

2005 Ford Focus ZX5 S**2005 ELECTRICAL Generator And Regulator - Focus****2005 ELECTRICAL****Generator And Regulator - Focus****SPECIFICATIONS****GENERAL SPECIFICATIONS****GENERAL SPECIFICATIONS**

Item	Specification
Generator, 2.0L and 2.3L	
Rating	65/110 amp (max) @ 1800-6000 generator RPM, approximately 500-2000 engine RPM
Generator pulley ratio	2.36:1 (MTX vehicles equipped with the OWC)
Voltage regulator type	Electronic internal with generator
Generator, 2.0L PZEV	
Rating	58/120 amp (max) @ 1800-6000 generator RPM, approximately 500-2000 engine RPM
Generator pulley ratio	2.40:1 (MTX vehicles equipped with the OWC)
Voltage regulator type	Electronic internal with generator

TORQUE SPECIFICATIONS**TORQUE SPECIFICATIONS**

Description	Nm	Lb-ft	Lb-in
Accessory drive splash shield screws	5	-	44
Engine roll restrictor mount bolt	48	35	-
Generator B+ cable nut	8	-	71
Generator heat shield attaching nuts (2.0L PZEV)	25	18	-
Generator lower air duct bolt (non-PZEV)	12	9	-
Generator lower air	4	-	35

2005 Ford Focus ZX5 S

2005 ELECTRICAL Generator And Regulator - Focus

duct nuts (PZEV)			
Generator mounting bolts/nuts	47	35	-
Radial adapter nut	11	8	-

DESCRIPTION AND OPERATION

GENERATOR

The charging system is a negative ground system consisting of the following:

- Generator
- Internal voltage regulator
- Charging system warning indicator
- Battery
- Circuitry and cables

The generator has an internal voltage regulator that is not repairable separately. The generator and the voltage regulator must be replaced as an assembly.

All manual transaxle applications are equipped with a one-way clutch (OWC) in the generator pulley. The OWC pulley temporarily disengages the generator rotor from the front engine accessory drive (FEAD) system during high deceleration rates on the engine, which may increase belt life and decrease belt chirp.

The generator is belt-driven by the FEAD system. For additional information, refer to **ACCESSORY DRIVE** . When the engine is started, the generator begins to generate alternating current (AC) which is internally converted to direct current (DC). This current is then supplied to the vehicle electrical system through the output (B+) terminal of the generator.

The generator and voltage regulator:

- Supply current to the electrical system
- Charge the battery
- Adjust the generator field current to increase or decrease the generator output

DIAGNOSIS AND TESTING

GENERATOR

Refer to **CHARGING SYSTEM - GENERAL INFORMATION** .

