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Brush Service Procedure: Open Commutator End Head Design

Mobile Climate Control



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Step 1

Tools Needed for Disassembly & Reassembly:

1. 2. 5/16" Nutdriver
2. Brush spring puller tool

NOTE: The brush spring puller tool is optional. The springs can be pulled by hand.

However, a brush spring puller tool can be made from a bent piece of coat hanger or a heavy gage wire and is very effective.





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Step 2

- Locate the commutator end head.
- There will be a headband held on to the commutator end head by a clasp.





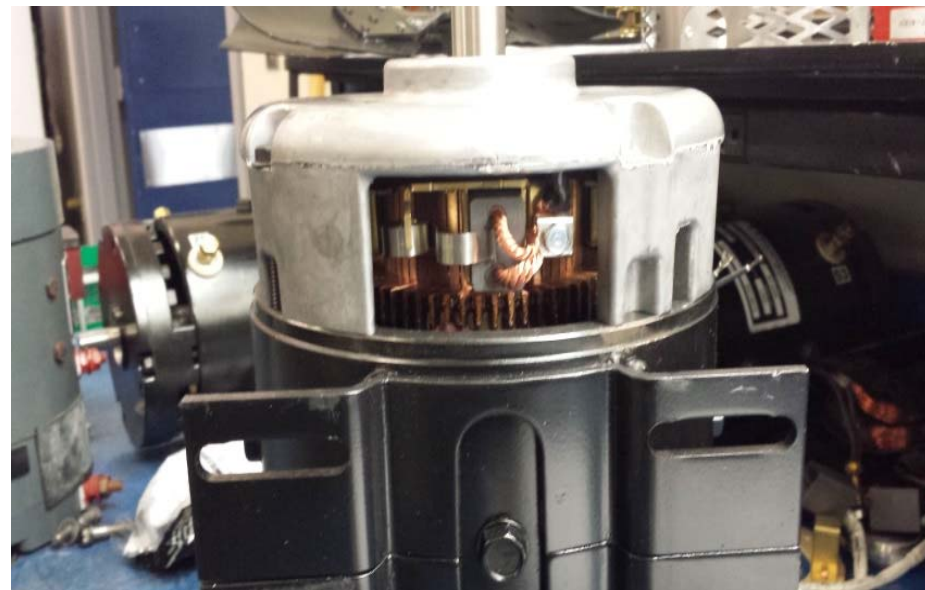
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Step 3

- Remove the headband by unhinging the clasp.
- The brushes should now be visible through the openings left from removing the headband.





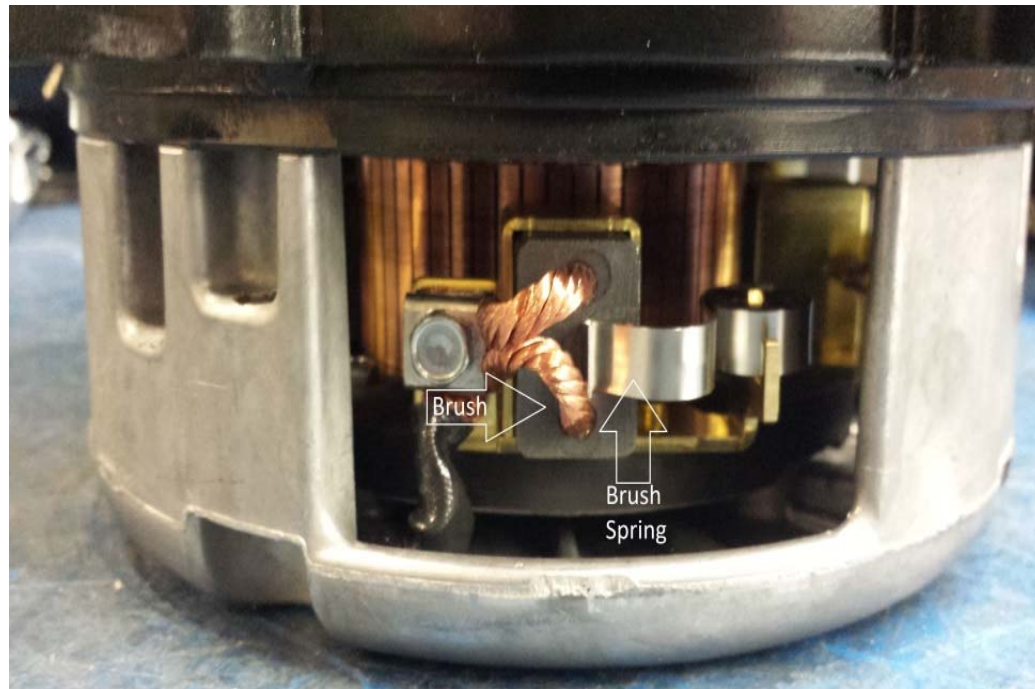
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Step 4

