

Repairing or Replacing Rudder Assembly

Tools you will need

- Depending on amount of damage - Replacement Part(s)... Capt Rick helped me out here and I believe they are on the parts list
- Extended 9/16" sprocket and sprocket wrench (Cordless Variable Torque Drill with sprocket adapter is a plus)
- 5/16" sprocket for e-grease fitting
- Marine Silicon or Sealant (equivalent of caulk)
- Solvent for removing old "sealant" Check label of Marine Sealant or some people have used brake cleaner
- Brace to hold rudder in place against trailer frame. (I used old beach towels)
- Optional -- pad to lay on ground when working outside the boat and a pad for knees on the swim platform when working inside the boat

This was first time working on my boat. Would have to rate this job as relatively easy!

Rudder Overview

Steering Arm / Clamp

Rudder Post

Cotter Pin

Rudder Steering
"Sheer" pin
or "Key"
(barely visible)

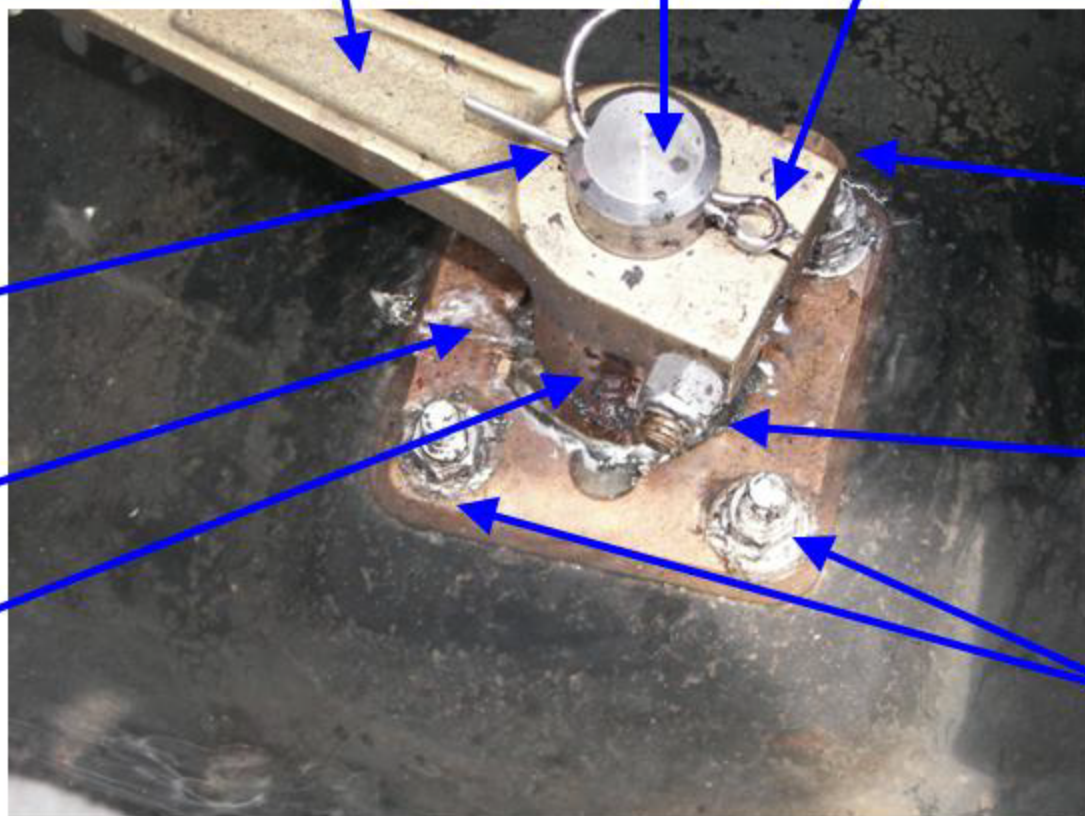
Leaking
Water

E-Grease
Fitting

Bolt, Steering Arm
Clamp

Locking Hex Nut

Rudder
Assembly Bolts
x4



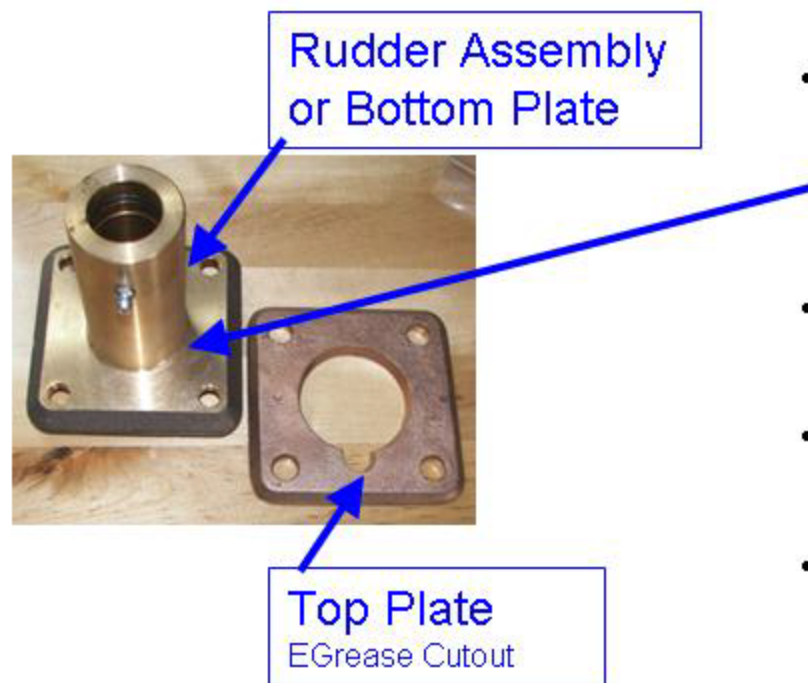
To access the rudder assembly there is a removable plate in the stern gear locker... (At least this is where it is on S22)

Rudder Removal

- Check to see if rudder housing bolts are tight. If you have a leak and these are not tight then go to page Rudder Re-Assembly
- Brace bottom of Rudder to trailer frame. (I don't believe rudder can be removed while boat is on the trailer without first removing rudder assembly.) The brace should prevent rudder from slamming into trailer later on.
- Note the direction or orientation of the rudder. The distance from the rudder post to the trailing edge is longer than to the leading edge.
- Remove E-grease Fitting, Cotter Pin, loosen locking nut and steering arm clamp bolt
- If rudder does not fall out... Insert a flat head screw driver into the slit at end of steering arm clamp and tap rudder post with rubber hammer
