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## 1992-2014 Ford OEM Service and Repair Workshop Manual

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Positive Lead	Measurement / Action	Negative Lead
C1689-1	$\bar{V}$	Ground

**Is the voltage greater than 10 volts?**

<b>Yes</b>	REPAIR the circuit.
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<b>No</b>	GO to <a href="#">A5</a>
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#### **A5 CHECK THE BATTERY MONITORING SENSOR LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO GROUND**

- Ignition OFF.
- Disconnect BCM (body control module) C2280F .
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1689-1	$\Omega$	Ground

**Is the resistance greater than 10,000 ohms?**

<b>Yes</b>	GO to <a href="#">A6</a>
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<b>No</b>	REPAIR the circuit.
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#### **A6 CHECK THE BATTERY MONITORING SENSOR LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR AN OPEN**

- Measure:

- pushed-out pins – install new pins as necessary
- Reconnect the BCM (body control module) connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

**Is the concern still present?**

<b>Yes</b>	CHECK OASIS (Online Automotive Service Information System) for any applicable Technical Service Bulletins (TSBs). If a TSB (Technical Service Bulletin) exists for this concern, DISCONTINUE this test and FOLLOW the TSB (Technical Service Bulletin) instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new BCM (body control module) .  REFER to: <a href="#">Body Control Module (BCM)</a> (419-10 Multifunction Electronic Modules, Removal and Installation).
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<b>No</b>	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.
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**PINPOINT TEST B : B11DB:49**

**Normal Operation and Fault Conditions**

**DTC Fault Trigger Conditions**

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
BCM (body control module) B11DB:49	Battery Monitoring Module 'A': Internal Electronic Failure	Sets in the BCM (body control module) when an internal electronic failure is detected.

**Possible Sources**

- BCM (body control module)

**B1 RETRIEVE BCM (BODY CONTROL MODULE) DTC (DIAGNOSTIC TROUBLE CODE)**

- Ignition ON.
- Using a diagnostic scan tool, clear the DTC (diagnostic trouble code) .
- Wait 10 seconds.
- Using a diagnostic scan tool, perform the BCM (body control module) self-test.

**Is DTC (diagnostic trouble code) B11DB:49 recorded?**

- Using a diagnostic scan tool, perform the BCM (body control module) self-test.

**Is the B11DB:55 still stored?**

<b>Yes</b>	Locate the part number on the BMS (battery monitoring sensor) installed and ensure it is the correct BMS (battery monitoring sensor) for this vehicle using the Ford Parts catalog. Replace the BMS (battery monitoring sensor) with the correct component.  REFER to: <a href="#">Battery Monitoring Sensor - Electric</a> (414-01 Battery, Mounting and Cables, Removal and Installation).
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<b>No</b>	Verify repairs are completed and that the customer symptom has been resolved.
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**PINPOINT TEST D : B130C:12 AND B130C:14**

**DTC Fault Trigger Conditions**

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
BCM (body control module) B130C:12	Load Shed Control: Circuit Short To Battery	The DTC (diagnostic trouble code) sets in the BCM (body control module) , when load shed control circuit is detected short to Battery.
BCM (body control module) B130C:14	Load Shed Control: Circuit Short To Ground Or Open	DTC (diagnostic trouble code) sets in the BCM (body control module) , when load shed control circuit is detected short to ground or Open.

**Possible Sources**

- BMS (battery monitoring sensor)

**D1 INSPECT THE BMS (BATTERY MONITORING SENSOR)**

- Ignition ON.
- Using a diagnostic scan tool, perform the BCM (body control module) self-test.

**Is load shed control circuit short to Battery / ground or Open?**

<b>Yes</b>	CHECK the vehicle service history for recent service actions related to this module. This DTC (diagnostic trouble code) sets due to incomplete or incorrect PMI (programmable module
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Refer to Wiring Diagrams Cell 12 for schematic and connector information.

**Normal Operation and Fault Conditions Possible Sources**

- 
- DC (direct current) / DC (direct current) Converter Control Module

**Diagnostic steps are not provided for this symptom or DTC. REFER to: Diagnostic Methods (100-00 General Information, Description and Operation).**

**PINPOINT TEST G : SYSTEM VOLTAGE LOW OR BATTERY IS DISCHARGED**

Refer to Wiring Diagrams Cell 12 for schematic and connector information.