- Locate one brush.
- Resting on top of the brush will be a metal spring pressing it into place.





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Step 5

- Carefully pull back on the brush spring and secure it to the holder.
- This should allow the brush to slide freely inside the brush box without interference from the spring.





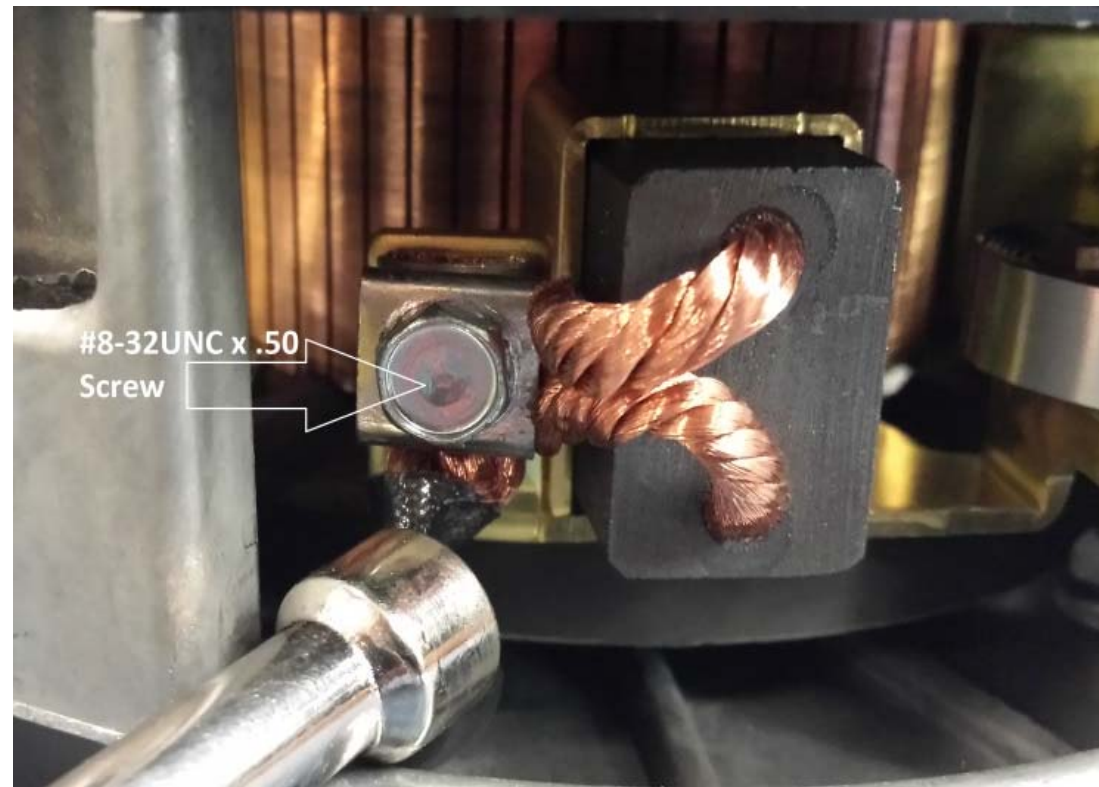
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Step 6

- Locate the #8-32UNC x .50 screw that connects the brush lead to the terminal lead and brush box.





