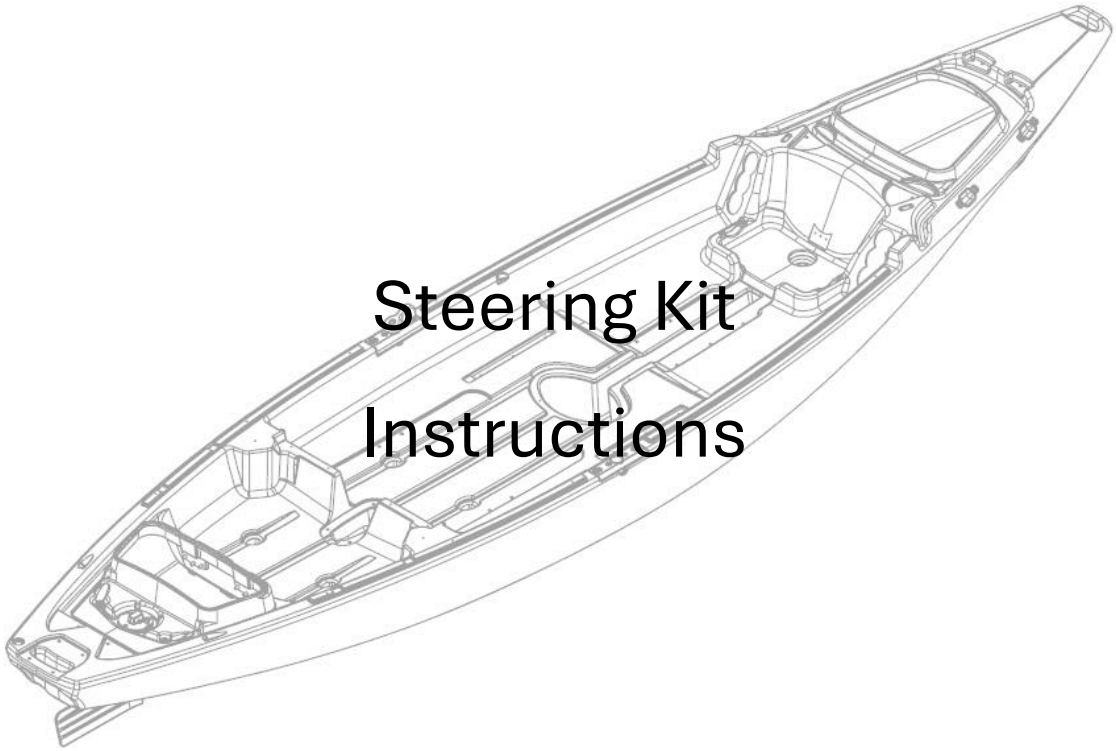
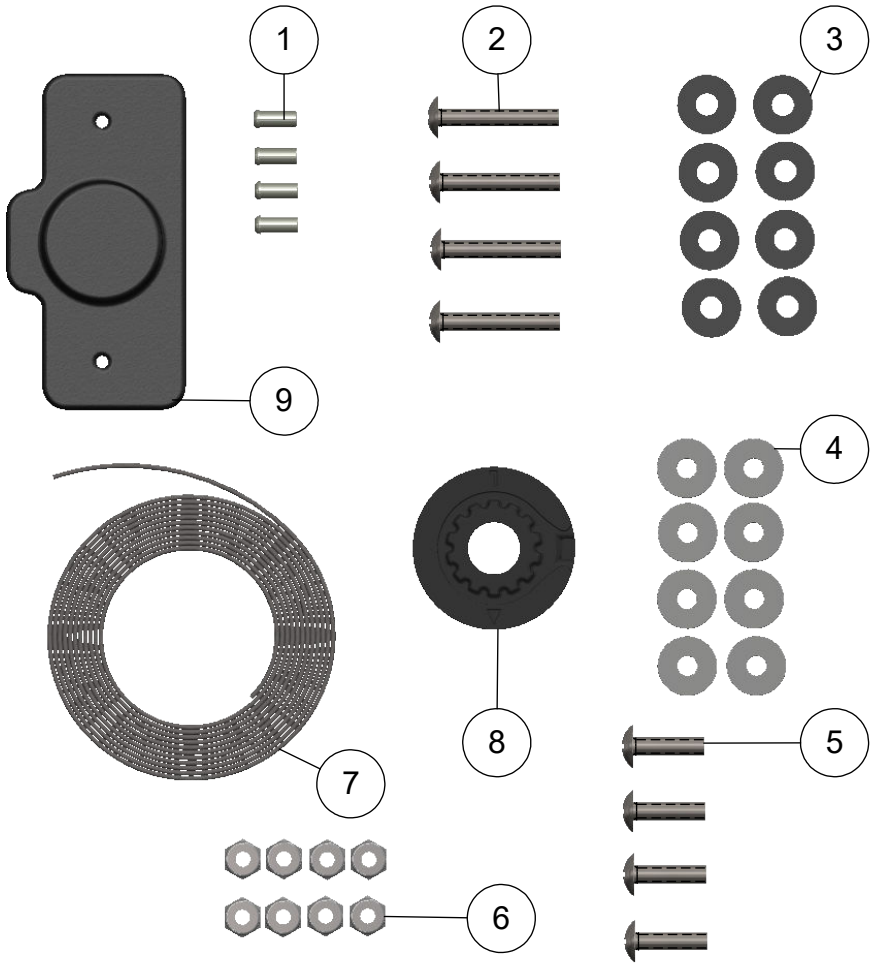
Steering Kit

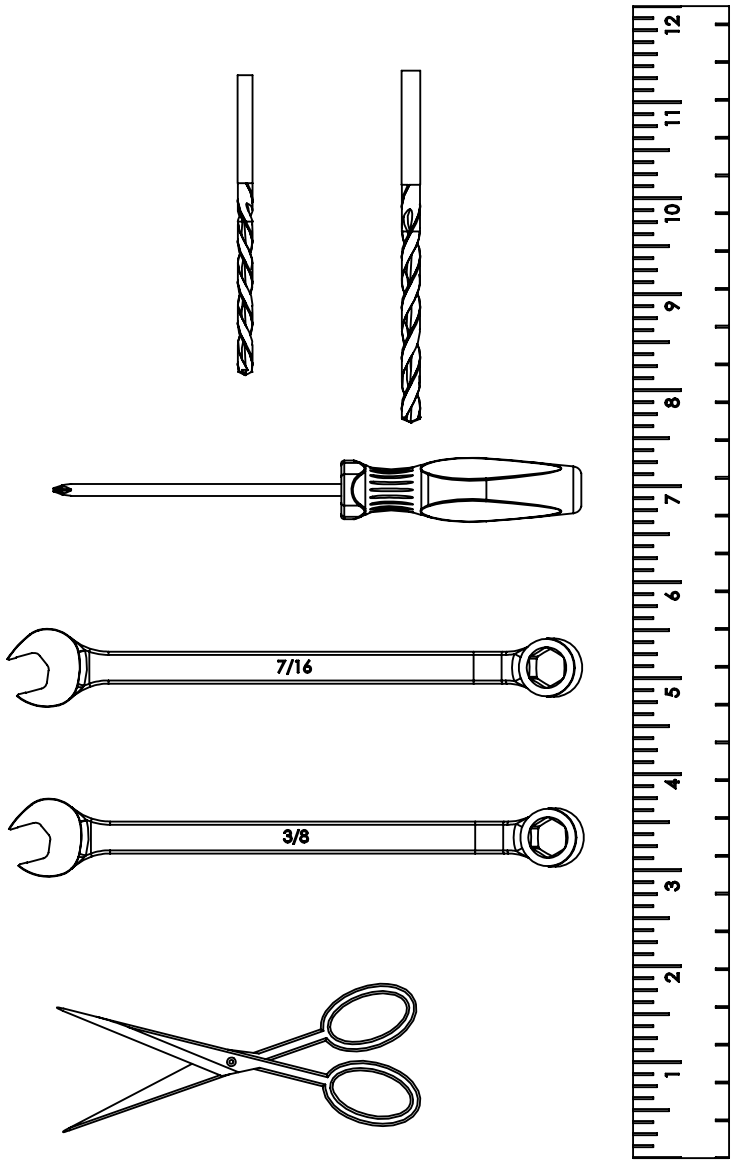
Instructions



Steering Kit Parts List:

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	97092	Nylon tube; Support .170 ID white	4
2	1048	Bolt; 10-24 x 1 1/4" PH Truss MS 18-8 SS	4
3	1263	Washer; .230 x .625 OD Neoprene Black	8
4	1514	Washer; #10x5/8OD(.203x.625x.062)316SS	8
5	1050	Bolt; 10-24 x 3/4" PH Truss MS 18-8 SS	4
6	1170	Nut; 10-24 LwProf Nyln Lcknt NTM 18-8 SS	8
7	92053	Rope; 700 Pre-Stretched cable 166in	1
8	97102	Steering; Left spool	1
9	53114	Knarr Steering Housing Plug	1

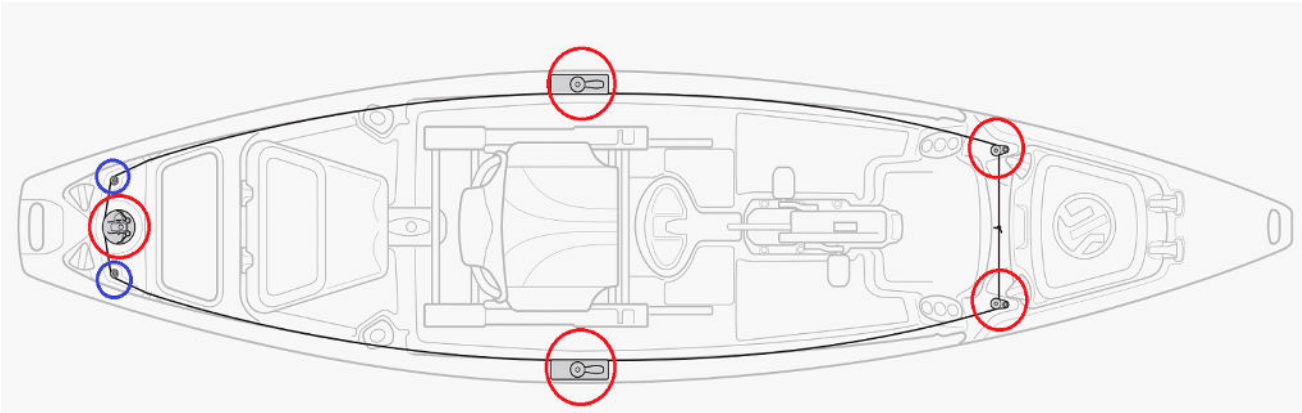




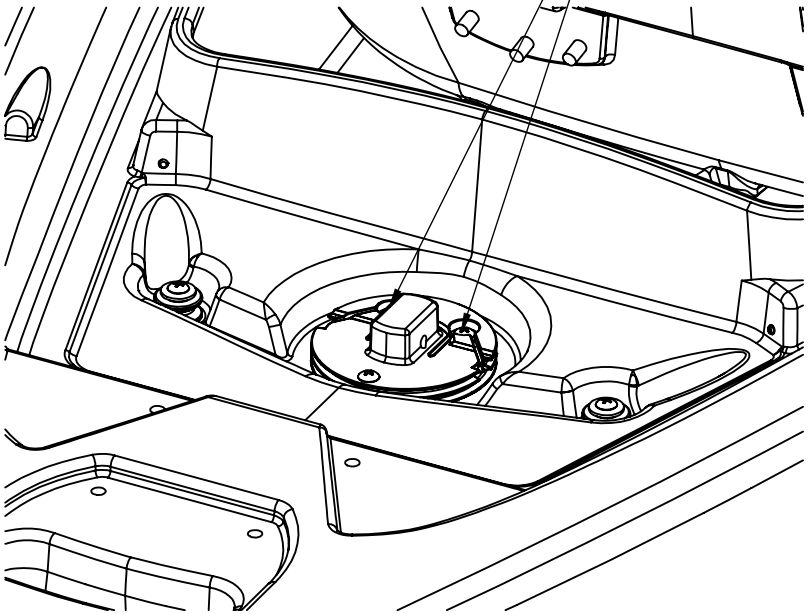
Required Tools:

1. 5/32 Drill Bit
2. #10 Drill Bit
3. Phillips Screwdriver
4. 7/16 Wrench
5. 3/8 Wrench
6. Scissors
7. Ruler

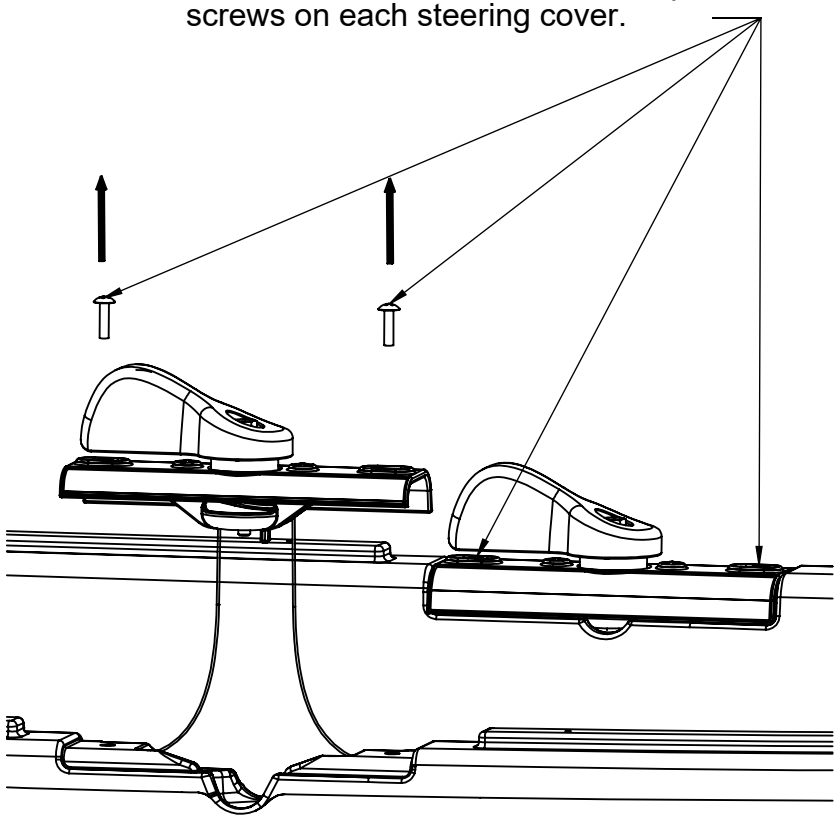
The first phase is disassembly. You want to remove all the items circled in red and set them to the side. You will be using these parts later. The only items that will remain in place are the pulley wheels circled in blue.



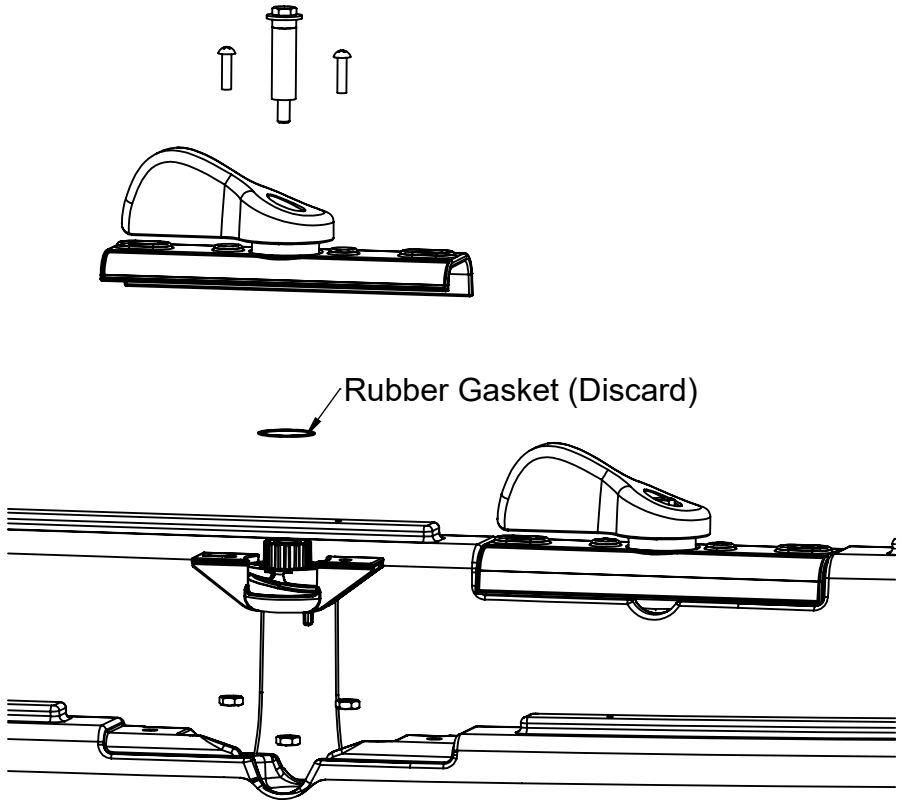
STEP 1: Unthread 2 x rudder disk screws to free the steering line.



