

NUMBER: 85-9

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CIRCULATE TO:
SERVICE MANAGER
PARTS MANAGER
MECHANICS
"Place in a Service
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A. TRIM CYLINDER END CAP TOOL

It has been brought to our attention, that Spanner Wrench A176 (Figure 1) from Snap-On Tools works well for removing and installing the end cap on external return line trim cylinders. (Figure 2) We will notify you as we are made aware of tools from other manufacturers that will work for this purpose.

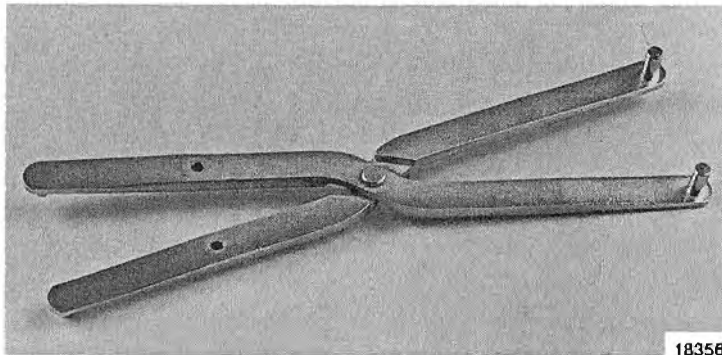
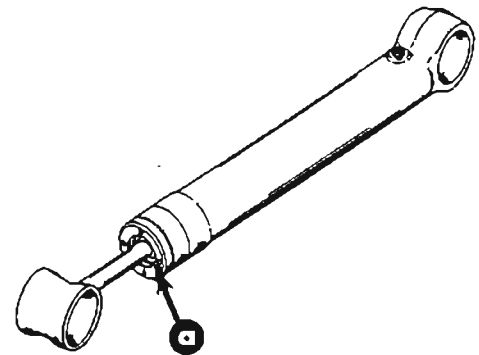


Figure 1. Snap-On Spanner Wrench A176



a - End Cap

Figure 2. 1-1/2" ID External Return Line Trim Cylinder

B. TRIM CYLINDER END CAP INSTALLATION

When installing trim cylinder end cap, 2-4-C Multi-Lube 92-90018A12 (or a similar lubricant) should be applied to threads and "O" ring. (Figure 2) DO NOT use Perfect Seal, as it may cause poor electrical continuity between end cap and outer tube with subsequent corrosion of end cap and piston rod resulting.

C. TRIM CYLINDER HYDRAULIC HOSE INSTALLATION

Occasionally, we receive reports of new trim cylinder hydraulic hoses failing shortly after installation. In investigating these cases, we have found that many of the failures are due to the hose being twisted and kinked during installation. When connecting the hoses to the gimbal housing hydraulic connector, a pliers should be used to prevent the hose from twisting. (Figure 3)