**Normal Operation and Fault Conditions Possible Sources**

- Wiring, terminals or connectors
- DC (direct current) / DC (direct current) Converter Control Module
- PCM (powertrain control module)

**Diagnostic steps are not provided for this symptom or DTC. REFER to: Diagnostic Methods (100-00 General Information, Description and Operation).**

**PINPOINT TEST H : CHARGING SYSTEM WARNING INDICATOR IS NEVER OR ALWAYS ON**

Refer to Wiring Diagrams Cell 12 for schematic and connector information.

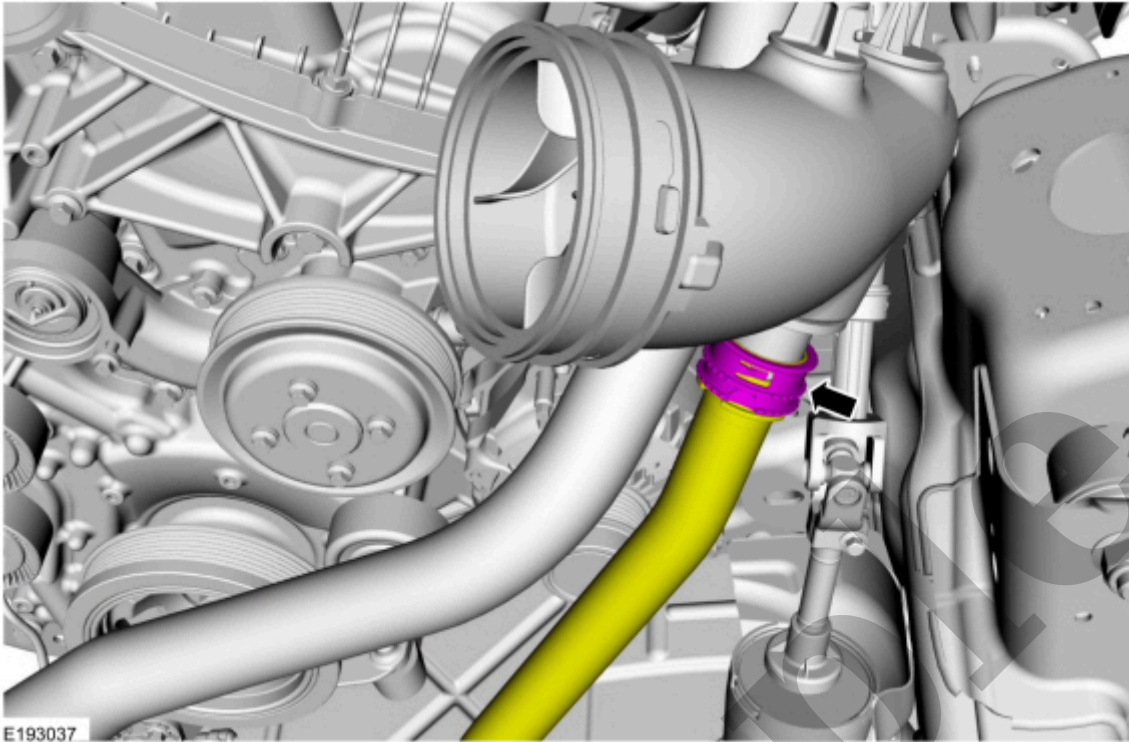
**Normal Operation and Fault Conditions** RETRIEVE DTC (diagnostic trouble code) s from all modules. If any charging system DTC (diagnostic trouble code) s are found, Refer to DTC (diagnostic trouble code) Chart in this section. If no charging system DTC (diagnostic trouble code) s are found, REFER to: [Instrumentation, Message Center and Warning Chimes - Electric](#) (413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing).

**Possible Sources**

- Wiring, terminals or connectors
- IPC (instrument panel cluster) procedures
- PCM (powertrain control module)
- BCM (body control module)
- DC (direct current) DC (direct current)

**Diagnostic steps are not provided for this symptom or DTC. REFER to: Diagnostic Methods (100-00 General Information, Description and Operation).**

Refer to: [Quick Release Coupling](#)(310-00A Fuel System - General Information - 2.7L EcoBoost (238kW/324PS), General Procedures).



