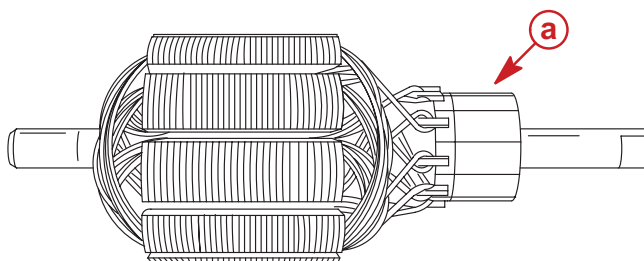




CHECKING AND CLEANING COMMUTATOR

1. If commutator is worn it may be turned on an armature conditioner or a lathe.
2. Clean commutator with “OO” sandpaper.



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a - Commutator

FIELD TESTS

IMPORTANT: Commutator end of armature must be installed in brushes when performing the following tests.

Ohmmeter Leads Between	Resistance (Ohms)	Scale Reading* (x _____)
BLUE and BLACK Motor Wires	0	(Rx1)
BLACK Motor Wire, and Frame (Motor Housing)	No Continuity	(Rx1)
BLUE Motor Wire and Frame	No Continuity	(Rx1)

*If specified readings are not obtained, check for:

- defective armature
- dirty or worn brushes
- dirty or worn commutator

If defective components are found, repair or replace component(s) and retest.

Motor Repair

REMOVAL

NOTE: Power Trim System does not have to be removed from outboard to repair/replace motor.

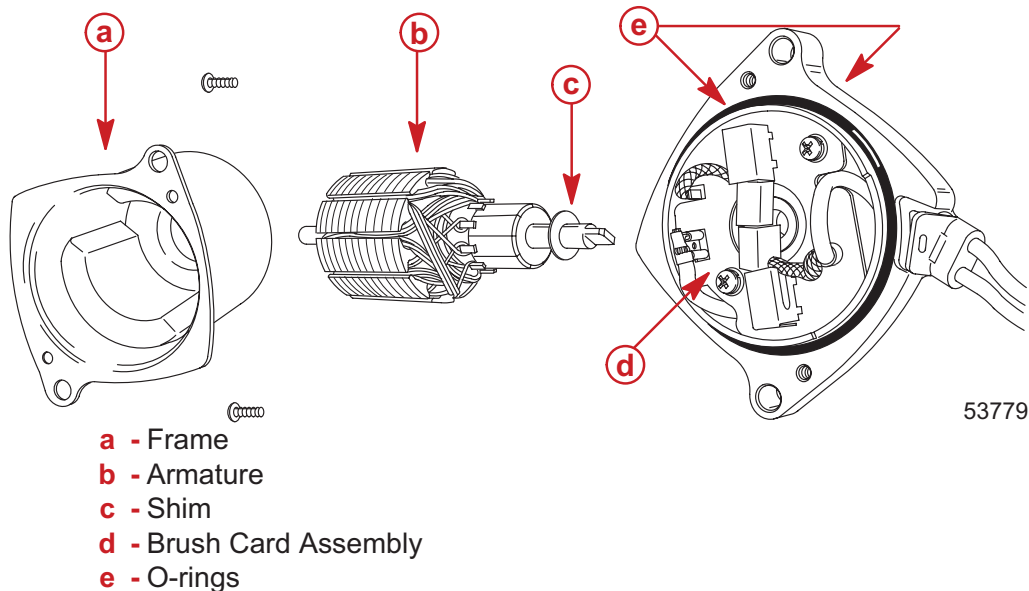
DISASSEMBLY

Refer to “**Motor Disassembly**” on page 5B-38 to disassemble motor from pump.



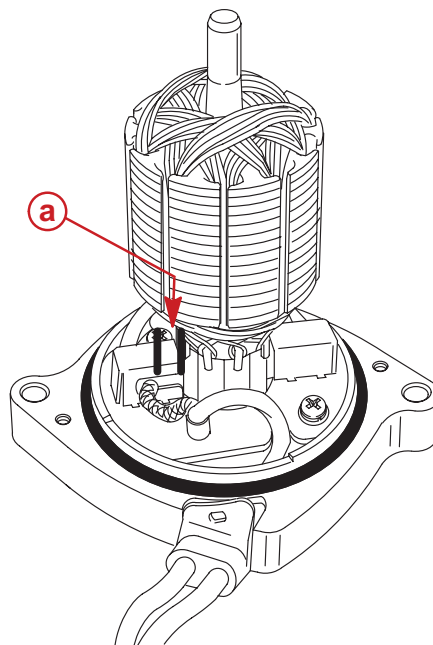
CLEANING AND INSPECTION

Inspect O-rings and replace if necessary. Carefully inspect power cord for cuts or tears which will allow water to enter motor. Replace cord if cut or torn. Clean, inspect, and test motor components. Refer to “**Brush Replacement**”, “**Armature Test**”, and “**Field Tests**” for inspection and test procedures.