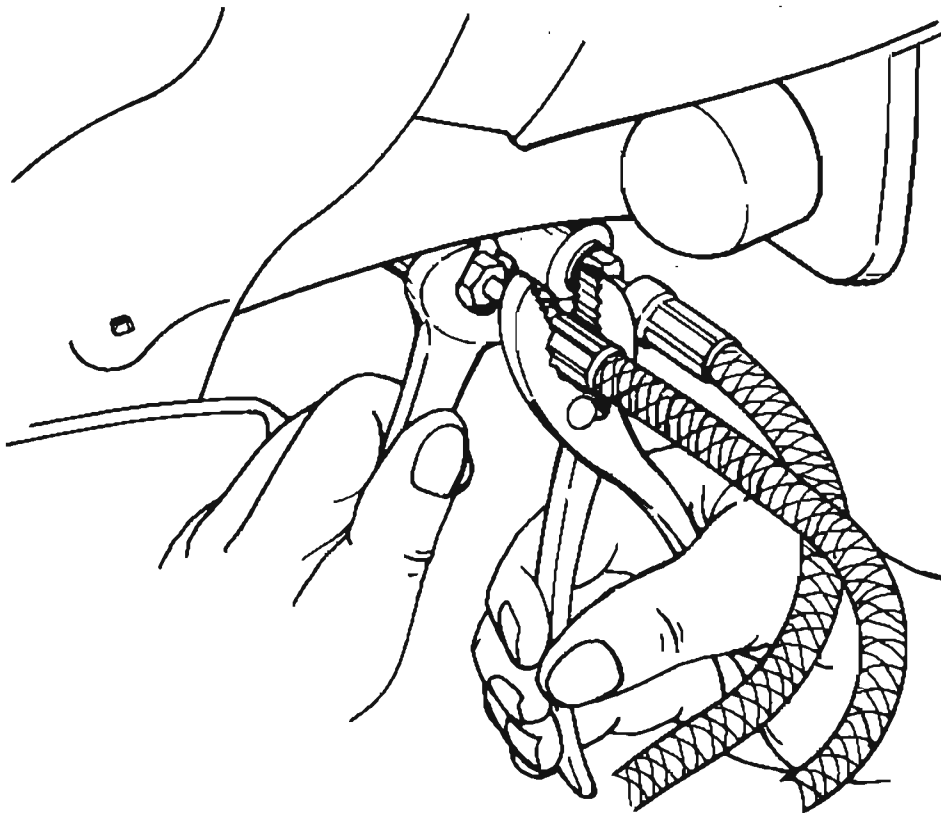
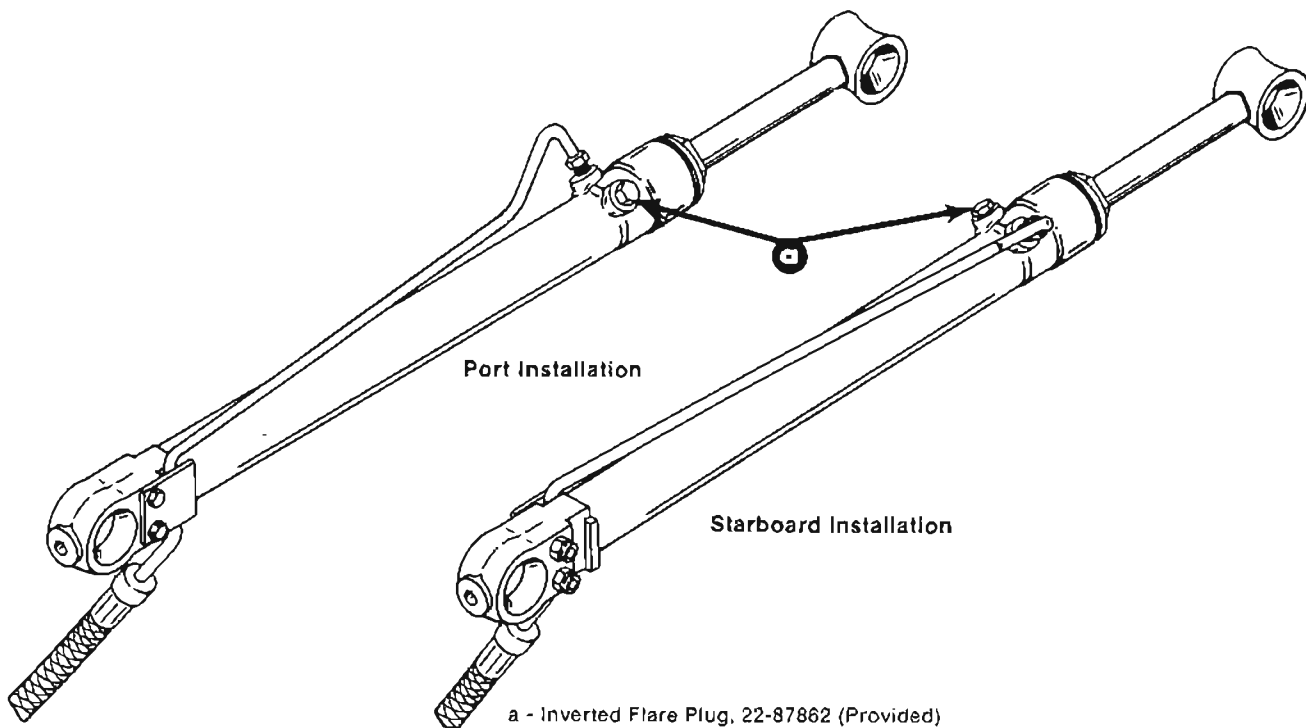


Figure 3. Trim Cylinder Hydraulic Hose Installation

D. EXTERNAL RETURN LINE TRIM CYLINDER SUPERSESSION

External return line trim cylinder, 87173A5 (used on older MC-I Models) has been superseded to 87173A10. The new cylinder differs only from the old one in that it has 2 return ports instead of one. This is necessary to enable cylinder to be used with stern drive units having the wide splash plate (refer to Service Bulletin 84-12). Hydraulic hoses must be connected to cylinders as shown in Figure 4.



a - Inverted Flare Plug, 22-87862 (Provided)

Figure 4. Hydraulic Hoses Connected to Trim Cylinders

E. TRIM CYLINDER REPLACEMENT ON MERCUISER I MODELS WITH INTERNAL RETURN CYLINDERS

External return line trim cylinder 87173A10 (Figure 4) should be used as the replacement for internal return line trim cylinder 45706A14 (Figure 5) on MerCruiser I stern drives which are used in salt, polluted or mineral laden waters. This cylinder incorporates newer designs which makes it more corrosion resistant.

