mercruiser
STERN DRIVES & INBOARDS

service bulletin

TO: SERVICE MANAGER ☐ MECHANICS ☐
PARTS MANAGER ☐

No. 92-12

A. NEW TRIM LIMIT SWITCH AND TRIM SENDER KIT

Models

MCI/Alpha One/Alpha One Generation II/Bravo One/Two MC IITR/IITRS

Changes

The Trim Sender/Trim Limit for the MC I/Alpha One/Alpha One Generation II/Bravo One/Two and the MC IITR/IITRS models are only available in a kit that includes both the trim sender and the trim limit in each kit. The new trim sender and trim limit assemblies can be identified by the following changes:

a. The rotor assembly is now **gray** in color.

b. The lead assembly has a **black** plastic wrap over the outside.

c. The words **TRIM SENDER STARBOARD** and **TRIM LIMIT PORT** will be on the covers.

The new style trim sender and trim limit assemblies are being used on all Alpha and Bravo assemblies in production today. The starting serial numbers are as follows: **ALPHA [OD692187] BRAVO [OD695289]**

Problem

The trim sender assembly would begin working erratically after a period of time of quit working completely. Some units were found to have water inside, caused by either a pinched or damaged lead assembly. Other units were found to have cut leads or small pin holes in the leads which after a period of time, would allow water to wick down the lead into the sender or corrode the wire and cause it to stop working.

Parts Required

(1) 805320A1 Trim sender/Trim limit kit for MC I/Alpha One/Alpha One Generation II/Bravo One/Bravo Two

(1) 805320A2 Trim sender/Trim limit kit for MC IITR/IITRS

Repair

Remove both the trim sender and the trim limit assemblies and their wiring harnesses for the new units that come in the kit, following the instructions included in each kit. **["DO NOT CUT AND/OR SPLICE ANY OF THE LEADS"].** A copy of the instructions is included in the back of this bulletin.

Trouble Shooting

If, after installation of the trim sender or the trim limit switch assembly, you find that one of the other does not work or register on the gauge do not check with an ohmmeter by poking through the casing of the wire. Check the wires from the inside of the boat at the connectors. If you puncture the casing of the wire on the outside of the boat water will leak into the wire and cause damage to the sender.

Dual Station Application

If you are using the kit on a dual station application you will need to order a rotor kit (P/N 805134A3) to install in the trim sender. Otherwise, the gauges will read incorrectly at both stations.

Warranty

If the unit is under warranty fill out a warranty claim and send to your normal processing center.

Labor Code:	**MH34** for Alpha/Bravo	Labor: **4.0**
	MH33 for MC IITR/IITRS	Labor: **3.0**

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QUICKSILVER®
MARINE PARTS AND ACCESSORIES

805130A2/A6 TRIM POSITION SENDER FOR ALPHA AND BRAVO MODELS

NOTICE to INSTALLER

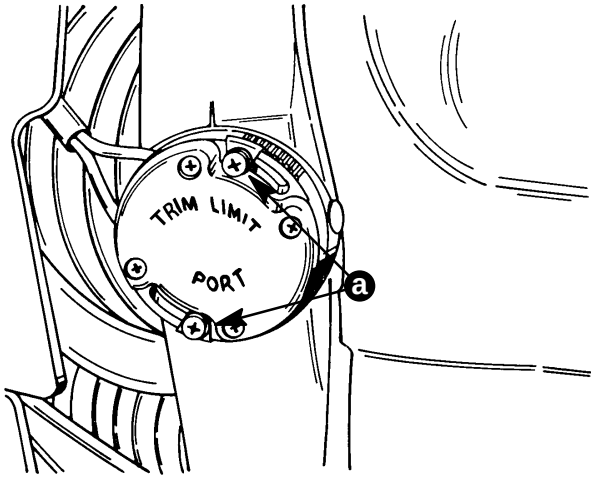
After Completing Installation, These Instructions Should Be Placed with the Product for the Owner's Future Use.

⚠ WARNING

Disconnect both battery cables before installing new sender.

