

POWER TRIM

Section 5B - Trim Cylinders

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Specifications

Torque Specifications

Description	Torque		
	lb-in.	lb-ft	Nm
Piston Rod Bolt		17.5	23.7
End Cap		45	61
Anode Screw	30		3.4

Special Tools

Description	Part Number
Spanner Nut Wrench	91-821709T
Large Pin Set	91-811907
Medium Pin Set	91-811908
Small Pin Set	91-811909

Lubricants/Sealers/Adhesives

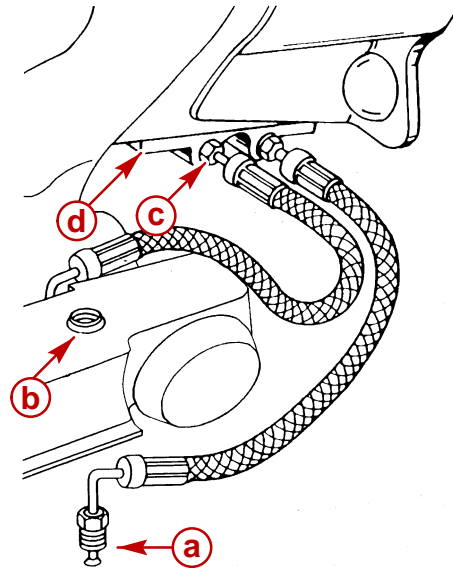
NOTE: Prior to reassembly of trim cylinder(s), lubricate all internal parts with Quicksilver Power Trim and Steering Fluid or (if not available) 10W-30 or 10W-40 motor oil.

Description	Part Number
Loctite 27131	92-809820
Quicksilver 2-4-C Marine Lubricant with Teflon	92-825407A12
Quicksilver Perfect Seal	92-34227--1
Quicksilver Power Trim and Steering Fluid	92-90100A12

Trim Cylinder Repair

Removal

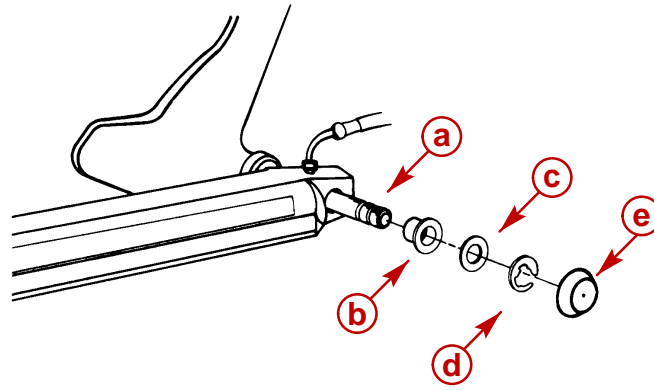
1. Disconnect UP trim hose from front hole on trim cylinder.
2. Disconnect DOWN trim hose from hydraulic connector on gimbal housing. Plug holes with suitable plug or (22-38609).



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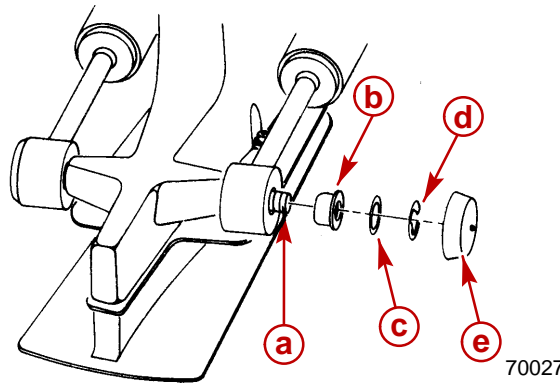
- a** - UP Hose
- b** - Front Hole On Trim Cylinder
- c** - DOWN Hose
- d** - Hydraulic Connector

