

Source: Leece-Neville Heavy Duty Systems Division - Arcade, NY USA  
Date: July 7, 2017  
Bulletin No: TSB-1068  
Models: 8SC/ SCJ  
Subject: Rectifier ring replacement procedure.

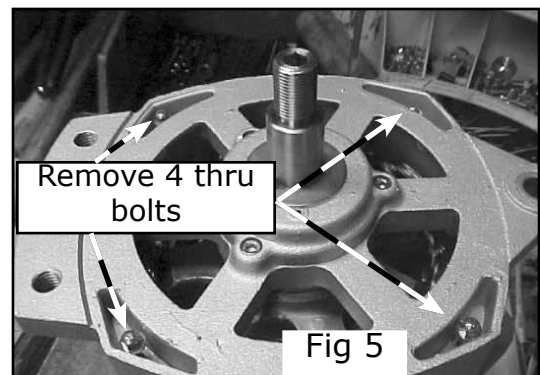
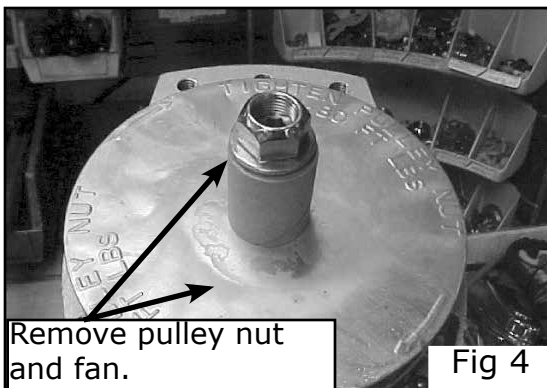
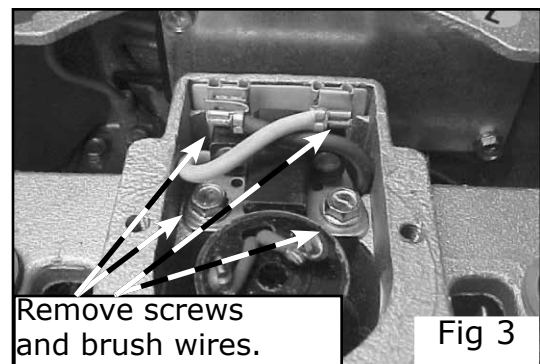
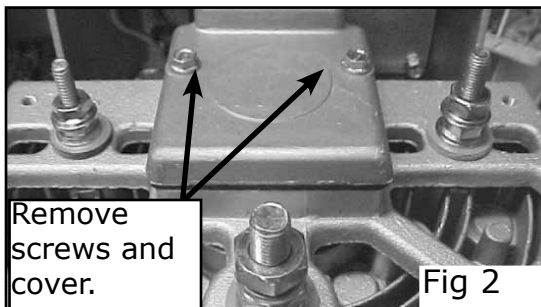
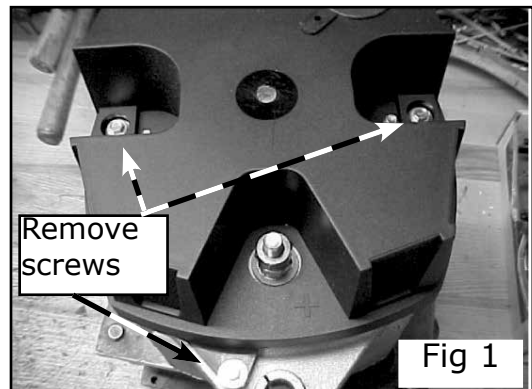
**This procedure will explain how to convert an 8SC/ SCJ to a solid lead frame rectifier.**

## Alternator disassembly

Step 1: Remove trash screen from alternator if equipped. (Fig 1)

Step 2: Remove brush holder cover, brush wires and brush holder. (Fig 2 and 3)

Step 3: Flip unit over and remove the pulley nut, fan and four thru bolts. (4 and 5)



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Step 4: Lift front housing splitting alternator. (Fig 6)