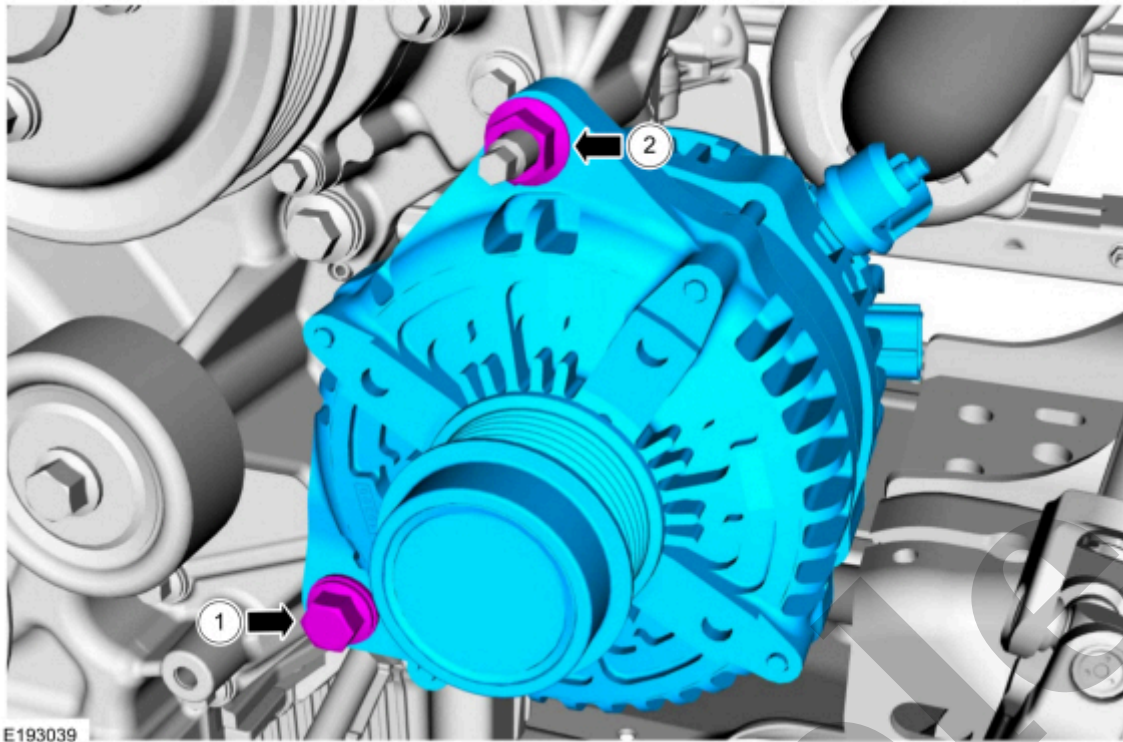
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#### 6. NOTICE

When installing the B+ terminal nut to the generator, finger-start the nut before tightening or component damage may occur.

Disconnect the generator electrical connector. Position the B+ wire protective cover, remove the nut and position the B+ wire.

**Torque** : 150 lb.in (17 Nm)



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## Secondary generator

### NOTICE

The turbocharger compressor vanes can be damaged by even the smallest particles. When removing any turbocharger or engine air intake system component, ensure that no debris enters the system. Failure to do so may result in damage to the turbocharger.

8. Disconnect the battery.

Refer to: [Battery Disconnect and Connect](#)(414-01 Battery, Mounting and Cables, General Procedures).

9. Disconnect the auxilliary battery(s).

Refer to: [Battery Disconnect and Connect](#)(414-01 Battery, Mounting and Cables, General Procedures).

