



## P1107 · Ford

### Dual Alternator Lower Circuit Malfunction

This code means the powertrain control module (PCM) has detected an abnormal condition on the lower control circuit of the secondary alternator, which Ford uses on some diesel and heavy-duty gasoline applications to share charging load. The PCM monitors the voltage or current feedback on that circuit and sets P1107 when the signal falls outside the expected range for the commanded alternator state.

| SYSTEM     | CODE TYPE     | SEVERITY | FIX DIFFICULTY | AREA                  |
|------------|---------------|----------|----------------|-----------------------|
| Powertrain | Ford specific | Medium   | Intermediate   | Fuel and air metering |

### Symptoms you may notice

- Illuminated battery or charging system warning light on the instrument cluster
- Often no symptoms besides the warning light, especially if the primary alternator still carries the electrical load
- Battery voltage that reads low or fluctuates on the gauge or with a voltmeter
- Dimming headlights or interior lights at idle when electrical demand is high
- Battery that goes flat overnight or after short drives if the secondary alternator is not contributing
- Electrical accessories such as heated seats or rear defroster that perform poorly when both alternators are needed

### Common causes, most likely first

- 1 Damaged, corroded or disconnected wiring in the lower alternator control circuit, including the connector at the secondary alternator
- 2 Failed secondary alternator, particularly a worn regulator or open field winding
- 3 Blown fuse or fusible link that feeds the lower alternator control circuit
- 4 Poor ground connection at the secondary alternator mounting or engine block
- 5 Faulty powertrain control module (PCM) driver for the lower alternator circuit, though this is less common
- 6 Corrosion or water intrusion in the harness connector causing intermittent signal loss



## How to diagnose and fix it

- 1 Inspect the secondary alternator connector and the lower control circuit wiring for corrosion, chafing or loose pins, and repair as needed
- 2 Check the fuse and fusible link that supply the lower alternator control circuit and replace any that are open
- 3 Measure battery voltage at idle with all accessories off, then with heavy electrical load, to confirm whether the secondary alternator is contributing
- 4 Back-probe the lower control circuit at the PCM and at the alternator to check for continuity and correct voltage with the key on and engine running
- 5 Perform a charging system test on the secondary alternator using a scan tool to command the PCM and observe the lower circuit feedback
- 6 If wiring and fuses are good but the circuit does not respond, replace the secondary alternator and clear the code
- 7 After repair, clear the diagnostic trouble code (DTC) and verify the charging system operates correctly under load with no pending codes

## What Ford techs check before alternator replacement

- A loose or corroded ground at the secondary alternator bracket is a frequent cause of P1107 that gets missed because the main battery ground looks fine.
- The code can set intermittently from water intrusion into the lower alternator connector, so a wiggle test of the harness while watching live data often reveals the fault.
- A weak primary alternator can mask a secondary alternator problem, so both units must be tested together under full electrical load.
- Some technicians replace the secondary alternator only to find the PCM driver circuit is open, so always verify control circuit continuity from the PCM to the alternator before condemning the unit.
- P1107 does not always mean the alternator has failed; a blown fuse in the control circuit feed will set the same code with a perfectly good alternator.

## Can I keep driving with P1107?

You can usually drive short distances to a repair shop because the primary alternator often keeps the battery charged, but avoid long trips, heavy electrical loads and night driving until the fault is fixed. If the battery warning light is accompanied by dimming lights or a voltage gauge reading below 12 volts, stop and have the vehicle towed to prevent a no-start or stall.



## Tools that help

- Digital multimeter
- Scan tool with Ford-specific live data capability
- Test light
- Wiring diagram for the charging system
- Battery load tester

## Reading P1107

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Ford): its meaning depends on the make.
- 1** Fuel and air metering.
- 07** The exact fault within that area.

## Often seen with

**P1106** Oxygen Sensor Circuit Bank 2 Sensor 1 Voltage Too Low/Air Le · **P1247** Needle Lift Sensor Circuit Open/Short To B+ · **P1106** Engine Torque Control Signal 2 Circuit Malfunction · **P1106** BARO Circuit Range Performance Malfunction · **P1247** Accelerator Position Sensor 2 Circuit Malfunction · **P1106** BARO Circuit Range Performance Malfunction · **P1247** Accelerator Position Sensor 2 Circuit Malfunction · **P1106** MAP Sensor Circuit Voltage Intermittent · **P1106** Dual Alternator Lower Fault Manifold Absolute Pressure (MAP) · **P1247** Turbo Boost Pressure Low · **P1106** MAP Sensor Circuit Intermittent High Voltage · **P0620** Generator Control Circuit Malfunction · **P0625** Generator Field/F Terminal Circuit Low · **P0650** Malfunction Indicator Lamp (MIL) Control Circuit Malfunction

## See it working

Watch the animated explainer [How a Boxer Engine Works: Flat Engine Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1107/>