3. Remove front and rear power trim cylinder mounting hardware.

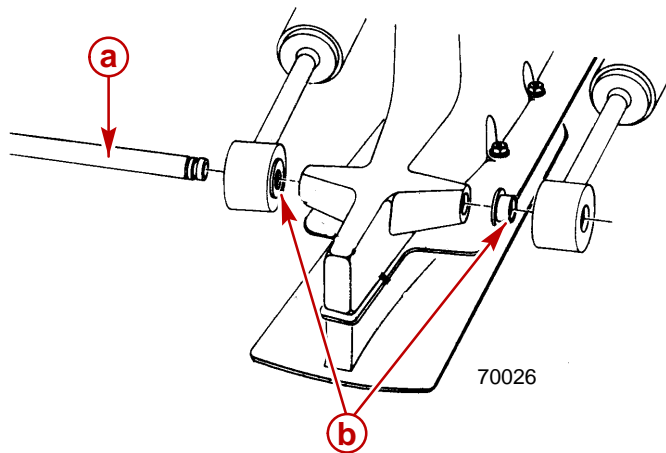


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- a** - Front Anchor Pin
- b** - Bushing (Port And Starboard) (4)
- c** - Flat Washer (Port And Starboard) (2)
- d** - E-ring (Port And Starboard) (2)
- e** - Plastic Caps (Port And Starboard) (2)



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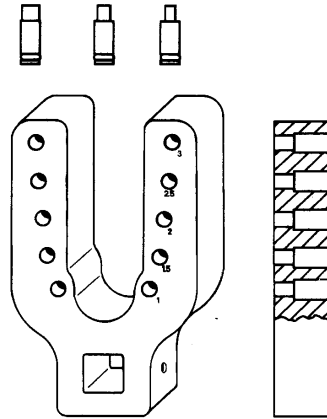
- a** - Rear Anchor Pin
- b** - Bushing (Port And Starboard) (4)
- c** - Flat Washer (Port And Starboard) (2)
- d** - E-ring (Port And Starboard) (2)
- e** - Plastic Caps (Port And Starboard) (2)

Disassembly

CAUTION

Ensure work area is clean before disassembling power trim cylinders. Cylinder parts can be damaged by dirt entering into power trim system.

NOTE: Spanner Wrench Tool Part No. 91-821709.

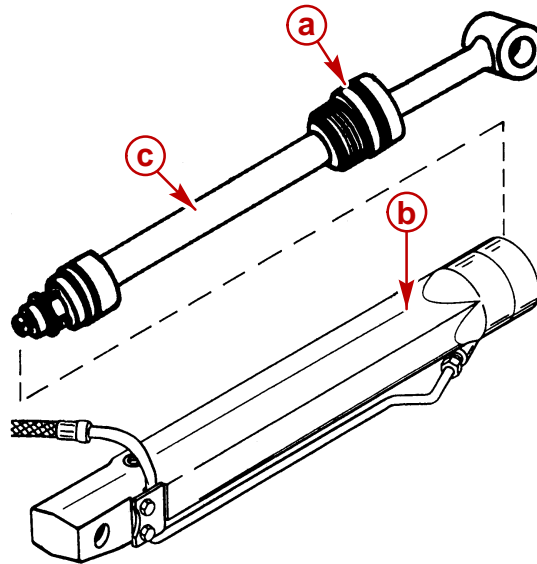


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CAUTION

DO NOT clamp center section of power trim cylinder during assembly or disassembly. Clamp cylinder on front mounting flange.

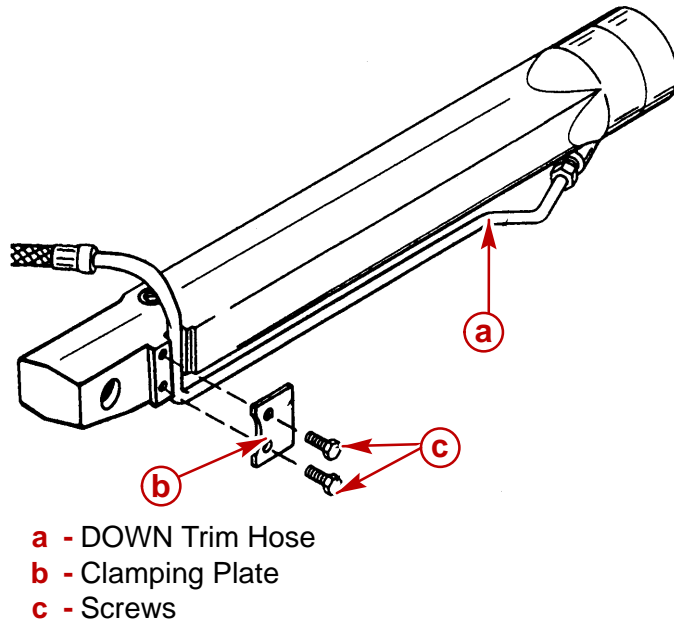
1. Loosen end cap with spanner wrench (91-821709) and remove piston rod assembly from cylinder.