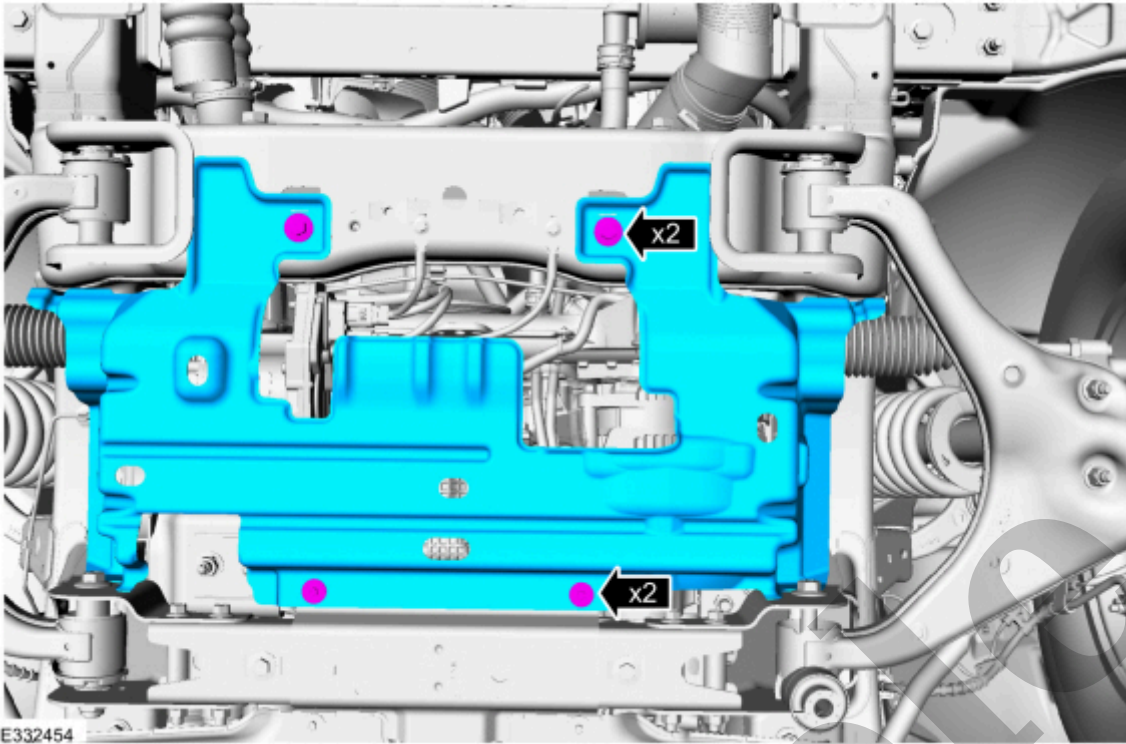
10. Remove the LH (left-hand) CAC (charge air cooler) intake pipe.

Refer to: [Charge Air Cooler \(CAC\) Intake Pipe](#)(303-12A Intake Air Distribution and Filtering - 2.7L EcoBoost (238kW/324PS), Removal and Installation).

