

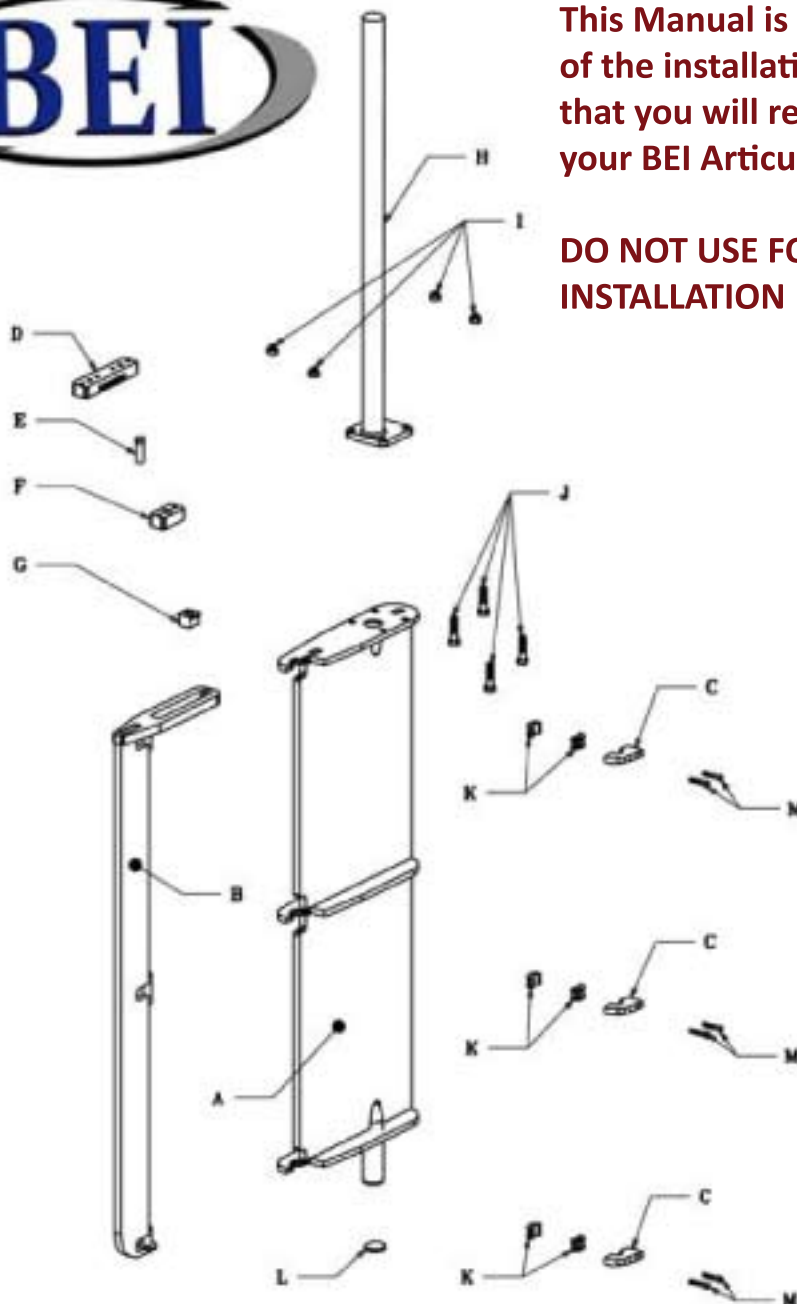


This Manual is a example of the installation manual that you will receive with your BEI Articulating Rudder

**DO NOT USE FOR ACTUAL INSTALLATION**

## Articulating Rudder Part Description

When ordering parts use Ref # and your Rudder serial Number



Ref #	Description	Quantity
A	Main Plate Assembly	1
B	Aft Plate Assembly	1
C	Fence Journal Cap	3
D	Pin Plate	1
E	Slider Pin	1
F	Slider Pin Housing	1
G	Slider T Bushing	1
H	Upper Rudder Post Assembly	1
I	Upper Rudder Post lock nuts	4
J	Upper Rudder Post Bolts	4
K	Aft Plate Axle Bushings	6
L	Thrust Bushing	1
M	Journal Cap bolts	6