REMOVAL AND INSTALLATION

GENERATOR

All engines

1. Disconnect the battery. For additional information, refer to **BATTERY, MOUNTING AND CABLES**.

2.0L and 2.3L

2. Remove the upper generator nut.

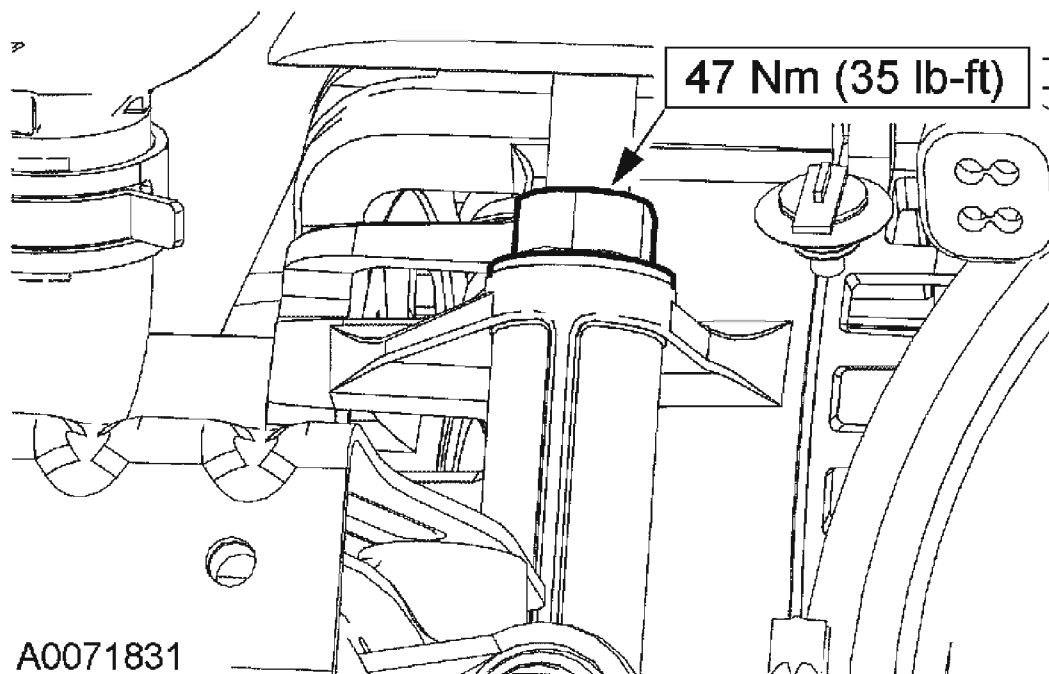


Fig. 1: Removing Upper Generator Nut
Courtesy of FORD MOTOR CO.

2.0L PZEV

3. Remove the generator heat shield top nut.

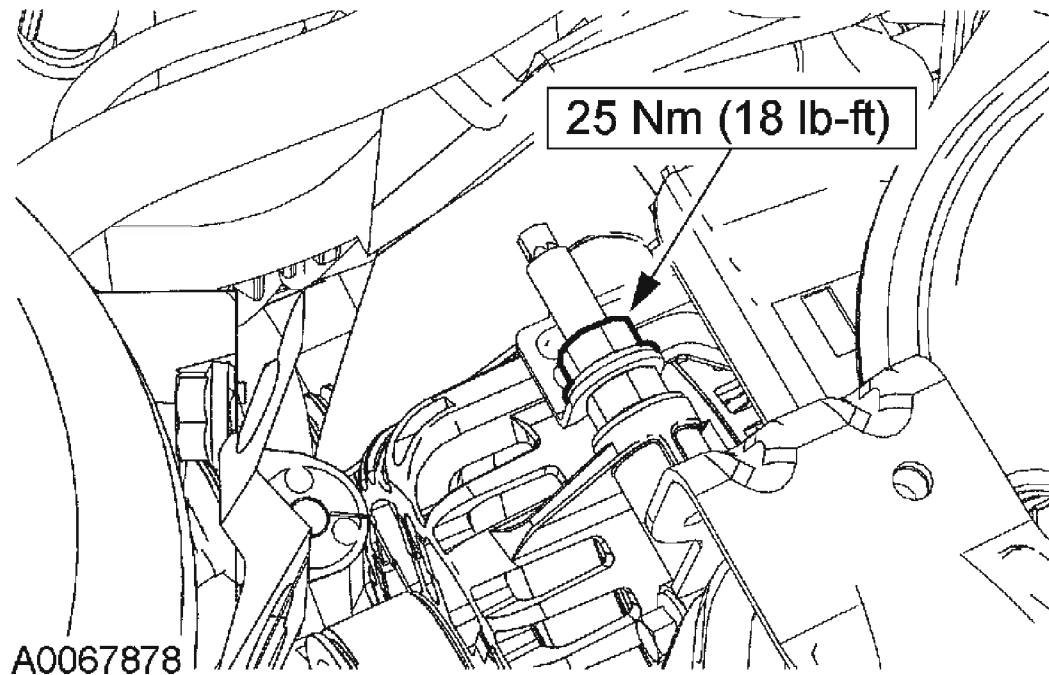


Fig. 2: Removing Generator Heat Shield Top Nut
Courtesy of FORD MOTOR CO.

All engines

4. Raise and support the vehicle. For additional information, refer to **JACKING AND LIFTING** .
5. Remove the screws and the accessory drive splash shield.