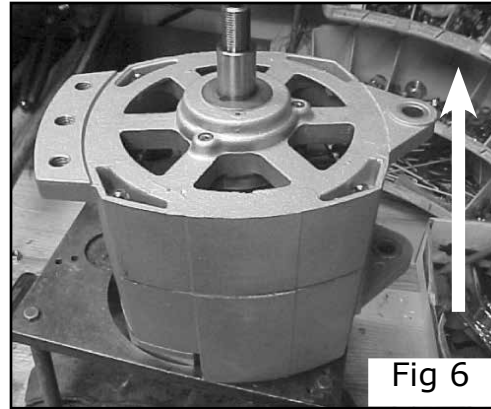


Fig 6

Step 5: Remove three stator nuts then remove stator from rear housing (Fig 7)

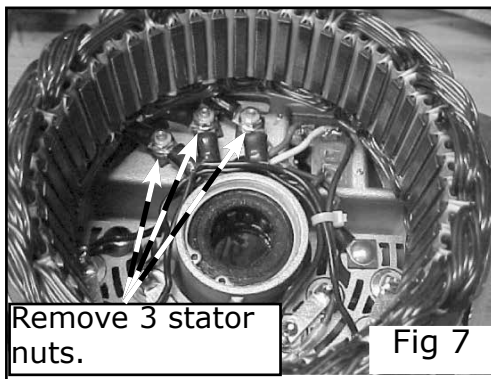


Fig 7

Step 6: Flip the rear housing over and remove all hardware and insulators from the three terminals. (Fig 8)

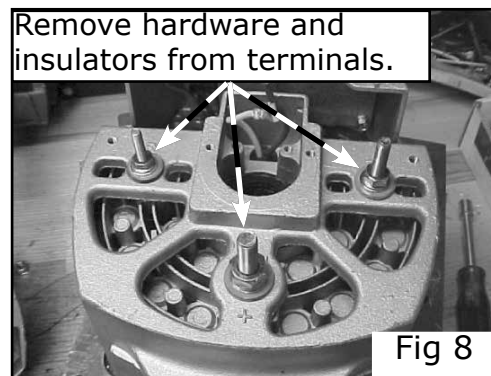


Fig 8

Step 7: Remove wire from solid lead frame assembly and discard. (Fig 9)

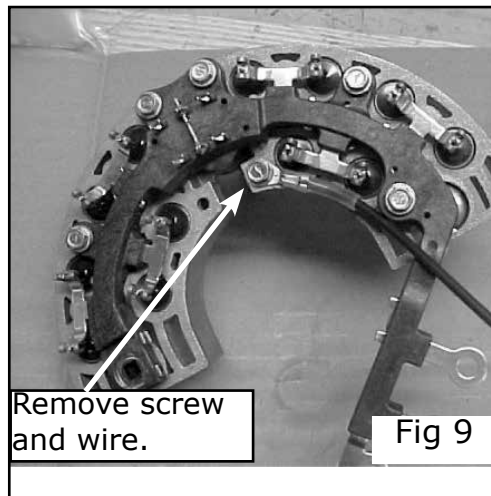


Fig 9

Note: The following procedure is broken into two categories.

- 1) Alternators with diode trios.
- 2) Alternators without diode trios.

Please determine which type of alternator you have and follow that portion of the procedure.

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## Alternators with Diode Trio

