

GENERIC · POWERTRAIN

P215C

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P215C

Output Shaft Speed - Wheel Speed Correlation

P215C indicates that the powertrain control module (PCM) has detected a mismatch between the vehicle's output shaft speed sensor and the wheel speed sensors, typically comparing the transmission output to the anti-lock brake system (ABS) wheel speeds. The computer expects these two speed signals to correlate within a calibrated tolerance during driving, and it sets this code when the calculated difference exceeds that threshold for a specified time.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Illumination of the anti-lock brake system (ABS) warning light or traction control light
- Erratic or harsh transmission shifting, especially during acceleration or deceleration
- Speedometer needle fluctuation or incorrect speed reading
- Transmission may enter limp mode, limiting vehicle speed and gear selection
- Cruise control may become inoperative or disengage unexpectedly

Common causes, most likely first

- 1 Faulty output shaft speed sensor or damaged sensor wiring/connector
- 2 Contaminated or failing wheel speed sensor at one or more wheels
- 3 Damaged or corroded reluctor ring (tone ring) on a wheel hub or axle
- 4 Wiring harness damage between the output shaft sensor, wheel speed sensors, and the PCM/ABS module
- 5 Internal transmission mechanical wear causing actual output speed deviation (e.g., slipping)
- 6 Mismatched tire sizes or excessive tire wear causing wheel speed differences
- 7 Faulty PCM or ABS module (less common, but possible)



How to diagnose and fix it

- 1 Use a scan tool to read all stored codes and freeze-frame data, and record output shaft and wheel speed sensor readings during a test drive.
- 2 Inspect all tires for size, wear, and pressure; correct any mismatches that could cause wheel speed correlation errors.
- 3 Visually inspect the output shaft speed sensor, wheel speed sensors, and their wiring/connectors for damage, corrosion, or loose connections.
- 4 Perform a resistance and signal check on the output shaft speed sensor and each wheel speed sensor using a multimeter or oscilloscope.
- 5 Check the reluctor rings on each wheel for cracks, missing teeth, or debris buildup that could disrupt the signal.
- 6 If sensor signals are normal, inspect the transmission for mechanical issues (e.g., slipping) that could cause actual output speed deviation.
- 7 Repair or replace the faulty sensor, wiring, or reluctor ring as needed, then clear codes and verify the correlation during a road test.

Before replacing the output shaft sensor

- A common oversight is mismatched tire sizes or uneven tire wear, which alters wheel speed signals and triggers P215C without any sensor fault.
- The code can be set by a failing ABS wheel speed sensor even when the ABS light is not illuminated, so always scan the ABS module for pending codes.
- Debris or metal shavings on a wheel speed sensor magnet or reluctor ring can cause intermittent correlation errors that do not appear during a stationary inspection.
- A slipping transmission can produce a real output shaft speed deviation, so verify sensor signals against actual vehicle speed before condemning electronics.
- After any repair, a relearn or calibration procedure may be required for the new sensor or module to restore proper correlation.

Can I keep driving with P215C?

It is generally safe to drive with P215C if the vehicle behaves normally, but avoid aggressive acceleration or towing until diagnosed. If the transmission enters limp mode or shifting becomes erratic, seek service promptly to prevent further damage.



Tools that help

- OBD-II scan tool with live data and ABS capability
- Digital multimeter
- Oscilloscope (for signal analysis)
- Jack and jack stands or a lift
- Tire tread depth gauge and pressure gauge
- Basic hand tools (wrenches, sockets, screwdrivers)

Reading P215C

P	Powertrain: engine, transmission and emissions.
2	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
1	Fuel and air metering.
5C	The exact fault within that area.

Often seen with

C0035 Left Front Wheel Speed Sensor Circuit Range/Performance · **P0500** Vehicle Speed Sensor Malfunction · **P0720** Output Speed Sensor Circuit Malfunction · **P0721** Output Speed Sensor Range/Performance · **P0722** Output Speed Sensor Circuit No Signal

See it working

Watch the animated explainer [How ABS Works: Anti-Lock Brakes in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p215c/>

