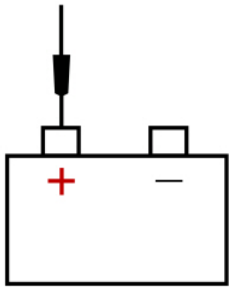

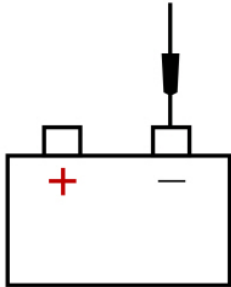


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2015 FORD Mustang Convertible OEM Service and Repair Workshop Manual

[Go to manual page](#)

Positive Lead	Measurement / Action	Negative Lead
		

- Measure :

Positive Lead	Measurement / Action	Negative Lead
C1251B		Ground

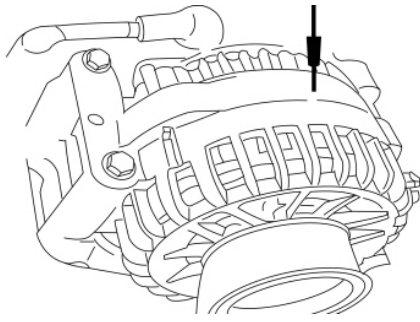
Is the voltage within 0.5 volt of the recorded battery voltage?

Yes	GO to D5
------------	--------------------------

No	<p>TIGHTEN or INSTALL a new generator B+ nut as needed. REFER to: Generator - 3.3L Duratec-V6 (414-02 Generator and Regulator, Removal and Installation).</p> <p>REFER to: Generator - 5.0L 32V Ti-VCT (414-02 Generator and Regulator, Removal and Installation).</p> <p>VERIFY BJB fuse F201 (300A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.</p>
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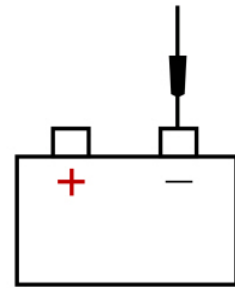
D5 CHECK THE VOLTAGE DROP IN THE GENERATOR B+ CIRCUIT

- Start the engine.
- With the engine running at idle, headlamps on and blower on high, measure:



Generator case

V



Is the voltage drop less than 0.5 volt?

Yes

GO to [D7](#)

No

INSPECT and REPAIR the engine ground, generator ground or the battery ground for corrosion.

D7 MONITOR THE GENERATOR VOLTAGE DESIRED (GENVDSD) PID (PARAMETER IDENTIFICATION) WHILE COMMANDED

- Using a diagnostic scan tool, view the DC (direct current) / AC (alternating current) inverter GENVDSD PID (parameter identification) .
- Using a diagnostic scan tool active command, set Access the PCM (powertrain control module) and monitor the GENVDSD (Generator Voltage Desired) (V) PID (parameter identification) to 14 volts.
- With the engine still running at idle, measure battery and record:

Positive Lead

Measurement /
Action


Negative Lead

Yes	GO to D9
------------	--------------------------

No	REPAIR high resistance or loose connections in the affected DC (direct current) / AC (alternating current) inverter power circuit(s).
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D9 CHECK DC (DIRECT CURRENT) / AC (ALTERNATING CURRENT) INVERTER VOLTAGE SUPPLY CIRCUITS

- Ignition OFF.
- Disconnect DC (direct current) / AC (alternating current) inverter C3501C .
- Ignition ON.
- Measure and record:

Positive Lead	Measurement / Action	Negative Lead
C3501C-6		Ground

Are the voltages within 0.5 volt of the recorded battery voltage?

Yes	GO to D10
------------	---------------------------

No	REPAIR the affected circuit(s).
-----------	---------------------------------

D10 CHECK DC (DIRECT CURRENT) / AC (ALTERNATING CURRENT) INVERTER MODULE GROUND FOR HIGH RESISTANCE

NOTE

Measure battery voltage at the battery.

With the engine still running at idle, turn off all accessory loads, measure and record:

Positive Lead	Measurement / Action	Negative Lead

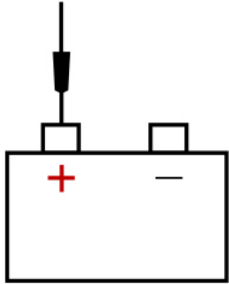

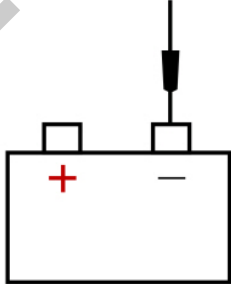
D11 MONITOR THE SUPPLY VOLTAGE (VPWR) PID (PARAMETER IDENTIFICATION)

- NOTE**

Measure battery voltage at the battery.

With the engine still running at idle, turn off all accessory loads.

- Measure and record:

Positive Lead	Measurement / Action	Negative Lead
		

- Access the PCM (powertrain control module) and monitor the VPWR (Module Supply Voltage) (V) PID (parameter identification) and record.
- Momentarily accelerate the engine to Wide Open Throttle (WOT) and release. Repeat this step 4-5 times while continuing to monitor the PID (parameter identification) .

Does the PID (parameter identification) stay within 0.5 volt of the recorded battery voltage when the engine Revolutions Per Minute (RPM) are increased?