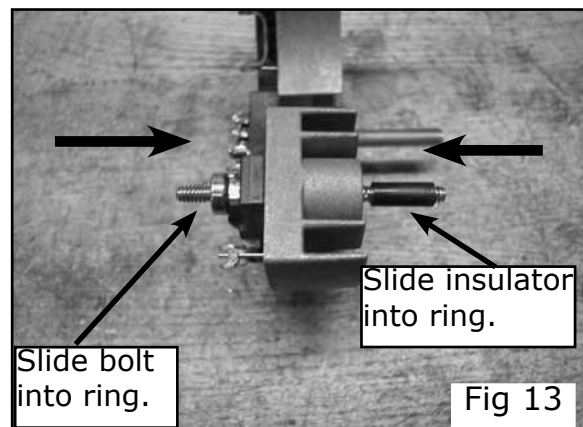
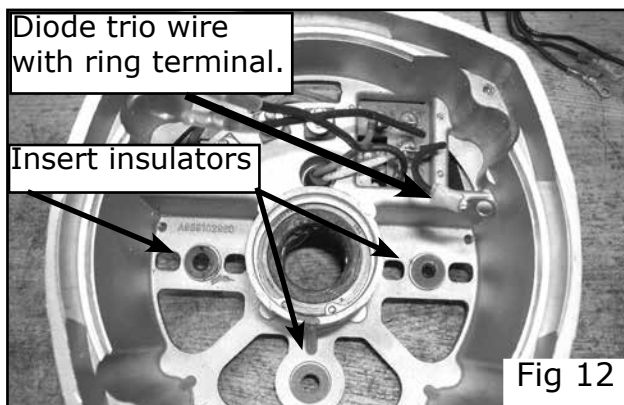
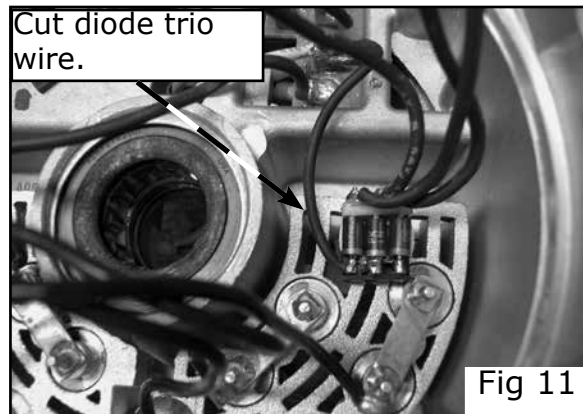
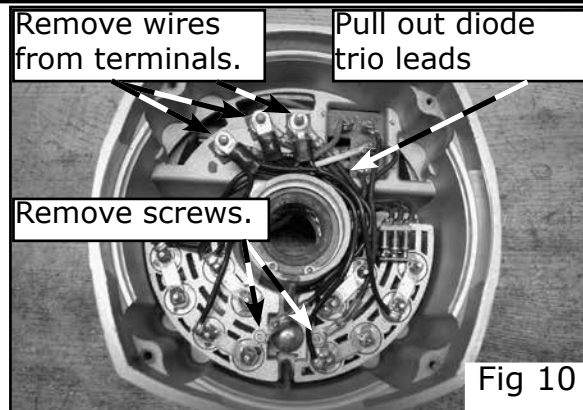
Step 1: Remove wires from the three stator terminals, cut wire tie and pull the three diode trio wires out from under the green and yellow field wires. Remove screws holding regulator sense leads to rectifier ring. (Fig 10)

Step 2: Cut diode trio wire as close to the diode trio as possible. (Fig 11)  
Discard diode trio.

Step 3: Remove rectifier ring assembly from rear housing and discard.

Step 4: Strip insulation on diode trio wire and crimp a 16AWG #10 ring terminal. Insert insulators into rear housing. (Fig 12)

Step 5: Slide double ended bolt into replacement rectifier and insert black insulating sleeve over the bolt. (Fig 13)



Note: Double ended bolt comes with rectifier

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Step 6: Insert rectifier ring into rear housing making sure the insulating sleeve (Fig 13) doesn't fall off. While holding the rectifier in the housing, flip the housing and install the terminal hardware. (Fig 14)