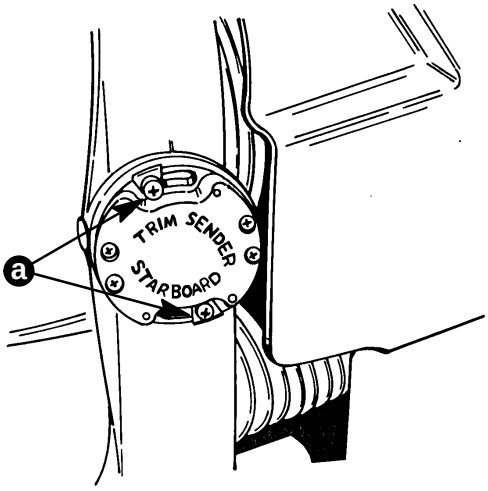
Removal

1. Remove stern drive unit.
2. Remove trim limit switch.



a - Screws, washers, and Retainers 71221

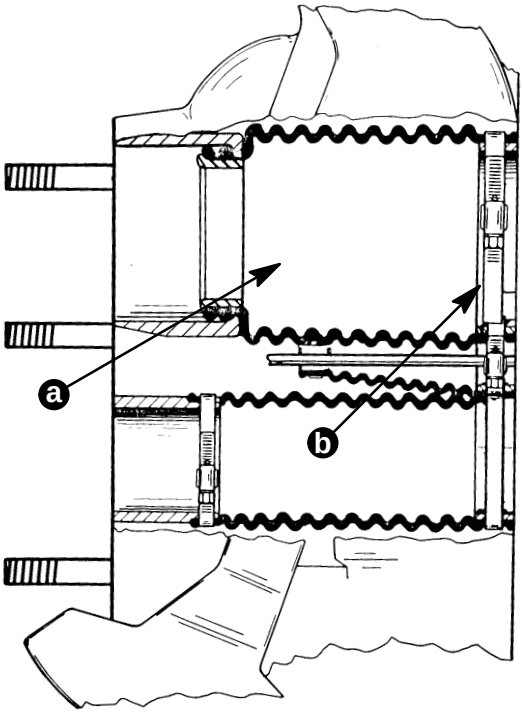
3. Remove trim position sender.



71220

a - Screws, Washers, and Retainers

4. **Earlier Alpha One Models -** Loosen front hose clamp on u-joint bellows. Remove bellows from flange.

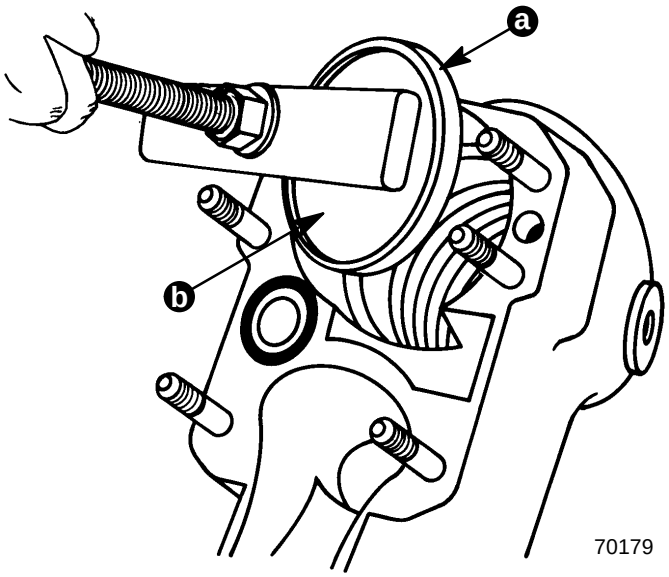


22116

a - U Joint Bellows
b - Clamp

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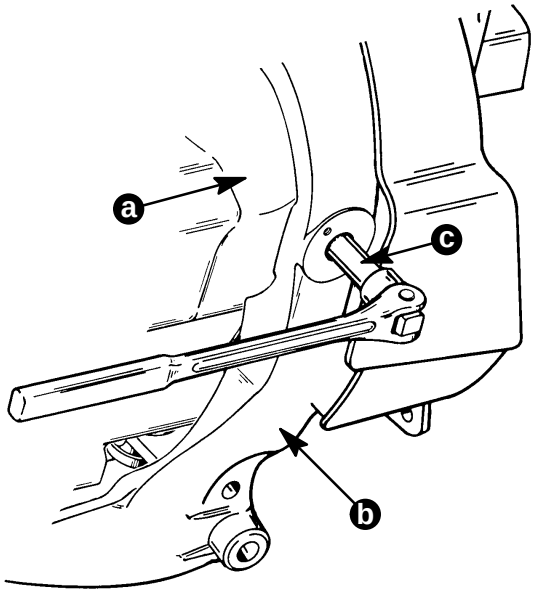
5. **Bravo and Later Alpha One Models -** Remove u-joint bellows sleeve.