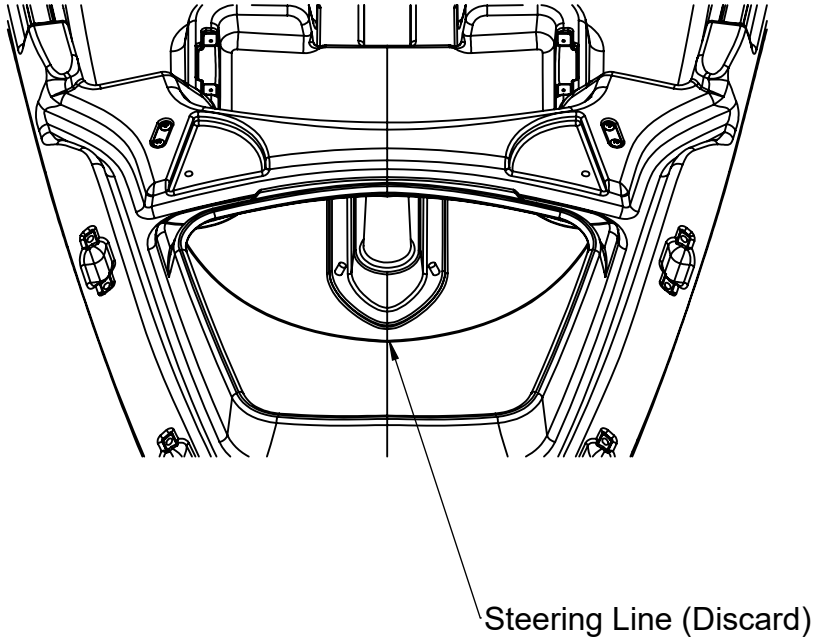
STEP 2: Unthread and remove 2 X Phillips screws on each steering cover.



STEP 3: Using a Phillips screw driver and a 7/16 wrench or socket, dissasemble both left and right side steering assemblies. Note the gasket around the steering spool, this can be discarded. All other parts should be separated from the steering line and set to the side.



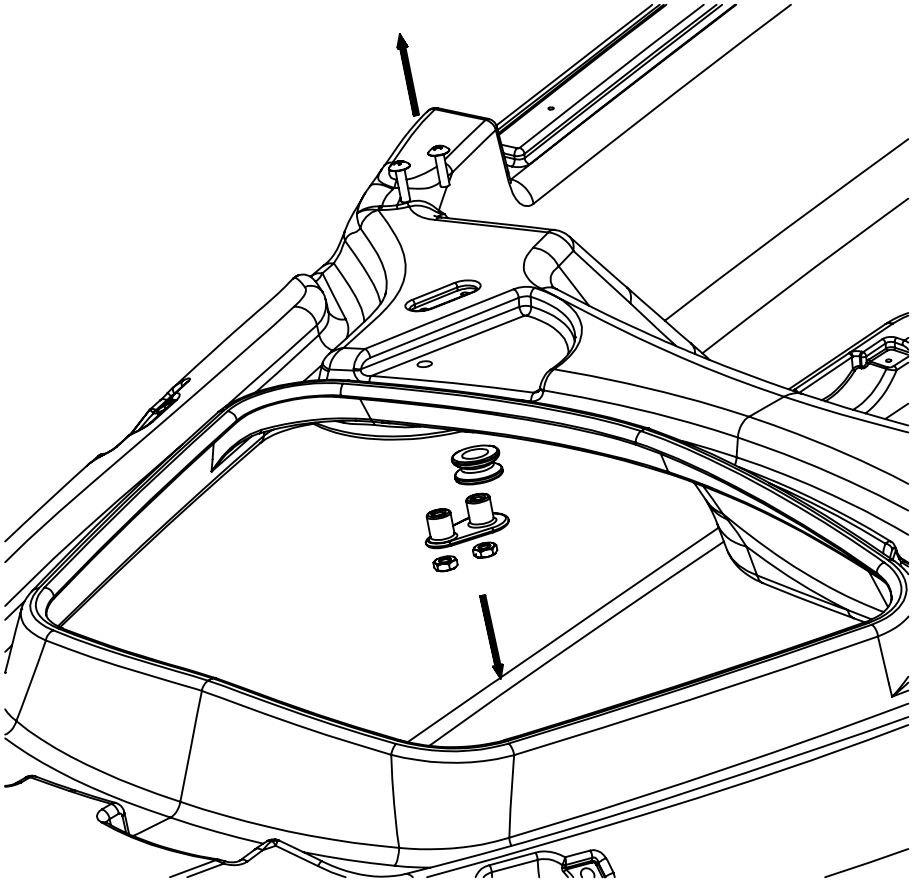
STEP 4: Locate the steering line in the bow hatch. Once located pull the steering line free from the hull and rudder disk. The steering line can be discarded as well.

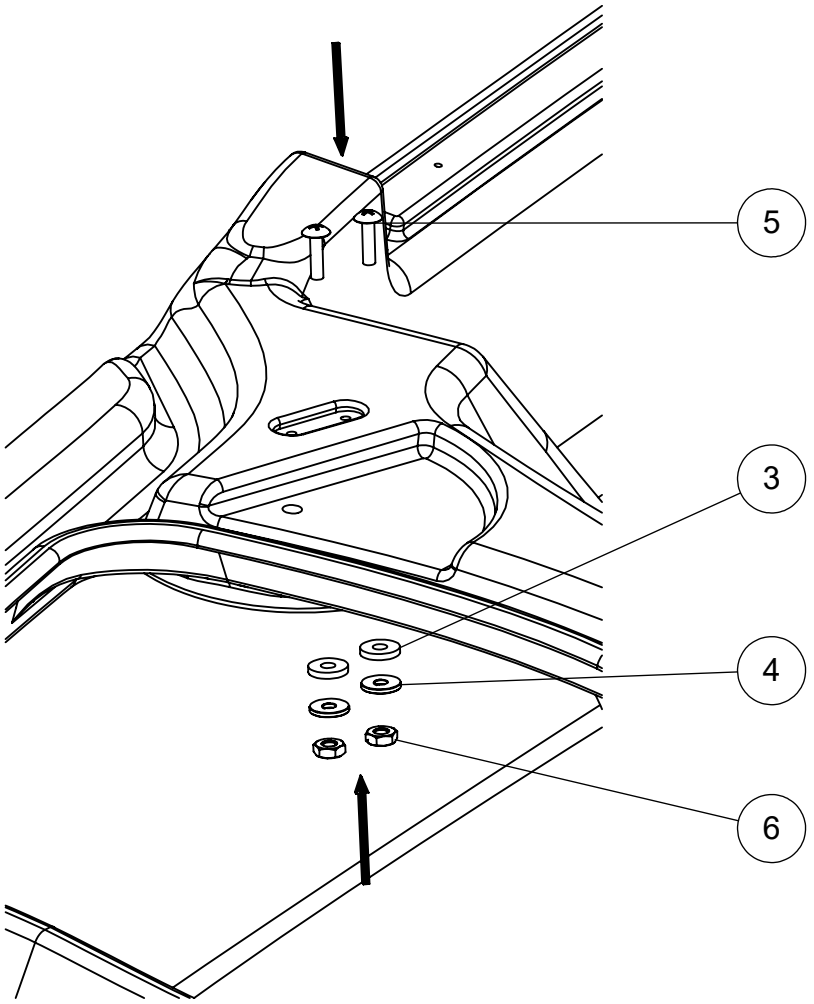


STEP 5: Using a Phillips screwdriver and a 3/8 ratchet, remove both pulley assemblies and set to the side.

