

MAINTENANCE Mi11-13
INFORMATION



DATE : MARCH 2011	SECTION : 06 - Electrical
SUBJECT : BOSCH HD10 ALTERNATOR • BRUSH REPLACEMENT	

DESCRIPTION

Use the following procedure to perform the replacement of the Bosch HD10 alternator brush holder when required.

BOSCH HD10 ALTERNATOR SERVICING SCHEDULE	
DESCRIPTION	ODOMETER READING
Commuter application, check alternator brush and replace if necessary	Every 50 000 miles / 80 000 km
All other applications, check alternator brush and replace if necessary	Every 100 000 miles / 160 000 km

Replacement parts:

Part No.	Description	Qty
20523391	Brush holder (including brushes) and voltage regulator assembly	1

NOTE

Material can be obtained through regular channels.

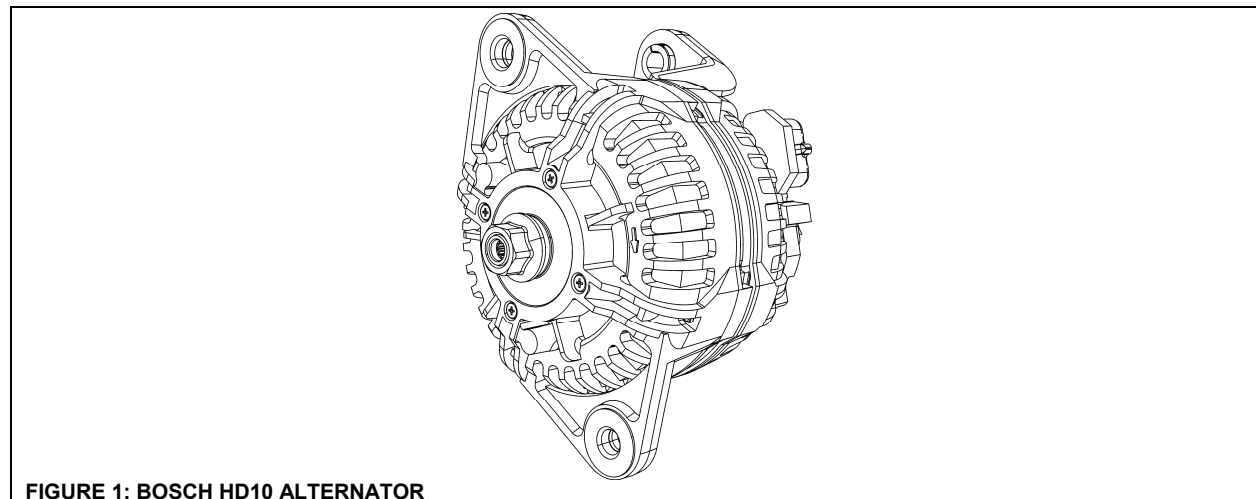


FIGURE 1: BOSCH HD10 ALTERNATOR

HOW TO IDENTIFY WHICH ALTERNATOR IS DEFECTIVE



ALTERNATOR telltale

When an alternator is not charging, the instrument cluster ALTERNATOR telltale will illuminate.

To identify which alternator is defective (1=lower alternator, 2=upper alternator), proceed as follows:

- 1) On the DID (Driver Information Display), select DIAGNOSTICS menu (*on older vehicles equipped with the Message Center Display, perform a system diagnostic by selecting SYSTEM DIAGNOSTIC*).
- 2) Select VIEW ACTIVE FAULTS and then ELECTRICAL SYSTEM (*on vehicle equipped with the Message Center Display, select FAULT DIAGNOSTIC and then ELECTRICAL SYSTEM*).
- 3) The active electrical system faults will appear. Scroll through the active faults. You will find one of the following messages:

MID (188) ELECTRICAL SYSTEM
PSID 34 ALTERNATOR 1
FMI (5) OPEN CIRCUIT

MID (188) ELECTRICAL SYSTEM
PSID 35 ALTERNATOR 2
FMI (5) OPEN CIRCUIT

PROCEDURE



DANGER

Park vehicle safely, apply parking brake, stop engine and set battery master switch(es) to the OFF position prior to working on the vehicle.

1. Disconnect the electrical harnesses and remove the alternator from the vehicle.
2. Remove the cover located on the rear side of the alternator. To do so, unscrew nut A (2x) and screw B.