The following items not shown

N	Slider Pin Housing bolts	2
O	Rudder Torque Data Sheet	1
P	Operators/Service Manual	1
Q	Installation Manual	1

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### Installation Manual

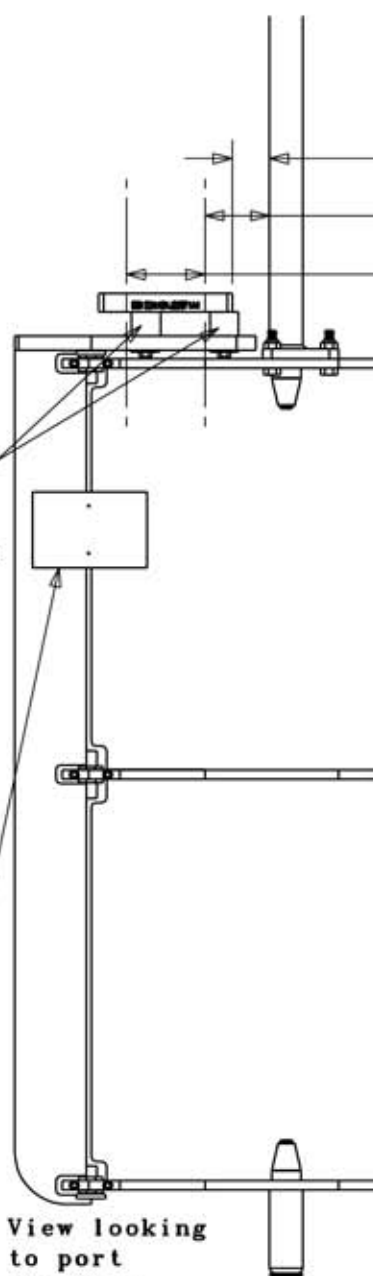
Please familiarize yourself with the part description sheet and installation manual before installing the rudder



View looking forward  
Figure 1

Installation "pin plate spacers" do not remove until after pin plate fairing block is in place and pin plate location is confirmed

Installation "clamp plate" do not remove until after pin plate fairing block is in place and pin plate location is confirmed



View looking to port  
Figure 2



A: This is the distance from the aft surface of the upper rudder shaft to the front face of the pin plate, verify distance to assure it has not moved in shipping  
This is specific to your Vessel

B: This is the distance from the aft surface of the upper rudder shaft to the first mounting hole of the pin plate  
This is specific to your Vessel

C: This is the distance between the forward and the aft mounting hole of the pin plate on some models there is a middle hole this will be given as the distance from the forward mounting hole to the mid hole  
This is specific to your Vessel