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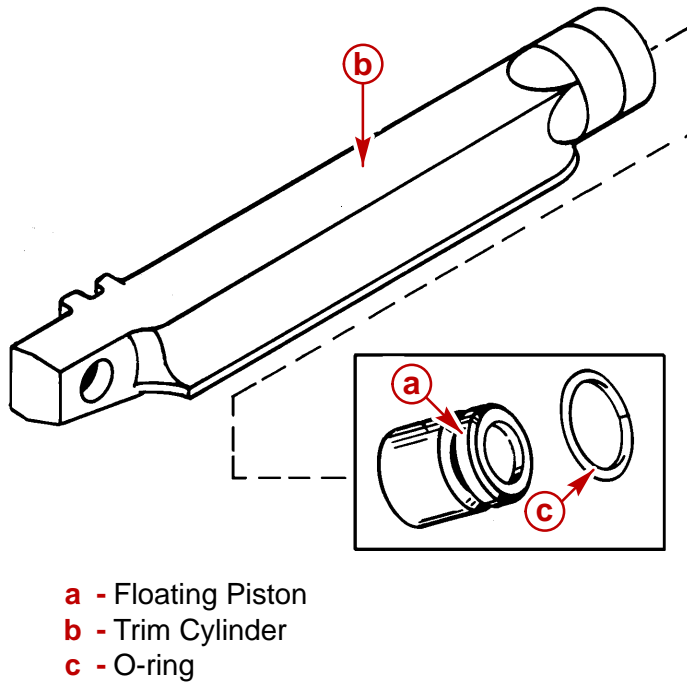
- a** - Cylinder
- b** - Piston Rod Assembly
- c** - Remove Down Trim Hose From Cylinder.

2. Remove DOWN trim hose from cylinder.



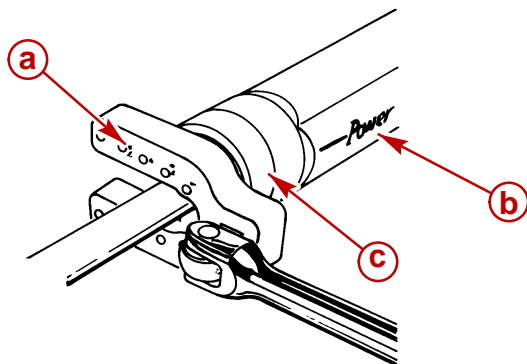
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3. Remove floating piston from cylinder and remove O-ring.



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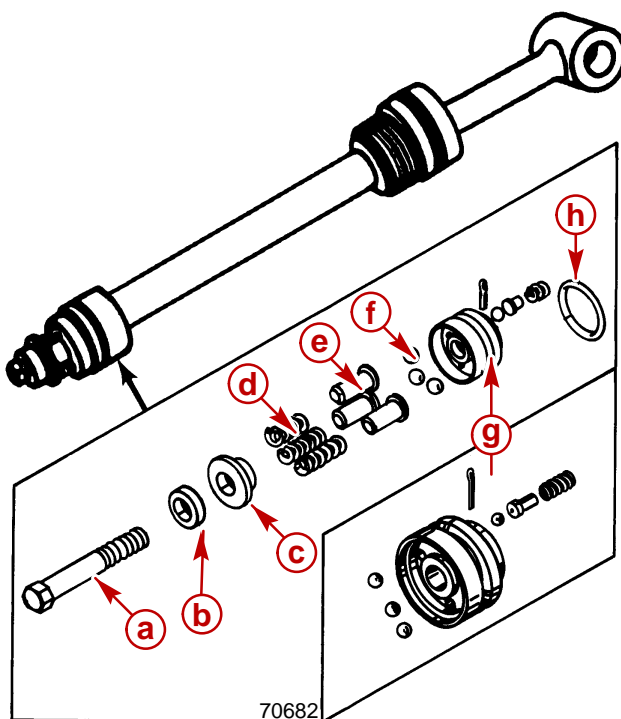
- Remove trim cylinder end caps (Use special tool 91-821709).