- Remove rudder housing hex nuts with extended 9/16 sprocket and remove top plate
- Go under boat, remove rudder assembly bolts or screws. Remove rudder assembly / rudder out past trailer frame. This was accomplished by pulling it at a slight angle (S22 and Ameri-trailer Frame)

If rudder / rudder assembly can not be angled and removed... then it has been suggested to back boat into water and rudder will "fall off..."

Rudder / Rudder Assembly Inspection



- Inspect rudder & rudder assembly for any cracks or damage. Rudder assembly has failed in one instance where the cylinder is welded to the bottom plate.
- If no damage, clean inside rudder assembly with degreasing agent
- Clean and remove any sealant from top or bottom of rudder plate or opening on boat
- Grease inside of rudder assembly. I put the E-Grease fitting back on to accomplish this

Rudder Re-Assembly

- Place Marine sealant liberally around base of cylinder and a bead around plate $\frac{1}{4}$ inch from outside. I also put sealant in bolt openings through the hull and a bead around opening in locker
- Insert Rudder into bottom assembly, insert into opening in boat by tilting at a slight angle and replace rudder brace against trailer frame. Check orientation.
- Insert Rudder Screws
- From inside the locker replace rudder top plate, screw washers, lock washers and 4 hex nuts
- I used a power drill with torque control at lowest setting and gradually tightened hex nuts by moving around several times in a clockwise fashion.
- Go to bottom of boat and check alignment (Not sure proper way to perform this check... I just did a visual)
- Bolts should be tightened to XX ft/lbs to provide sufficient seal and not stress the hull
- Replace steering arm, insert sheer key, tighten steering arm bolt and replace locking hex nut (Helps to have 2 people: move rudder to line up key with key cut-outs)
- Insert cotter pin and replace e-grease fitting

You Are Finished! Clean Up and Take to River or Lake for a Test Run!