11. Cut the secondary generator belt.

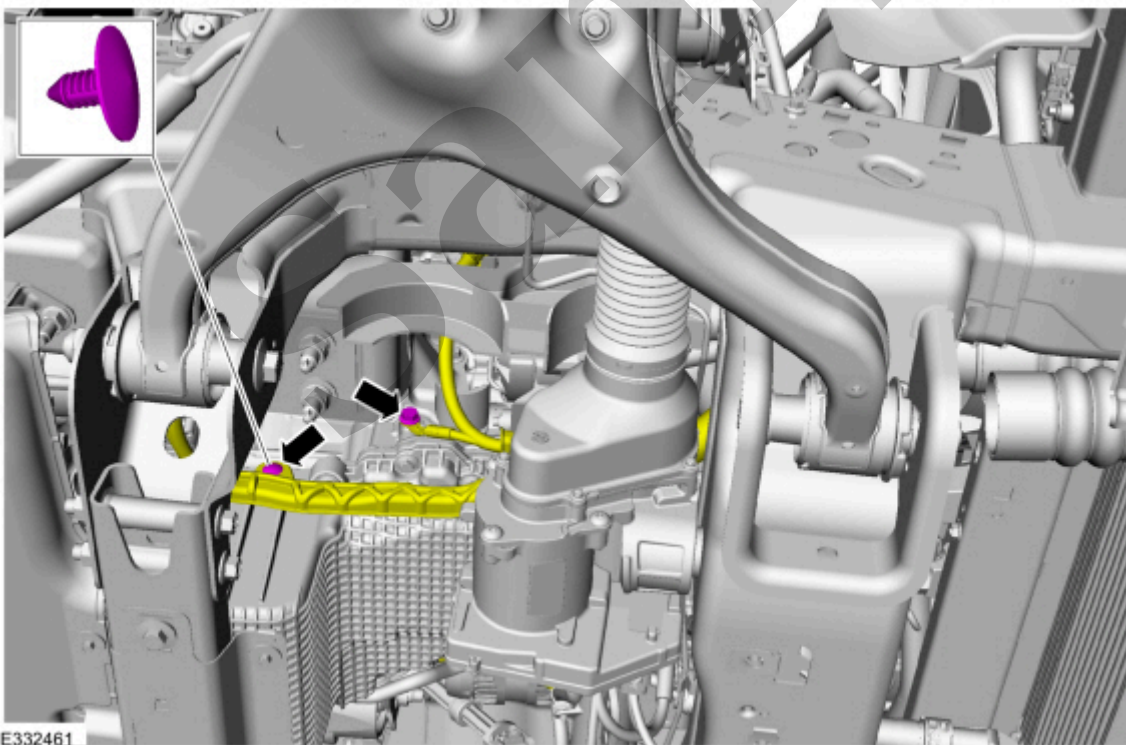
Use the General Equipment: Knife





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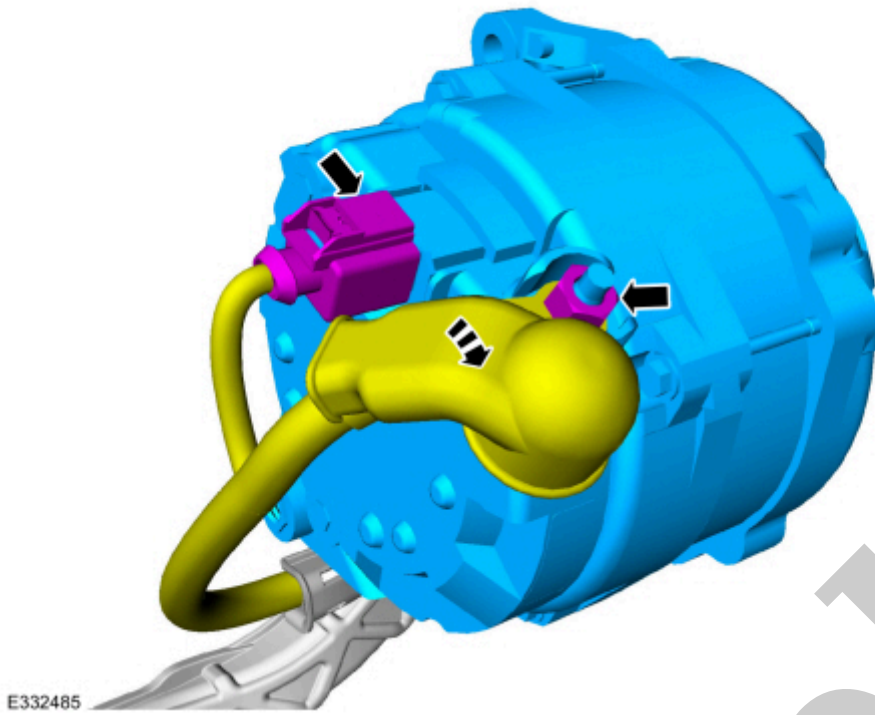
14. Remove the bolt and the pin-type retainer.



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15. Remove the nut and bolt and position the generator to access connections.