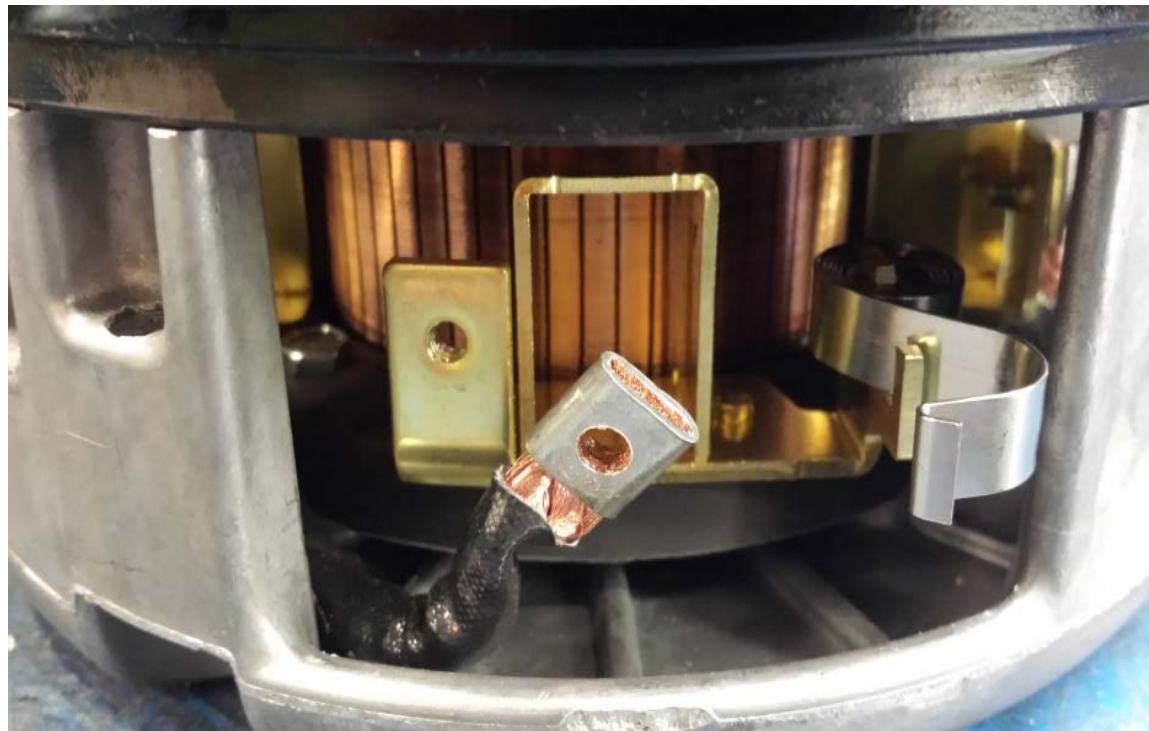
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Step 7

- Remove the screw using the 5/16" nutdriver and slide the brush out of the brush box.
- Repeat steps 4-7 for the remaining brushes.





