

Notes on Removing Rudder

from Dealers Manual with Contributions from
Outrageous, EZ, Picante, Stop Making Sense, Santana, & Deviation

Step 1

Remove tiller from rudder block by removing 1/2" bolt. Replace 1/2" bolt back into hole without tiller.

Step 2

Remove rubber plug from rudder tube inside of boat to expose the upper rudder bearing set screws.

Step 3

Rotate rudder to loosen all 4 set screws. Do not remove them entirely. [\[note 1\]](#)

Step 4

Chock rudder from bottom with wood blocks.

Step 5

Remove 1/2" bolt from tiller block and loosen 3/8" bolt on aft side of block and remove tiller block. You may have to drive a screwdriver into split in block in order to loosen from rudder shaft.

Step 6

Support weight of rudder and remove wood chocks from beneath rudder and remove rudder complete with lower bearing from boat. [\[note 2\]](#)

Installation: To install rudder, reverse the procedure for removal. [\[note 3\]](#)

Notes

[note 1]

- On *Deviation* the set screws were not initially installed, after 15 years they were no longer needed. - [Bill Heintz](#), *Deviation*

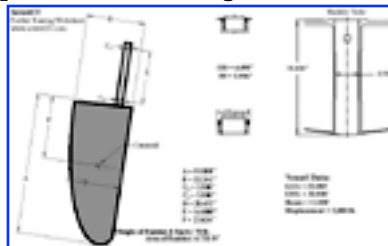
[note 2]

- The problem is over time the top and bottom bearing corrodes to the shaft. You will need something to break it loose. You will need to hammer it out. - [Richard Jones](#), *Outrageous*
- Once you loosen those you can push out the rudder shaft and the lower bearing comes with it is not attached to the fiberglass rudder tube. The top bearing could be corrosion attached to the rudder shaft, usually a chemical agent like **PB B'laster** can work on that corrosion between the SS and the aluminum bearing case. - [Paul Lockwood](#), *EZ*
- On *Picante* our biggest problem was the corrosion factor was so great you had to destroy the bearings in order to get them off. For *Absolute Chaos*. The rudder wouldn't come out of the boat without drilling both bearings out. - [Trevor Baroni](#), *Picante*
- Don't be fooled by the outside appearance of the fiberglass rudder tube. The inside dimension of the tube is a constant straight tube. In other words, if the outer-race of the top bearing starts to go down before the shaft is free of the inner race, The shaft and both bearings can be "pushed" out the bottom. - [Bill Heintz](#), *Deviation*
- If top Harken bearing does not want to move, either inner-race on rudder shaft or outside-race in fiberglass rudder strut, the inner race can be cut / drilled / chiseled away to remove ball and roller bearings and then the inner-race can be wedged apart into the outside-race. - [Bill Heintz](#), *Deviation*

[note 3]

- In my case the tube is completely smooth and dropped right out when the rudder head was removed. The bigger problem for me was keeping the bearing from going up into the tube. I put in a PVC pipe to keep this from happening. - [Dean Briggs](#), *Stop Making Sense*
- The Tech team at [Harken](#) no longer produces rudder bearings [except custom for America's Cup Boats], however they may be able to accommodate you on a custom basis, and has designated [Edson](#) as their replacement vendor. Ask for Barry Steinberg. - [Paul Jeka](#), *Santana*

[Rudder Bearing Worksheet]



[Soverel 33 Rudder Bearing Worksheet](#)

