

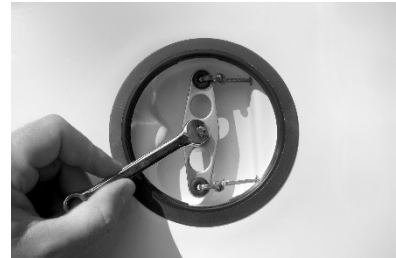
S18S Over-Stern Rudder Conversion Manual

When you want to put over-stern steering on a surf ski, you will need to purchase the Smart Track Race Rudder, the Over-Stern Rudder Adaptor Post and 2 pieces of 2 meter long 1.7mm Dyneema line. You will also need an 8mm wrench, a 7/64" drill bit and drill, a Philips head screw driver and a lighter or match. The photo to the right shows what comes with the kit (excluding the 8mm wrench and drill bit)



Adaptor Post Installation:

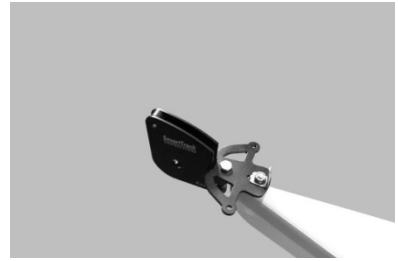
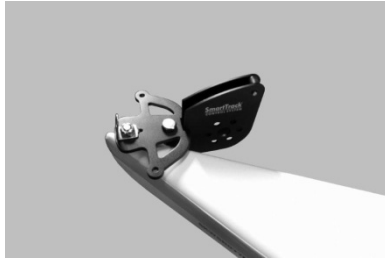
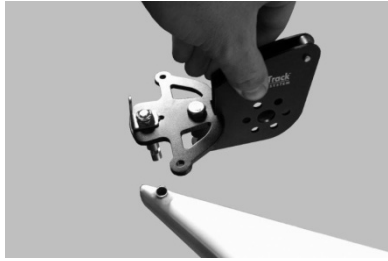
- Using an 8mm wrench remove the nut on the under-stern rudder post inside the rudder compartment to remove the rudder from the rudder tube.
- Put the rudder adaptor post into the rudder yoke, making sure it seats all the way into the squared slot. Put the washer on and then nyloc nut, fully tightening it with the 8mm wrench.
- Then run the 2 meter long Dyneema steering line from the stern through the steering line tubes into the rudder compartment. It may be necessary to clear the tubing of some debris if you have trouble getting the line through the tube. If this is the case, use some thin wire to clear the openings.



- Once the line has reached the rudder compartment, tie off the line with 2 half hitch knots on each side of the yoke where the other lines are tied off.
- Once tied, put the adaptor post into the rudder tube.

Rudder Housing Installation:

- When installing the Smart Track Race rudder, you will start with the trailing end of the rudder facing towards the bow by about 45 degrees off to the left. You will need to rotate the rudder about 135 degrees clockwise from its normal operating position, like seen in the pictures at the top of next page.
- Place the large clear plastic fender washer on the rudder post and then push the rudder and post fully into the hole. You might need to rotate the rudder a few degrees to find the keyed slot, allowing the rudder to fully drop into the rudder tube. Once fully seated, rotate it back to the normal operating position. Simply pull up on the rudder to see if it is locked in place – if not, try again. For more information on the Smart Track Rudders, please visit our website for the Smart track Manual.



Rudder Blade Installation:

- To install the rudder blade in the housing, you will remove the metal hitch pin from the side of the rudder housing, allowing you to remove the plastic tension adjuster knob.
- Insert the rudder blade into the housing from the bottom in the vertical deployed position until the hole in the rudder aligns with the hole in the rudder housing.
- Insert the plastic tension adjuster knob into the rudder and housing half way, engaging the spring with the notch in the adjuster knob. Then rotate the knob clockwise 2 holes on the rudder housing for proper spring tension on the rudder.
- Push the tension adjuster knob all the way through making sure it locks into the housing and then put the metal hitch pin back into the tension adjuster knob.