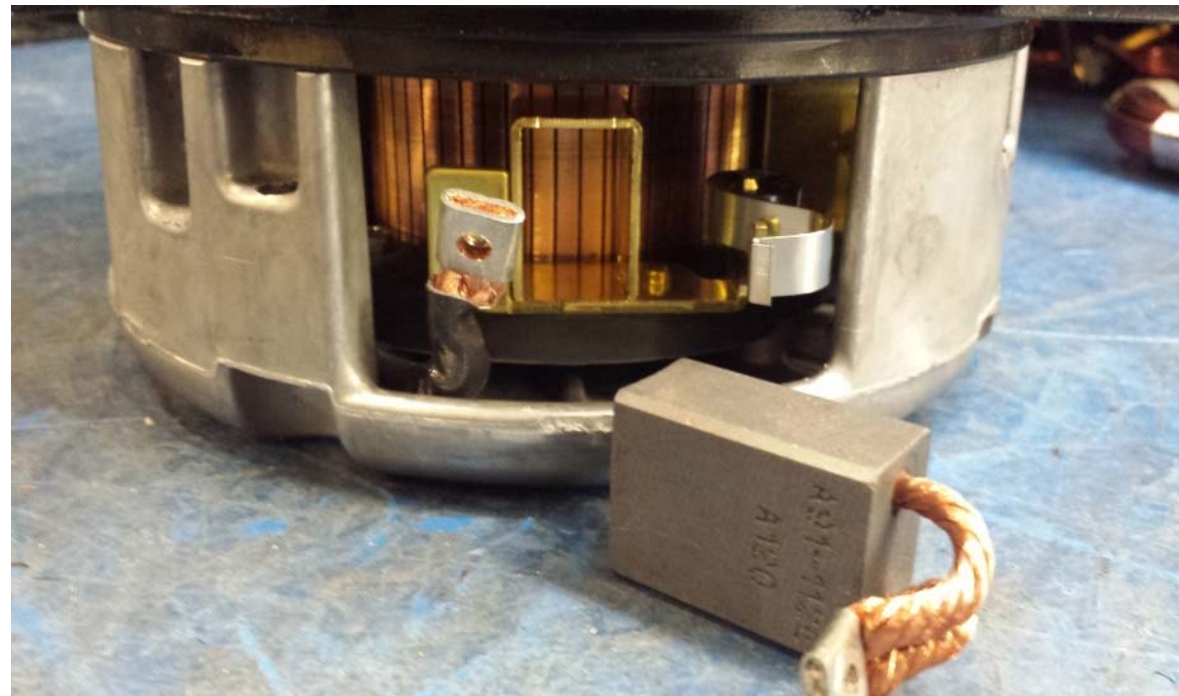
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Step 8

- At this stage, all brushes should be removed with replacement brushes handy.





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Step 9

- Place one new brush back into its corresponding slot on the brush box.





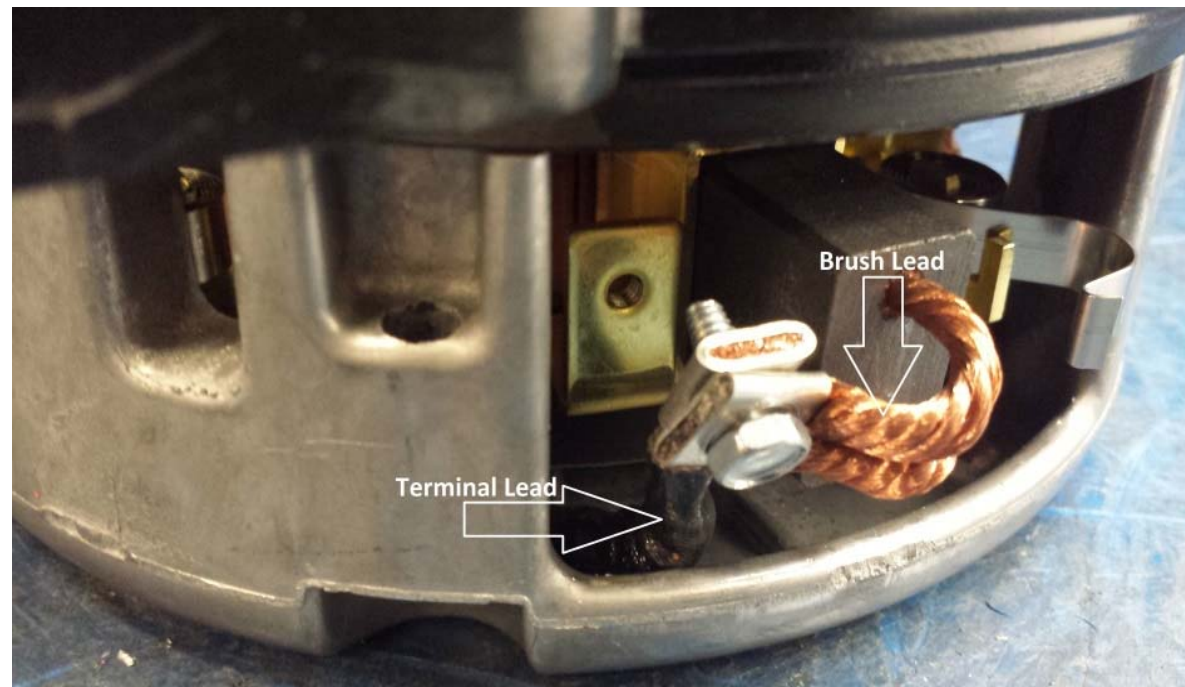
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Step 10