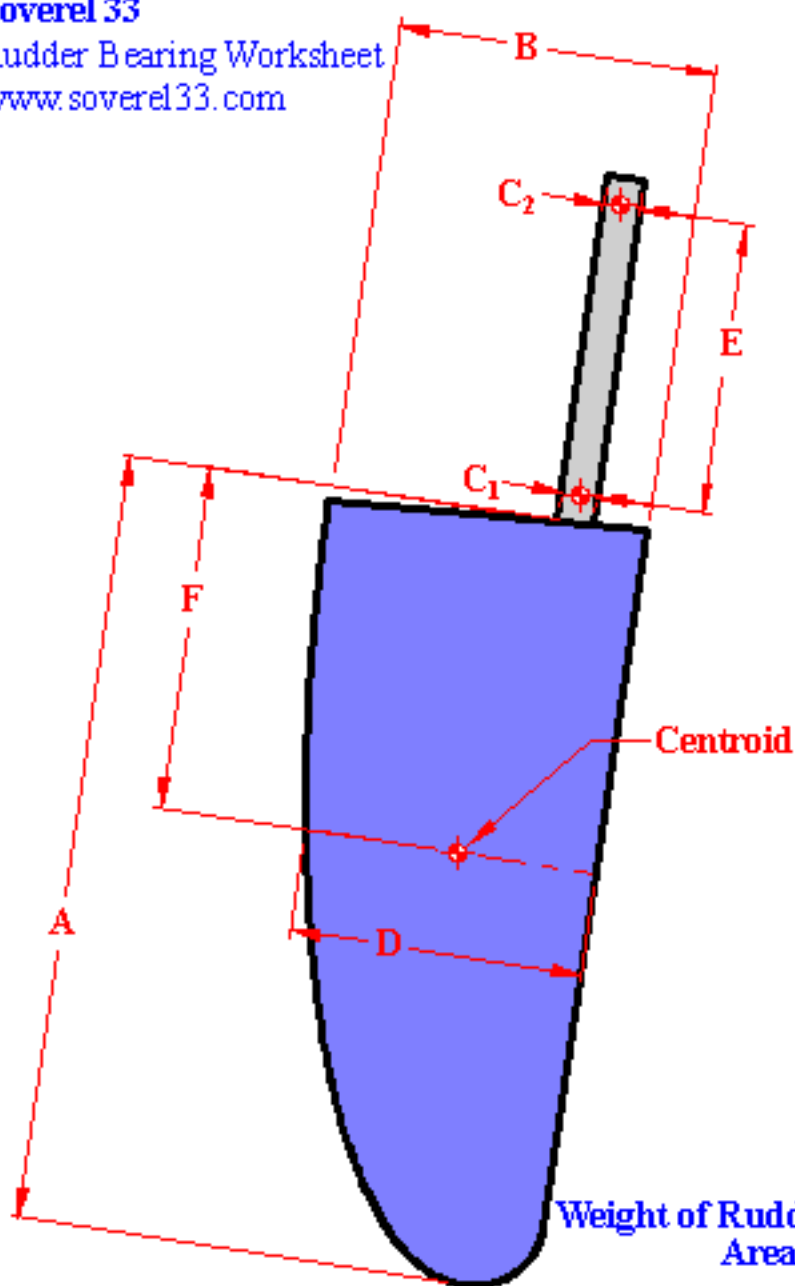
[Rudder Bearings Part Numbers & Sources]

Manufacturer	Description	Part Nr. - Top	Part Nr. - Bottom
ACC Marine	Ball & Socket	Custom	Custom
Edson	Ertalite Balls & Rollers / 6082 Aluminum Housing	HA3055FHD	HA3056P CU0155
Harken	Delrin Balls & Rollers / 6082 Aluminum Housing	615	616
	Delrin Balls & Rollers / Plastic Housing	3055	3056
Jefa	Plastic Roller Bearings / AlMgSi1 Aluminum Housing	Custom: Replacement for Harken 615 & 616 (Dwg. 6161)	
Thordon	n/a	Custom	Custom
Tides	Machined from a single piece of UHMW Plastic	RPB-G-2500-10	RPB-H-2500-12

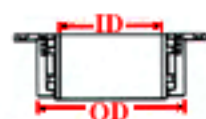
-click on Part Number to see Construction Details -

- For [Rudder Bearing Sources](#) check

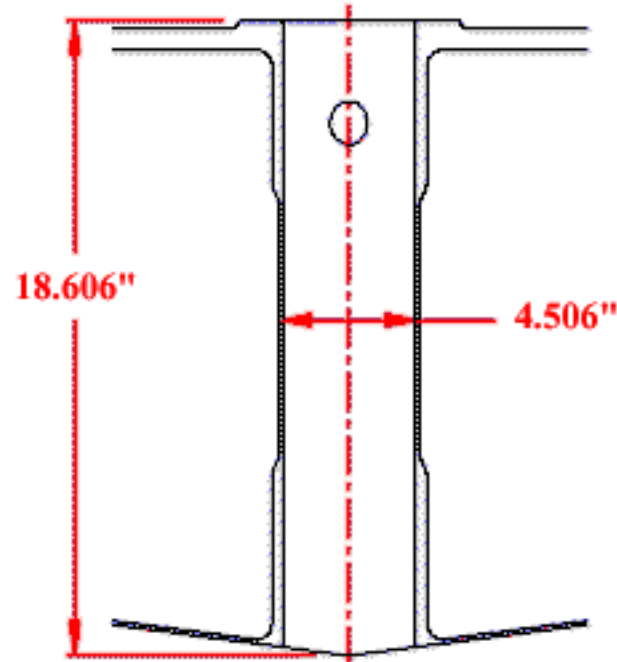
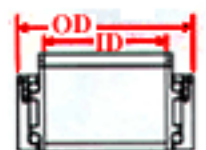
[QUICKLINKS ...](#)



A = 53.000"
B = 22.241"
C₁ = 2.500"
C₂ = 2.500"
D = 20.432"
E = 16.000"
F = 23.624"



OD = 4.490"
ID = 2.506"



Vessel Data:
LOA = 33.000'
LWL = 30.500'
Beam = 11.000'
Displacement = 5,800 lb.