

Outboard Rudder Reference

and Mounting Hardware for Teleflex front mount steering, 10" stroke cylinders

#	ITEM	#	ITEM
1	RFU Tube	8	Cylinder Support Bracket
2	Clamps	9	RFU Cable
3	Gear Clamps	10	RFU Holes
4	Spacers	11	Slide Plate
5	Rod End Plates	12	Cylinder Rod
6	Square Spacer	13	Cylinder Rod Nut
7	RFU Nut & Washer		

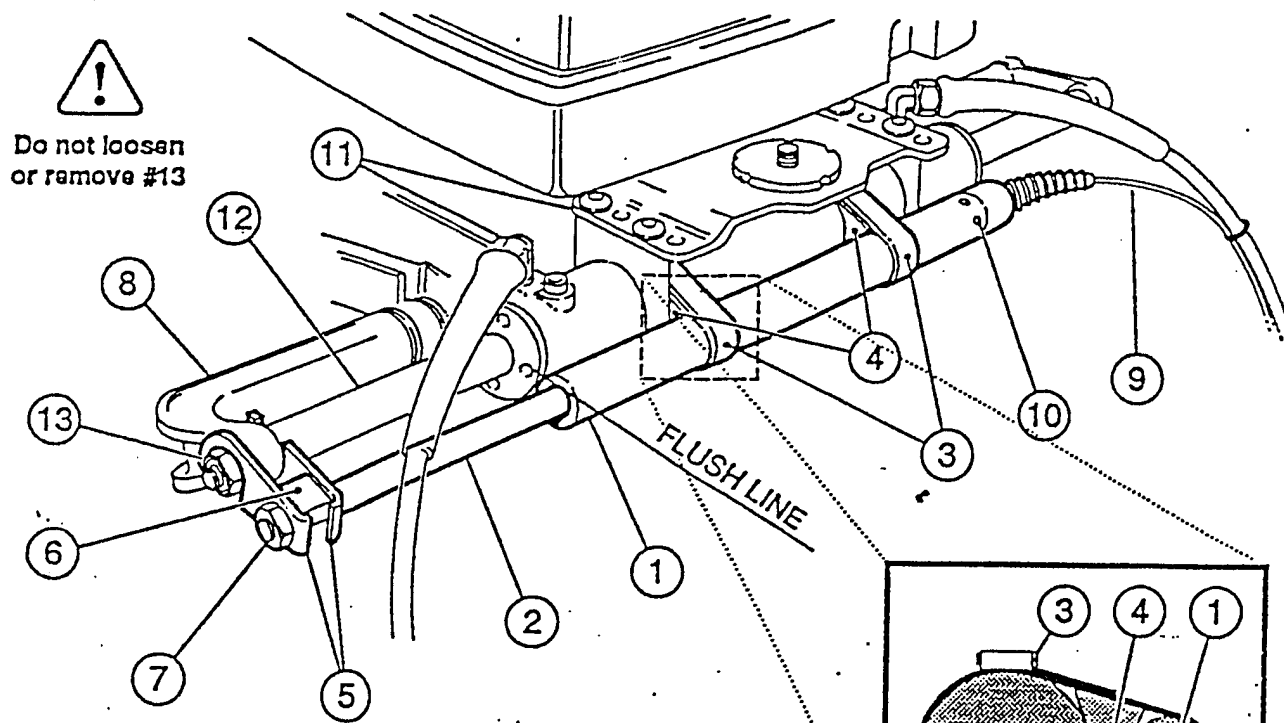


Fig 1 - Parts Location Diagram

- NOTE Rudder Reference unit may be installed with rod (item 2) facing left or right. Fig. 1 shows rod facing left.
- Undo Gear Clamps (item 3) and place around steering cylinder midsection. Slide Rudder Reference tube (item 1) and Spacers (item 4) through clamps (see fig. 2) and loosely tighten clamps and position 'ALIGNMENT END' FLUSH with steering cylinder as shown in fig. 1 ('FLUSH LINE'). Holes (item 10) should be straight up and forward, as shown. Position clamp screw on top side of steering cylinder, under slide plate (item 11) and tighten. Make certain the Rudder Reference tube

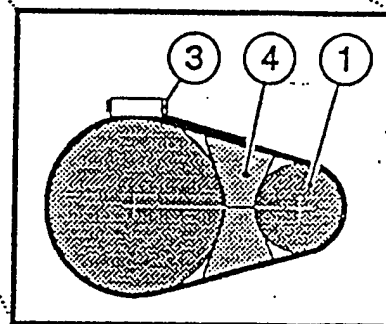


Fig 2 - Detail, follow-up & cylinder cross-section

- (item 1) remains parallel and aligned with steering cylinder while tightening.
- Assemble Rod End Plates (item 5) and square Spacer (item 6) as shown in fig. 3. Locate plates on both sides of cylinder support bracket (item 8), one around cylinder rod (item 12) and the other over the rod end nut and washer (item 13). The tabs on plates must face each other.