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- a** - Special Tool 91-821709
- b** - Trim Cylinder
- c** - Trim Cylinder End Cap

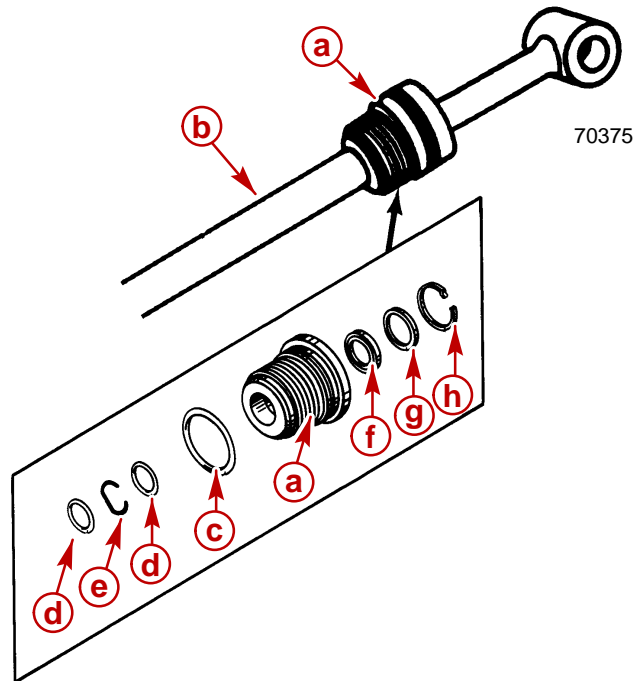
- Remove and disassemble shock piston assembly. Be careful not to lose check balls. Refer to Reassembly section for explanation if spacer is missing from cylinder.



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- a** - Bolt
- b** - Spacer
- c** - Washer
- d** - Springs (3)
- e** - Spring Pins (3)
- f** - Check Balls (3)
- g** - Shock Piston Assembly
- h** - O-ring

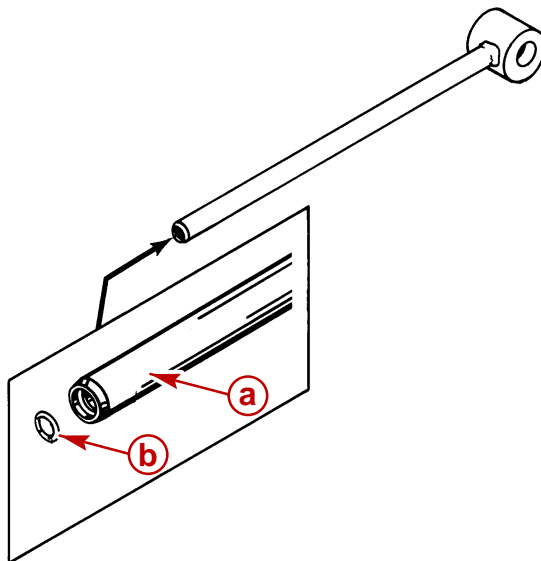
6. Remove and disassemble end cap.



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- a** - End Cap
- b** - Piston Rod
- c** - Large O-ring
- d** - Small O-ring (2)
- e** - Continuity Spring
- f** - Rod Scraper
- g** - Plain Washer
- h** - Retaining Ring

7. Remove small O-ring from end of piston rod.



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- a** - Small O-ring
- b** - Piston Rod

8. Clean all parts in solvent. Be sure all parts are dry before reassembly.

Reassembly

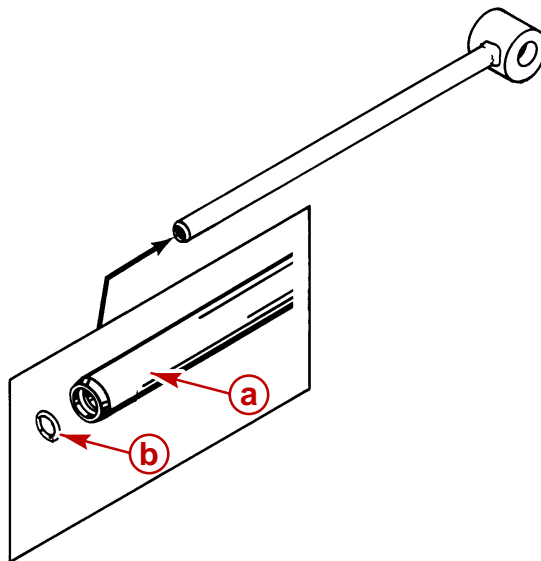
IMPORTANT: DO NOT attempt to substitute trim cylinders from different models or damage to drive unit and/or transom could result.