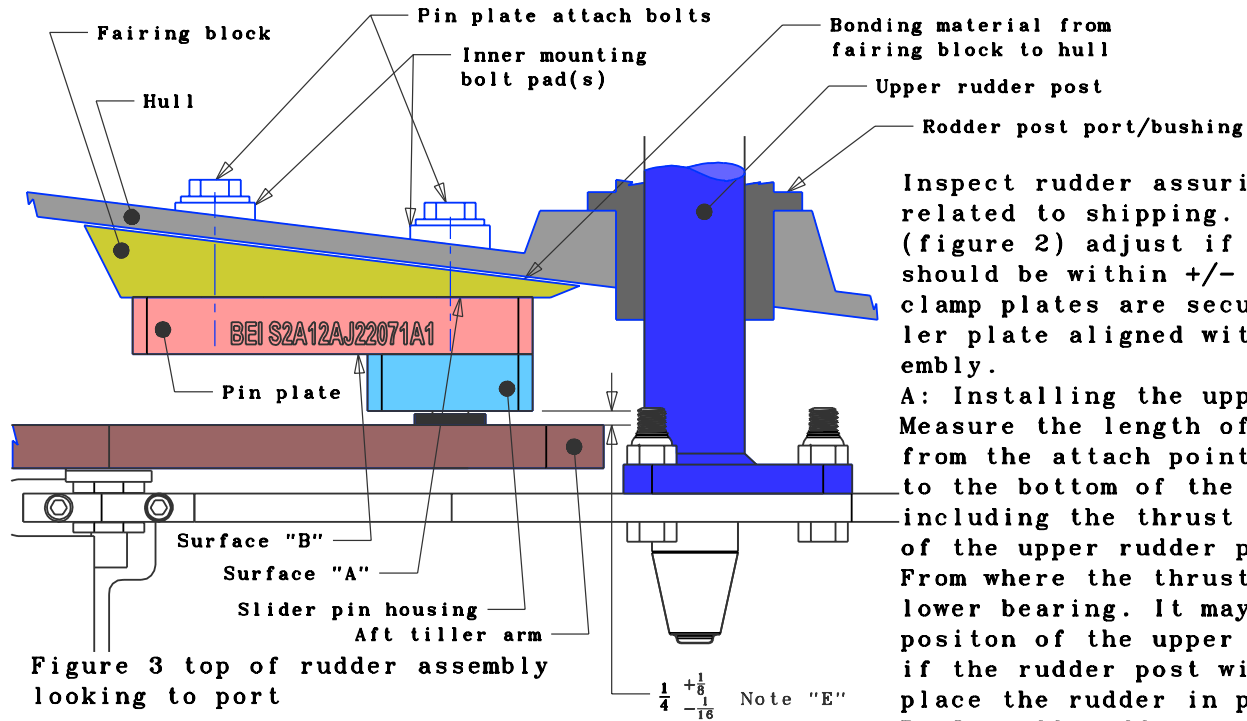


Figure 3 top of rudder assembly looking to port

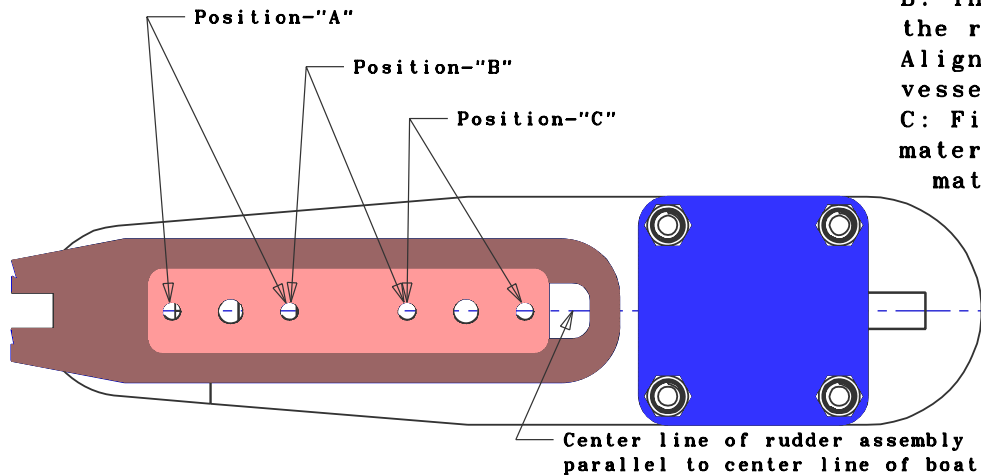


Figure 4 top of rudder assembly looking down

Inspect rudder assuring there is no damage related to shipping. Check dimension "A" (figure 2) adjust if necessary dimension should be within  $\pm 1/16$ " also make sure clamp plates are secure keeping the aft tiller plate aligned with the main plate assembly.

A: Installing the upper rudder shaft in hull. Measure the length of the main plate assembly from the attach point of the upper rudder post to the bottom of the lower rudder journal including the thrust bearing. Place the face of the upper rudder post at this dimension. From where the thrust bearing will rest in the lower bearing. It may be convenient to mark the position of the upper rudder post especially if the rudder post will have to be moved up to place the rudder in position.

B: Install rudder assembly and Lightly tighten the rudder post flange to the rudder assembly. Align the rudder to the center line of the vessel.

C: Fitting the fairing block to the hull. (use material similar to the hull using only solid material no core BEI can supply most fairing materials inquire for availability and price) surface "A" figure 3 must be equal or larger and parallel and flat in all directions to the face of the pin plate. Depending on the hull material the method of attachment will vary. It is important the attachment to the hull of the fairing block is of a similar strength as the hull itself. The inner mounting pad(s) must be flat and true to surface of bolt or nut figure 3.