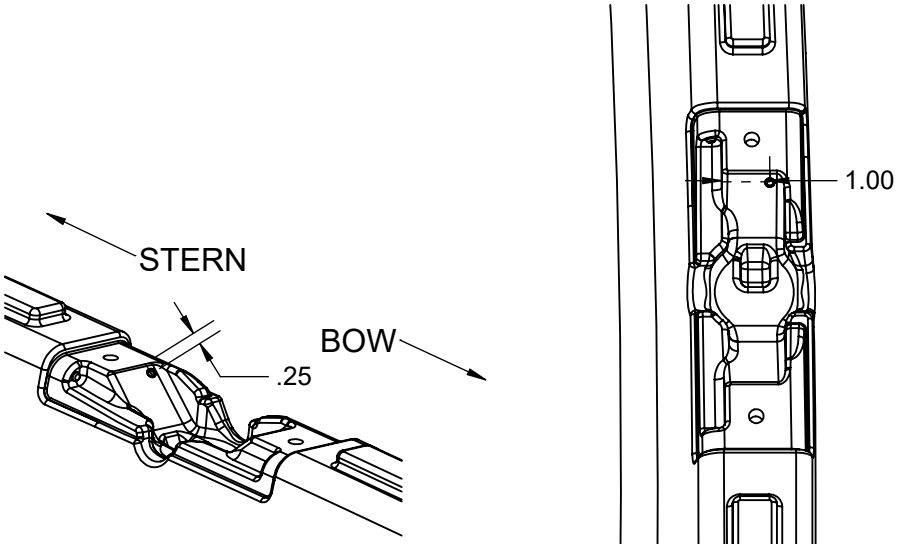
Once both assemblies are removed you can plug the open holes using items 3,4,5,6 from your kit.

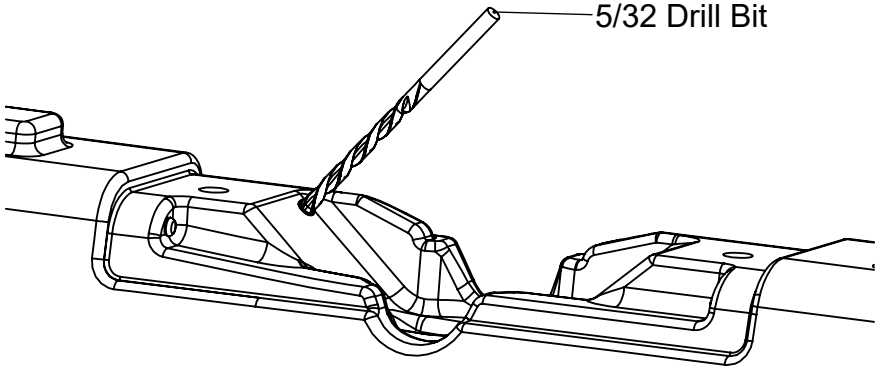
Now it's time to move on to the assembly.





STEP 6: First, identify the side you wish to use for the steering handle. Then, mark a drill point 1/4in down from the top surface and 1in from the wall as shown below. Using a 5/32 bit, drill a hole where you placed your mark.





STEP 7: Next insert and fully seat one nylon support tube in the drilled hole

Image A

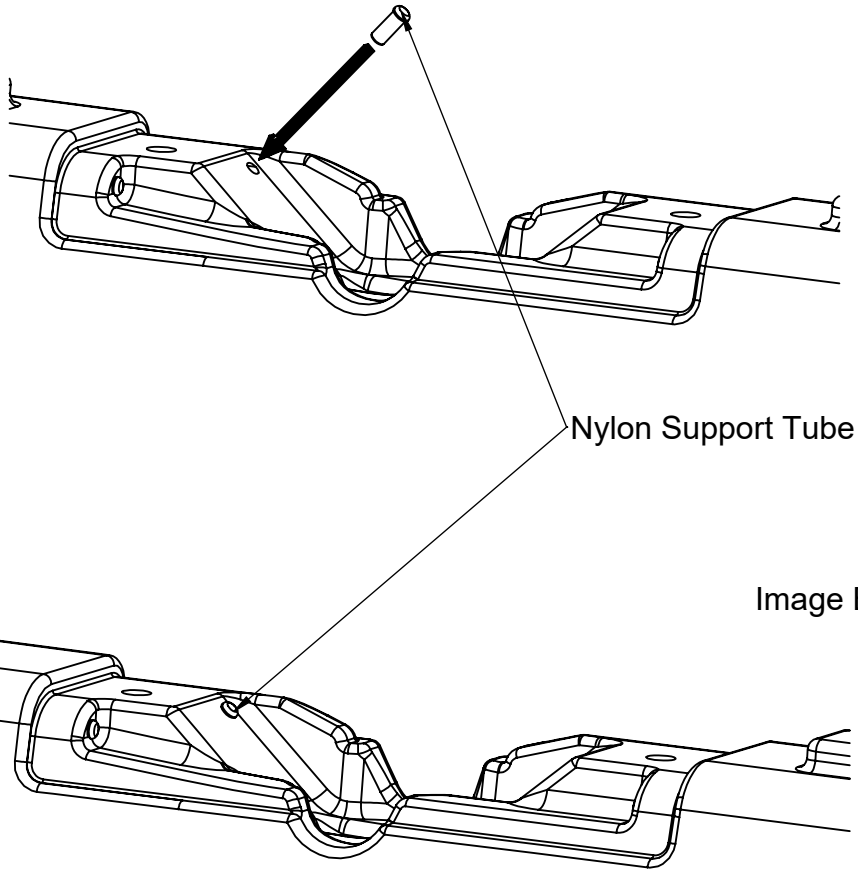
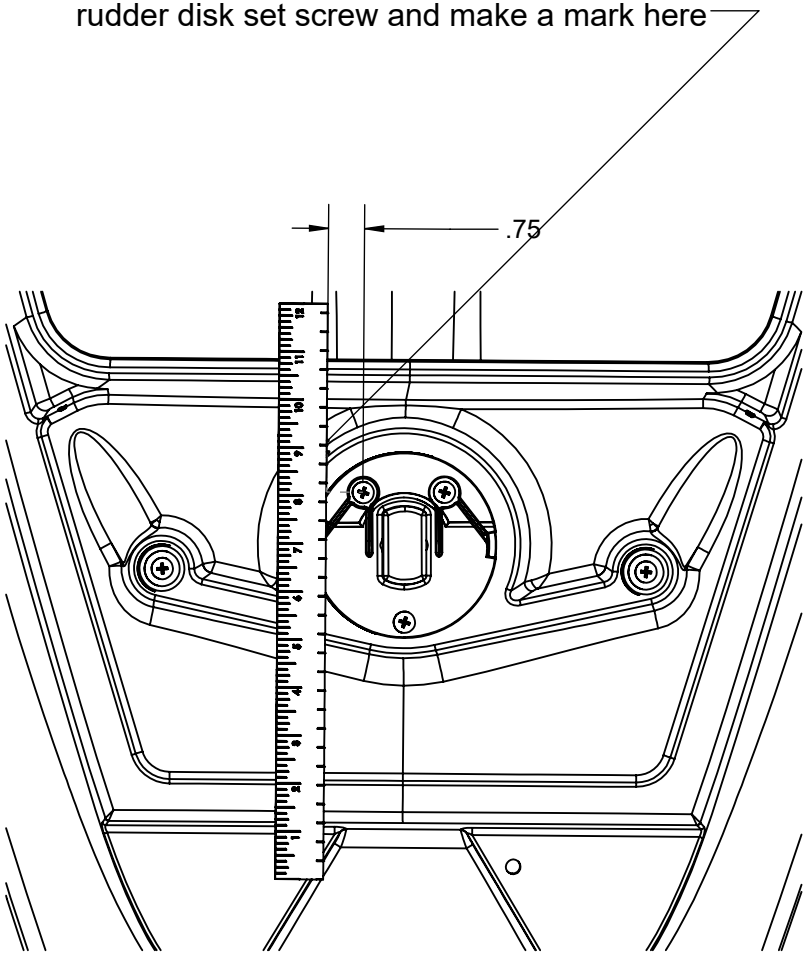
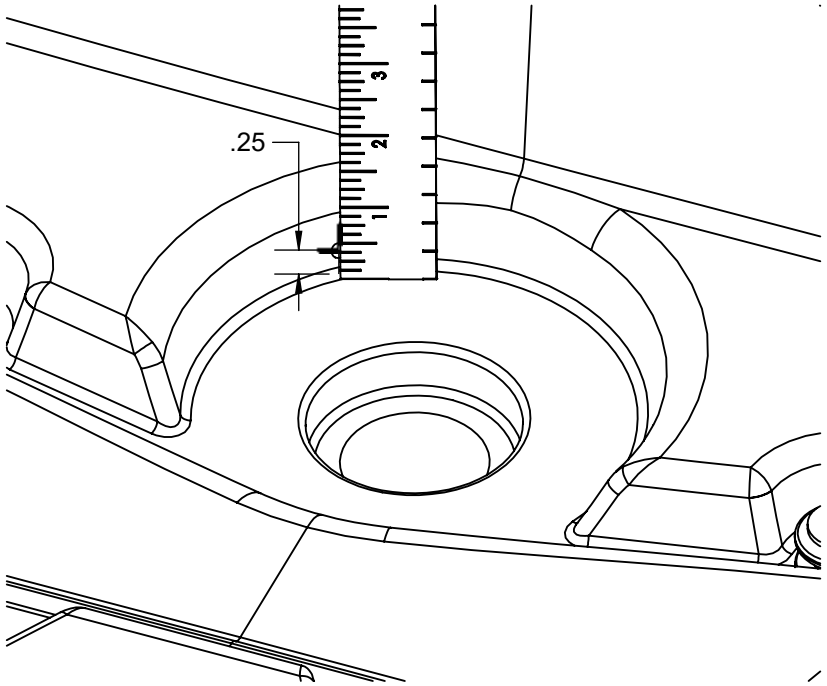


