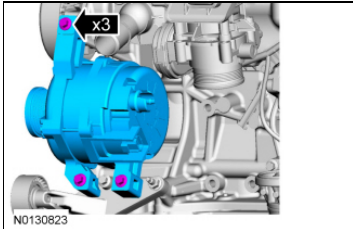
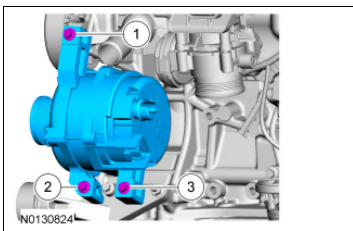


7. Remove the 3 bolts and the generator.

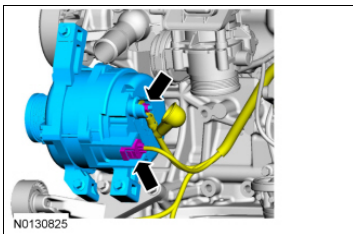


### Installation

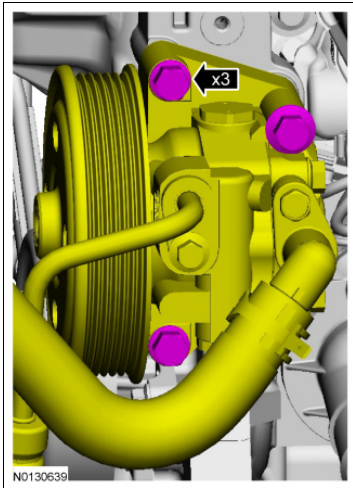
1. Position the generator and hand tighten the 3 bolts. Tighten in the sequence shown.
  - Tighten to 25 Nm (18 lb-ft).



2. Connect the generator electrical connector and install the nut.
  - Tighten to 17 Nm (150 lb-in).

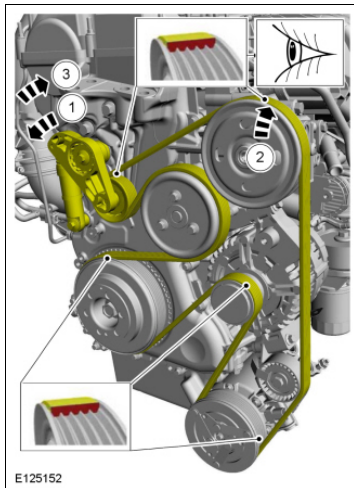


3. Position the power steering pump and install the 3 bolts.
  - Tighten to 25 Nm (18 lb-ft).



4. Install the upper Charge Air Cooler (CAC) pipe. For additional information, refer to Intake Air System Components - Exploded View in [Section 303-12](#) .

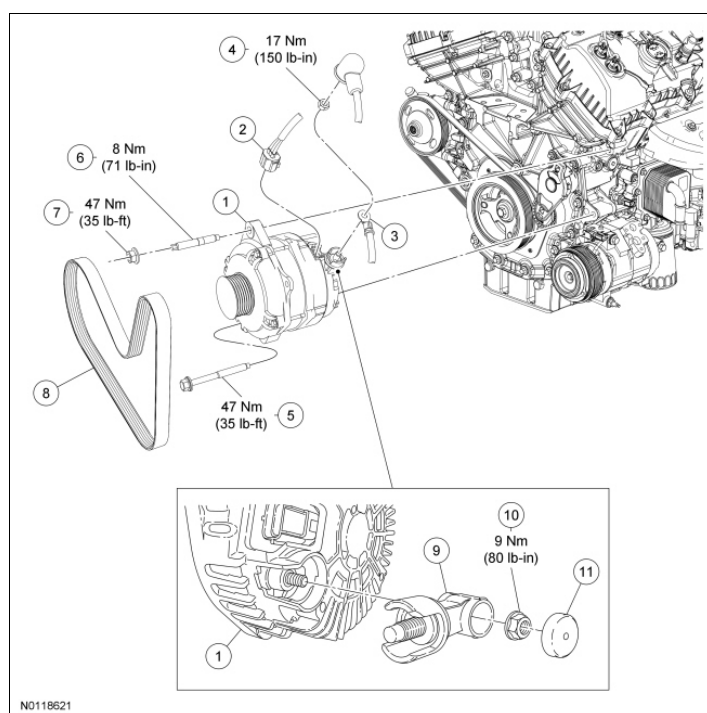
5. Rotate the accessory drive belt tensioner counterclockwise and position the accessory drive belt.



