

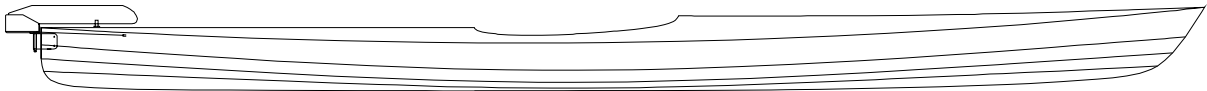
PYGMY KAYAK CO.

P.O. Box 1529
Port Townsend, WA. 98368

Rudder Installation

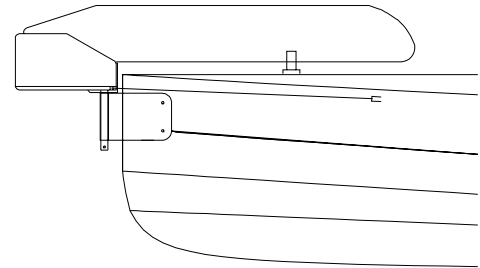
Note: If the kayak you are installing this rudder on was purchased prior to October 2006, you will likely need to purchase new Keepers plastic foot brace rails to work with the aluminum rails provided in this kit. Contact us at 360-385-6143 for more information.

The following instructions will enable you to install an "over the center" type rudder assembly on your Pygmy Kayak. This particular rudder is designed to let you park the rudder on the top of the rear deck when it is not in use.



Mount the Rudder Bracket:

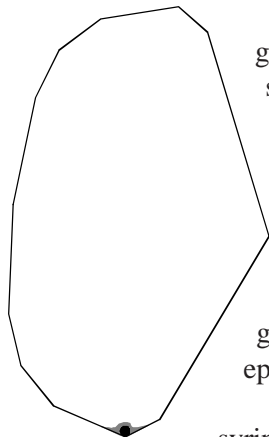
The rudder is mounted on the boat by the means of a special bracket which is bolted to the end of the kayak. When the rudder blade is pulled up, it parks on the deck in a small plastic V-shaped chock. The chock will need to be bent to conform to the shape of the deck. This can be done on the corner of your work bench. Screw the chock in the center of the rear deck, 9" in front of the stern tip of the boat using the two 1/2" #8, pan-head wood screws provided.



Position the chock and fore drill the holes with a small bit and thread the screws down into the holdes. Screw them back out and saturate the holes with epoxy, then thread the wood screws back into the wet epoxy.

Slip the rudder post into the rudder bracket and hold the rudder and bracket up against the rear of the boat. Position it so that the blade almost touches the bottom of the chock and is parallel to the deck. Mark the hull where the two upper holes in the rudder bracket touch the hull. Drill through first one side of the hull and then the other side of the hull. Don't try to drill all the way through the hull from just one side. Insert the upper bolt through the bracket and the hull. Then align the whole assembly once again so that the blade does not quite touch the bottom of the chock and mark and drill the bottom holes. Saturate the drilled holes with epoxy. The bracket will conform to the shape of the hull when the bolts are tightened.

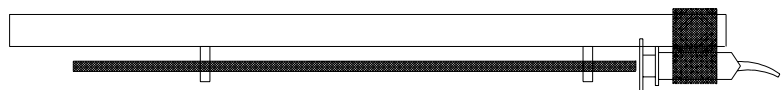
Install Cable Tubing:



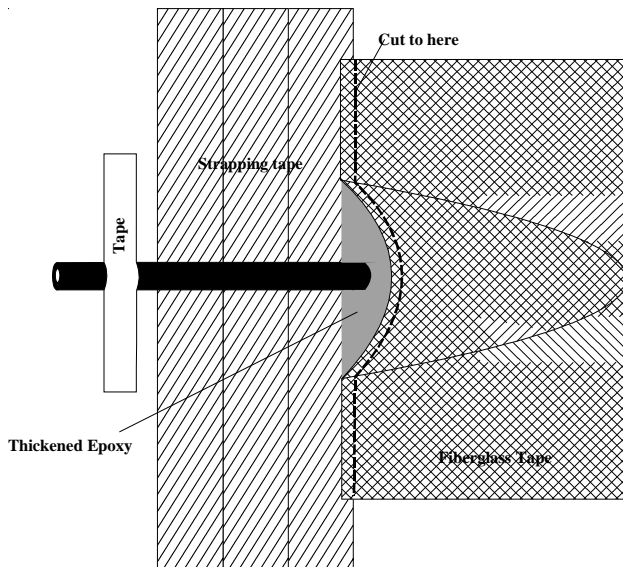
The rudder assembly is connected to the foot pedals via stainless steel cables. The cables go through a plastic tube that is glued to the underside of the deck where the deck meets the sides. This keeps the rudder cables out of the way and protected from hanging up on camping gear you have stuffed in the boat. First drill a 1/4" hole on either side of the boat that is 14" in front of the stern stem and 1/2" down from the sheer. Angle the drill bit parallel to the deck and towards the front of the boat. Insert the 1/4" plastic tubing that comes with the rudder through the hole and feed it through the hole until you have 3" sticking out.

One inch of tubing is left sticking out so that as the tubing expands and contracts with temperature the tubing end will not be pulled threw the hole and into the boat. Now you are going to push the tubing up into the corner on the deck and squeeze a little puddle of thickened epoxy over the tubing every 1 ft. distance to hold it up and out of the way.

Tip the boat up on its sheer edge and prop it up so that it will stay there. Then take a dental syringe and tape it to the end of a 4' piece of scrap 1"x2". Then buy two 5



cent eye screws from the local hardware store. Screw one of them just behind the plunger and the other one at the other end of the stick. Take a piece of 1/4" wooden dowel and insert it through the two eye screws until one end of the dowel butts up against the plunger on the syringe. Then fill the syringe with thickened epoxy and reach the stick up into the boat and squeeze a little puddle of epoxy over the tube every foot of the way along the sheer line. Let one side harden and then do the other side.



When you are all done, go back to the outside of the boat and glue a small piece of glass tape over 1" of the 3" end of the tubing that is sticking out of the boat. First lay some strapping tape or other plastic tape under the tube on the boat about one inch from the tube hole. Then tape the end of the tube to the boat to hold it positioned facing your rudder bracket. Thicken some epoxy to the consistency of peanut butter. Spread this under and around the tubing near the tube hole. Then press a piece of glass tape over it and wet it out. When this has hardened cut the end of the tubing and glass tape off at the line of strapping tape and remove the excess material and tape. This will leave

a nice flush end.

On the inside of the hull, angle the tubing down the side of the boat from the sheer towards the foot pedals and glue this end to the inside of the boat with some thickened epoxy and glass tape. Secure the tube with strapping tape to help hold it in place while you do the epoxy work. Cut the end of the plastic tubing 12" from the aluminum rudder control track. (If you have the Smart Track rudder system, please refer to those instructions at this point.)

Changing Standard Keepers Footbraces to Rudder Pedals:

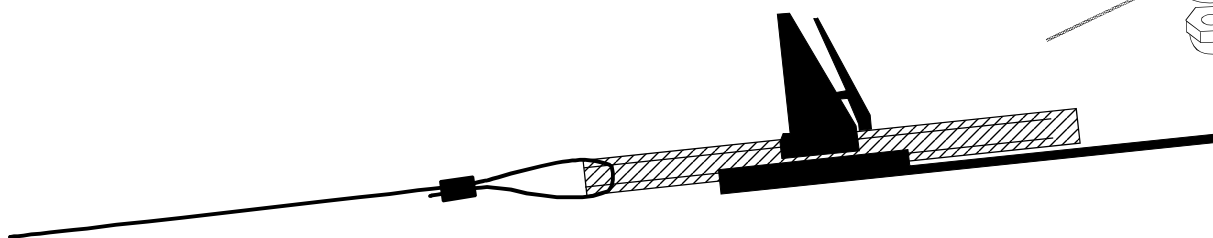
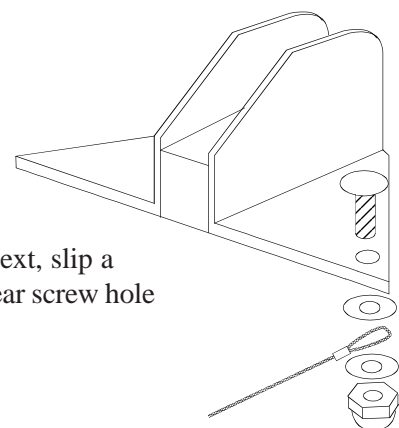
If you have installed the black plastic, Keepers Footbraces in your kayak, remove them. Slide the rail and footpad into the black anodized aluminum rudder control track that came with your rudder assembly. Make sure the Keepers rail and footpad travels freely in the black aluminum control track.