BRUSH REPLACEMENT

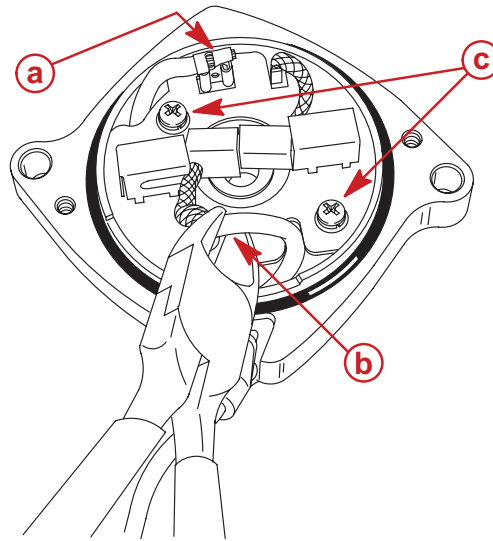
1. Brush replacement is required if brushes are pitted, chipped, or if distance (a) between the brush pigtail and end of brush holder slot is 1/16 in. or less. Check distance with armature installed.



a - 1/16 in.

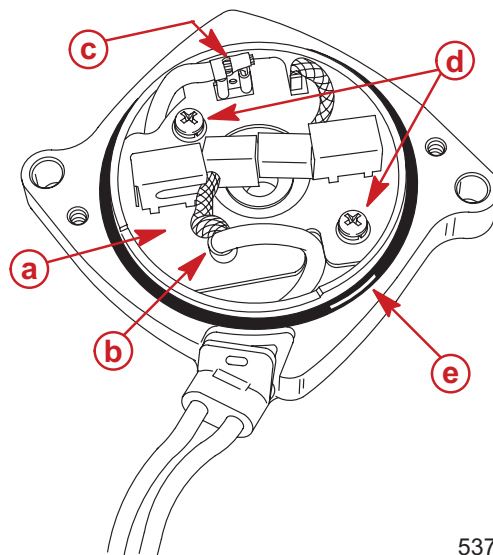


2. To replace brush card, disconnect spade terminal.
3. Cut crimped brush lead.
4. Remove 2 screws securing brush card to end cap.



- a** - Spade Terminal
- b** - Crimped Brush Lead
- c** - Screws

5. Install new brush card (BRUSH and SEAL KIT 828714A1).
6. Crimp metal connector onto motor lead and new brush lead.
7. Connect spade connector motor lead to brush card connector.
8. Secure brush card to end cap with 2 screws and lockwashers.
9. Inspect O-ring for cuts and abrasions. Replace O-ring as required (BRUSH and SEAL KIT 828714A1).



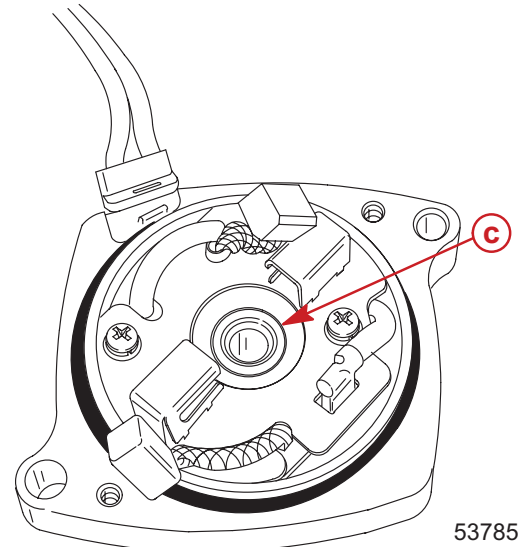
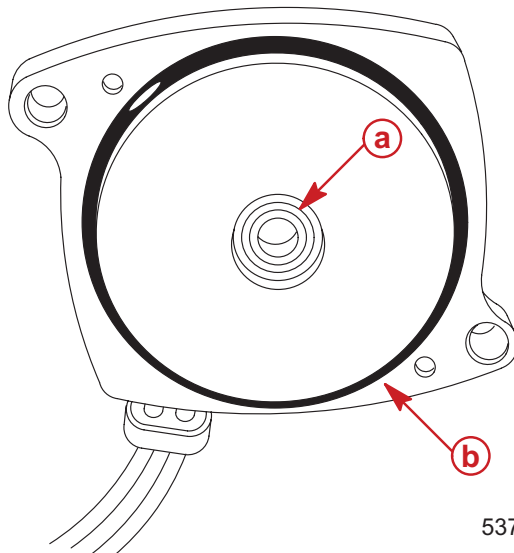
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- a** - Brush Card
- b** - Metal Connector
- c** - Spade Connector
- d** - Screws and Lockwashers
- e** - O-ring