6. Connect the battery. For additional information, refer to [Section 414-01](#) .

---



**Generator - 3.5L, 3.7L**

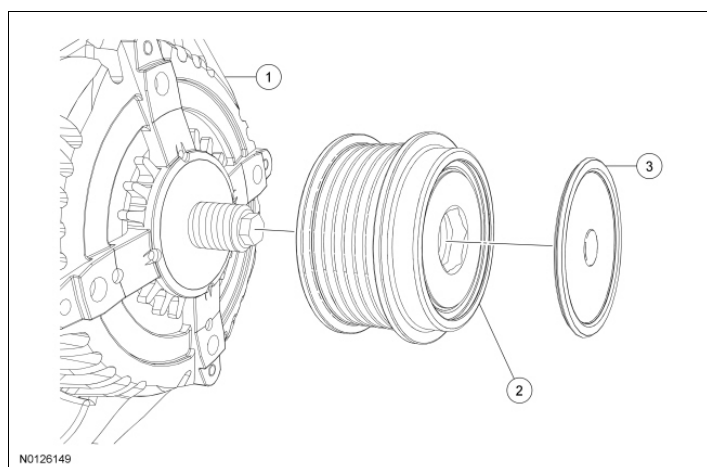
Item	Part Number	Description
1	10346	Generator
2	-	Generator electrical connector (part of 14B060)
3	-	Generator B+ terminal (part of 14B060)
4	W711953	Generator B+ terminal nut
5	W709986	Generator bolt
6	W712609	Generator stud
7	W520414	Generator nut
8	8620	Front End Accessory Drive (FEAD) belt
9	10329	Radial arm adapter
10	-	Radial arm adapter nut (part of 10329)
11	-	Radial arm adapter cap (part of 10329)

**Removal and Installation**

**NOTE:** The radial arm adapter is a serviceable item. Do not replace the generator if the radial arm adapter is the only concern.

1. Disconnect the battery. For additional information, refer to [Section 414-01](#) .
2. Remove the cooling fan. For additional information, refer to [Section 303-03](#) .
3. Rotate the accessory drive belt tensioner clockwise and position the accessory drive belt aside.
4. Position the generator B+ terminal protective cover aside, remove the nut and position the generator B+ terminal aside.

- To install, tighten to 17 Nm (150 lb-in).
5. Disconnect the generator electrical connector.
    - Detach the pin-type retainer and wiring harness.
  6. Remove the generator stud nut.
    - To install, tighten to 47 Nm (35 lb-ft).
  7. Remove the generator stud.
    - To install, tighten to 8 Nm (71 lb-in).
  8. Remove the RH fender splash shield. For additional information, refer to [Section 501-02](#).
  9. Fully loosen the generator bolt and remove the generator.
    - To install, tighten to 47 Nm (35 lb-ft).
  10. To install, reverse the removal procedure.
-

**Generator Clutch**

Item	Part Number	Description
1	10346	Generator
2	10344	Generator clutch pulley
3	10325	Cap

**Removal**

**NOTE:** This procedure only applies to the 2.0L GTDI.

1. Remove the generator. Refer to Generator - 2.0L GTDI .
2. Using a small screwdriver or similar tool, insert the tool through the soft rubber area on the center of the pulley cap and pry off the cap. Discard the cap.
3. **NOTICE: Do not insert anything into the fins of the generator to prevent the rotor inside the generator from turning. Inserting items into the generator could result in damage to the generator.**

**NOTE:** The shaft and rotor will turn during removal.

Insert a 17 mm hex tool into the clutch pulley. Install an impact gun onto the hex tool and use the impact gun to remove the clutch pulley. A couple of short bursts with the impact gun will remove the clutch pulley.