⚠ CAUTION

Ensure work area and all components are clean before reassembling trim cylinders. Power Trim components can become damaged if dirt gets into system.

NOTE: Before reassembly, lubricate all internal parts with Quicksilver Power Trim and Steering Fluid or SAE 10W-30 or 10W-40 Motor Oil.

1. Install small O-ring into end of piston rod.

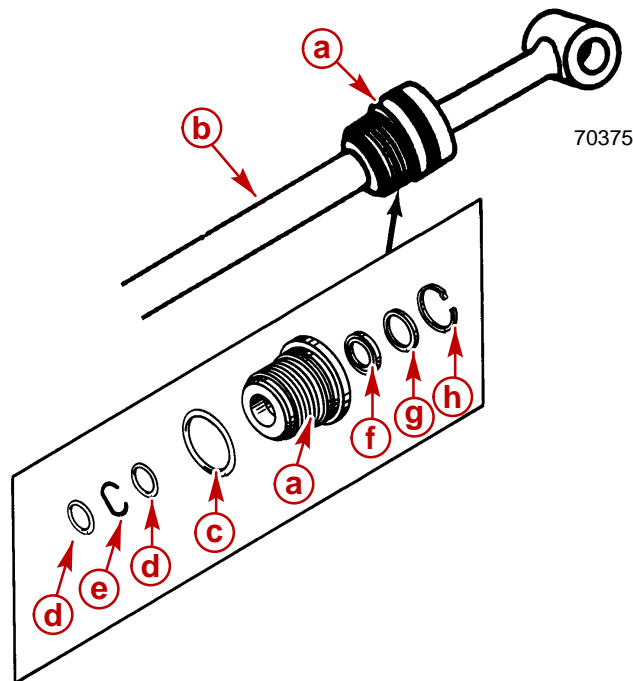


- a** - O-ring
b - Piston Rod

2. Install small O-rings and continuity spring into end cap.
3. Install rod scraper, plain washer and retaining ring into end cap.
4. Install large O-ring onto outside diameter of end cap.

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5. Install end cap onto piston rod.



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- a** - End Cap
- b** - Piston Rod
- c** - Large O-ring
- d** - Small O-ring (2)
- e** - Continuity Spring
- f** - Rod Scraper
- g** - Plain Washer
- h** - Retaining Ring

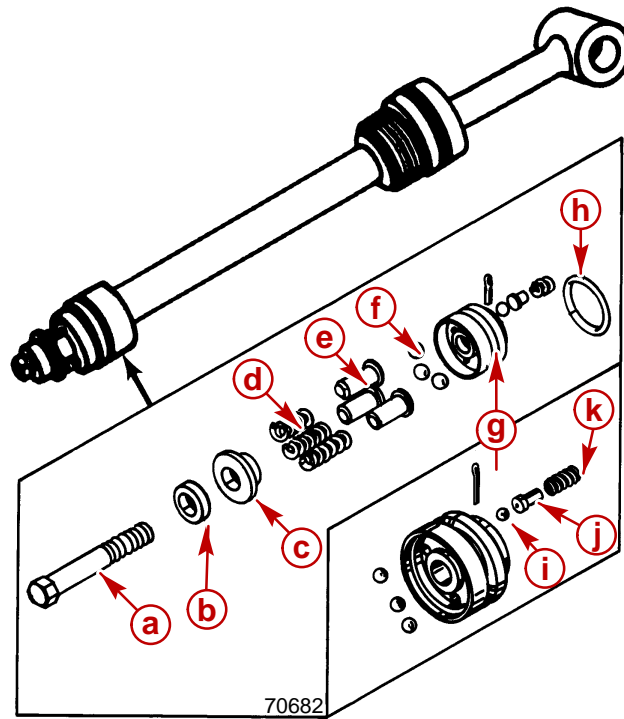
6. Install large O-ring on shock piston.
7. Install check ball, check ball eyelet, spring and spring pin into shock piston.