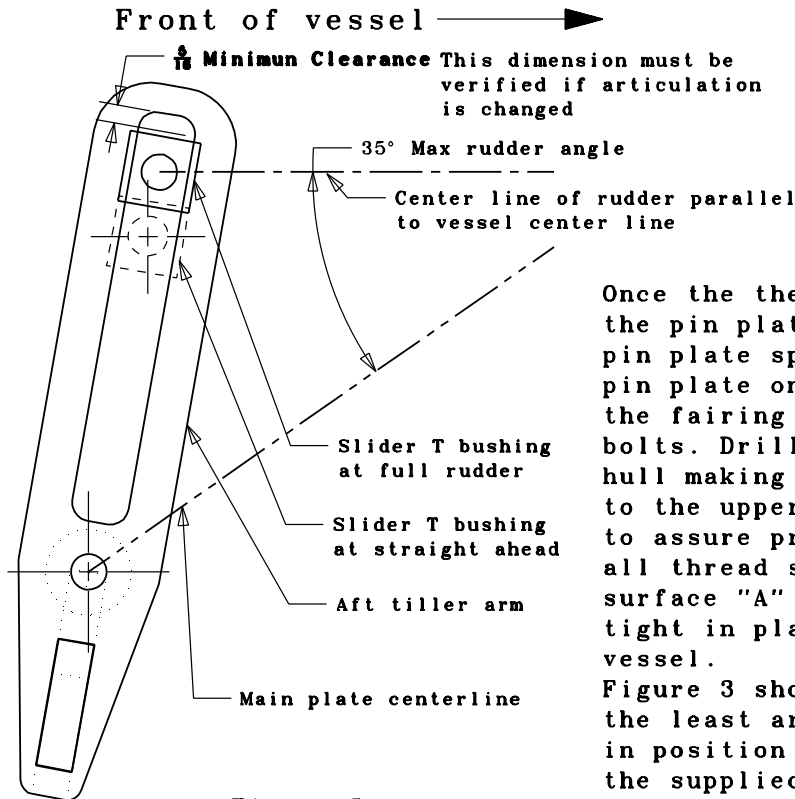


Figure 5

Once the the fairing block is secured to the hull mark the pin plate location on the fairing block. Remove the pin plate spacers and swing rudder to the side. Place the pin plate on the fairing block and align to your marks on the fairing block, mark the center location of the attach bolts. Drill clearance holes thru the fairing block and hull making sure the holes are parallel in all directions to the upper rudder shaft. Dry fit pin plate attach bolts to assure proper length, the end of the attach bolts (or all thread studs) must extend to within 1/8" but not past surface "A" figure 3. If using all thread or studs lock-tight in place. Use ample sealant and secure pin plate to vessel.

Figure 3 shows slider pin housing in position "C" this is the least articulation position. We recomend to start out in position "B" or "C". Mount the slider pin housing with the supplied socket head cap screws, when mounting stainless screws to stainless parts always use a lubricant or lock-tight and securly tighten to bolt size specifacitons.

The "clamp plates" can now be removed and discarded. There are two ways to install the rudder into the slider bushing. If the rudders lower bushing is removable remove the upper rudder shaft bolts remove rudder swing aft plate and with slider T bushing placed in aft tiller arm lift rudder assembly into slider pin and swing main rudder plate into positon and tighten. It can also be assembled by removing the aft plate assembly. Remove the 6 journal cap bolts and 3 journal caps. With slider T bushing placed in aft tiller arm, main plate assembly swung to the side, lift aft plate assembly inserting slider T bushing into slider pin. Swing main plate assembly into aft plate and reassemble. After all bolts are tightened the rudder must be turned to the full stops in both directions and checked to assure there is clearance (Figure 5) adjust rudder stops if necessary. It is also necessary to check vertical movement (figure 3 note "E") adjust as necessary.

See Maintance/Operators Manual for over-view of operation and haul out inspection and maintance.

General Dimensions