**Installation**

1. Hand start the clutch pulley onto the generator shaft.
2. Insert a 17 mm hex tool into the clutch pulley and install a 17 mm, 55 lb-ft torque stick on the hex tool.
3. **NOTICE: Do not insert anything into the fins of the generator to prevent the rotor inside the generator from turning. Inserting items into the generator could result in damage to the generator.**

**NOTE:** The shaft and rotor will turn during installation.

While holding the outer diameter of the clutch pulley, torque the clutch pulley using the impact gun and the 17 mm, 55 lb-ft torque stick for 3-4 seconds. This makes sure the proper torque has been applied.

- Tighten to 75 Nm (55 lb-ft).
4. Install a new cap onto the pulley with the rubber button facing inwards.
  5. Install the generator. Refer to Generator - 2.0L GTDI.
-

**General Specifications**

Item	Specification
<b>Battery</b>	
Cold cranking amps - Edge ( <b>not</b> equipped with Intelligent Access (IA))	540 CCA
Cold cranking amps - MKX, Edge (equipped with IA )	650 CCA
Voltage	12 volts

**Torque Specifications**

Description	Nm	lb-ft	lb-in
Battery cable body ground terminal nut	9	-	80
Battery cable engine ground terminal bolt - 2.0L GTDI	17	-	150
Battery cable engine ground terminal bolt - 3.5L, 3.7L	12	-	106
Battery cable starter solenoid terminal nut	12	-	106
Battery hold-down bracket bolt	7	-	62
Battery tray bolts/nut	9	-	80
Battery terminal nut	9	-	80
Generator B+ terminal nut	17	-	150
High current Battery Junction Box (BJB)-to-B+ terminal nut	14	-	124
High current BJB -to-battery cable terminal nuts	9	-	80
Starter motor solenoid wire terminal nut	5	-	44





---

## Battery and Cables

Vehicles are equipped with a 12-volt, maintenance-free battery.

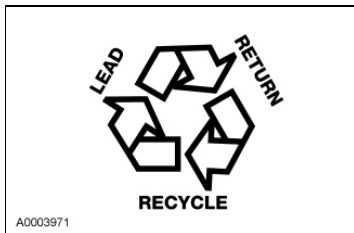
The battery and cable system consists of the following components:

- Battery
- Battery cable assembly
- Battery tray
- Battery current sensor
- Generator current sensor

The battery is a 12V DC source connected in a negative ground system. The battery case is sealed with 2 vent holes to release gases. The battery has 3 major functions:

- Engine cranking power source
- Voltage stabilizer for the electrical system
- Temporary power source when electrical loads exceed the generator output current

Ford Motor Company strongly recommends that lead-acid batteries be returned to an authorized recycling facility for disposal.



## Principles of Operation

### Battery Eye Operation

The battery eye indicates the state-of-charge of the battery by responding to the specific gravity of a single battery cell electrolyte. The battery eye has a viewing plate, 2 colored balls of different specific gravity and a small passage. As the state-of-charge and specific gravity changes, the balls change their position in the passageway and subsequently display a different color in the viewing eye. The primary purpose of the battery is to be a quick indicator of state-of-charge for assembly plants and dealership pre-delivery processes.

The color of the battery eye indicates the approximate state-of-charge.

- Red - indicates low state-of-charge.
- Yellow/Black - indicates between high and low state-of-charge.
- Green - indicates high state-of-charge.
- No color can occur after the battery has been in service for several years and some of the plate material has coated the balls.
- A clear battery eye can occur if the battery case becomes damaged and the electrolyte has fallen below the plates.

**NOTE:** The battery eye may remain red for a period of time (up to several days), even after the battery is fully charged, because the acid is not yet fully mixed.

Do not install a new battery based solely on the indication of the battery eye. The battery eye color simply indicates the battery state-of-charge, not its condition. For example, a red or yellow/black battery eye usually indicates the battery is discharged, not damaged. If the battery eye indicates the battery may be discharged, it is necessary to recharge the battery before testing its condition.

---