BRUSH HOLDER AND VOLTAGE REGULATOR

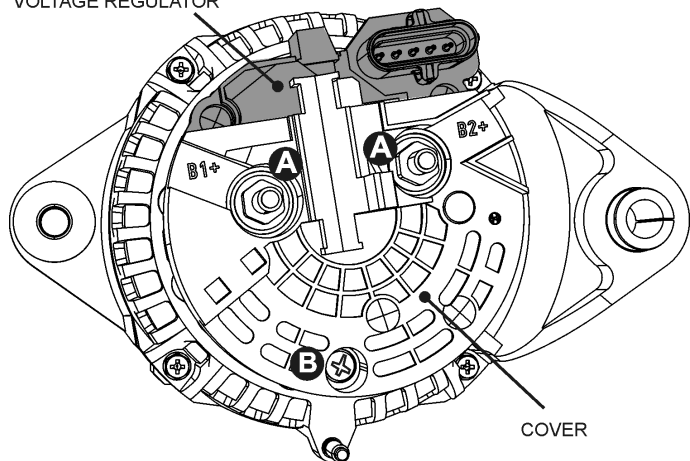


FIGURE 2

3. Dismount the brush holder and voltage regulator assembly. To do so, remove the 3 screws indicated with arrows.

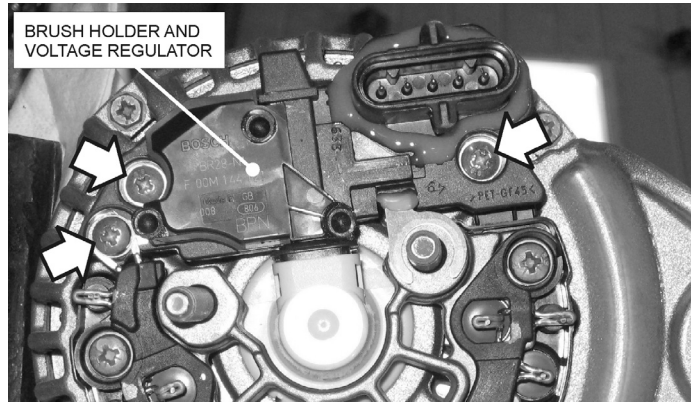


FIGURE 3

When new, the actively useful carbon brush length is about 9/16" (14mm)



FIGURE 4: BRUSH HOLDER AND VOLTAGE REGULATOR ASSEMBLY

4. Install the new brush holder and tighten the screws indicated on figure 3.
5. Reinstall the cover. Tighten screw B and nut A (2x).
6. Reinstall the lower alternator loosely.
7. Connect ground harness and (+) positive cable on the lower alternator as shown on figure 5.
8. Reinstall the upper alternator loosely.
9. Connect ground harness and (+) positive cable on the upper alternator as shown on figure 5.

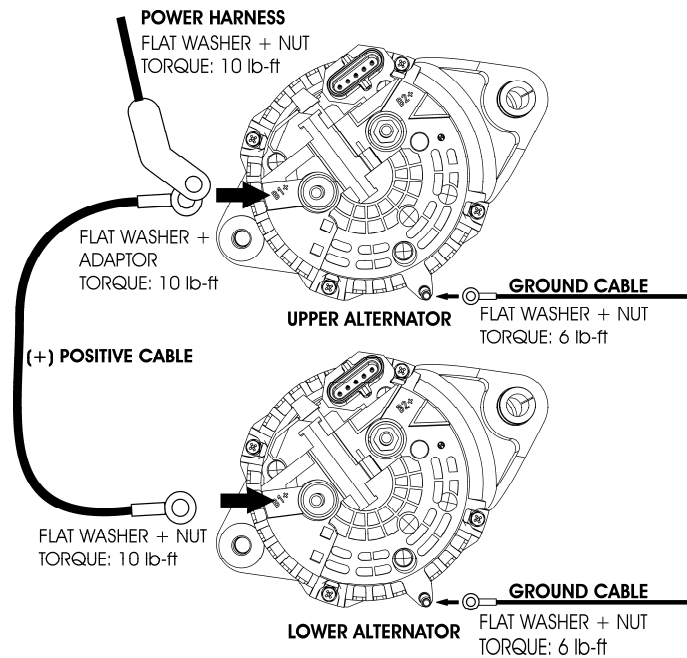


FIGURE 5

10. In order to assure proper installation, it is important to tighten the alternator mounting bolts in the following order.

1st Nut A, 43 lb-ft.

2nd Nut B, 43 lb-ft (2x).

3rd Nut C, 80 lb-ft (2x).

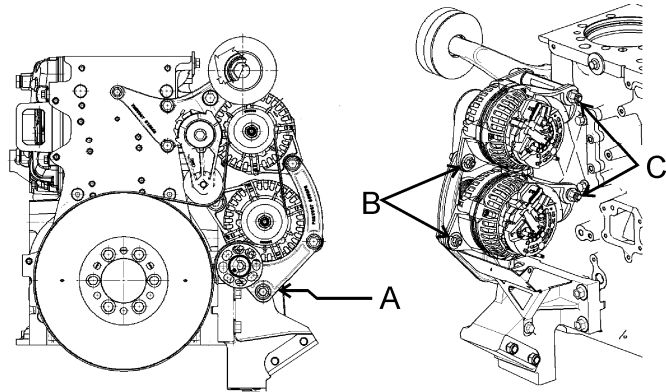


FIGURE 6

11. On the upper alternator, connect the power harness onto the adaptor. Tighten nut to 10 lb-ft.

12. Connect the 5-pin connector on both alternators.

13. Apply protective rubber coating (p/n 684013) or similar product on the stud terminals, washers and nuts.

NOTE

Inspection and replacement of wear items such as alternator brushes is part of normal vehicle maintenance. Note that no reimbursement is awarded for carrying out this preventive maintenance.