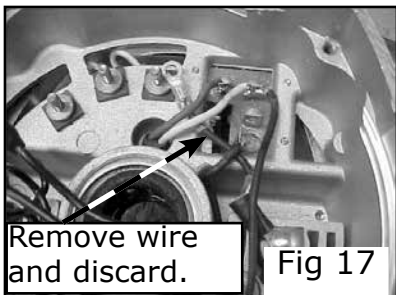
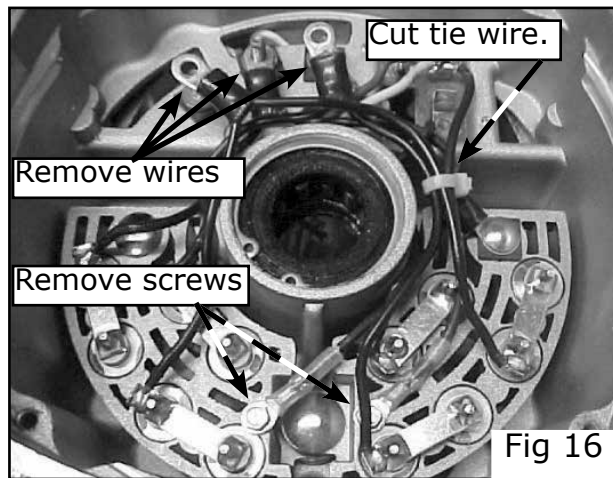
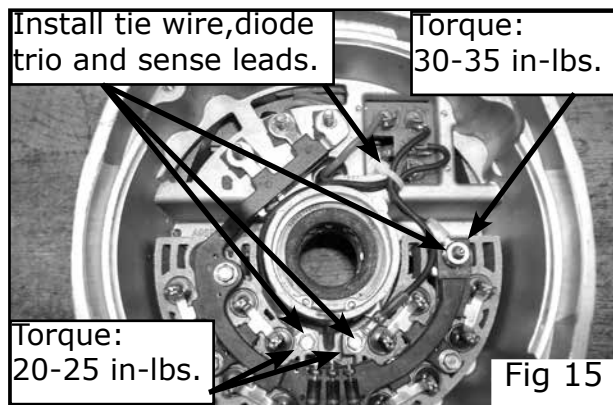
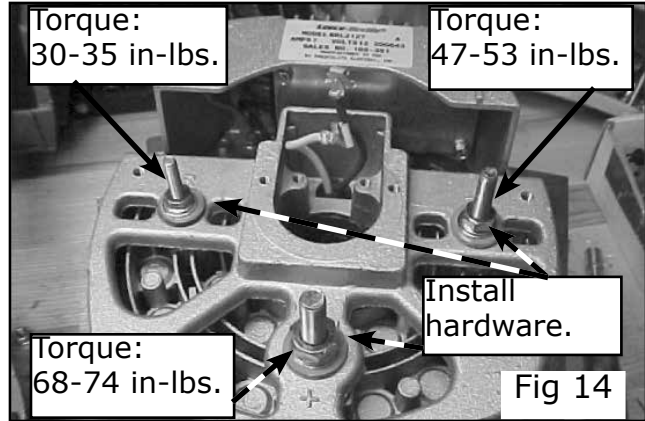
Step 7: Flip housing over, install diode trio lead and nut. Route regulator sense leads per figure and attach to rectifier ring. Install tie wire. (Fig 15)

Note: To determine polarity of regulator sense leads, look at the regulator wire colors connecting to the alternator terminal block.  
Red wire: Positive  
Black wire: Negative

Trace these wires through the terminal block to determine correct polarity.

### Alternators without Diode Trio

Step 1: Remove wires from three stator terminals, cut wire tie, and gently pull the single wire out from under the green and yellow field wires. Remove screws holding regulator sense leads to rectifier ring. (Fig 16, 17)



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Step 2: Remove rectifier ring assembly from rear housing and discard.

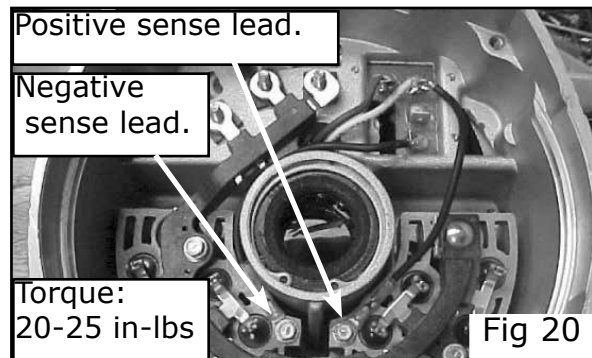
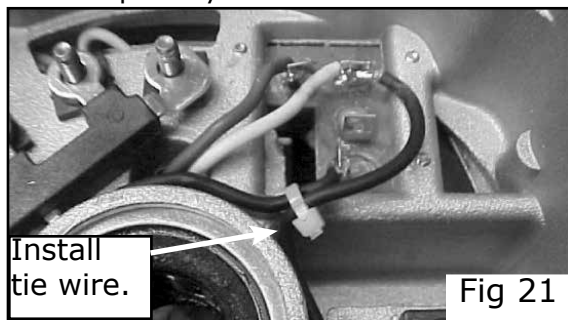
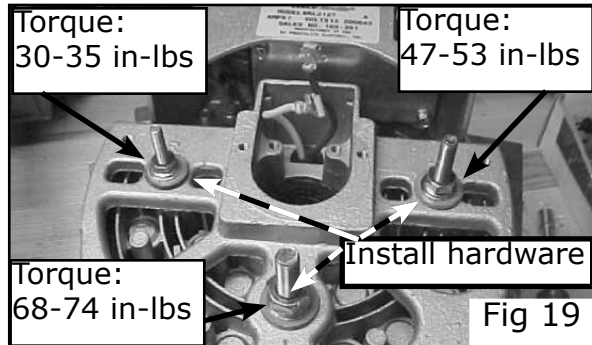
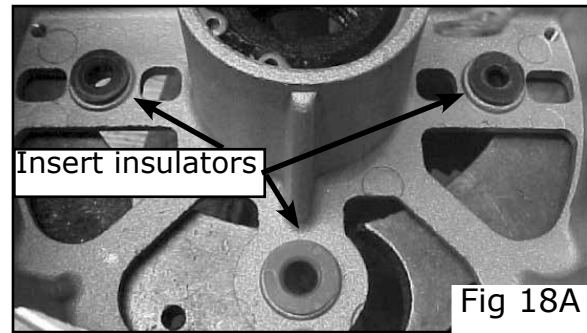
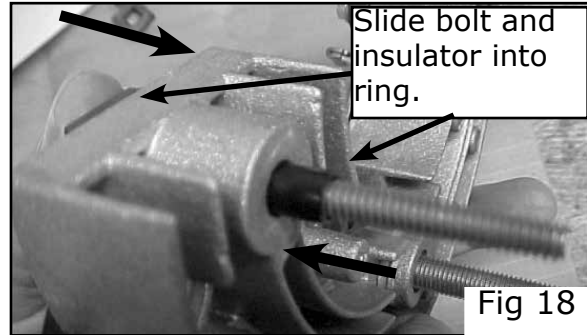
Step 3: Slide #10 carriage bolt furnished with kit into replacement rectifier and insert black insulating sleeve over the bolt. (Fig 18) Insert insulators into rear housing.(Fig 18A)