- Place the terminal lead and brush lead together such that their holes are concentric.
- Make sure the brush lead is on the outside.
- Then slide the #8-32UNC x .50 screw through the two holes.





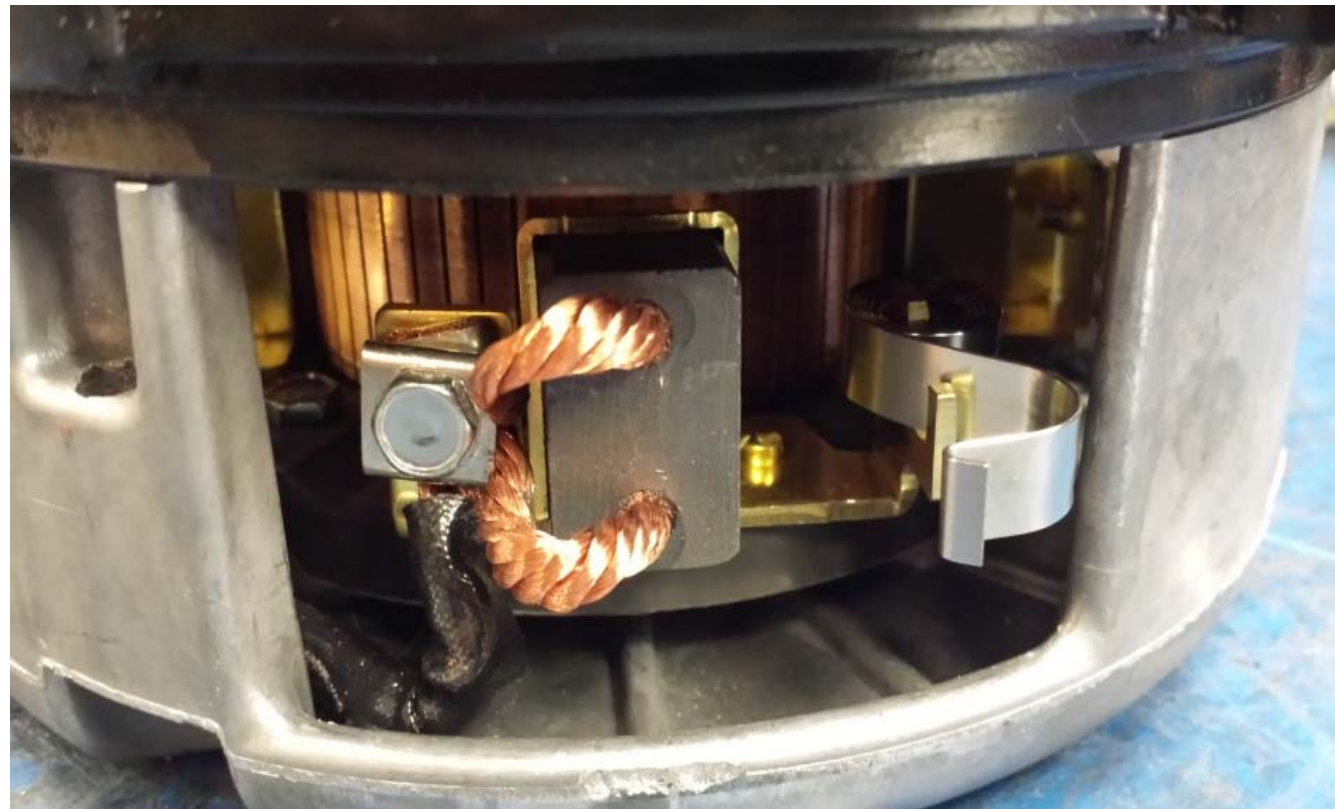
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Step 11

- Locate the terminals/#8-32UNC x .50 screw to the screw hole on the brush box plate and screw in until secure.
- Make sure the brush is able to slide freely inside the brush box.





