



Dual Engine Tie Bar



NOTICE!

Please read and understand these instructions completely before installation to avoid any possible injury to yourself or damage to the outboard engine or the accessory.



NOTICE!

Dealer: These instructions contain important information for future reference and must be given to the customer.

Parts list

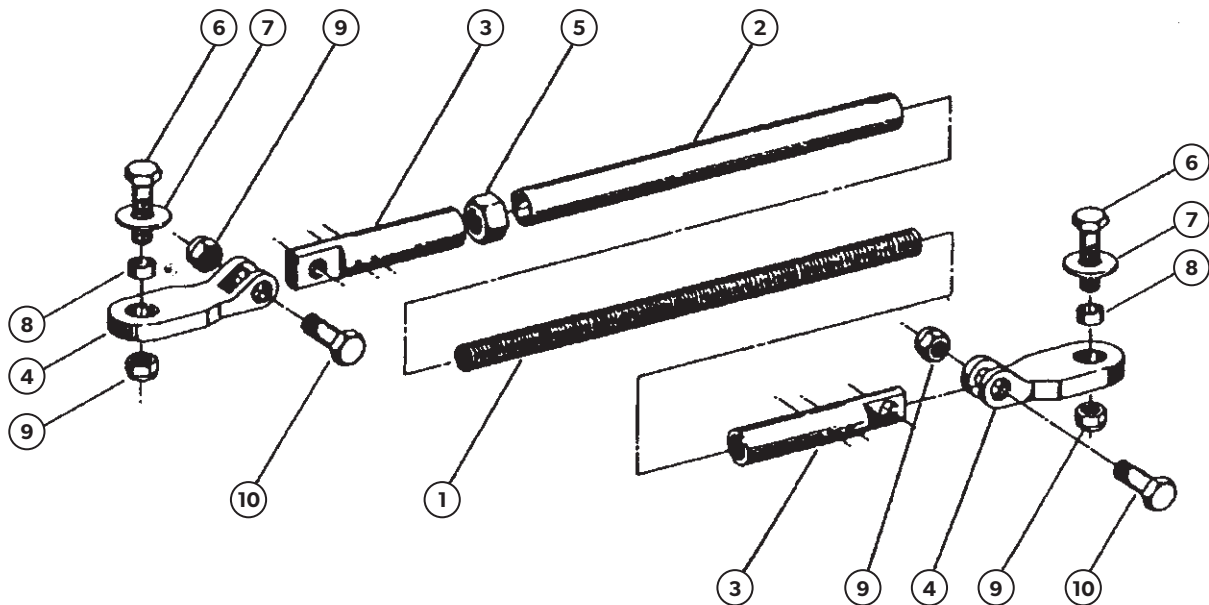


Figure 1.

Item	Description
1	Rod, 9/16"—18 UNF-2A
2	9/16" ID x 11/16" OD Black Vinyl Tubing
3	Tie Rod Terminal
4	Swivel Clevis
5	9/16"—18 SST Hex. Jam Nut
6	3/8"—24 x 1-1/4" Long SST Hex. Head Cap Screw
7	1.0" OD x 3/8" ID x 1/8" Thick SST Retainer Washer
8	Sleeve Bushing
9	3/8"—24 SST Locknut
10	3/8"—24 x 1-3/8" Long SST Hex. Head Bolt



Instructions

Step 1

- Assemble swivel clevis to starboard engine as shown in the illustration.
- Lightly grease bushing with standard marine grease.
- Be sure swivel clevis is pointing upward.
- Tighten bolt to 12 ft. lbs. and nut to 8 ft. lbs.
- Test swivel clevis to be sure it swings freely and has a maximum of 1/8" of vertical movement at the swivel clevis bolt hole.

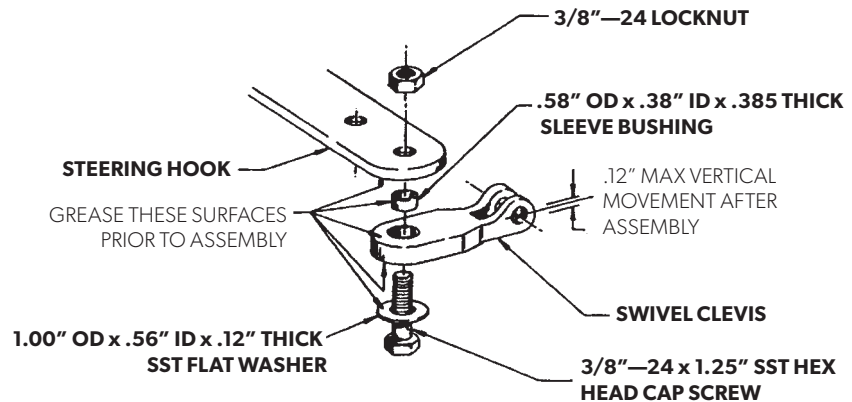


Figure 2.

Step 2

- Lightly clamp threaded tie rod in vise using aluminum or preferably, wooden pads (to prevent damaging threads) as shown in figure 3.
- Install jam nut on to tie rod.
- Grease threads on tie rod where jam nut was installed.
- Install one tie rod terminal, threading it onto tie rod until hole 'A' is covered.
- Insert a small nail, cotter pin, or small pin in hole 'B' and continue threading tie rod terminal onto tie rod until the pin is lightly clamped.
- Back tie rod terminal off 1/2 turn and remove pin.
- Using a wrench on the tie rod terminal flats to prevent tie rod terminal from turning, tighten jam out against tie rod terminal to 30 ft. lbs.