IMPORTANT: The new trim cylinders provide the capability for an increased Trim-in range. Spacer (u) can be removed from the trim cylinders to increase the Trim-in range by approximately 1-1/2 degrees. This will improve the acceleration on some boats by forcing the bow down more quickly. If spacers are to be removed, the boat must be tested to ensure the increased Trim-in range does not cause any undesired boat handling characteristics (bow-steer, chine-walk, etc.) if the drive is trimmed-in while the boat is operated at higher speeds. The boat should be tested under all conceivable load conditions and maneuvers to ensure that the additional Trim-in does not pose a problem. The final decision and responsibility for use of the additional Trim-in range is left up to the boat manufacturer.

⚠ WARNING

It is recommended that only qualified personnel perform the adjustment to the trim cylinders. Boat must be water tested after removing the spacers from the trim cylinders to ensure that the increased trim range does not cause the boat to exhibit an undesirable boat handling characteristic if the drive is trimmed in at higher speeds. The increased trim-in range may cause handling problems on some boats which could result in personal injury.

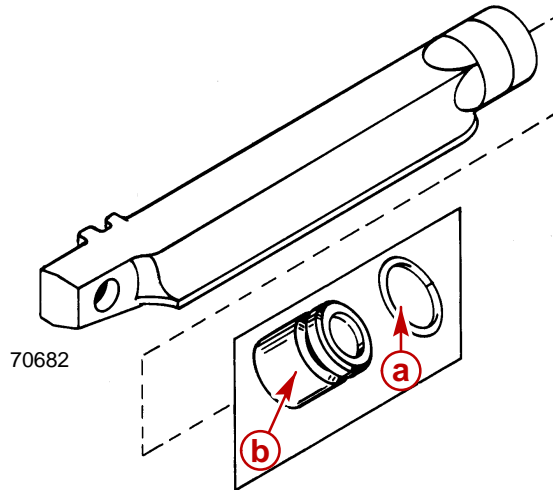
8. Install shock piston, three check balls, spring guide pins, springs, spring guide washer, spacer and bolt onto piston rod. Apply Loctite 27131 to threads of bolt. Torque to 17.5 lb-ft (23.5 Nm).



- a** - Bolt
- b** - Spacer
- c** - Washer
- d** - Springs (3)
- e** - Spring Pins (3)
- f** - Check Balls (3)
- g** - Shock Piston Assembly
- h** - O-ring
- i** - Check Ball
- j** - Check Ball Eyelet
- k** - Spring Pin

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9. Apply oil to parts. Install O-ring onto floating piston and insert floating piston into cylinder.

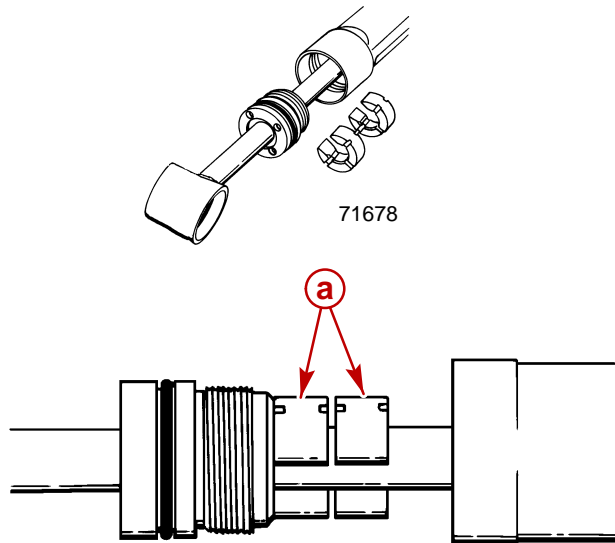


- a - O-ring
- b - Piston
- c - Cylinder

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IMPORTANT: Some boat configurations may require tilt-limit spacers to limit the total upward travel of the drive unit. Be sure to install the same number of spacers that were originally removed. There must be an equal number in each cylinder.