Image B

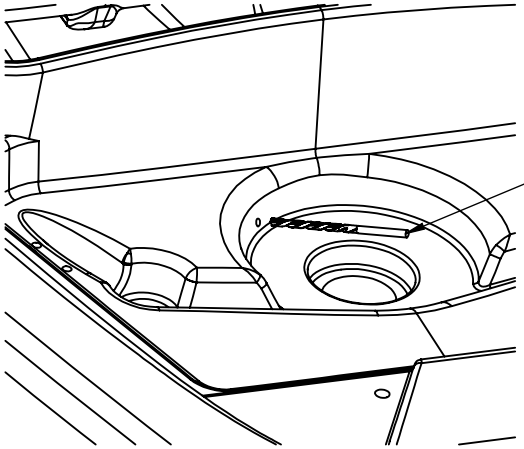
STEP 8: Using a ruler measure 3/4in left of the rudder disk set screw and make a mark here

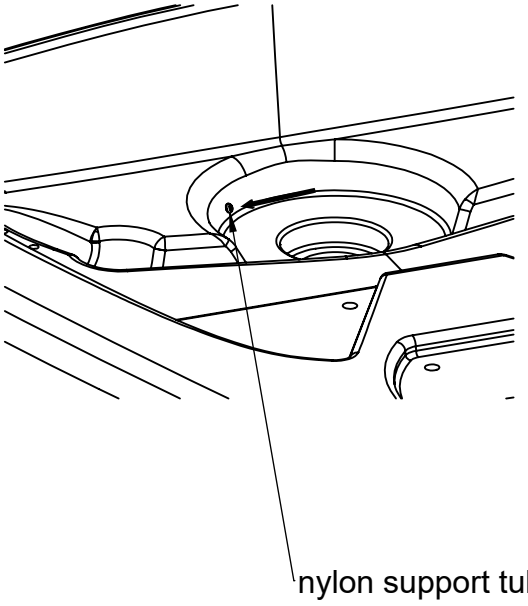


STEP 9: Align the ruler with the mark from STEP 8 and measure 1/4in up from the surface, then mark the drill point.

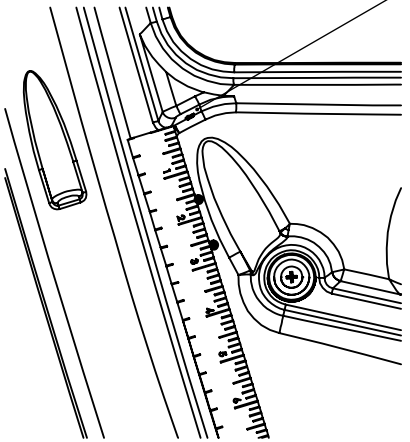


STEP 10: Using the 5/32 bit, drill a hole at the marked location and insert a nylon support tube.

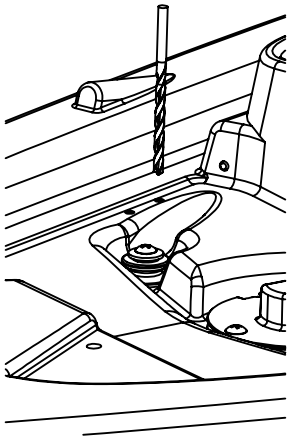




STEP 11: Align the ruler with the recessed edge as it is shown below. Measure 1 5/8in from this wall and mark the first drill point then mark the second point at 2 5/8in



STEP 12: Using the #10 bit, drill a hole through both marked locations.



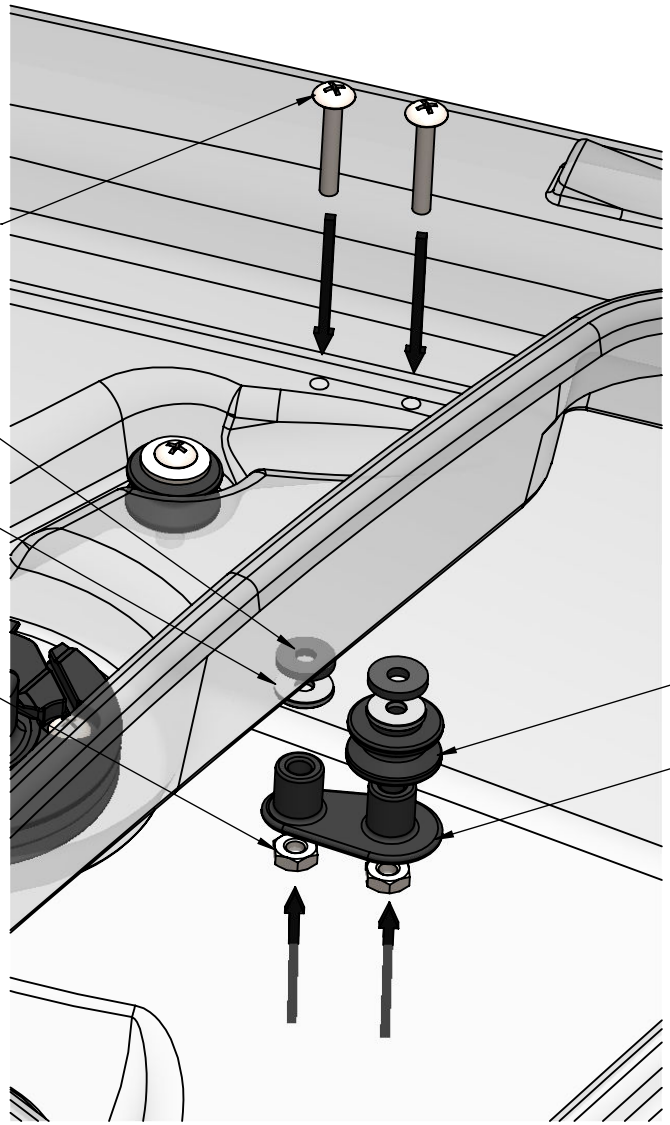
STEP 13: Insert the 2 X 1.25in machine screws from the top. From inside the hull attach the following components in the order shown below:

2 x Neoprene Black Washers

2 X #10 Stainless Steel Washers

2 X 10-24 Nylon Lock Nuts

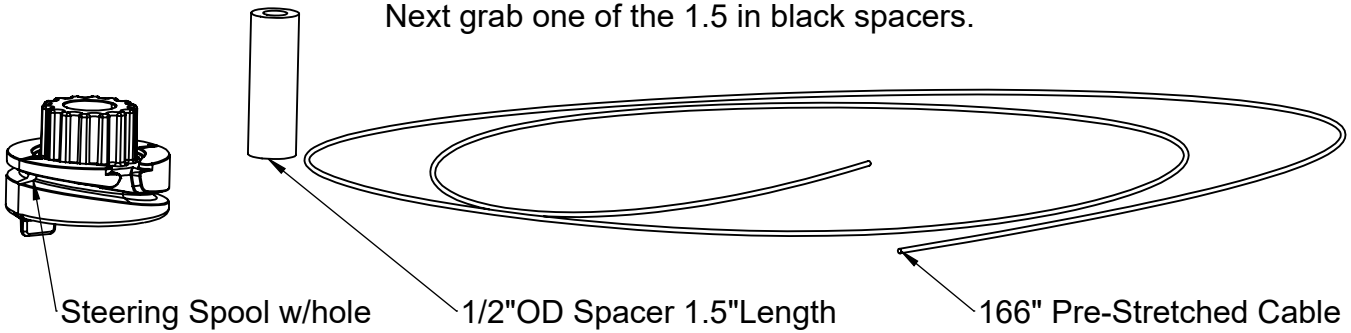
Once all the components are in place, use a phillips head screwdriver and 3/8 ratchet to tighten snug.