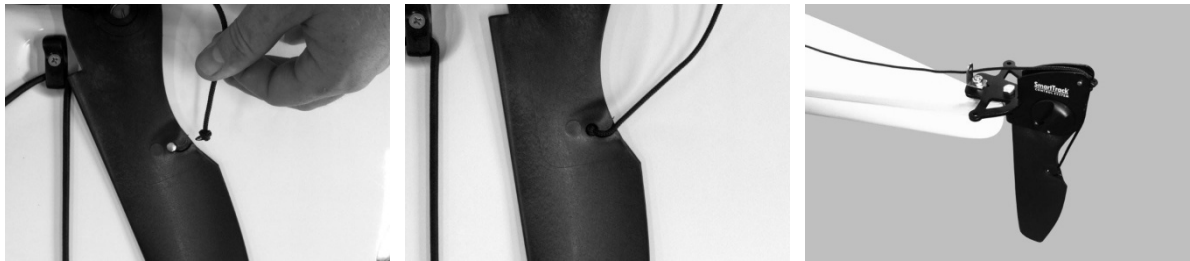
Line Cleat Installation:

- For installing the line cleat, you will need a drill and a 7/64" drill bit. With the open side of the cleat facing the bow, you will place it near the bow most deck fitting behind the seat on the starboard side of the boat. Make sure the end with hole faces towards the next deck fitting on the stern deck so the retraction line runs smoothly. The picture to the right illustrates the proper orientation with the line installed.
- Once the location of the cleat is determined, drill through the 2 holes in the cleat with the 7/64" bit.
- Clear out the debris from drilling and then screw in 2 of the provided screws into the hole.
- Then reach in through the stern deck hatch and put on the nyloc nuts on to the cleat screws under the deck by finger first and then tighten using a wrench.



Retraction Line Installation:

- Run the black retraction line through the deck cleat, the bungee line guide on the stern deck with the extra hole in it, back to the rudder housing.
- At the rudder housing feed the retraction line through the 2 metal guides on the rudder yoke and then through the plastic guide on the back side of the rudder housing.
- At this point tie a knot in the end of the retraction line and tighten the knot well.
- On the rudder blade, you will put the knot into the hole and run the retraction line around the bottom of the rudder blade rope guide.



- With knot in the rudder blade, move back to the rudder cleat at the cockpit and make sure the line is slightly taught with the rudder still deployed. Install the rubber retraction line ball handle over the line and push it to the cleat.
- Tie a knot close to the ball on the cockpit side and test the rudder operation to make sure it retracts and deploys correctly. Once satisfied, trim the excess line off and melt the end with a lighter or match and put the rubber bung in the end of the knob.



Steering Line Installation:

- At the stern you will install the “cool rudder wedges” (CRW), which are the hollow metal tear drop shaped items with CRW stamped on them. Put them on the rudder yoke, lining up the hole on the yoke with the hole in the CRW. Insert the metal pin through the holes and then set the small round clevis pin through the bottom of the pin.
- Run the steering line that you tie to the under-stern rudder yoke and through the steering tubes, through the CRW and back again. There is a small metal thimble you will put in between the loop, which helps lock the line in place once set. Keep it loose until the correct length is determined.
- At this point, it is easier to have a second hand for the final alignment. It is also possible to adjust the line alone too. The second set of hands can keep the under-stern rudder yoke lines up perpendicular with the boat.
- Make sure the under-stern rudder yoke is perpendicular to the boat. When the over stern rudder is straight in line with the boat, tighten the rudder lines in the CRW. Once tight, hold the line at the entry point of the CRW and with your other hand; pull the tail of the line tightening the loop. Confirm alignment before making it real tight making adjustments as needed. Then repeat the process on the other side.
- Once the lines are taut and rudder is straight, put the small cotter pins through the CRW and bend the bottoms flat against the CRW to keep it in place.
- These last 2 pictures illustrate the finished product. If done correctly, the foot-pedals on your footbrace should not need any adjustment when you move from under-stern steering to over-stern steering as the adaptor post keeps the rudder lines in the same position.



- There will be some extra pieces of hardware leftover in the smart track rudder kit that we do not need for this type of steering conversion, so do not worry!