<p>Yes</p>	<p>The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. INSPECT and REPAIR any connector or pin issues found. If no connector or pin issues are found, PERFORM the battery drain test.</p> <p>REFER to: Battery Drain Check (414-01 Battery, Mounting and Cables, General Procedures).</p>
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this test and FOLLOW the TSB (Technical Service Bulletin) instructions. If no Technical Service Bulletins (TSBs) address this concern,



Guided Routine available in the on-line Workshop Manual.

No

The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST E : SECONDARY GENERATOR OVER TEMPERATURE

Normal Operation and Fault Conditions

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
PCM (powertrain control module) P2D59:00	Generator 'B' Over Temperature: No Sub Type Information	Sets in the PCM (powertrain control module) when secondary generator over temperature is detected.

Possible Sources

- PCM (powertrain control module)

E1 PERFORM INSPECTION AND VERIFICATION

- Ignition ON.
- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Using a diagnostic scan tool, perform the PCM (powertrain control module) self-test and DIAGNOSE any cooling fan Diagnostic Trouble Codes (DTCs).

Is DTC (diagnostic trouble code) P0A3B recorded?

Yes

If no cooling fan DTC (diagnostic trouble code) s are present, INSTALL a new generator.
REFER to: [Generator - 3.3L Duratec-V6](#)

- Check the generator mounting for loose bolts or misalignment.

Is the generator mounted correctly?

Yes	GO to F3
------------	--------------------------

No	REPAIR as necessary.
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F3 CHECK THE GENERATOR FOR NOISE

- Start the engine.
- With the engine running, use a stethoscope or equivalent listening device to probe the generator and the accessory drive area for unusual mechanical noise.

Is the generator the noise source?

Yes	GO to F4
------------	--------------------------

No	Diagnose the source of the engine noise. REFER to: Engine - Flex Fuel – Ethanol/Full Hybrid Electric Vehicle (FHEV)/Gasoline (303-00 Engine System - General Information, Diagnosis and Testing) .
-----------	---

F4 CHECK GENERATOR CLUTCH OPERATION

- Ignition OFF.
- Perform the generator clutch component test. [GO to Pinpoint Test I](#)

Is the generator clutch OK?

Yes	INSTALL a new generator. REFER to: Generator - 3.3L Duratec-V6 (414-02 Generator and Regulator, Removal and Installation) . REFER to: Generator - 5.0L 32V Ti-VCT (414-02 Generator and Regulator, Removal and Installation) .
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No	INSTALL a new generator clutch. REFER to: Generator Pulley
-----------	---

- Inspect the BJB (battery junction box) fuse 201 (300A).
- Inspect the FEAD (front end accessory drive) belt.
- Inspect the battery monitoring sensor.

NOTE

Make sure battery voltage is greater than 12.2 volts prior to and during this pinpoint test.

NOTE

Do not have a battery charger attached during vehicle testing.

G1 CHECK VEHICLE FOR PRESENCE OF GRILLE SHUTTERS


- U012D:00 and U042:00 are usually caused by wiring or water intrusion in inline connectors.
- Clear DTC's.
- Start engine.
- Run for 2 minutes.
- check for DTC (diagnostic trouble code) 's.

Did DTC (diagnostic trouble code) 's return?

Yes	GO to G2
No	Check connectors C134 and C146 under the fuse panel in engine compartment for signs of water intrusion.

G2 RETRIEVE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS) WITH GRILLE SHUTTER ACTUATOR DISCONNECTED

- Ignition OFF.
- Disconnect Upper Grille Shutter Actuator C1766, Lower Grille Shutter Actuator C1767, Front Active Air Dam (AAD) Actuator RH (right-hand) C1968 .
- Ignition ON.
- Clear the DTC (diagnostic trouble code) codes.
- Start the engine.
- Wait two minutes, Codes will not set unless engine is running.

Positive Lead	Measurement / Action	Negative Lead
C1104B-1		Ground


Is the voltage within 0.5 volt of the recorded battery voltage?

Yes	GO to G4
------------	--------------------------

No	<p>TIGHTEN or INSTALL a new generator B+ nut as needed.</p> <p>REFER to: Generator - 3.3L Duratec-V6 (414-02 Generator and Regulator, Removal and Installation).</p> <p>REFER to: Generator - 5.0L 32V Ti-VCT (414-02 Generator and Regulator, Removal and Installation).</p> <p>VERIFY high current BJB (battery junction box) fuse 201 (300A) is OK. If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.</p>
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G4 CHECK THE GENERATOR LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect Generator (3.3L engine) C102A .
- Disconnect Generator (5.0L engine) C1104A .
- Disconnect PCM (powertrain control module) (3.3L engine) C1551B .
- Disconnect PCM (powertrain control module) (5.0L engine) C1381B .
- Ignition ON.
- Measure: for (3.3L engine)

Positive Lead	Measurement / Action	Negative Lead
C102A-1		Ground

- Measure: for (5.0L) engine

- Ignition OFF.
- For 3.3L engine, Measure:

Positive Lead	Measurement / Action	Negative Lead
C102A-1	Ω	Ground

- For 5.0L engine, Measure:

Positive Lead	Measurement / Action	Negative Lead
C1104A-1	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to G6
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No	REPAIR the circuit.
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G6 CHECK THE GENERATOR LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR AN OPEN

- For 3.3L engine, Measure:

Positive Lead	Measurement / Action	Negative Lead
C102A-1	Ω	PCM (powertrain control module) C1551B-49
C102A-1	Ω	Upper Active Grille shutter Actuator C1766-2