Step 4: Insert rectifier ring into rear housing making sure the insulating sleeve (Fig 18) doesn't fall off. While holding the rectifier in the housing, flip the housing and install the terminal hardware. (Fig 19)

Step 5: Flip housing over, route regulator sense leads per figure and attach to rectifier ring. Install tie wire. (Fig 20, 21)

Note: To determine polarity of regulator sense leads, look at the regulator wire colors connecting to the alternator terminal block.  
Red wire: Positive  
Black wire: Negative

Trace these wires through the terminal block to determine correct polarity.

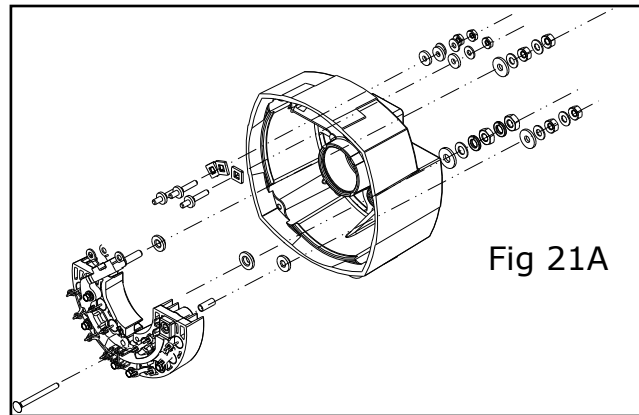


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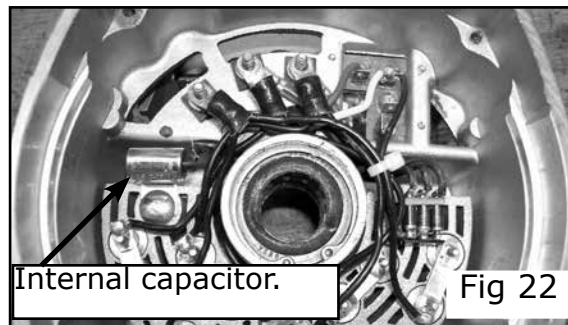
Figure 21A gives you an isometric view of the rear housing to show correct placement of components.