70179

a - Sleeve
b - Removal Tool (P/N 91-818169)

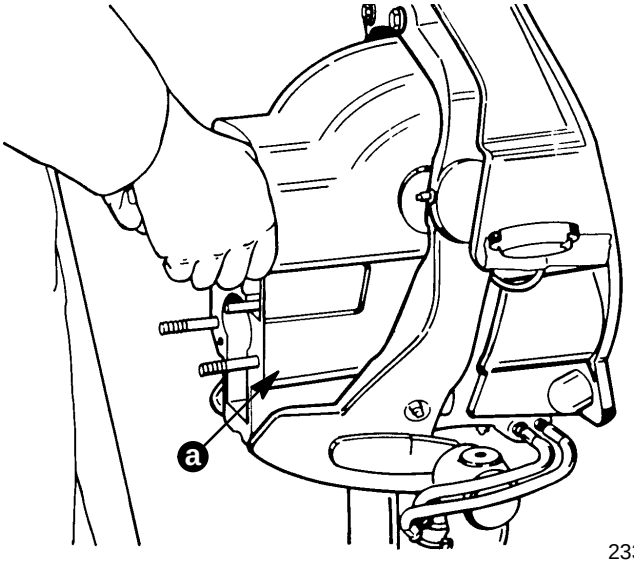
6. Remove both hinge pins.



22113

a - Bell Housing
b - Gimbal Ring
c - Hinge Pin Tool (P/N 91-78310)

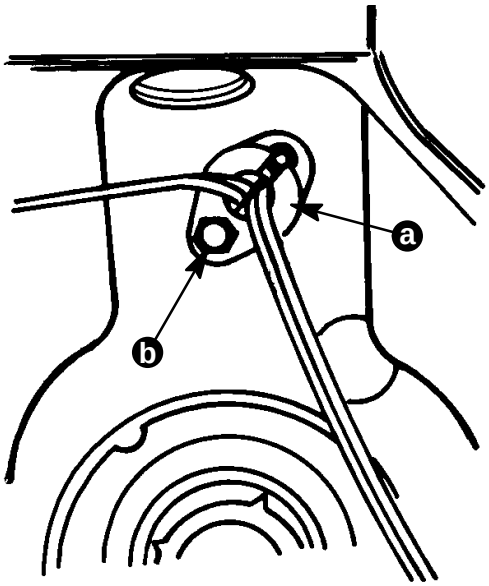
7. Pull back on bell housing and rotate it 90 degrees to gain access to the trim wire retainer bolt.