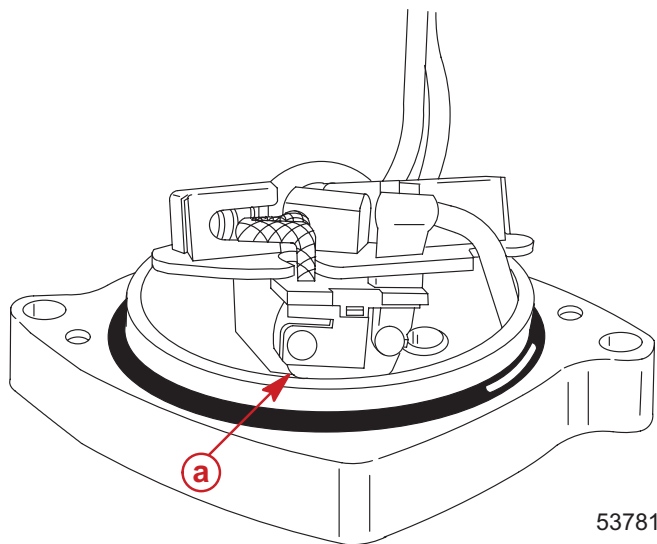
END CAP INSPECTION

1. Inspect seal and O-ring for cuts and abrasions. If replacement is required, install BRUSH and SEAL KIT 828714A1.
2. Inspect bushing for wear. If bushing appears to be excessively worn – grooves, scratches, etc. – install END FRAME ASSEMBLY (COMPLETE) 828715A1.



- a** - Seal (Apply 2-4-C w/Teflon to seal lips)
- b** - O-ring
- c** - Bushing

3. If trim motor is overheated, a thermoswitch located under brush card will open. Normally, this switch will reset itself within 1 minute.