10. If required, install tilt-limit spacers.



- a - Tilt Limit Spacers

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⚠ CAUTION

Ensure work area and all components are clean before reassembling trim cylinders. Power Trim components can become damaged if dirt gets into system.

NOTE: Before reassembly, lubricate all internal parts with Quicksilver Power Trim and Steering Fluid or SAE 10W-30 or 10W-40 motor oil.

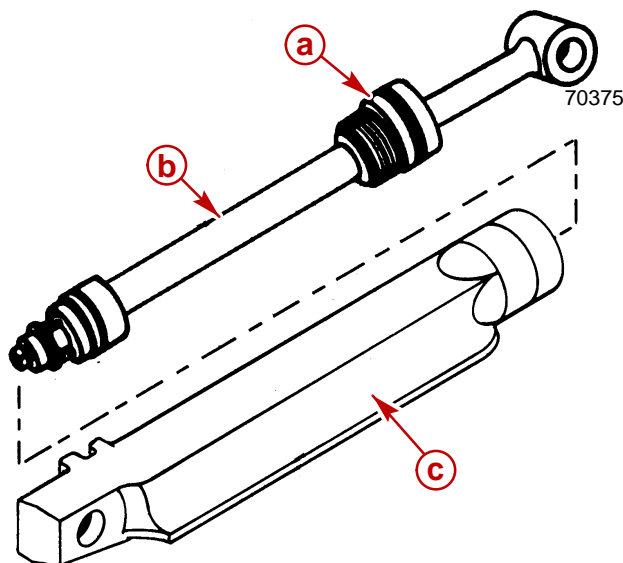
⚠ CAUTION

DO NOT clamp center section of trim cylinder during reassembly. If clamping of cylinder is necessary, clamp cylinder on front mounting flange.

⚠ CAUTION

Use only 2-4-C Marine Lubricant with Teflon on end cap threads. Other substances may act as an insulator and cause poor electrical continuity between cap and cylinder which could cause a corrosion problem.

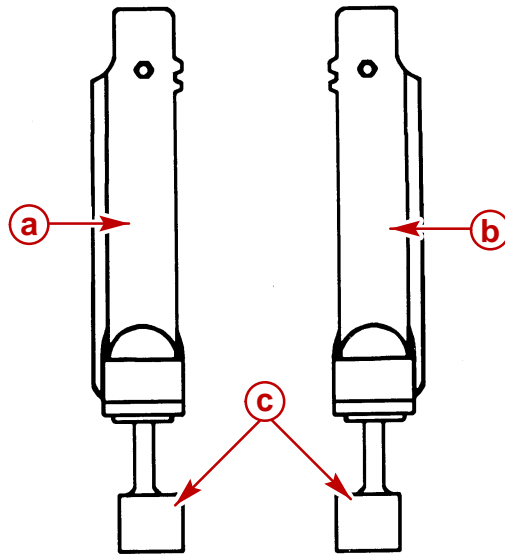
11. Apply Special Lubricant 101 to end cap threads and install piston rod assembly into cylinder. Tighten end cap securely using a spanner wrench.
12. Torque end cap at 45 lb-ft (61 Nm) using spanner wrench 91-821709.



- a** - End Cap
- b** - Piston Rod Assembly
- c** - Cylinder

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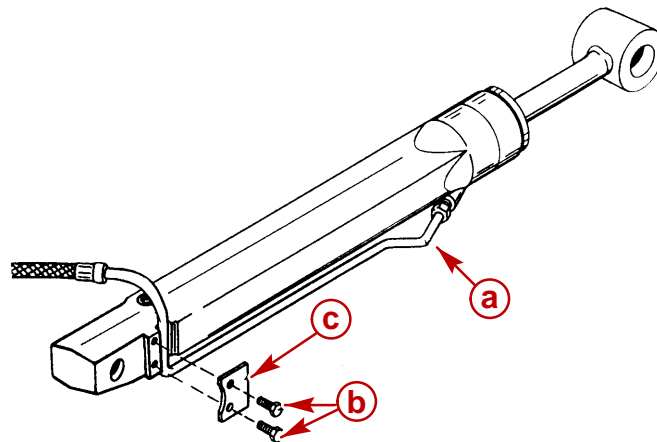
13. Position trim cylinder rear connecting ends as shown.