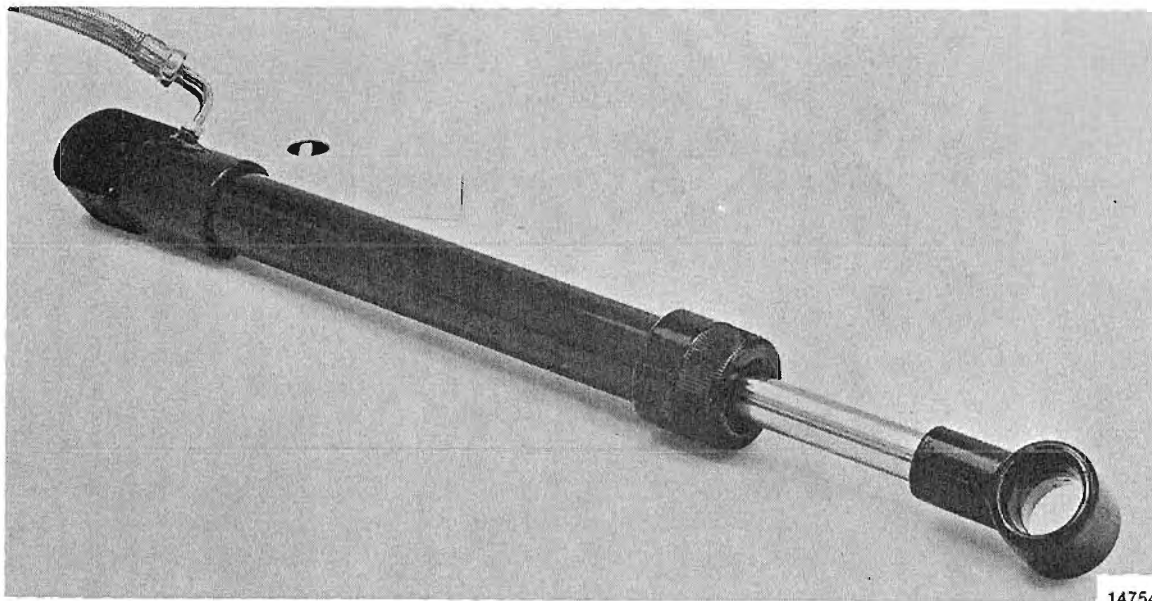


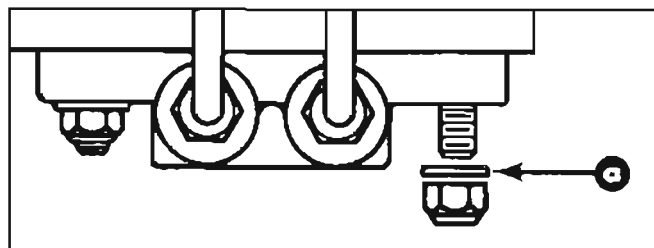
Figure 5. Internal Return Line Trim Cylinder 45706A14

When installing these cylinders, the hydraulic hoses listed below are required.

- *32-86036 Hose (2 Req'd, 1 Port Cylinder, 1 Starboard Cylinder)
- 32-87234 Hose (Port Cylinder)
- 32-87235 Hose (Starboard Cylinder)

** These hoses can be reused from old trim cylinders if still in good condition.*

If not already installed, internal lockwasher 13-78968 should be installed under the gimbal housing hydraulic connector attaching nuts (Figure 6) to ensure good electrical continuity between connector and gimbal housing. Trim cylinders are grounded to gimbal housing via connector and braided stainless steel trim hoses (listed above).

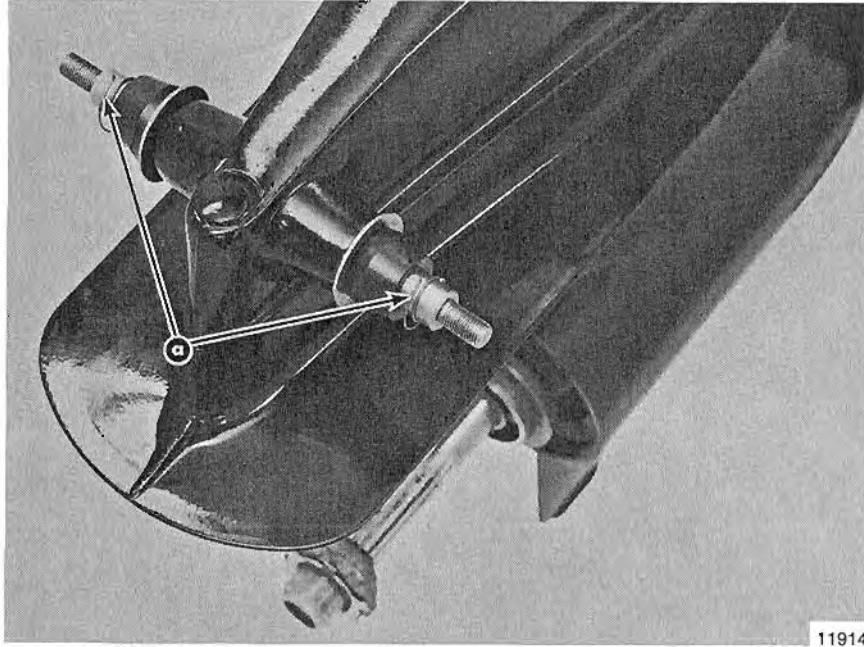


a - Internal Lockwashers, 13-78968

Figure 6. Gimbal Housing Hydraulic Connector

When installing trim cylinders, be sure to use a spiral grounding spring, 24-46312 at each pivot end. (Figure 7)

Trim cylinders must be grounded as outlined preceding for sacrificial zinc anodes and MerCathode System (if so equipped) to protect them.



a - Spiral Grounding Springs, 24-46312

Figure 7. Trim Cylinder Spiral Grounding Springs