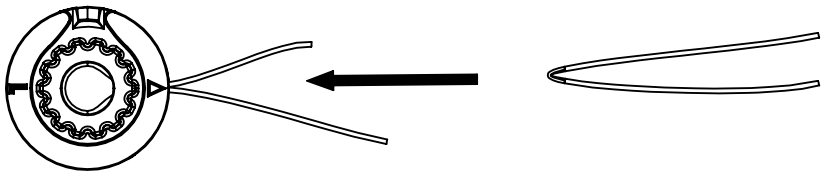
1 X Pulley Wheel

1 X Pulley Base

STEP 14: Now it's time to reinstall the handle assemblies.
First locate the new steering spool and cord that came with your kit.
You will notice that the new spool will have a hole in the forward groove.
Next grab one of the 1.5 in black spacers.

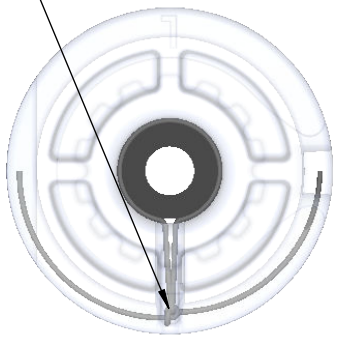


STEP 15: Take the pre-stretched cable and
make a loop at the center making sure you
have two 84" strands. Then feed the loop
through the hole in the steering spool as show below.

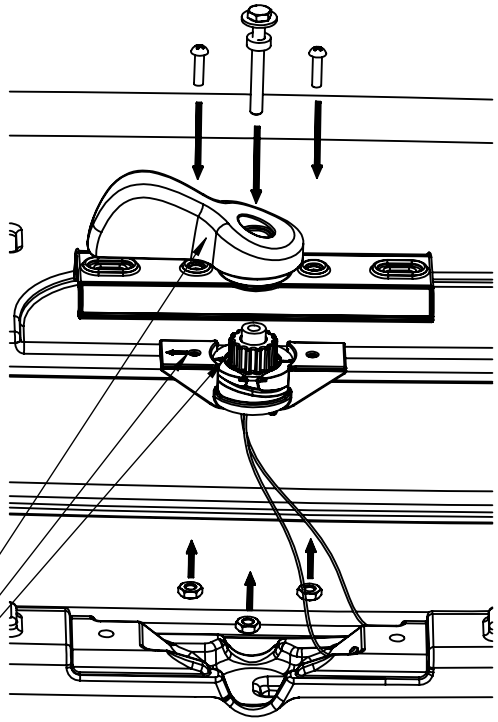


STEP 16: Pull the cable through the top of the spool and insert the
1.5in spacer through the loop and in to the spool
center while pulling the two strands tight in the
direction shown below.

STEP 17: Once the cord is fed through, tie and position a overhand knot in the groove of the spool as shown below. This will ensure the line will not slip.

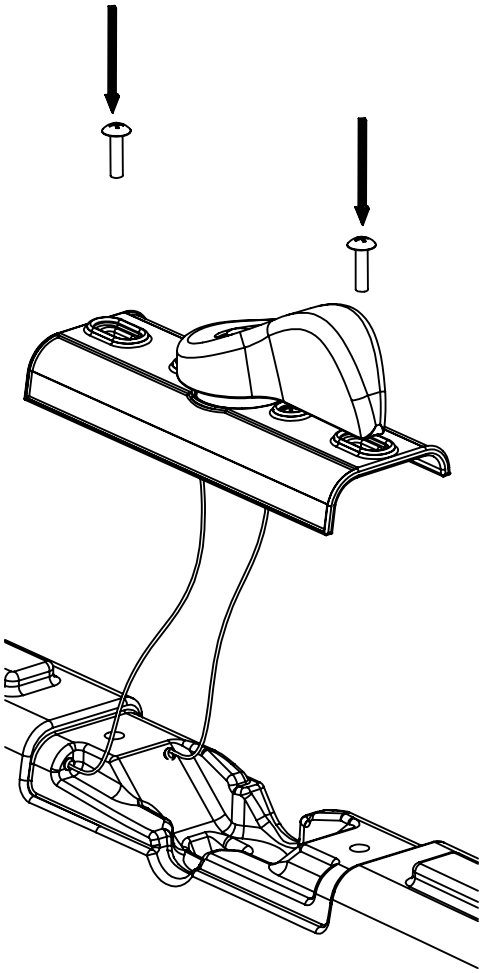


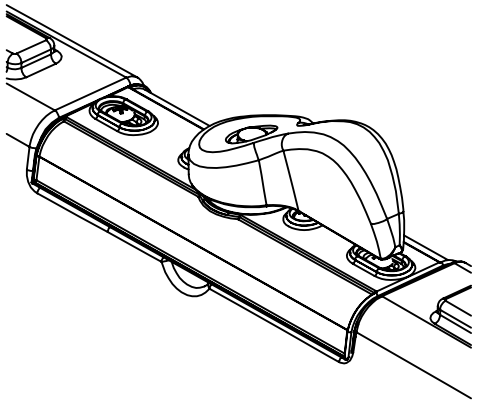
STEP 18: Now, using a phillips head screwdriver and 7/16 ratchet or socket, reassemble the spool with the rest of the steering components.



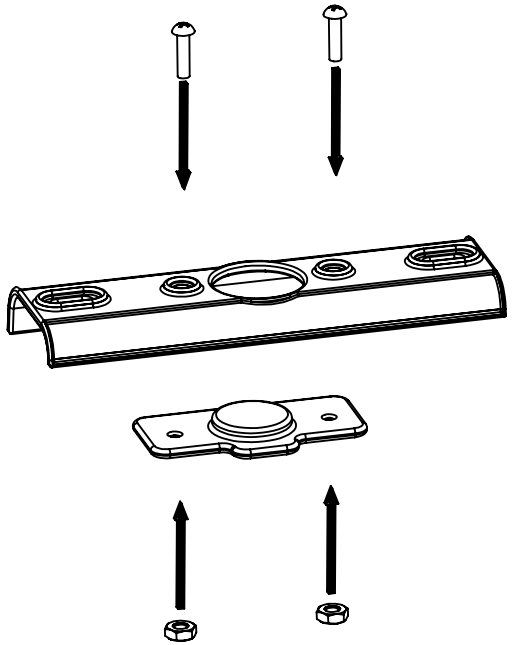
It is important to keep the spool and spool housing arrows aligned and pointing in the same direction as the steering handle when reassembling.

STEP 19: Next, insert the steering cords into the nylon tube supports as shown here. The steering lines should not cross before going in to the hull. Using a piece of welding or fencing wire, pull the cords to the stern. Then use a phillips screwdriver to rethread the machine screws, securing the steering assembly to the boat.