23363

a - Bell Housing

8. Remove trim wire retainer.



70197

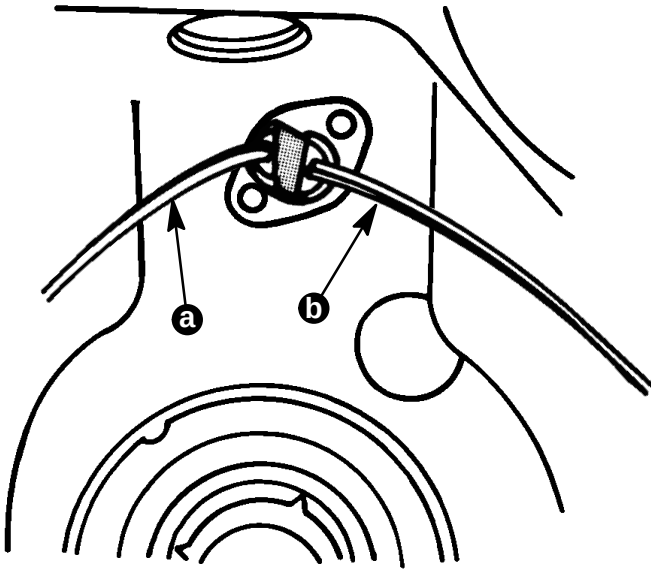
a - Clamp
b - Bolt

9. Disconnect trim position sender wires from engine harness.

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Installation

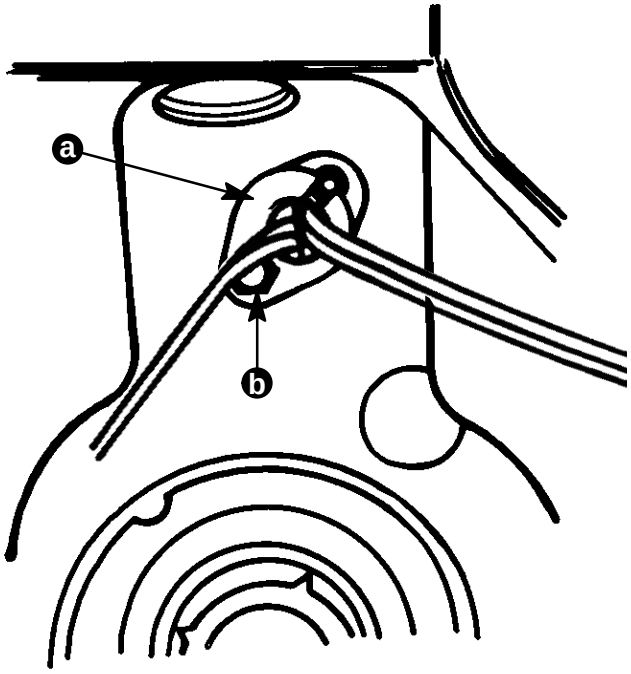
1. Route new sender wires through hole. Bring together the two grommet halves and ensure they are seated tightly in the hole and that the flat edges that mate together are vertically aligned. Maintain light tension on the wires from inside the boat, to hold the grommets in the hole.



a - Trim Limit Switch Wires
b - Trim Position Sender Wires

70198

2. Reinstall retainer and torque to 90-100 lb.in. (10.2 - 11.3 N·m).



a - Clamp
b - Bolt

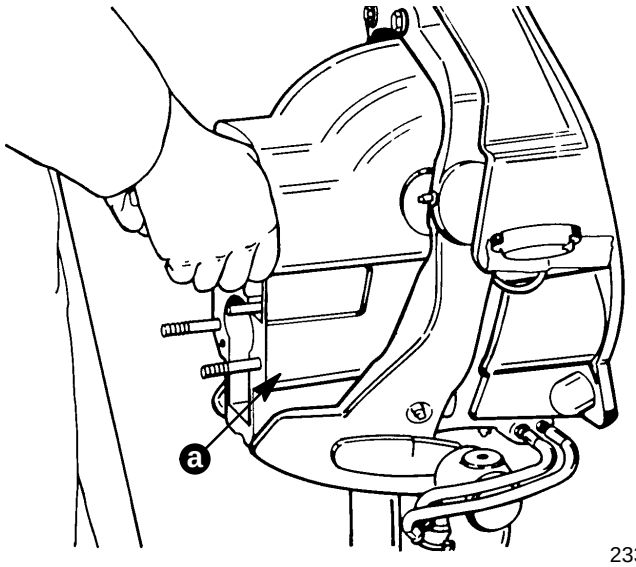
70197

3. **<u>Earlier Alpha One Models</u> -** Prepare U-joint bellows for installation as follows:
   a. Clean gimbal housing mounting flange with sand paper and wipe clean with lacquer thinner.
   b. Apply bellows adhesive to mounting surface on inside of bellows.
   c. Position grounding clip and hose clamp over bellows end.

⚠ WARNING

Be sure to read and follow package label directions when using bellows adhesive.

4. Install bell housing between gimbal ring. Push on bell housing and guide U-joint bellows onto gimbal housing mounting flange.

