

GENERIC · POWERTRAIN

P0605

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0605

Internal Control Module ROM Error

P0605 means the engine control module (ECM) has detected a checksum or verification failure inside its own read-only memory (ROM), the permanent memory that holds its operating software. The module runs a self-test at key-on and during operation, and when the stored program data does not match the expected values it flags this internal fault and may enter a limp or default mode.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	High	Professional	Computer and output circuits

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough running, stalling, or erratic idle as the module falls back to default operating strategies
- Reduced engine power or limp mode with limited throttle response
- Failed or refused emissions inspection because readiness monitors cannot complete
- Intermittent no-start or crank-no-start condition when the self-test fails at key-on
- Other unrelated codes stored at the same time because the module's calculations are unreliable

Common causes, most likely first

- 1 Corrupted or failed flash memory inside the ECM itself, the most common root cause
- 2 Low or unstable battery voltage during a reflash or while the module was writing memory
- 3 Water intrusion or corrosion at the ECM connector or circuit board
- 4 Poor ground or power supply to the ECM causing voltage spikes that corrupt memory
- 5 An interrupted or incorrect software update or reprogramming event
- 6 A failed ECM internal self-test circuit rather than the memory chip itself

How to diagnose and fix it

- 1 Scan all modules and record every stored and pending code before clearing anything
- 2 Check battery state of charge and test the charging system for stable voltage above 12.4 volts at rest
- 3 Inspect the ECM connectors, pins, and grounds for corrosion, water intrusion, or loose terminals
- 4 Verify power and ground circuits to the ECM with a multimeter under load
- 5 Check for and install any applicable ECM software update or reprogramming per the manufacturer's procedure
- 6 Clear the code and perform a key-on self-test to see whether P0605 returns immediately
- 7 If the fault persists after voltage and connection repairs, replace and reprogram the ECM



Why P0605 is rarely a sensor problem

- P0605 points at the ECM's own memory, so replacing sensors, coils, or injectors will not fix it and wastes money.
- A weak battery or failing alternator is a common hidden trigger because voltage dips during a reflash or key-on self-test can corrupt ROM data.
- Many vehicles set P0605 only intermittently, and the code may clear after a stable battery reset, which can mask a failing module.
- After an ECM replacement the module must be programmed and often requires immobilizer or theft-deterrent relearning before the engine will start.
- P0605 is frequently accompanied by communication or other internal module codes, so read every module rather than only the engine computer.

Can I keep driving with P0605?

Treat P0605 as a serious fault because the ECM may be running on default data or could fail completely without warning. Limit driving to a short trip to a repair shop and avoid highway speeds, towing, or heavy loads until the module is diagnosed.

Tools that help

- OBD-II scan tool with bidirectional control and module self-test capability
- Digital multimeter for voltage and ground checks
- Battery load tester and charging system tester
- ECM connector pinout and wiring diagram for the vehicle
- Manufacturer-approved reprogramming tool or J2534 pass-thru device

Reading P0605

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

Often seen with

P0600 Serial Communication Link Malfunction · **P0601** Internal Control Module Memory Checksum Error · **P0602** Control Module Programming Error · **P0606** PCM Processor Fault · **U0100** Lost Communication With ECM/PCM A



See it working

Watch the animated explainer [EV Powertrain Trainer: How an Electric Car Drives](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0605/>

