedometer or cruise control on some platforms, so a P07BF can appear alongside unrelated drivability complaints.
- Intermittent P07BF codes that set only on cold starts or after rain often point to a wiring harness chafe that moves with temperature or moisture, not a failing sensor.
- Replacing the sensor without checking the air gap or the condition of the tone ring can lead to a repeat failure within a few thousand miles.

Can I keep driving with P07BF?

You can usually drive the vehicle to a repair shop, but avoid aggressive acceleration or heavy towing because the transmission may shift harshly or enter limp mode without warning. If the transmission slips or refuses to shift, stop driving and have it towed to prevent internal damage.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probing pins
- Automotive lab scope for waveform analysis
- Feeler gauges for air gap measurement
- Socket set and trim removal tools for sensor access
- Manufacturer service information for wiring diagrams and resistance specs

Reading P07BF

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

Often seen with

P0715 Input/Turbine Speed Sensor Circuit Malfunction · **P07B5** Transmission Park Position Sensor/Switch A Circuit Performan · **P07B6** Transmission Park Position Sensor/Switch A Circuit Performan · **P07B7** Transmission Park Position Sensor/Switch A Circuit Intermitt · **P07B8** Transmission Park Position Sensor/Switch B Circuit/Open

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/p07bf/>