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- a** - Port Trim Cylinder
- b** - Starboard Trim Cylinder
- c** - Connecting Ends (Offset As Shown)

14. Install DOWN trim hose.

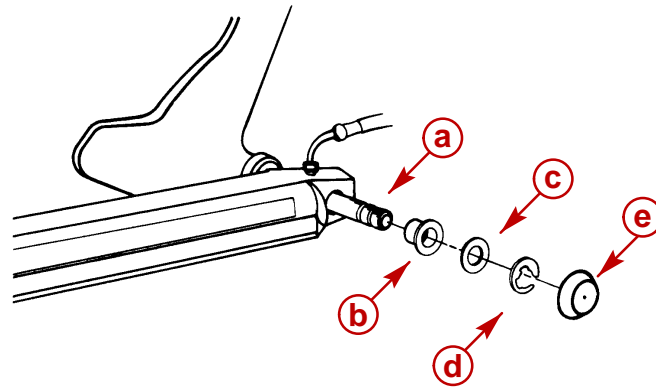


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- a** - DOWN Trim Hose
- b** - Clamping Plate
- c** - Screws
- d** - Check Painted Areas Of Trim Cylinders For Scratches That Expose Metal, Paint If Necessary.

Installation

1. Install trim cylinders forward mounting hardware as shown.
2. Coat area in trim cylinder between bushings with 2-4-C Lubricant with Teflon.
3. Replace anchor pin and install bushing(s) and washer(s).
4. Attach E-ring(s) and plastic cap(s) to end of anchor pin.

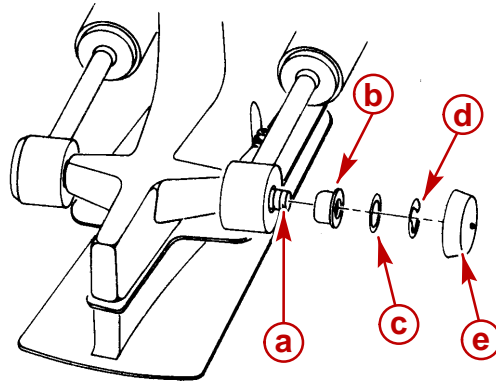


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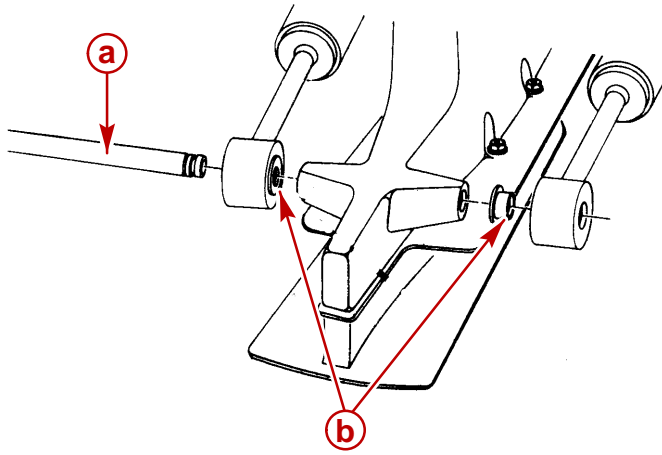
- a** - Front Anchor Pin
- b** - Bushing (Port And Starboard) (4)
- c** - Flat Washer (Port And Starboard) (2)
- d** - E-ring (Port And Starboard) (2)
- e** - Plastic Caps (Port And Starboard) (2)

5. Install trim cylinders rear mounting hardware as shown.
6. Coat area in trim cylinder between bushings with 2-4-C Lubricant with Teflon.
7. Replace anchor pin and install bushing(s) and washer(s).

8. Attach E-ring(s) and plastic cap(s) to end of anchor pin.



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- a** - Rear Anchor Pin
- b** - Bushing (Port And Starboard) (4)
- c** - Flat Washer (Port And Starboard) (2)
- d** - E-ring (Port And Starboard) (2)
- e** - Plastic Caps (Port And Starboard) (2)

9. Reconnect trim hoses after air bleeding power trim cylinders and hoses following procedures outlined in Section 5A. (See Table of Contents.)

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