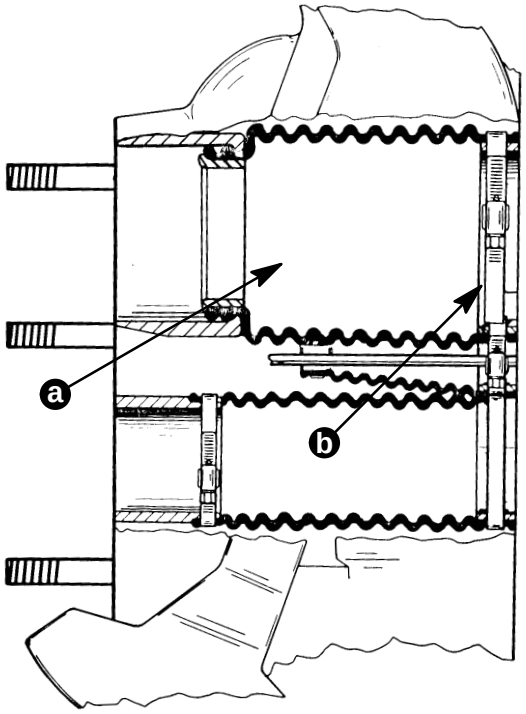


23363

a - Bell Housing

provided by http://www.crowleymarine.com

5. Position u-joint bellows hose clamp as shown and tighten securely.

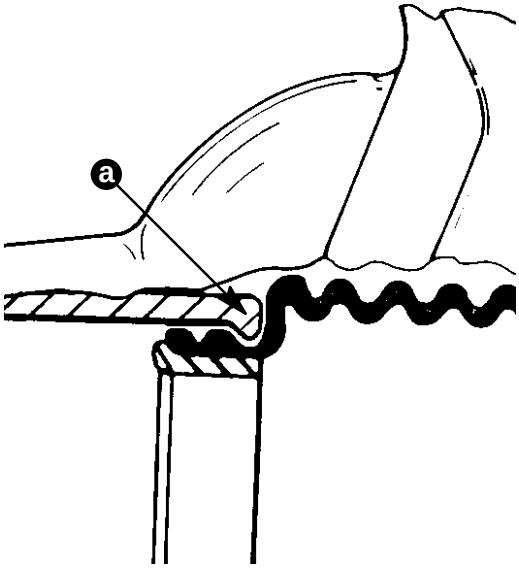


22116

a - U Joint Bellows
b - Clamp

6. **<u>Bravo and Later Alpha One Models</u> -** Connect U-joint bellows to bell housing as follows:

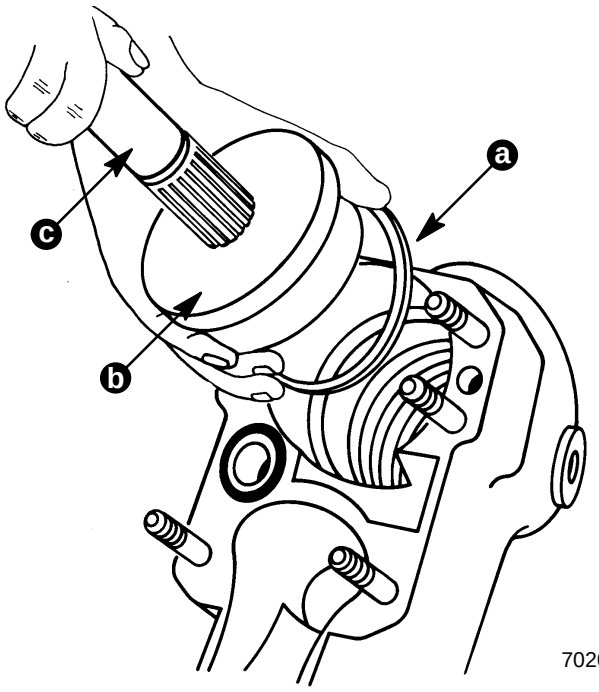
   a. Position U-joint bellows on bell housing. Ensure that the bell housing flange rests in the second groove from the end of bellows.



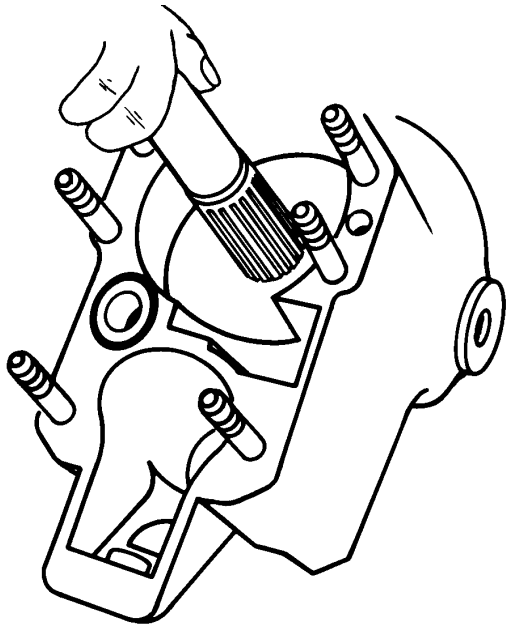
22116

a - Bell Housing Flange

   b. Lubricate sleeve O.D. with water or engine cleaner and install sleeve with tool and suitable driving rod.