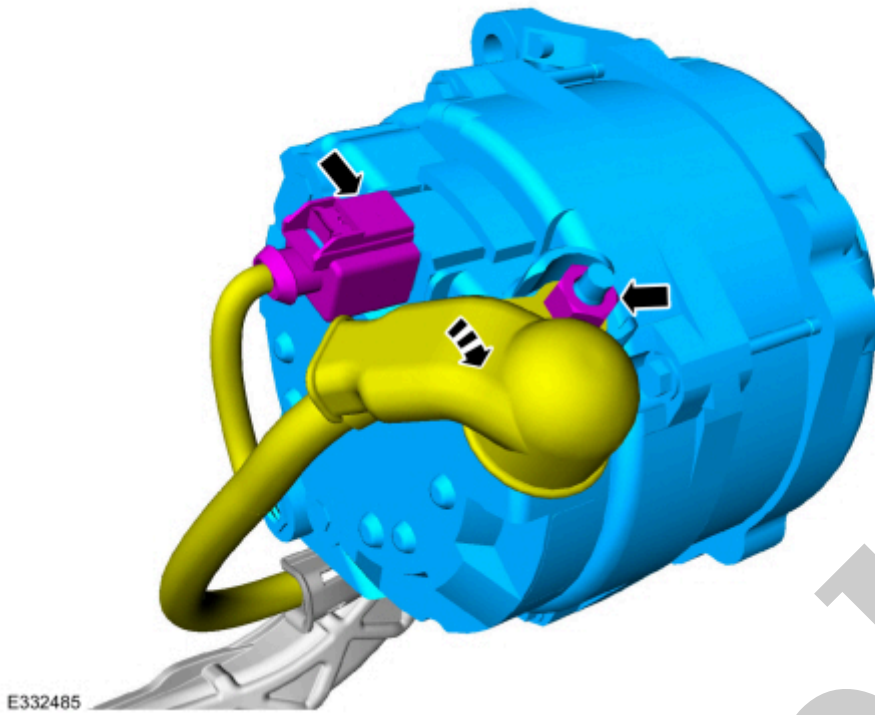
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## **Installation**

### **All vehicles**

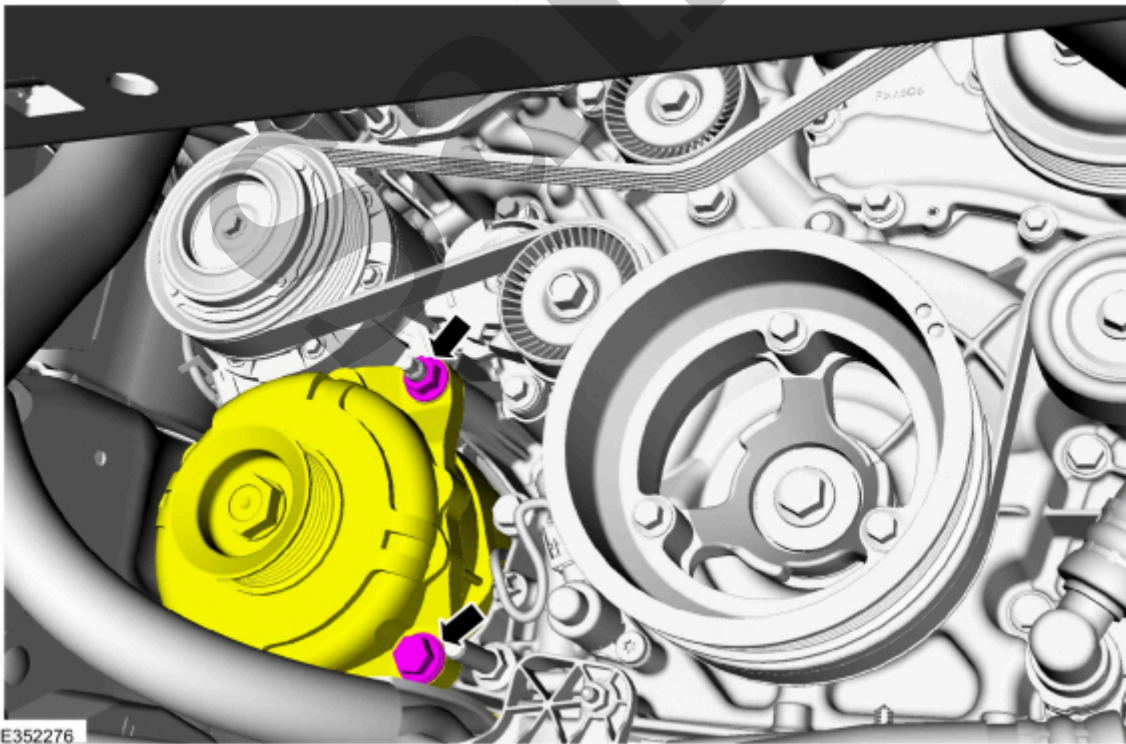
1. To install, reverse the removal procedure.
2. Make sure the accessory drive belt is correctly seated on all the pulleys.



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5. Position the generator and install the bolt and nut.

**Torque** : 35 lb.ft (47 Nm)



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