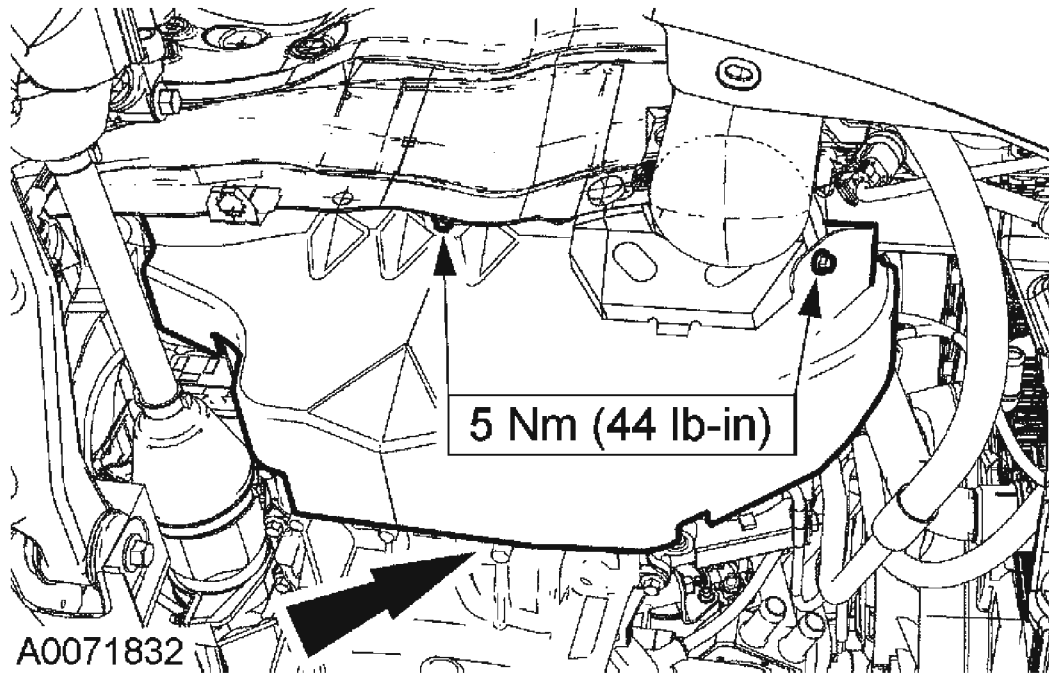


Fig. 3: Removing Screws And Accessory Drive Splash Shield
Courtesy of FORD MOTOR CO.

6. Release the accessory drive belt tension and remove the belt from the generator pulley.

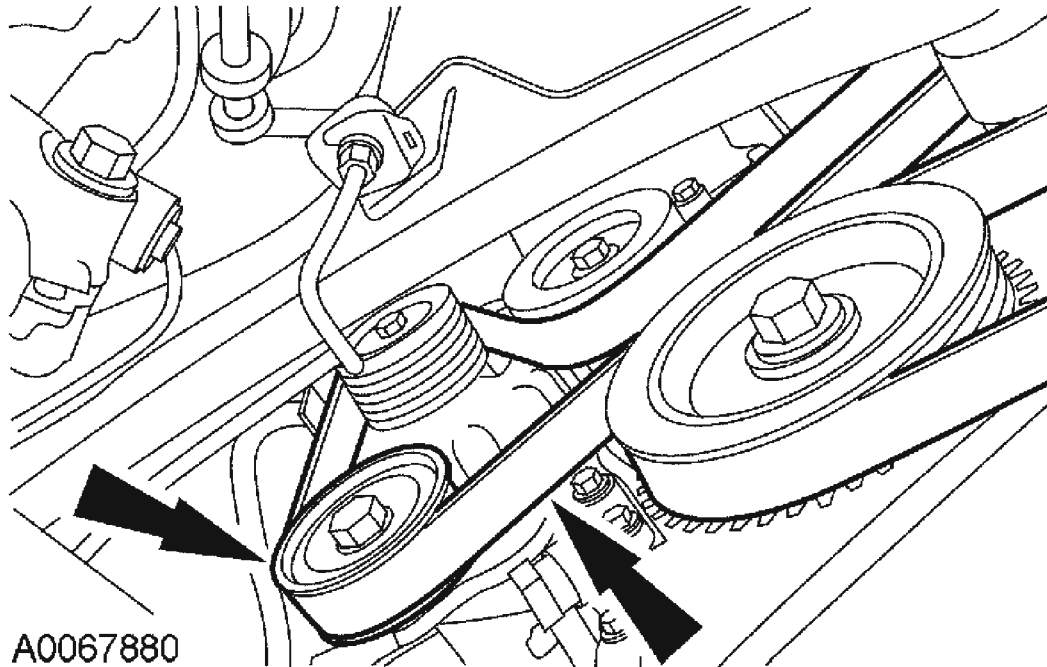


Fig. 4: Removing Belt From Generator Pulley
Courtesy of FORD MOTOR CO.