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Step 12

- Carefully release the brush spring from the holder using the brush spring puller tool and rest it on the back side of the brush.
- The spring should be clear of the leads protruding from the brush.
- Make sure the spring is centered on the brush to ensure even wear.
- Repeat steps 9-12 for the remaining brushes.





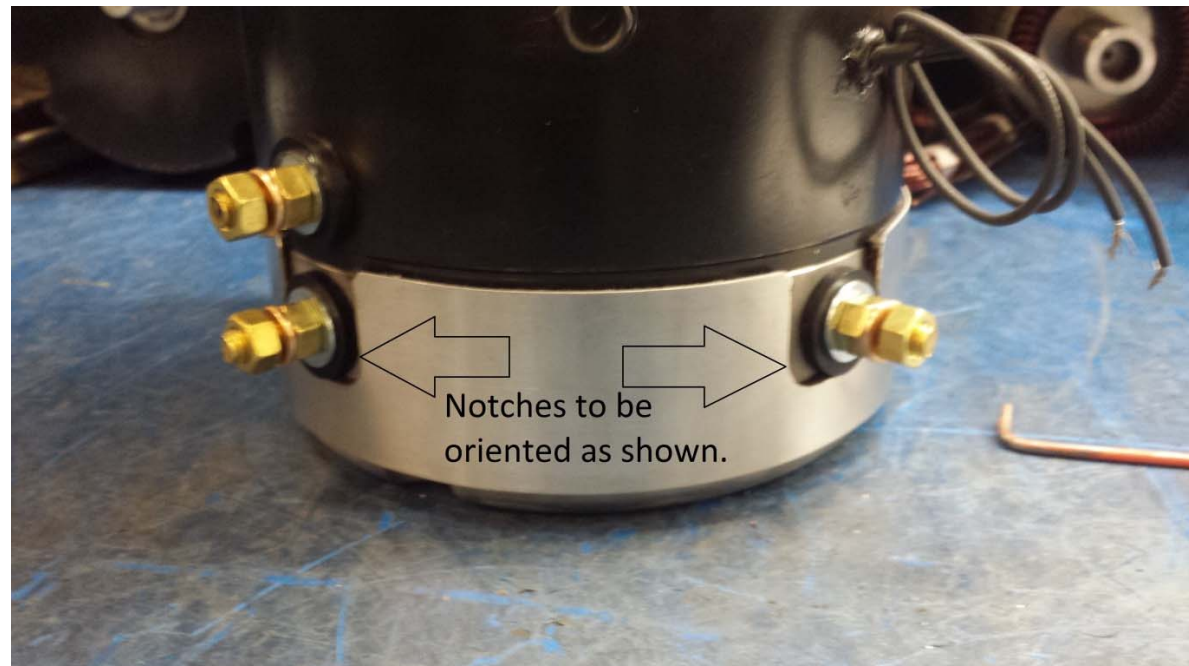
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Step 13

- Replace the headband around the commutator end head such that the notches for the terminal bolts line up with the terminals.
- The headband should be oriented such that the notches are facing the frame.