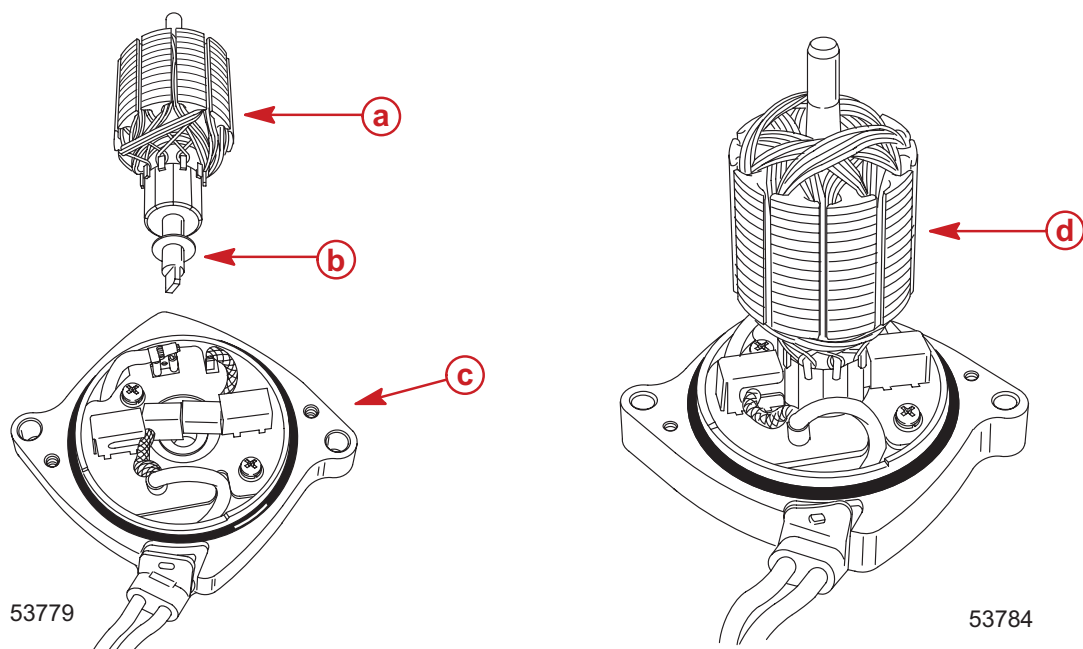
- a** - Thermoswitch



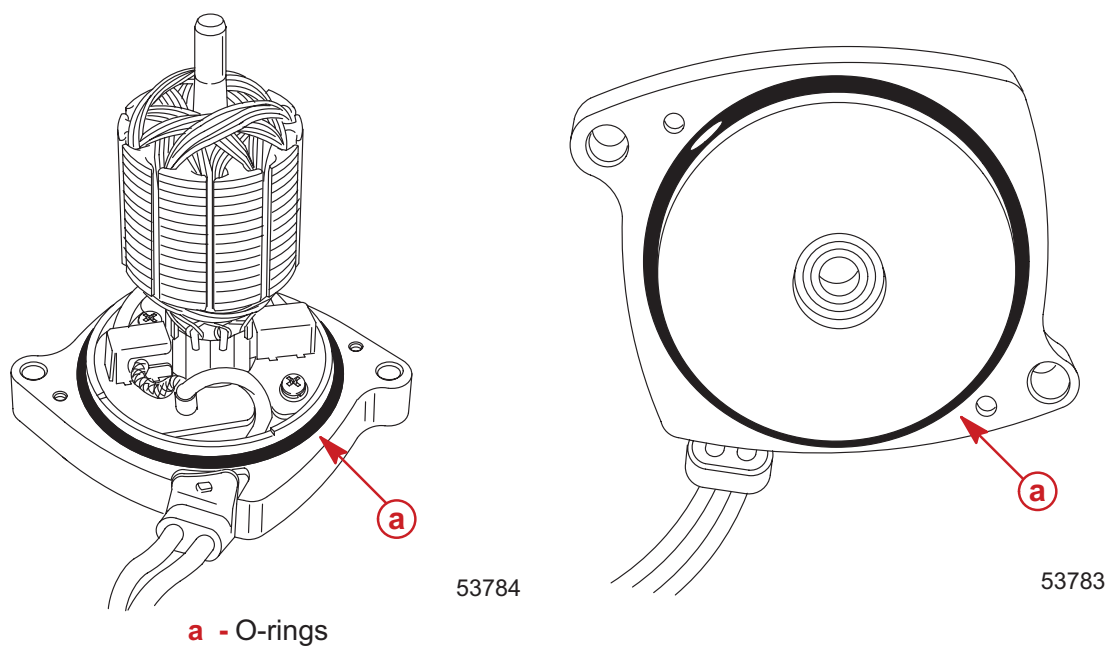
Reassembly

IMPORTANT: Components must be clean. Any debris in power trim system can cause system to malfunction.

1. Install armature into end cap/brush card assembly.



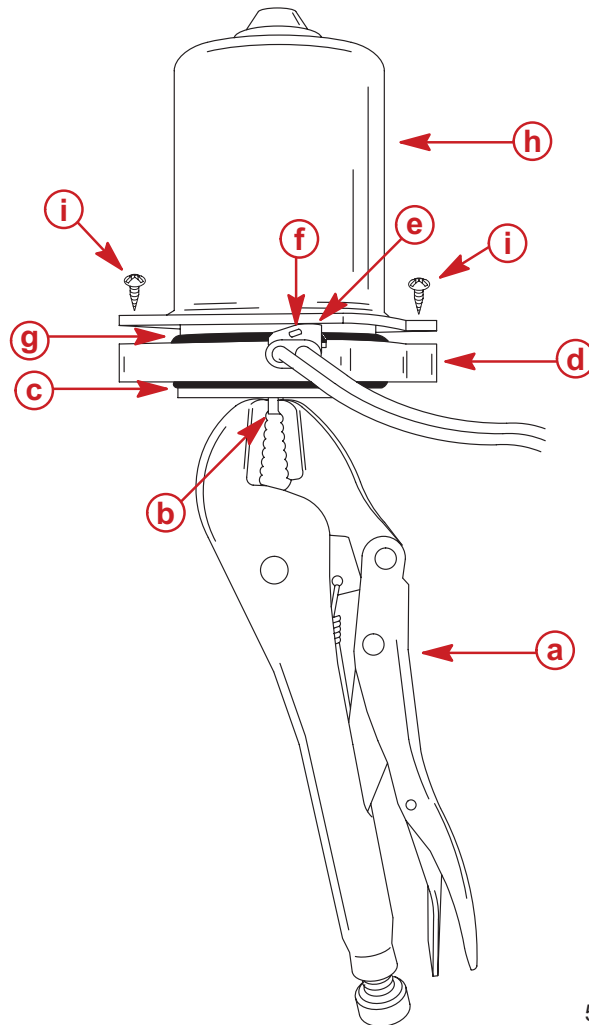
2. Install O-rings in end cap.





IMPORTANT: Attach Vise Grip® pliers to armature shaft before installing frame assembly. The Vise Grip® pliers will prevent the armature from being drawn out of the brush card assembly by the frame magnets while installing the frame assembly.

3. Install Vise Grip® pliers on armature shaft.
4. Carefully install frame assembly over armature.
5. Position harness retainer hole over tab in end cap.
6. Secure frame assembly to end cap with 2 screws.



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- a** - Vise Grip® Pliers
- b** - Armature Shaft
- c** - O-ring
- d** - End Cap
- e** - Harness Retainer
- f** - Retainer Hole
- g** - O-ring
- h** - Frame Assembly
- i** - Screws