2.0L PZEV

7. Remove the generator heat shield lower nut and the heat shield.

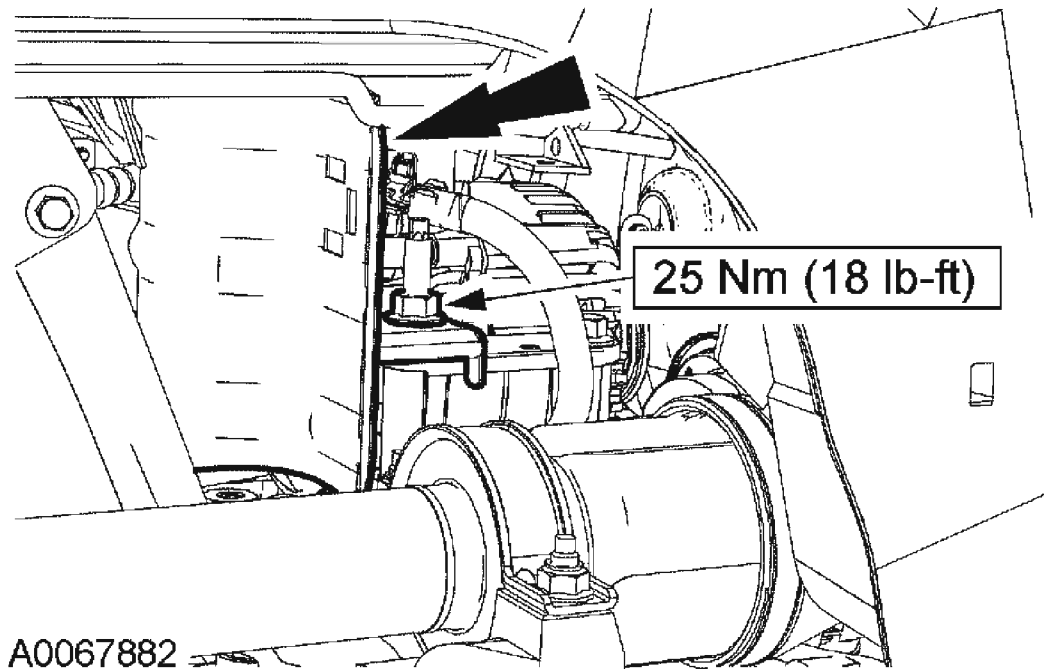


Fig. 5: Removing Generator Heat Shield Lower Nut And Heat Shield
Courtesy of FORD MOTOR CO.

All engines

8. Release the two air intake tube retainers and remove the air intake tube assembly.

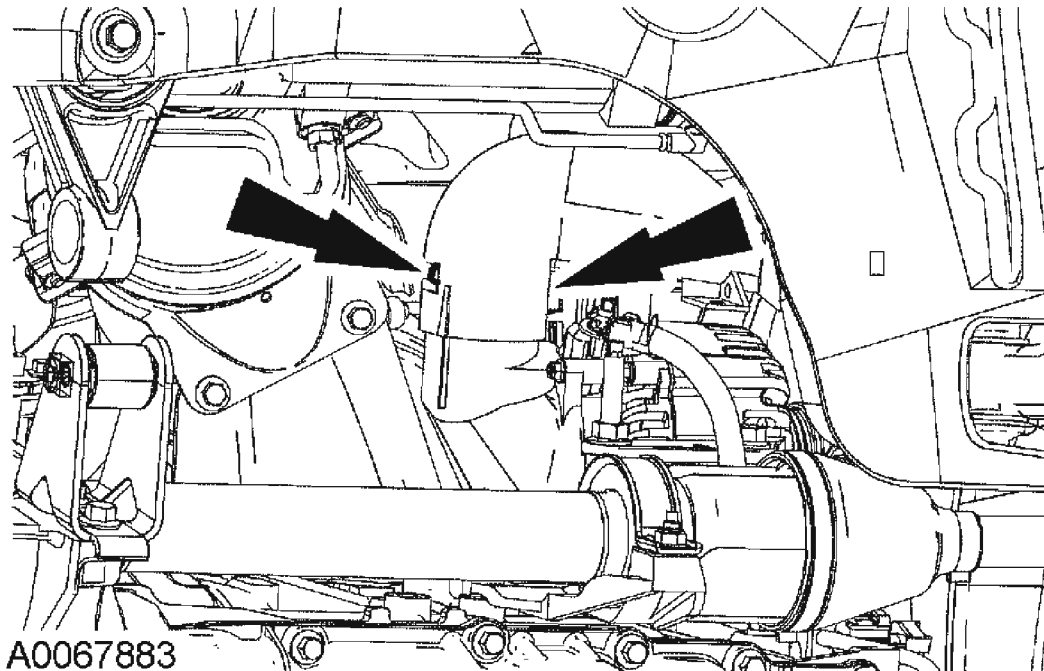


Fig. 6: Releasing Two Air Intake Tube Retainers And Removing Air Intake Tube Assembly

Courtesy of FORD MOTOR CO.

NOTE: The B+ protective cover has been removed for illustrative purposes.