70207

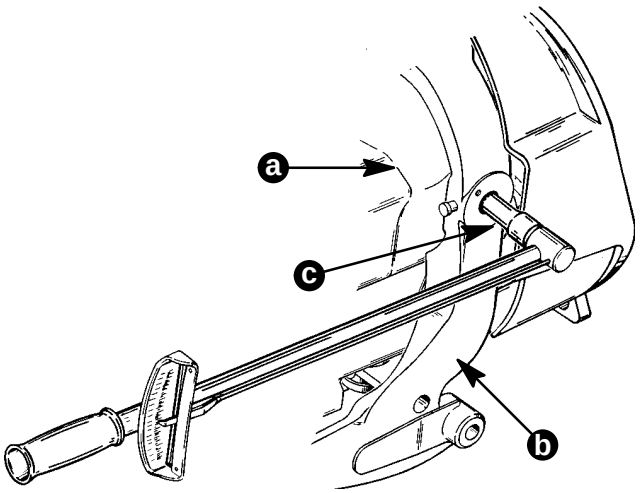


70208

a - Sleeve
b - Installation Tool (P/N 91-818162)
c - Suitable Driving Rod

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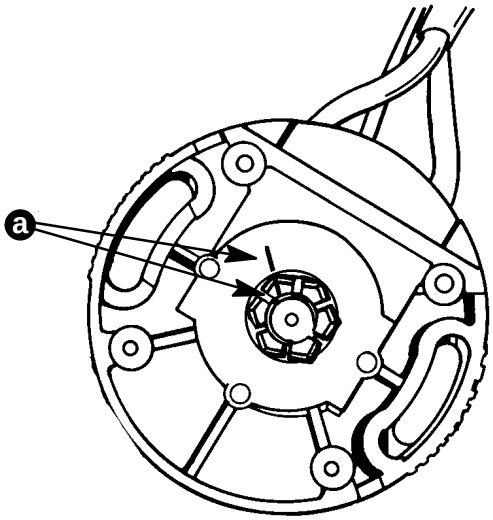
7. Apply Loctite Primer “T” to internal bell housing threads and external hinge pin threads and allow to dry. Apply Loctite 271 to bell housing threads and install hinge pins. Torque hinge pins to 95 lb.ft. (129 N·m).



23292

a - Bell Housing
b - Gimbal Ring
c - Hinge Pin Tool (P/N 91-78310)

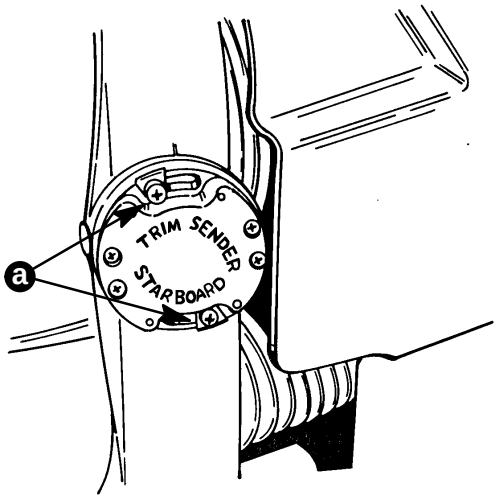
8. Reinstall trim position sender as follows:
   a. Place stern drive unit in the full down/in position.
   b. Turn center rotor of trim position sender to align index mark with index mark on sender body.



71218

a - Index Marks

   c. Install trim position sender and secure with attaching hardware.

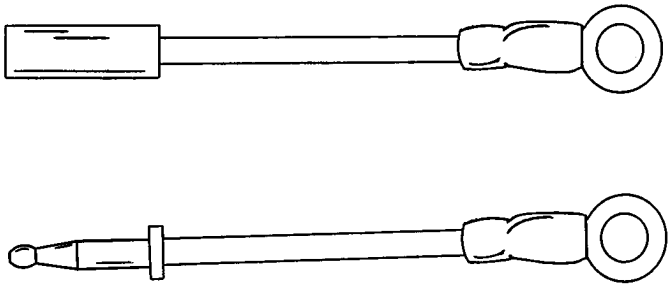


71220

a - Screws, Washers, and Retainers

9. Reinstall battery cables.
10. Reconnect trim position sender wires to engine harness.

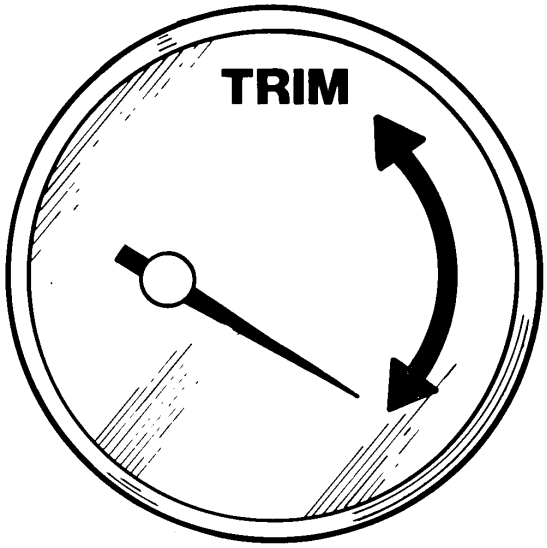
NOTE: Trim position sender kit contains two jumper wires that can be used if your model requires ring terminals to connect to the engine harness.



