

SUBARU · POWERTRAIN

P1515

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1515 · Subaru

Idle Air Control Solenoid Signal 3 Circuit High Input

P1515 on a Subaru means the engine control module (ECM) has detected an abnormally high voltage on the signal circuit for one of the idle air control (IAC) solenoid windings, identified as signal 3. The ECM expects the solenoid to draw current and pull the signal voltage low when commanded, so a high input tells the computer the circuit is open, the solenoid winding is broken, or the connector has lost contact.

SYSTEM

Powertrain

CODE TYPE

Subaru specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The check engine light is illuminated, and on many Subarus this is the only symptom the driver notices.
- Idle speed that hangs high, flares on start-up, or fluctuates instead of settling to the normal target.
- The engine may stall when you come to a stop or when the throttle is snapped closed.
- Rough or surging idle quality, especially with the air conditioning or electrical load switched on.
- A pending P1515 may appear intermittently after driving over bumps or in wet weather if the connector is loose.

Common causes, most likely first

- 1 Open or broken wire in the IAC signal 3 circuit between the ECM and the idle air control solenoid connector.
- 2 Corroded, backed-out, or water-intruded pins in the IAC solenoid connector or the ECM connector.
- 3 Failed idle air control solenoid winding, typically an open coil on the signal 3 channel.
- 4 Damaged or chafed harness section near the intake manifold or throttle body where heat and vibration are highest.
- 5 Poor ground or reference voltage shared with the IAC circuit, causing the ECM to see an elevated signal voltage.
- 6 Rarely, an internal fault in the ECM driver for that signal channel.



How to diagnose and fix it

- 1 Clear the code and road test to confirm P1515 returns; note any freeze-frame data such as engine temperature and idle speed.
- 2 Inspect the IAC solenoid connector and the ECM connector for corrosion, pushed-back pins, or water intrusion, and repair terminals as needed.
- 3 Measure resistance across the IAC solenoid windings at the solenoid connector and compare with the Subaru service specification for your engine.
- 4 With the ignition on and the connector unplugged, back-probe the signal 3 wire at the ECM to check for an open circuit or short to voltage.
- 5 Perform a wiggle test on the harness while watching live IAC commanded position and signal voltage on a scan tool to catch intermittent faults.
- 6 If the wiring and connectors test good but the solenoid winding is open or out of specification, replace the idle air control solenoid.
- 7 After repair, clear codes, relearn the idle, and verify the commanded and actual idle speeds match through a full warm-up cycle.

What a high IAC signal really tells you

- A high input on signal 3 almost always means the ECM is seeing an open circuit rather than a shorted solenoid, so chasing a short to ground wastes time.
- Subaru IAC connectors are a common water-trap point, and corrosion inside the plug can set P1515 even when the solenoid itself tests perfectly on the bench.
- A vacuum leak or dirty throttle body can make the ECM command the IAC far from its normal range, and the resulting signal can trip P1515 on some Subaru engines.
- The code does not automatically condemn the IAC solenoid; a chafed harness near the intake manifold has produced this fault on many high-mileage Subarus.
- After replacing the IAC or repairing wiring, the ECM may need an idle relearn procedure, and skipping it can leave a high or hunting idle that looks like a repeat failure.

Can I keep driving with P1515?

You can usually drive the car to a workshop, but expect an unstable or high idle and a possible stall when coming to a stop. Avoid heavy stop-and-go traffic and long idling until the fault is repaired, and do not ignore a stalling idle because it affects power steering and brake assist.



Tools that help

- OBD-II scan tool with live data and bidirectional idle control capability
- Digital multimeter with back-probe pins
- Subaru service information for IAC resistance and pinout
- Terminal pick and electrical contact cleaner
- Hand tools for intake and throttle body access

Reading P1515

- P** Powertrain: engine, transmission and emissions.
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- 1** Manufacturer-specific code (Subaru): its meaning depends on the make.
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- 5** Vehicle speed, idle control and auxiliary inputs.
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- 15** The exact fault within that area.

Often seen with

P1518 Main Relay Circuit Short To B+ · **P1516** Intake Manifold Changeover Valve Circuit Open · **P1517** Main Relay Circuit Electrical Malfunction · **P1518** Starter Switch Circuit Low Input · **P1516** Idle Air Control Solenoid Signal 4 Circuit Low Input · **P1517** Idle Air Control Solenoid Signal 4 Circuit High Input · **P1516** Gear Change Neutral Drive Fault · **P1517** Cranking Neutral Drive Fault · **P1516** Gear Change Neutral Drive Fault · **P1517** Cranking Neutral Drive Fault · **P1518** Throttle Actuator Control (TAC) Module Serial Data Circuit · **P1516** Throttle Actuator Control (TAC) Module Throttle Actuator Pos · **P1517** Throttle Actuator Control (TAC) Module Performance · **P1517** Intake Manifold Runner Control Input Error · **P1518** Intake Manifold Runner Control Fault Stuck Open · **P1516** Intake Manifold Runner Control Input Error · **P1518** Throttle Actuator Control (TAC) Module Serial Data Circuit · **P1517** Throttle Actuator Control (TAC) Module Performance · **P1516** Throttle Actuator Control (TAC) Module Throttle Actuator Pos · **P0505** Idle Control System Malfunction · **P0506** Idle Control System RPM Lower Than Expected

See it working

Watch the animated explainer [How a Supercharger Works: Roots Blower in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/subaru-p1515/>