NOTE: 2.0L PZEV shown, 2.0L and 2.3L similar.

NOTE: The generator B+ cable nut must be replaced whenever it has been removed from the generator.

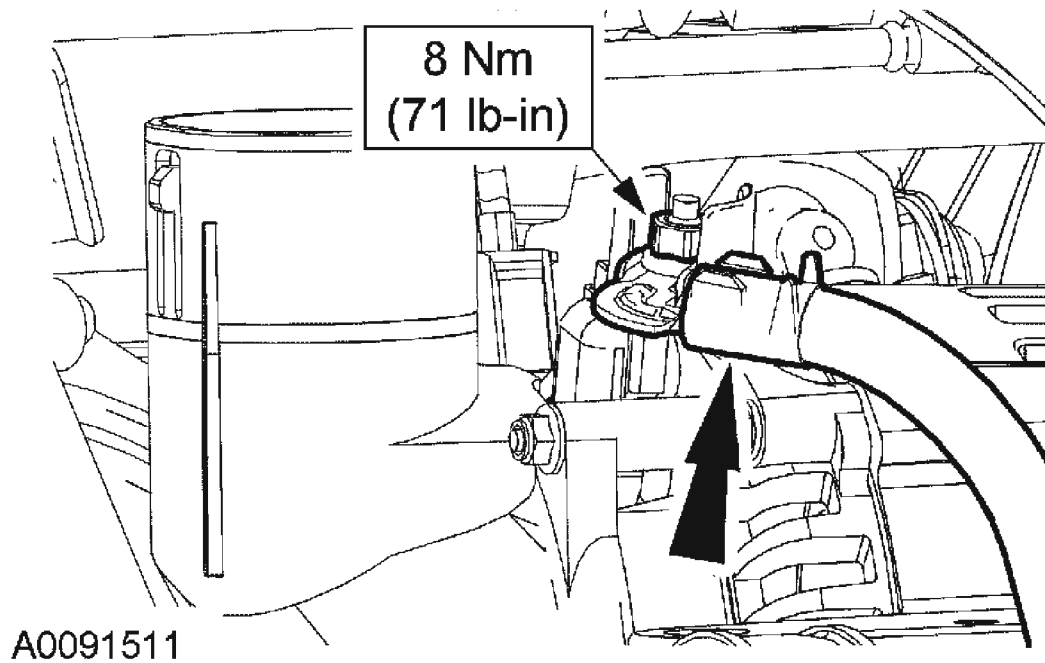


Fig. 7: Removing Generator B+ Cable Nut And Disconnecting B+ Cable
Courtesy of FORD MOTOR CO.

9. Remove and discard the generator B+ cable nut and disconnect the B+ cable.
10. Disconnect the generator electrical connector.

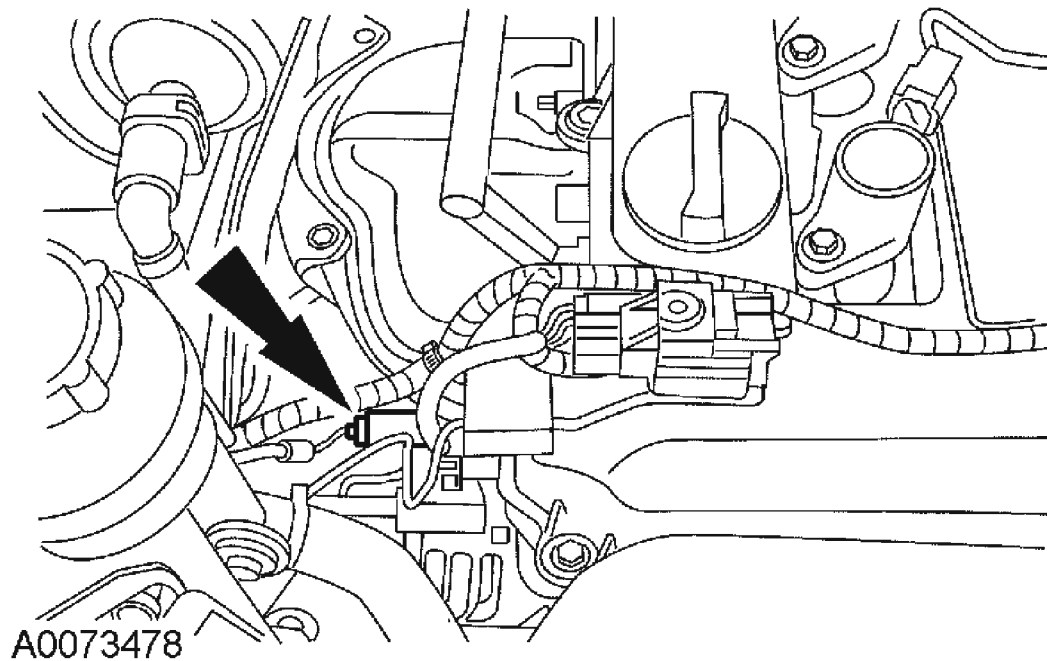


Fig. 8: Disconnecting Generator Electrical Connector
Courtesy of FORD MOTOR CO.