25269

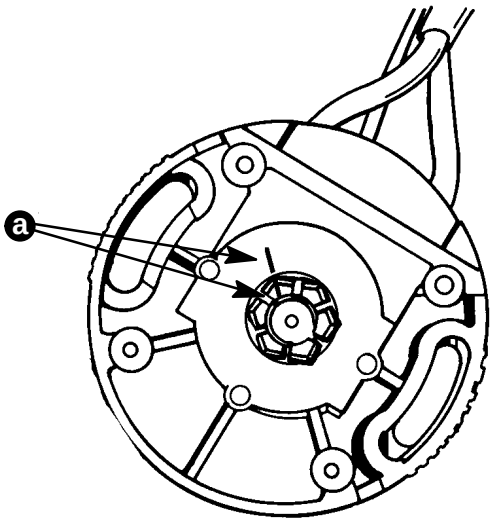
provided by http://www.crowleymarine.com

11. Turn ignition key to the “RUN” position. DO NOT START ENGINE. Rotate sender until needle is at bottom of arc on gauge.



22175

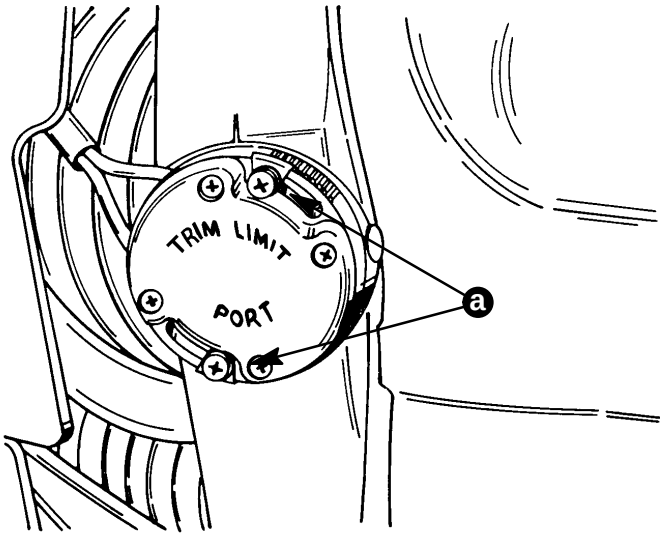
12. Tighten trim position sender retaining screws and recheck gauge reading.
13. Reinstall trim limit switch as follows:
    a. Place drive unit in full “DOWN/IN” position.
    b. Align index marks on switch.



71218

a - Index Marks

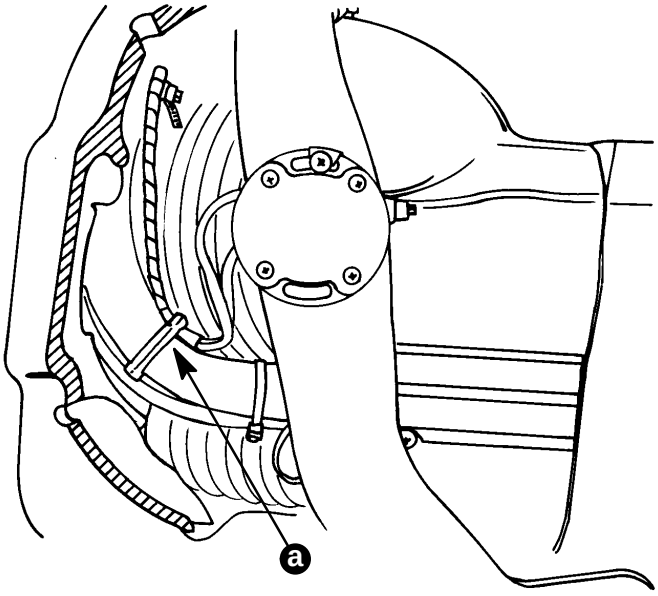
    c. Install trim limit switch and secure with attaching hardware.