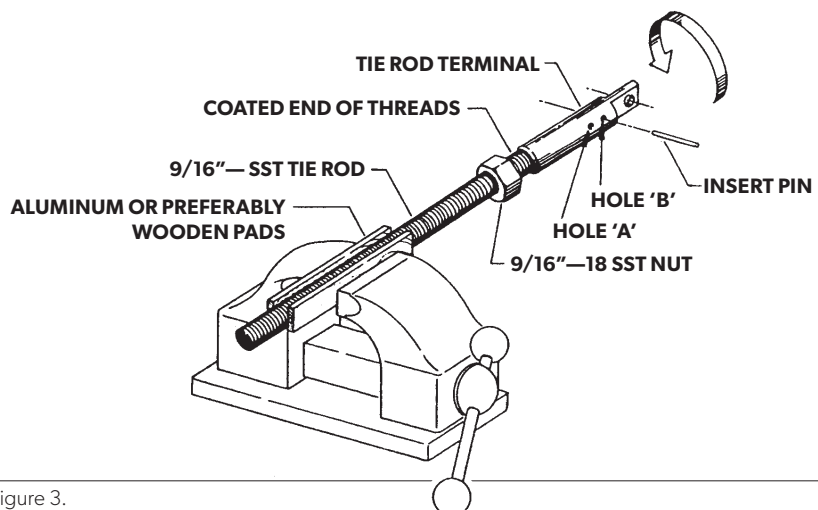


Figure 3.



Step 3

- Attach the starboard rod terminal to the starboard swivel clevis.
- Tighten nut to 12 ft lbs.

Step 4

- Attach port engine swivel clevis as explained in Step 1.
- Place the port rod terminal in port swivel clevis, install bolt and nut but do not tighten them.

Step 5

- Set engines so that the toe-out position is less than 1". (See figure 4.)

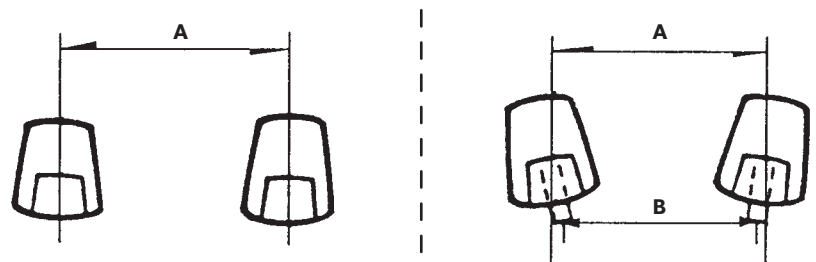


Figure 4.



NOTE

For best results, your toe-out distance should be set so that the twin engines' wake meets approximately 20 to 25 meters past the stern of the boat.

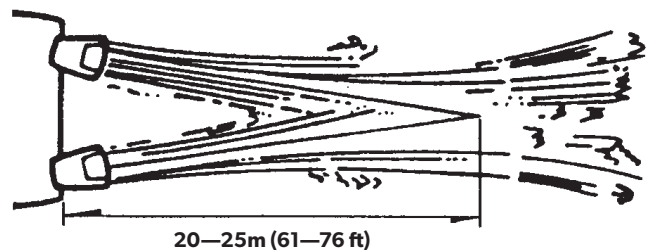


Figure 5.

Step 6

- Swing the tie rod up and align it parallel with the tie rod terminal on the port swivel clevis.

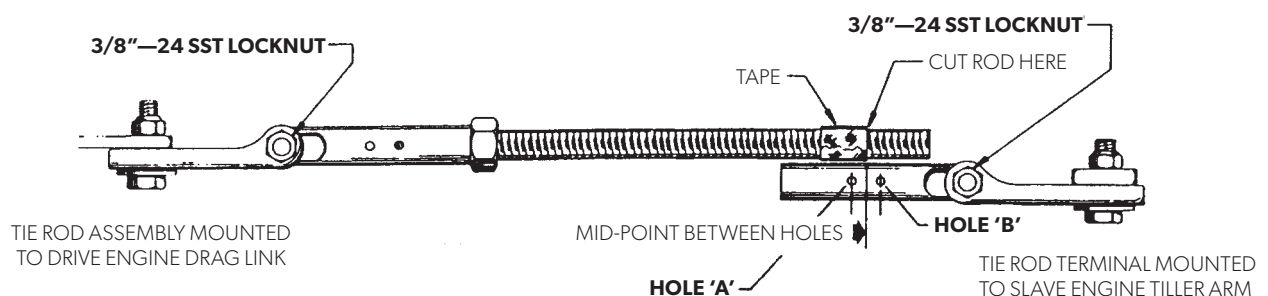


Figure 6.



- Place a piece of tape on the threaded rod aligned in the center of the two holes on the tie rod terminal. This will be the length of the tie rod.
- Cut and de-burr the threads of the rod with a die and thread file. Grease the threads with standard marine grease.
- Align the rod as before and cut the black vinyl tube to the proper length to fit between the rod terminals.
- Install black vinyl tube.

Step 7



- Detach the port rod terminal and thread it on the tie rod to the proper toe-out position.

NOTICE!

The end of the rod should be between the two holes on the rod terminal.

- Adjustments can be made to insure proper toe-out position.
- Reattach the rod terminal to the port engine swivel clevis and tighten nut to 12 ft. lbs.



WARNING!

Recheck all nuts and bolts to assure proper installation and torque.

After 2 hours of operations, recheck all bolts and nuts to assure proper installation and torque.

At the end of every 50 hours of operation, re-lube, inspect all parts for wear, proper installation, and torque.