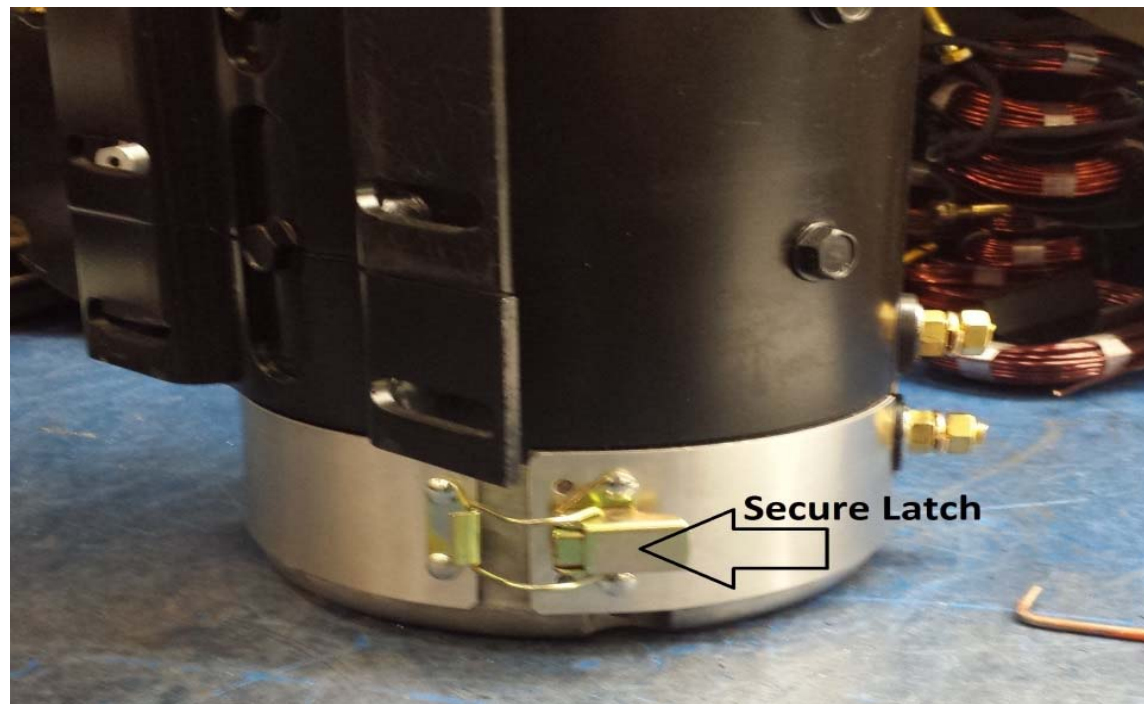
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Step 14

- Secure the headband by closing the latch.





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ENGINEERING SPECIFICATIONS
Advanced Motors & Drives, Inc.

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(315) 434-9303 Fax (315) 432-9290

Motor Test Specification SC-146

Part No. DD TYPE TRACTION MOTOR

Production Test Specification

<u>Voltage</u>	<u>Field Current (A)</u>	<u>Torque (FT-LB)</u>	<u>Max. Amps</u>	<u>Min. RPM</u>	<u>Max. RPM</u>
24.0	8.0	5.0	82	1910	2150
<u>Armature Resistance at 75° F (24° C)</u>			0.011 Ohms Between Bar 1 and 15		
<u>Field Resistance at 75° F (24° C)</u>			.73 Ohms		

Motor Field Test Specification

No load:	N/A	Amp Max.:	N/A	RPM Min.:	N/A
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Technical Service Data

4 Heavy Duty Brush Holders, 4 Brush Assemblies, 4 Brush Springs

Maximum Brush Length ----- 1.33 Inches/ 33.8 mm

Minimum Brush Length ----- 0.62 Inches/ 15.7 mm

Brush Spring Tension -----	New Brush -----	65 Oz./ 1842 Grams
	Worn Brush ---	40 Oz./ 1133 Grams

Commutator-----	Number of Bars-----	57	Bars
	Maximum Dia. New -----	2.93	Inches/ 74.4 mm
	Minimum Dia. for reslotting---	2.80	Inches/ 71.1 mm
	Replacement Dia.-----	2.75	Inches/ 69.9 mm

Additional Information:

(1) Bearing double sealed and lubricated for the life of the bearing with high temperature grease.

CWDE	CCWDE
+ DYNO TO A1	+ DYNO TO A1
- DYNO TO A2	- DYNO TO A2
- AUX TO E1	+ AUX TO E1
+ AUX TO E2	- AUX TO E2

BY: J. Silveggio	REV: D (EC-7778)	PAGE 1 OF 1
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