71221

a - Screws, Washers, and Retainers

14. Secure the trim limit switch harness to the water hose with the plastic clip.



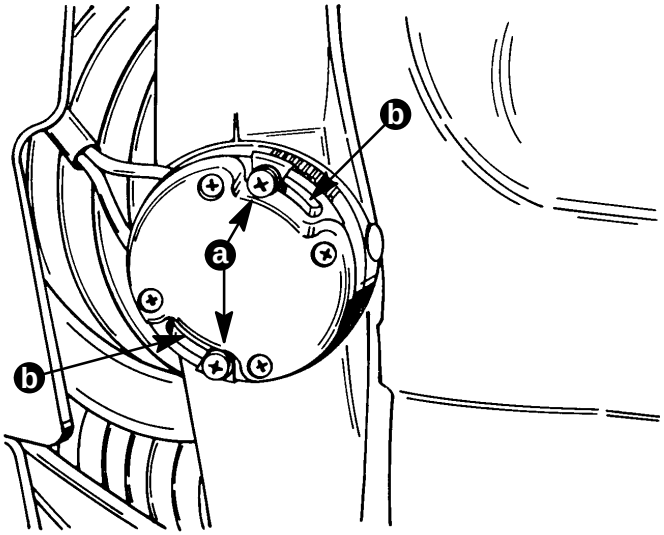
a - Plastic Clip

71184

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15. Adjust trim limit switch as follows:

a. Loosen screws and turn trim limit switch clockwise to end of slots.



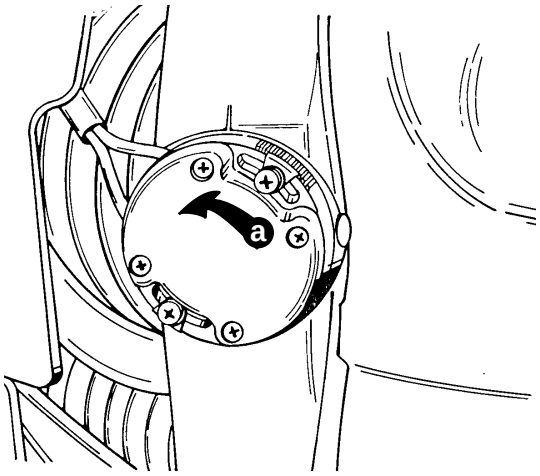
22091

a - Screws
b - Slots

b. Ensure drive unit is in the full “DOWN/IN” position.

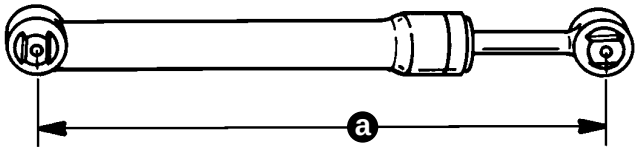
c. Trim drive unit “UP/OUT”. Do not use trailer switch.

d. Slowly turn trim limit switch counterclockwise until trim cylinders extend to dimension shown (Refer to appropriate illustration).



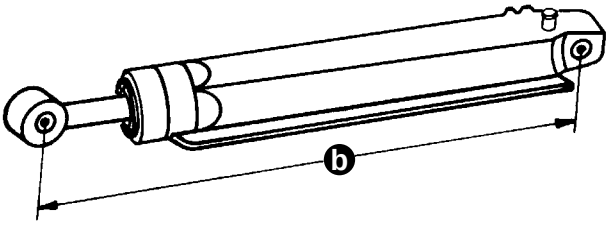
a - Rotate Counterclockwise to Adjust 22091

e. Retighten screws when adjustment is correct.



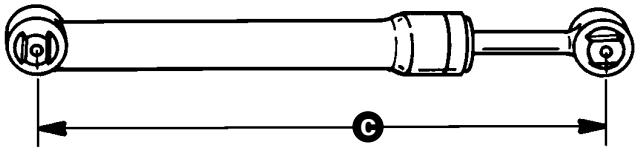
a - 21-3/4 in. Max. (554mm) 50464

EARLIER R/MR/ALPHA ONE MODELS



b - 20-3/4 in. Max. (520mm) 70136

ALPHA ONE GENERATION II MODELS



c - 21-3/4 in. Max. (554mm) 50464

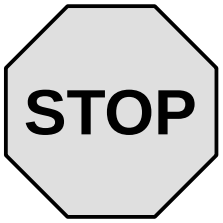
BRAVO MODELS

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492 92-12 492

Warranty Payment Info.

Trim Sender/Switch



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Warranty will be paid only if all of the following are met:

1. Both Sender and Switch must be replaced and returned together.

2. Both Sender and Switch must be replaced and returned complete.
   (i.e. No splicing or interchange of parts)

Note: Do not forget to clip the trim limit wire to the water hose.
(Read the Instructions!)

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