NOTE: 2.0L PZEV shown, 2.0L and 2.3L similar.

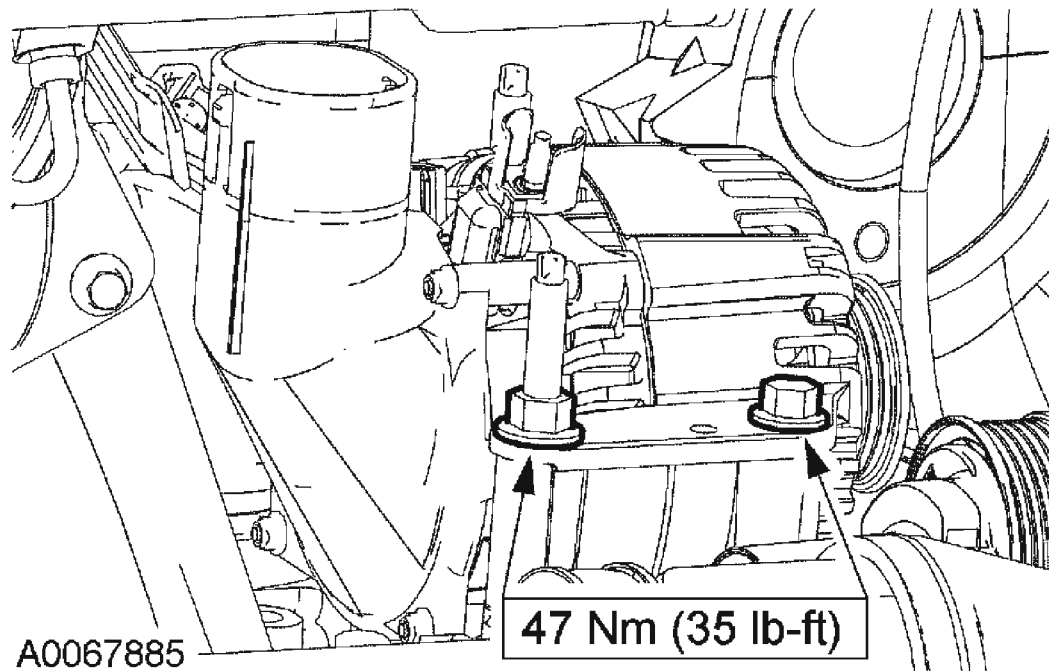


Fig. 9: Removing Generator Nuts And Bolt
Courtesy of FORD MOTOR CO.

11. Remove the two generator nuts and bolt.

2.0L PZEV

12. Lower the vehicle. For additional information, refer to **JACKING AND LIFTING** .
13. Remove the upper generator nut.