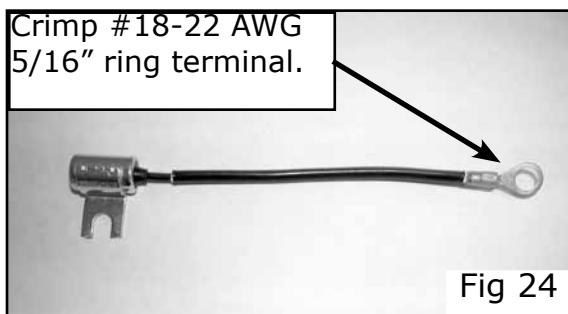
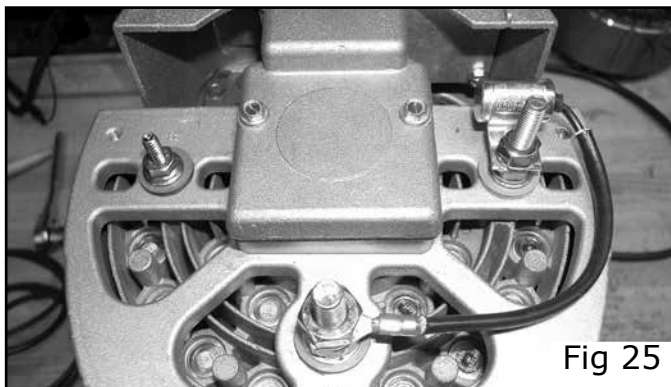
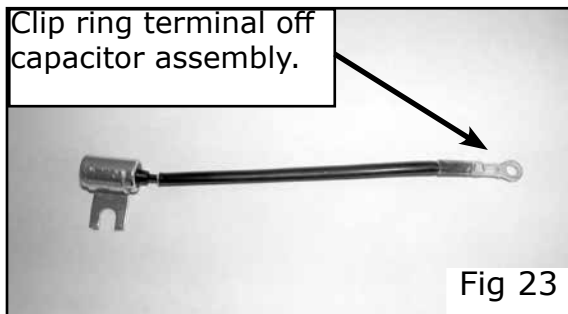
## Alternators with internal capacitor.

If your alternator has an internal capacitor (Fig 22) keep this capacitor as it will be used in another location.

Step 1: Clip #10 ring terminal off capacitor assembly. Strip wire and crimp # 22-18 AWG 5/16" ring terminal. (Fig 23, 24)



Step 2: When alternator is fully assembled attach capacitor across alternator output terminals. (Fig 25)



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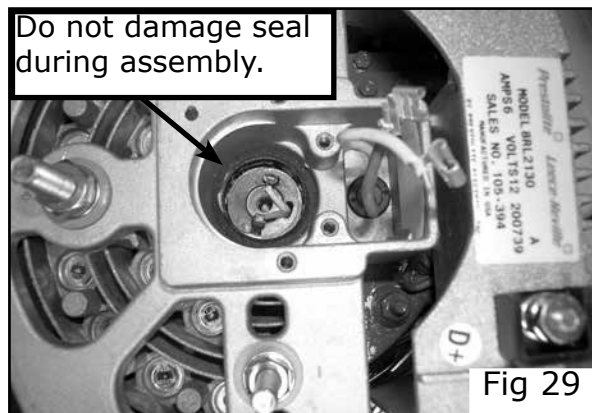
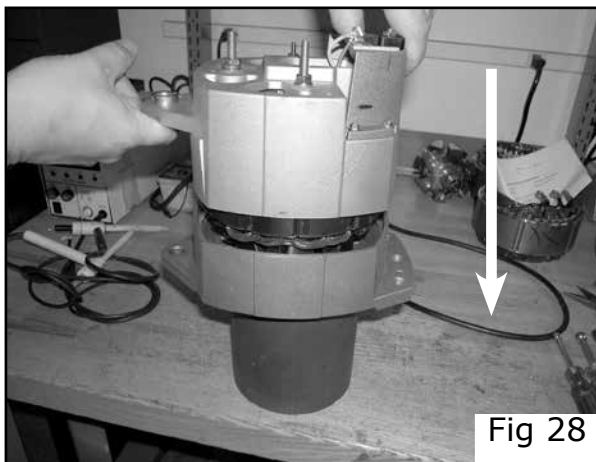
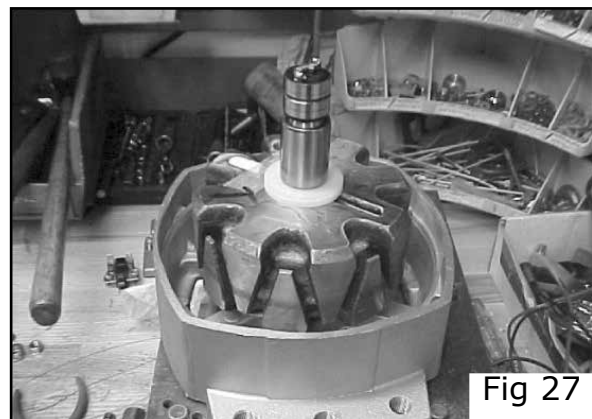
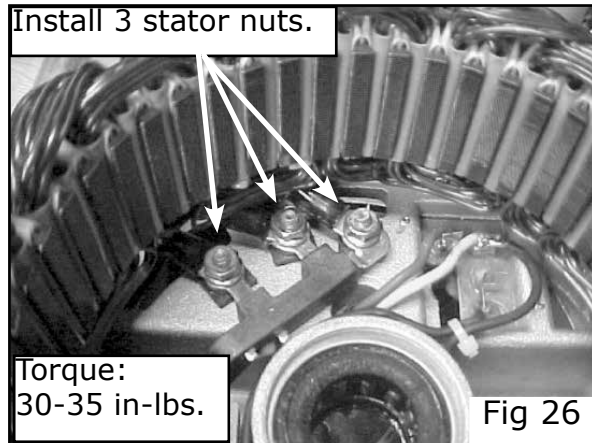
## Alternator Assembly

