



P06EF

Engine Restart Performance

P06EF indicates that the engine control module (ECM) has detected a problem with the engine restart performance, typically during a stop-start event where the engine automatically shuts off and then fails to restart smoothly or at all. The ECM monitors restart timing and may set this code if the restart takes too long, fails to occur, or if certain conditions are not met during the restart sequence.

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

Symptoms you may notice

- The engine may fail to restart after an automatic stop, leaving the vehicle stranded
- The restart may be delayed or rough, with noticeable hesitation or shudder
- The stop-start system may be disabled, and the engine may not shut off at stops
- A warning light on the dashboard, often the check engine light or a specific stop-start system warning
- In some cases, there may be no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Weak or failing 12-volt battery, which cannot supply enough power for the restart
- 2 Faulty starter motor or starter solenoid that does not engage reliably
- 3 Problems with the stop-start system's auxiliary battery or capacitor
- 4 Defective engine crankshaft position sensor or camshaft position sensor, causing incorrect timing signals
- 5 Issues with the throttle body or electronic throttle control, leading to poor restart air control
- 6 Faulty engine control module (ECM) software or hardware, though rare
- 7 Wiring or connector problems in the stop-start system circuits

How to diagnose and fix it

- 1 Perform a battery test, including a load test and check of the state of charge, and replace the battery if it fails
- 2 Check for any stored diagnostic trouble codes (DTCs) in other modules, especially the body control module (BCM) and battery management system, and address them first
- 3 Inspect the starter motor and solenoid for proper operation, including voltage drops during cranking
- 4 Test the auxiliary battery or capacitor used for the stop-start system, if equipped, and replace if defective
- 5 Check the crankshaft and camshaft position sensors for signal integrity and replace if faulty
- 6 Clean the throttle body and perform a throttle relearn procedure if applicable
- 7 Reprogram or update the ECM software if a known issue exists, following manufacturer procedures



Stop-Start System Quirks and Hidden Causes

- A weak battery is the most common cause of P06EF, but it may still start the engine normally under normal conditions; the stop-start system demands higher power for frequent restarts.
- The code can be set by a momentary voltage drop during restart, even if all components seem fine, so checking for loose or corroded battery terminals and ground connections is crucial.
- Some vehicles use a separate auxiliary battery for the stop-start system, and its failure may not illuminate a traditional battery light, leading to misdiagnosis.
- P06EF can be triggered by a faulty hood switch or door switch that falsely indicates the hood is open, preventing restart for safety reasons.
- After replacing the battery or related components, the stop-start system may require a relearn or initialization procedure using a scan tool to clear the code and restore function.

Can I keep driving with P06EF?

If the vehicle restarts normally and the only symptom is the warning light, you can drive it, but avoid relying on the stop-start feature and get it diagnosed soon. If the engine fails to restart or restarts roughly, avoid driving to prevent stalling in traffic, and have the vehicle towed to a repair shop.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Battery load tester
- Test light
- Socket set and wrenches

Reading P06EF

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.
EF	The exact fault within that area.

Often seen with

P06E8 Sensor Power Supply C Circuit High · **P06E9** Engine Starter Performance · **P06EA** NOx Sensor Processor Performance Bank 1 Sensor 1 · **P06EB** NOx Sensor Processor Performance Bank 1 Sensor 2 · **P06EC** Fuel Injector Control Module Requested MIL Illumination



See it working

Watch the animated explainer [How an Elevator Works: Traction Lift in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06ef/>