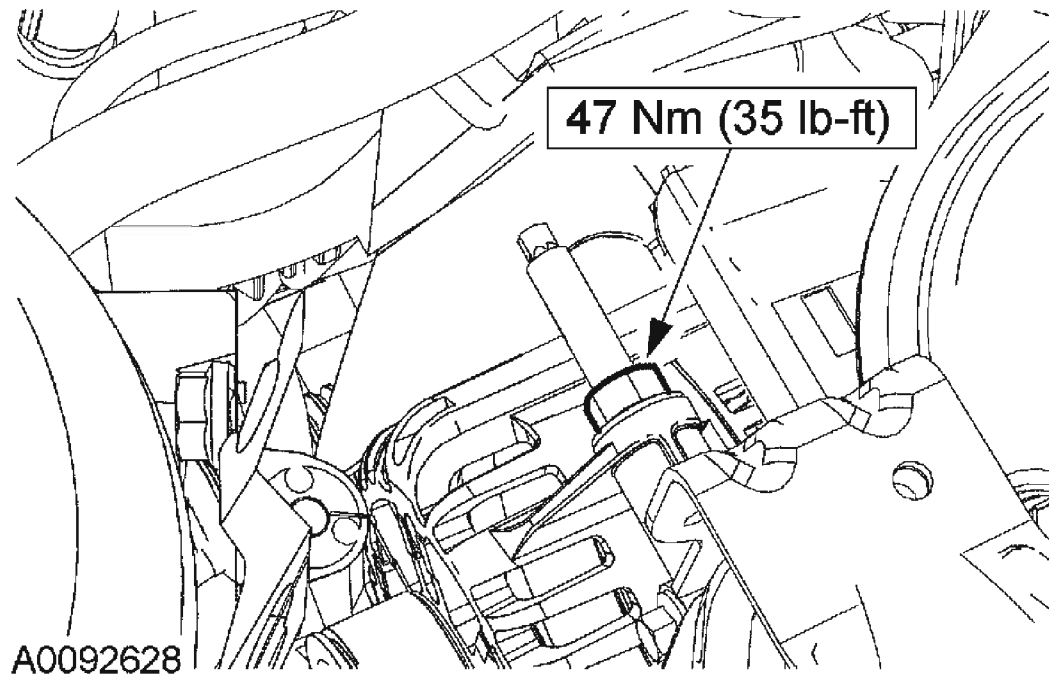


Fig. 10: Removing Upper Generator Nut
Courtesy of FORD MOTOR CO.

14. Raise and support the vehicle. For additional information, refer to **JACKING AND LIFTING** .

All engines

15. Remove the engine roll restrictor mount bolt.

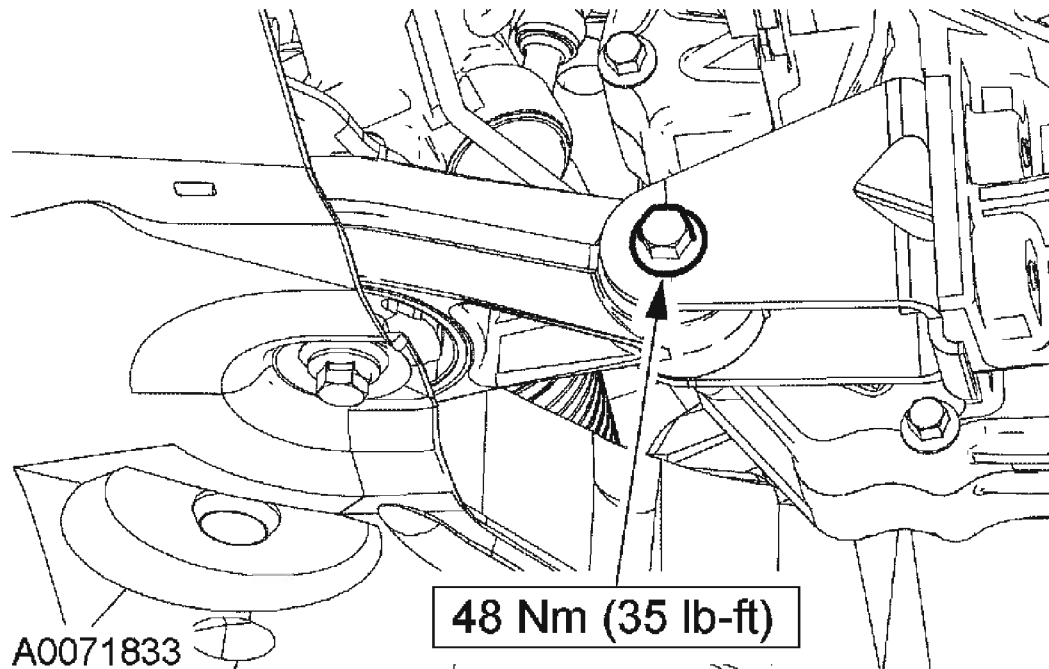


Fig. 11: Removing Engine Roll Restrictor Mount Bolt
Courtesy of FORD MOTOR CO.

NOTE: This step will require an assistant.

16. Position the engine forward and remove the generator.

NOTE: Non-PZEV generator shown; PZEV generator similar.

NOTE: When installing the PZEV generator air duct, tighten the nuts to 4 Nm (35 lb-in).