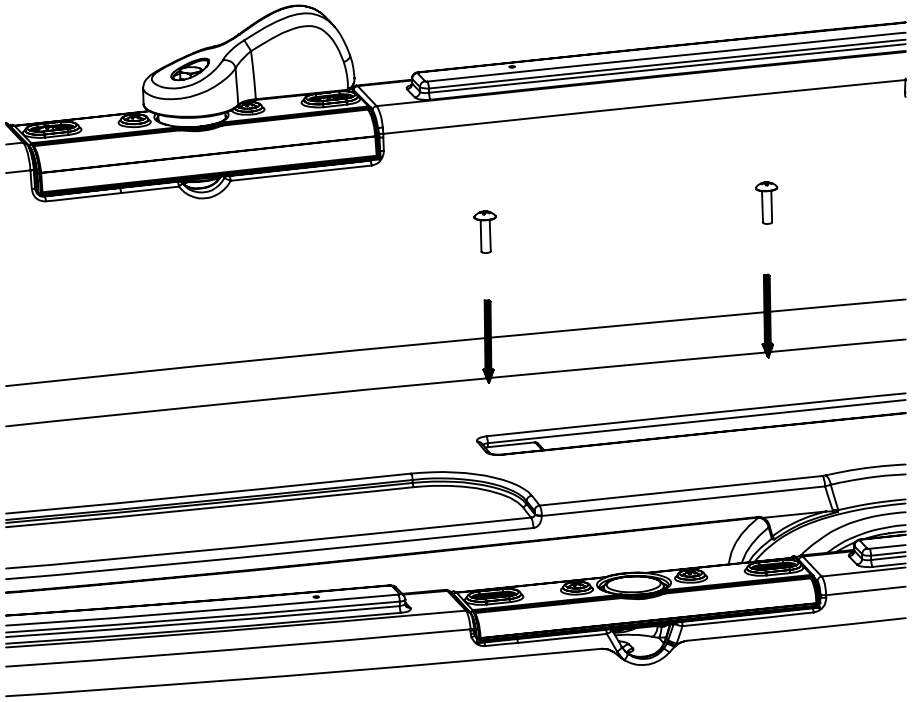




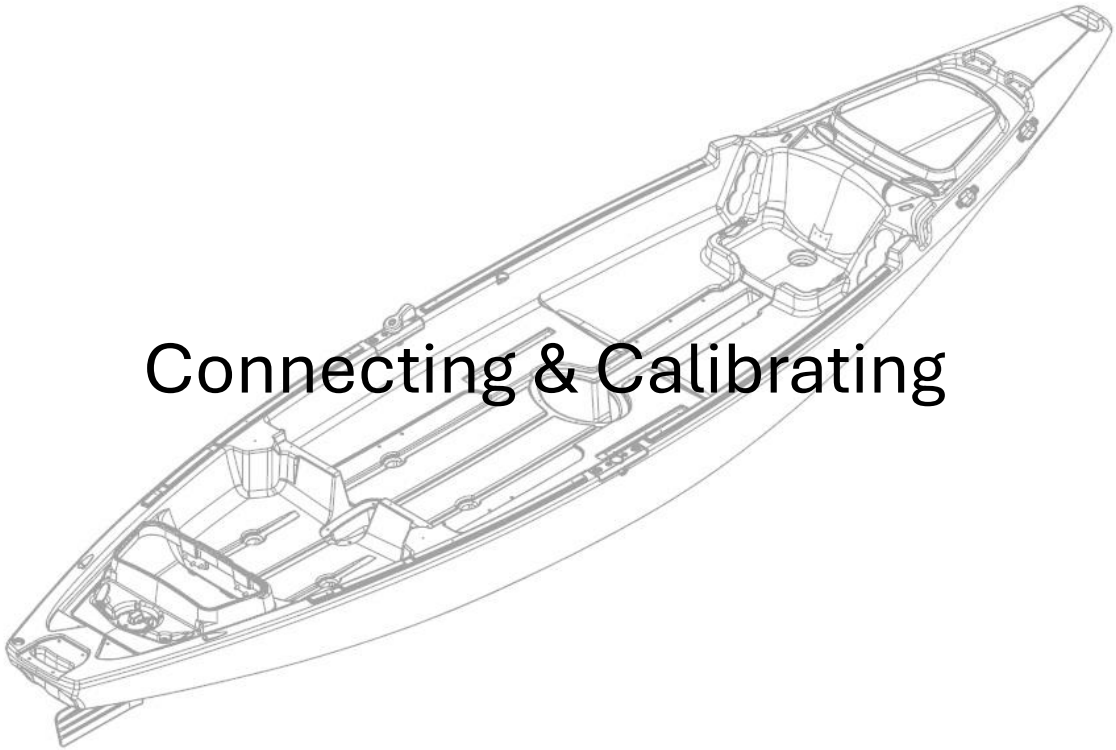
STEP 20: Attach and secure the steering housing plug to the remaining steering cover using the two pan head screws as shown below.

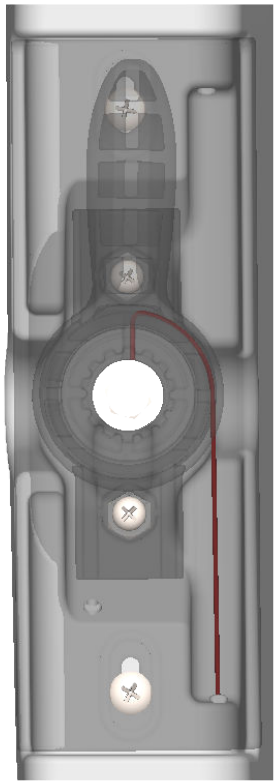


STEP 21: Once the housing plug is attached to the steering cover, secure the assembly to the boat.



Connecting & Calibrating



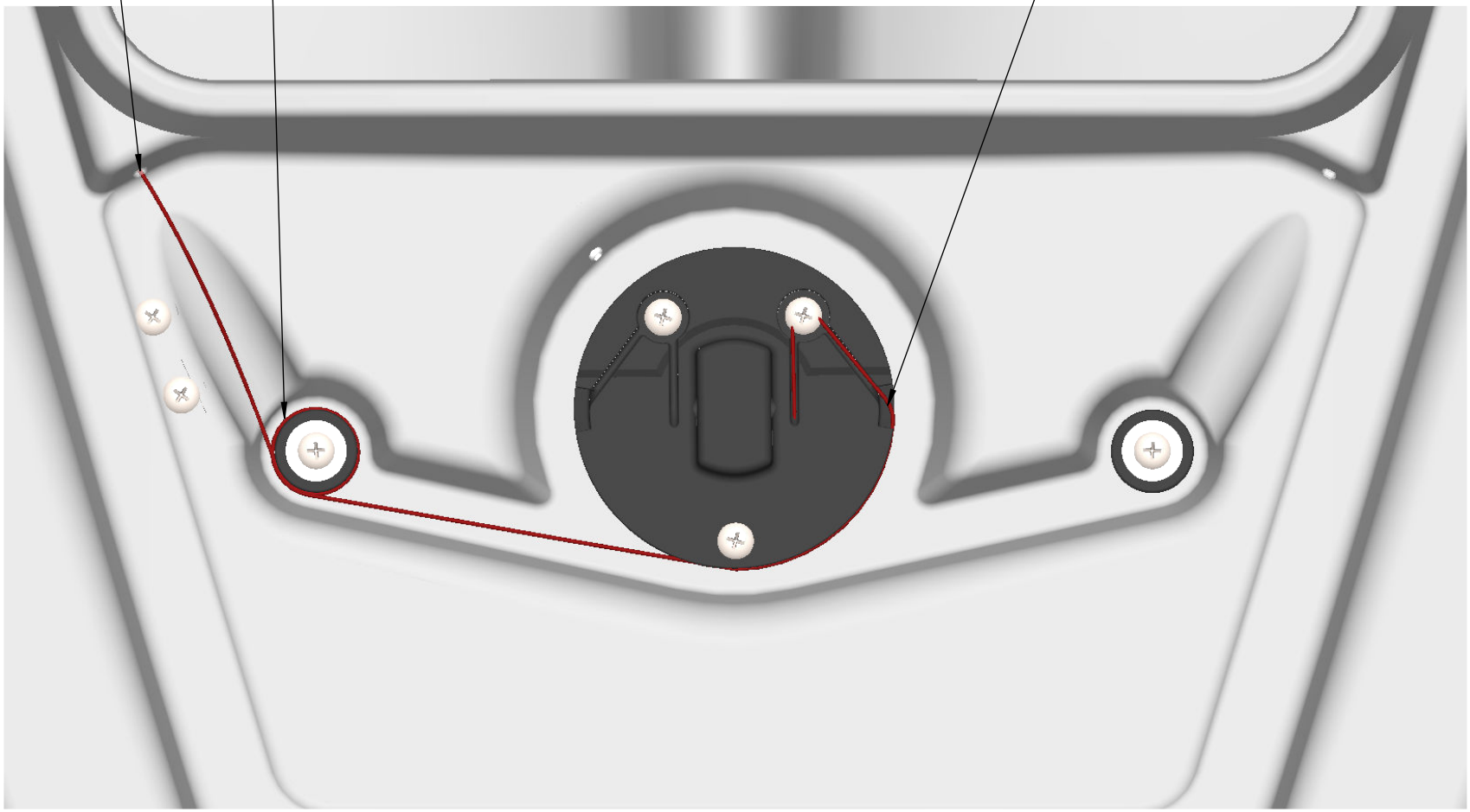


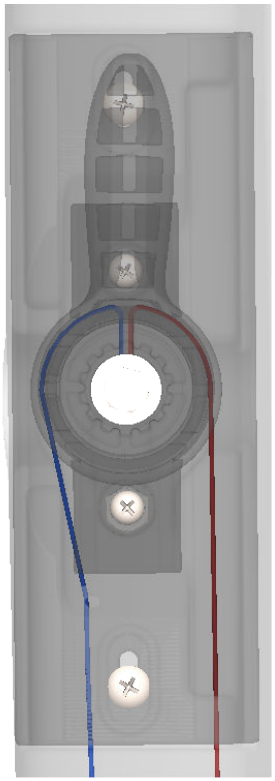
STEP 1: Ensure the rudder and handle are centered and pointed torward the bow.
If you have a rudder disk lock screw,you can insert that to assist with keeping
the rudder straight for the install.