Outboard Rudder Reference

Installation Information

The Rudder Reference Nut and Washer (item 7) must be installed to hold the assembly together. Final tightening will be made during Autopilot setup procedure. **NOTE: DO NOT** use any type of adjustable wrench on the rod end wrench flats as it will bind when tightened. Use a standard 1/2" wrench whose width is sufficiently narrow.

4. Route the cable (item 9) from the Rudder Reference unit to the Autopilot Distribution box, ensuring that the cable will not be subjected to pinching or snagging in the slashwell area. Attach the cable to the steering hose with nylon tie straps.(not supplied) Refer to Autopilot manual for cable hookup.

Rudder Reference Maintenance

To minimize functional wear and corrosion effects, re-lubricate Rudder Reference unit a minimum of twice a year. Attach grease gun to grease fitting on Housing Tube and inject 2 to 3 "pumps" of high quality marine grade grease.

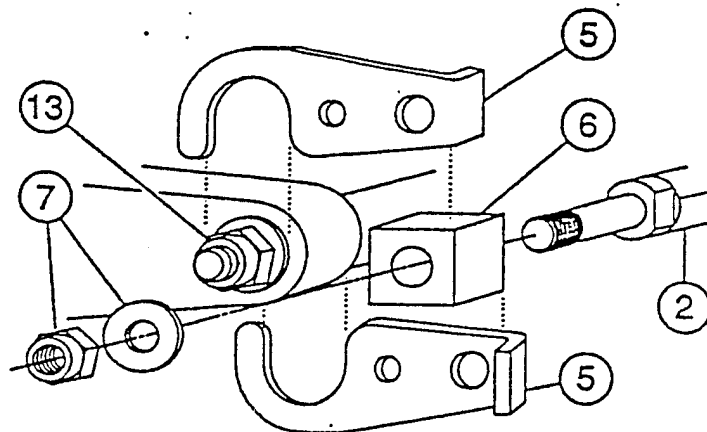


Fig 3 - Securing Rod-End Plates

CAUTION: Do not substitute any components in mounting kit. Use supplied parts only.

Outboard Rudder Reference Installation

Final Alignment and Setup Procedure

Check to ensure that Rudder Reference Housing tube is FLUSH with steering cylinder. Turn the steering wheel hardover to hardover to check for smooth operation, alignment, and possible interference with other slashwell components.

Repeat this steering check with engine(s) at full trim and full tilt positions. Readjust Rudder Reference position on steering cylinder if required.

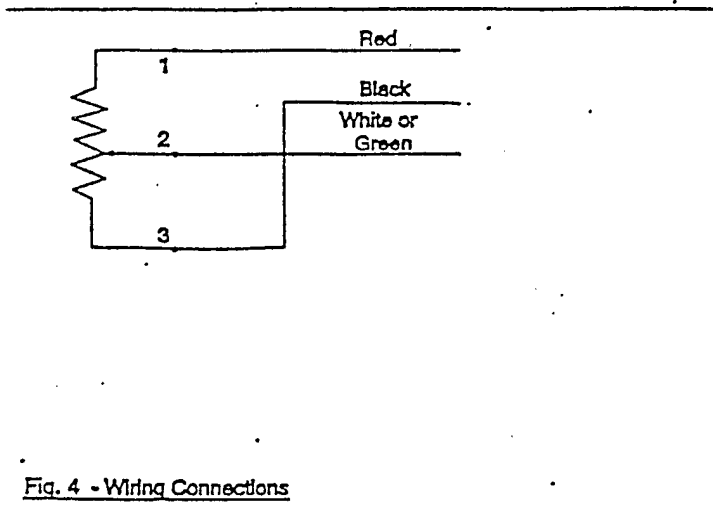


Fig. 4 - Wiring Connections

WARNING: Rudder Reference MUST remain FLUSH with cylinder.

To Set Zero Position: Place the outboard engine to the midship (straight ahead) position. With the Autopilot powered ON, go to "Rudder-angle Display" setting. With a 1/2" wrench on Rod End flats (Item 2 - fig. 3), rotate Rod until Autopilot Display reads a 'zero' setting. Refer to your Autopilot Manual for your type of zero indication. Hold wrench on Rod flats and tighten Rod End Nut securely. Check Autopilot Display and confirm that if the rudder is moved to Starboard, a Starboard rudder angle is displayed. Select Pilot Mode on your Autopilot and confirm that the rudder settles down to the midship position after some time.

Refer to your Autopilot Manual for more details on the additional dockside tests and adjustments.

Installation of Rudder Reference unit is now complete.