Step 1: Place stator into rear housing and attach three AC nut.  
Torque nuts to 35-30 in-lbs.  
(Fig 26)

Step 2: Place front housing/ rotor assembly onto a flat surface. (Fig 27)

Step 3: Gently lower rear housing assembly onto front housing assembly.  
Wipe any contamination off the slip ring. (Fig 28)

Note: Use caution not to damage the rear bearing seals when performing Step 3.  
(Fig 29)



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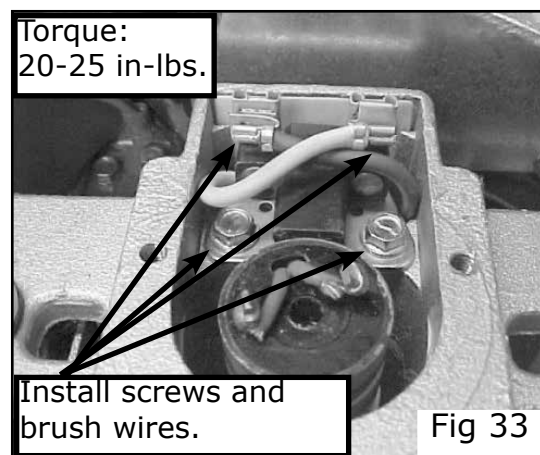
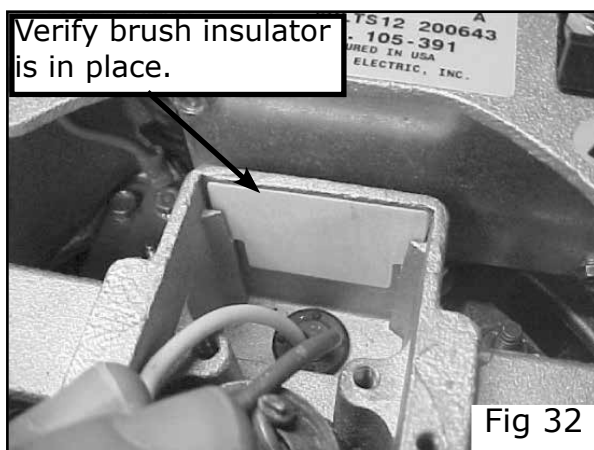
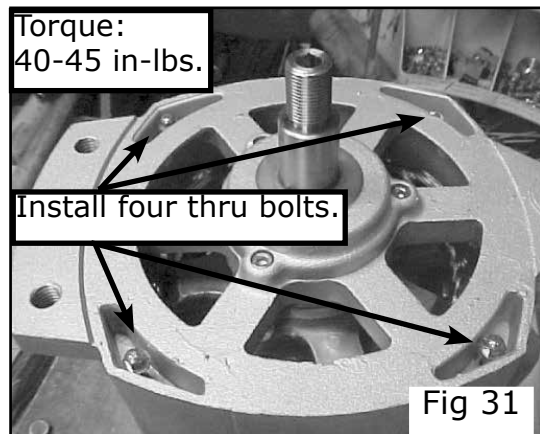
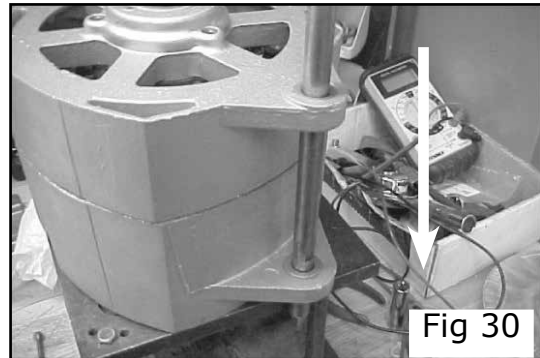
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Step 4: Flip alternator over.  
Insert 1/2" alignment rod into mounting holes. (Fig 30)