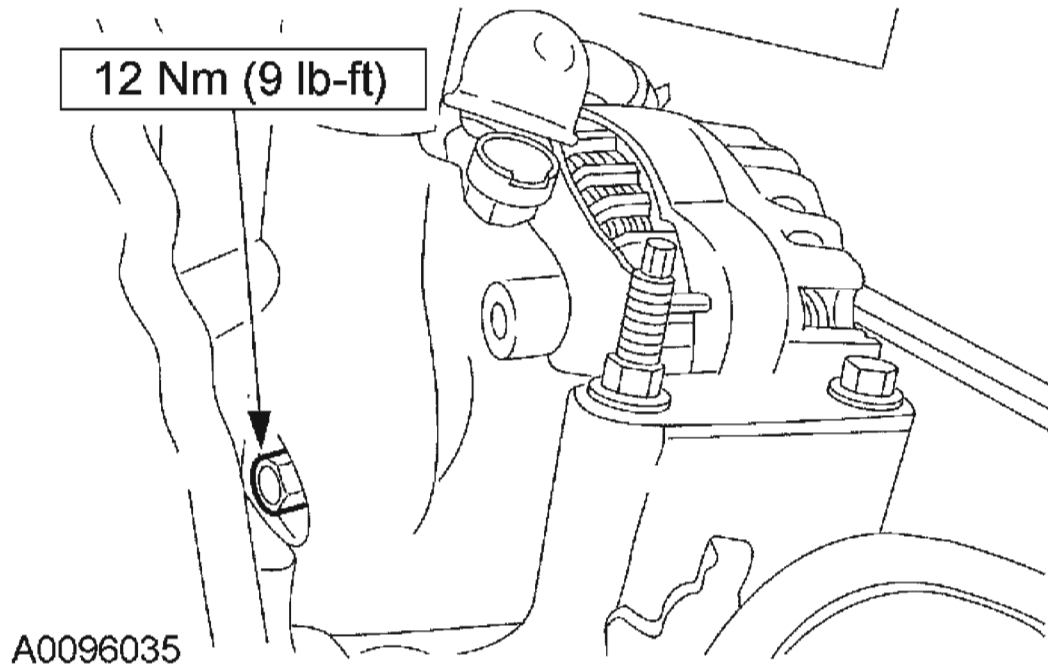


Fig. 12: Removing Lower Air Duct
Courtesy of FORD MOTOR CO.

17. Remove the lower air duct.
 - Remove the nuts (PZEV).
 - Remove the bolt (non-PZEV).

Non-PZEV engines

18. Remove the radial adapter (B+ connection extension).
 - Remove the cap from the rear of the radial adapter.
 - Remove the radial adapter nut.

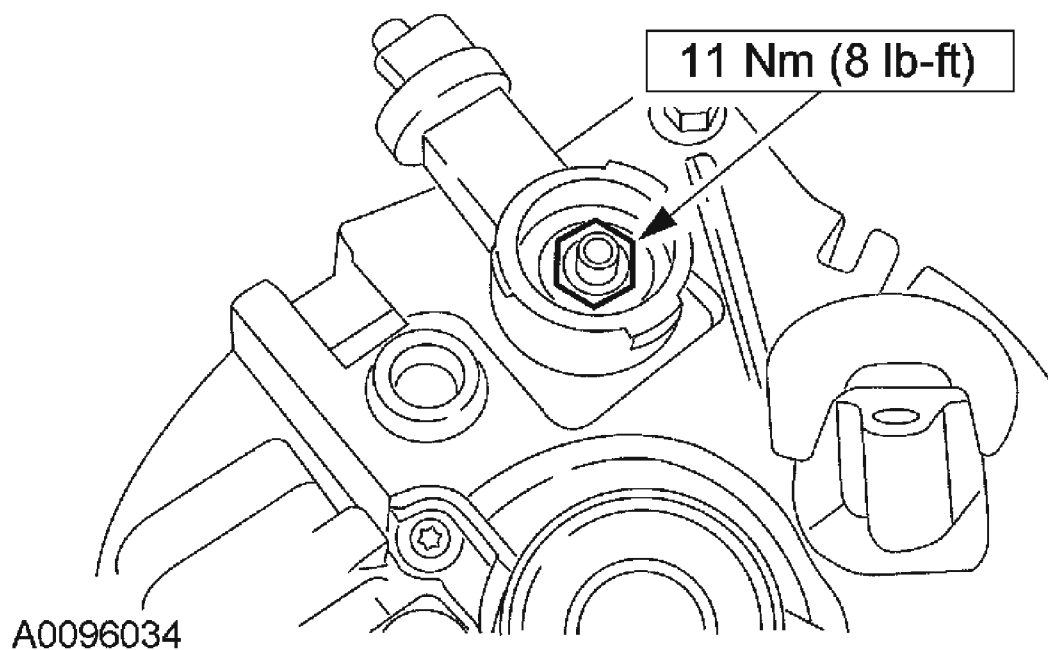


Fig. 13: Removing Radial Adapter (B+ Connection Extension)
Courtesy of FORD MOTOR CO.

19. To install, reverse the removal procedure.