

SERVICE INSTRUCTIONS

DATE: 9/21/04
SUBJECT: 34 Convertible Rudder Installation

The following Service Instructions cover rudder modifications on the 34 Convertible. Two different styles of rudder ports have been used in production, one with a long, 4" section integral with the rudder port, and one without the integral section. Instructions are included for modifying both types.

The estimated time for to complete this service is 2.5 hours.

Section A- Rudder Removal

1. The first step for both modifications is to pull the boat from the water, so that the rudders are accessible.
2. After pulling the boat and securing it, disconnect the rudder arms from the rudder tie bar by removing the clevis pin. (See Figure 1)
3. Remove the rudder arms from both rudders. Loosen the rudder seals, which are located under the rudder shelf, on the rudder shaft. (See Figure 2)
4. From outside the boat, support one rudder using a floor jack or suitable equivalent. Inside the boat, remove the support collar and the rudder arm key for the jack-supported rudder. (See Figure 1) Lower the jack until you are able to remove the rudder completely from the boat. Repeat for the other rudder.

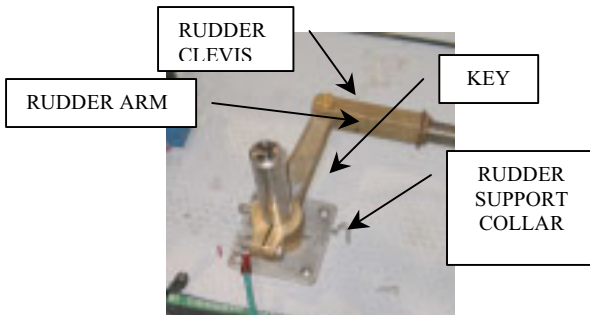


Figure 1- Rudder Arm Location

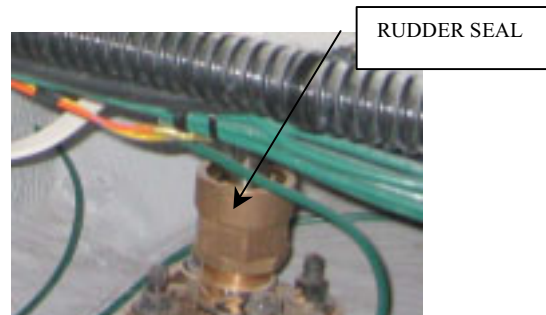


Figure 2- Rudder Seal

Rudder Port Inspection

You will now need to inspect the rudder ports underneath the boat. Check to see whether there is an approximately 4" long section of brass protruding from the bottom of the rudder port (See Figure 3). If there is, please follow the directions under **Section B**. If there is not, please follow the directions under **Section C**.

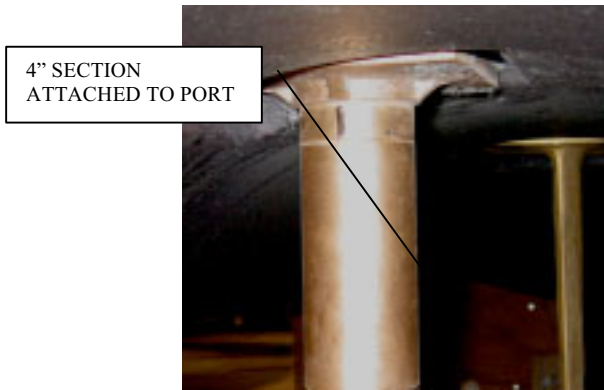


Figure 3- Rudder port with 4" Section



Figure 4- Port without 4" Section

Section B

After you have removed the rudders from the boat and determined that the ports are similar to the one shown in Figure 3, please follow the directions below.

1. Mark a line 1/2" down from the first feature on the rudder port (See Figure 5)
2. Transfer this line around the circumference of the port. Keep the line as parallel as possible to that first feature.
3. Carefully cut along the line using a hand-held pneumatic cut-off wheel.
4. Using a grinder, lightly clean the face of the cut on the port, keeping the face as flat as possible.
5. Add a light chamfer to the inside diameter of the rudder port (See Figure 6)
6. Repeat steps 1 through 5 for the second rudder port.
7. Reinstall the rudders on the boat. Please follow the directions in Section D.

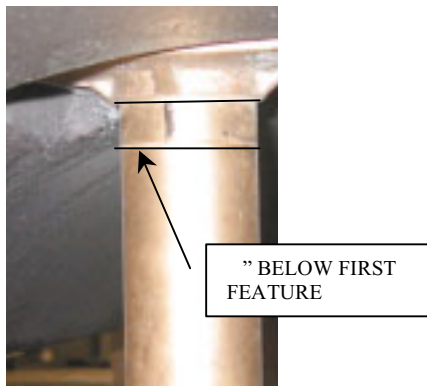


Figure 5- Marking cut line



Figure 6- Inner Diameter Chamfer

Section C

If the rudder ports do not have this straight section, there will be an approximately 3.5" spacer located on the rudder shaft. Remove the spacer from each rudder, and discard. Reinstall the rudders according to the directions in Section D.

Section D- Rudder Reinstallation

1. Reinstall the rudders in the boat by centering the rudder shaft in the port, and then slowly pushing the rudder up, using the jack that was previously used for the removal process. Use extreme care, or damage to the rudder seal may occur. Ensure that the rudder shaft is clean, and that there are no burrs or edges that could damage the seal.
2. While the jack is supporting the rudder in place, remove the setscrew from the support collar, and slide it over the rudder shaft. Mark the new location for the setscrew on the shaft, remove the collar, and then dimple the new hole location using a 1/8" drill. You only need to drill about 1/8" into the shaft. Reinstall the support collar with the setscrew. Repeat for the second rudder.
3. Tighten the rudder seals.
4. Reinstall the rudder arms onto the rudder shafts. Re-dimple the setscrew holes, using the same procedure used for the support collars.
5. Reattach the rudder arms to the rudder tie bar, using the cotter pin.

When you are finished installing the rudders, they should appear like the installation shown in Figure 7.

RUDDER SITS APPX. 4" HIGHER
IN PROPELLER TUNNEL



Figure 7- Completed Rudder Modifications

When the boat is put in the water after service, inspect the rudder ports to ensure that there are no leaks.