Step 5: Apply 242 loctite to alternator thru bolts. Install thru bolts and tighten to 45-40 in-lbs. Remove alignment rod. (Fig 31)

Step 6: Flip alternator over. Verify that the brush insulator shield is in place. (Fig 32)

Step 7: Install brushes and tighten screws. Connect field wires to brushes. (Fig 33)



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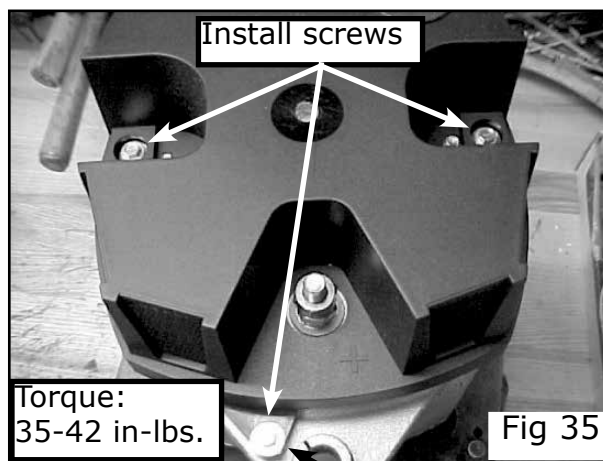
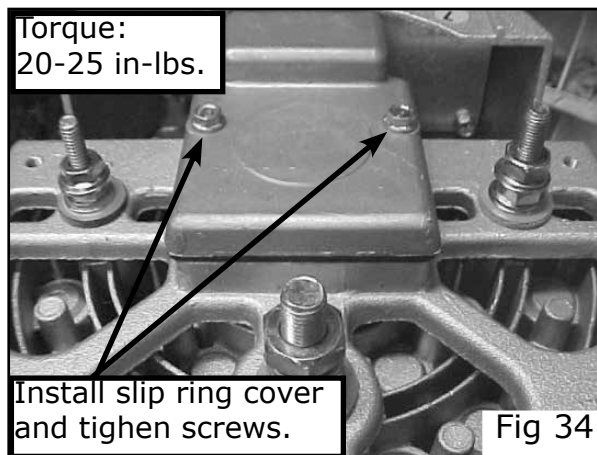
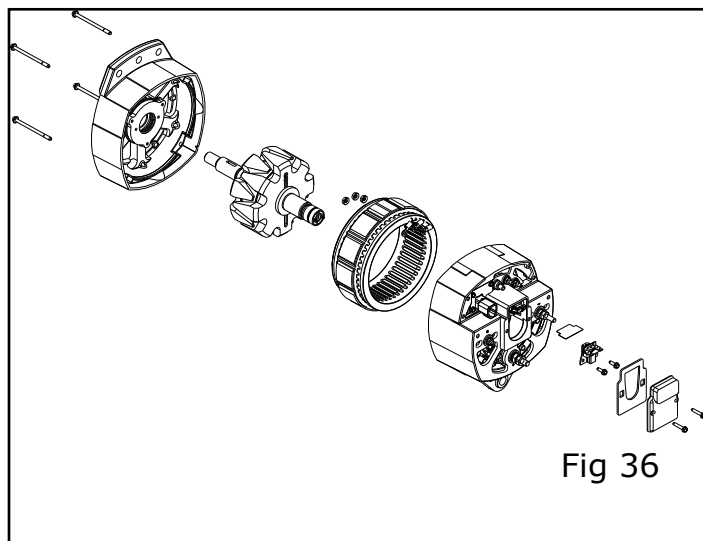
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Step 8: Install slip ring cover and tighten screws. (Fig 34)

Step 9: Install trash screen if equipped. (Fig 35)

Step 10: Install fan.

Figure 36 gives you an isometric view of the rear housing to show correct placement of components.



Note: Two insulating washers are located between the housing and trash screen mounting foot.

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