STEP 2: Run the steering line identified in (RED) in the same configuration as shown below.
If you are not sure which line is the (RED) line, simply pull the cords
until you identify the line that turns the handle clockwise. Once
you identify the line, pull it through the nylon support tube shown here.
Rudder Disk Lock Screw

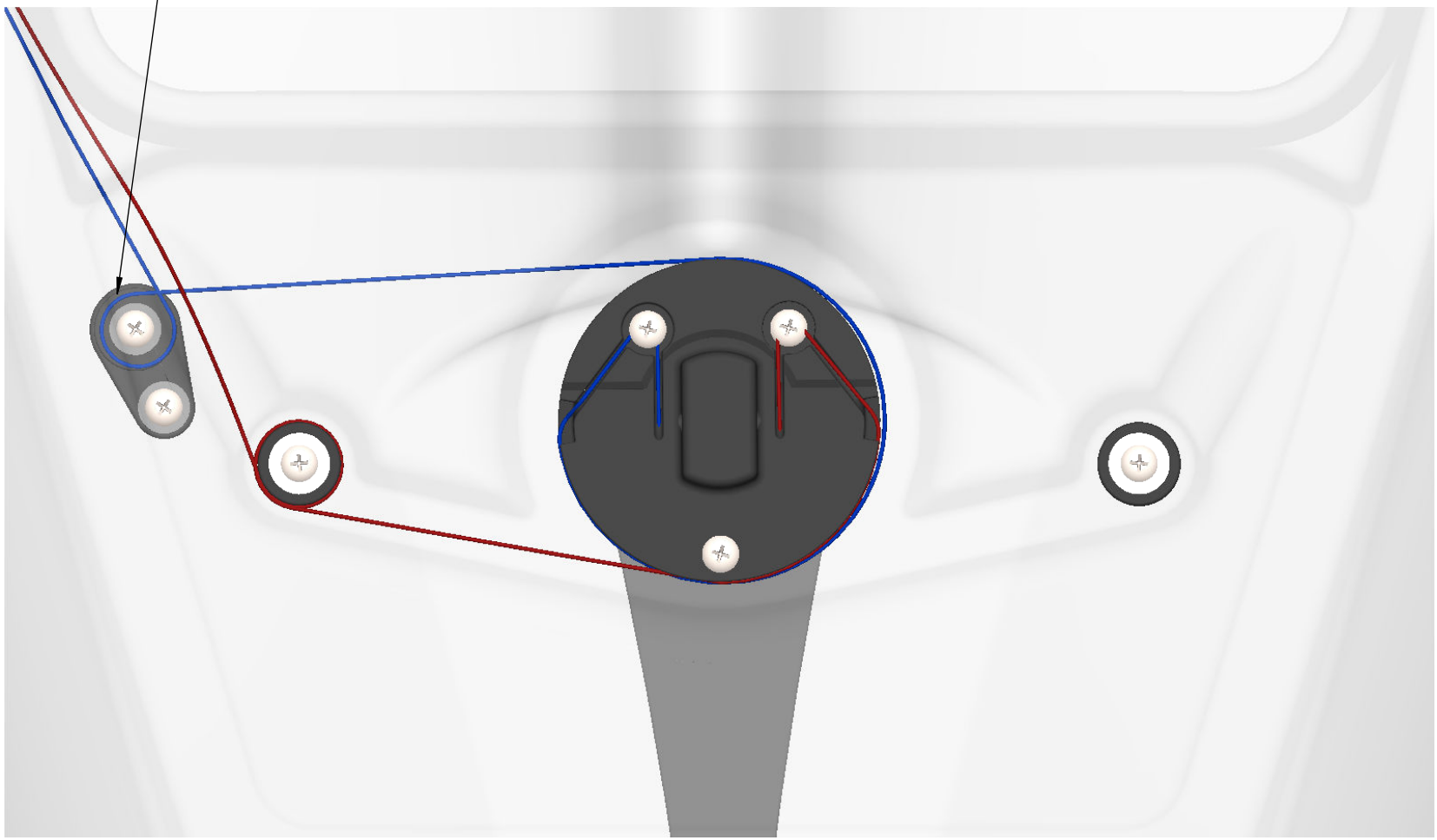
STEP 3: Make one loop clockwise around the support pulley.

STEP 4: Then route the line using the top groove of the rudder
disk an secure it using the phillips screw. Only slightly tighten
to allow for adjustments once both lines are installed.

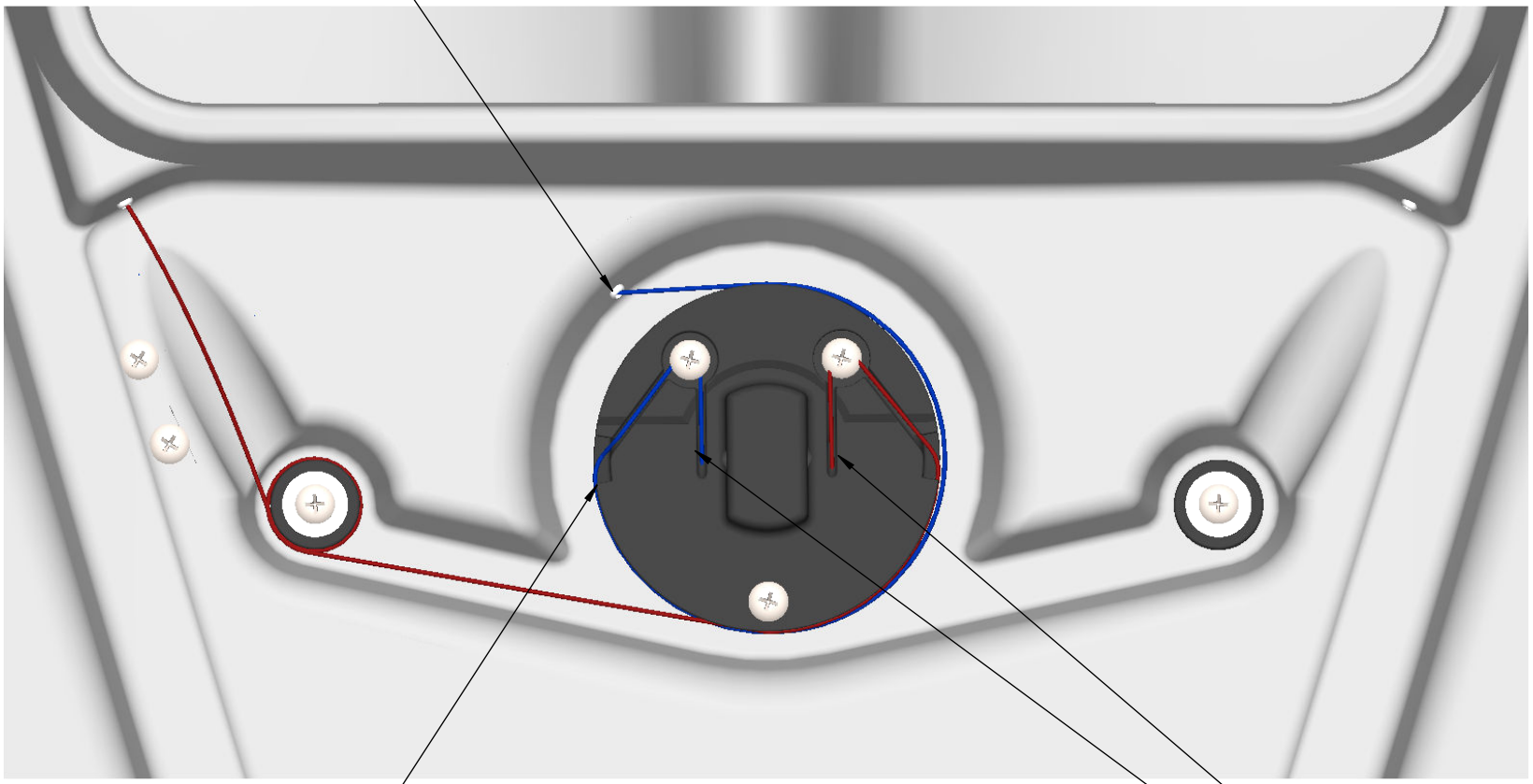




STEP 5: Run the steering line identified in (BLUE) in the same configuration as shown below. For this line you will be using the support pulley inside the hull. Route the line making one loop counter clockwise around the pulley.



STEP 6: Insert the line through the nylon support tube.



STEP 7: Route the line around the bottom groove of the rudder disk and secure it using the phillips screw.

STEP 8: Now it is time to tension the lines. Confirm the steering handle and rudder are straight and inline. Pull both lines snug to ensure there is little to no slack in the system. If the system is pulled too tight, you may find the steering handle harder to turn. However, if there is too much slack in the system, the rudder will not respond to the movement of the handle. Once you have calibrated the steering and adjusted the tension, secure the lines by making one full loop around the phillips screw and then tighten both screws to ensure the line does not come loose.

Your steering system is installed and ready for the water.
Remember to remove the rudder disk lock screw if used during installation.