Put the small "O" rings over the 1/4" x 20 x 1/2" coarse-thread ss screws (these are not the same screws that held the keepers in place) and screw the black aluminum rudder control track into the holes that are already in your boat. Mount the control tracks so that the wide track-end faces aft, towards your cockpit.

Attach Rudder Cables:

Feed the stainless steel rudder cable through the aft end of the plastic tubing. Attach the aft end of the stainless cable to the rudder assembly using the #10 machine screws, washers and nuts provided.

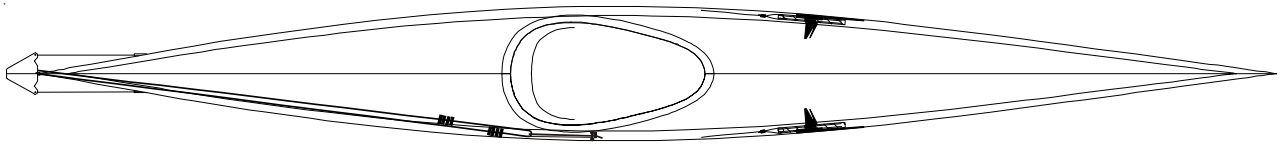
Swing the rudder blade up and park it in the chock on the rear deck. Next, slip a swage over the bow end of the rudder cable, then loop the cable through the rear screw hole



in the black plastic Keepers rail and back through the swage. Adjust the ss cables so that the plastic Keepers rails are centered on the aluminum tracks and crimp the swages. (**note:** If you are rigging an Osprey Triple for rudder use from both stern and center cockpit, please see the end of these instructions.) Adjustment for different leg lengths can be made by clicking the footpad along the adjustment track.

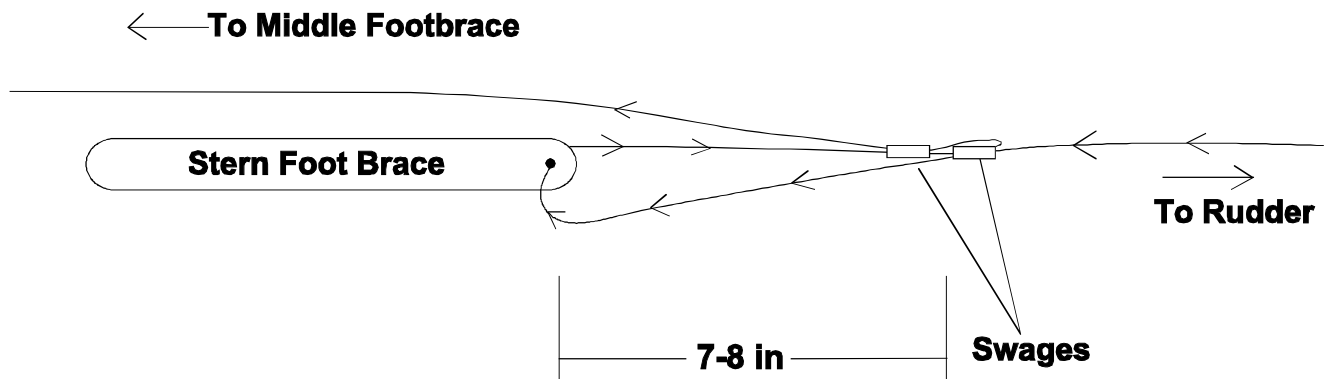
Fasten Rudder Liftline:

Pull the lift line forward towards the cockpit as shown. Using the padeye mark the forward position of the bungee at the end of the lift line loop on your deck. Drill holes through the deck on side of the cockpit and attach the cable anchor padeye to the deck with 1/2", #8 screws and nuts. Remember to epoxy saturate any endgrain that is created. Tension is then applied to the liftline by adjusting the knot on the liftline. The rudder blade is raised or lowered by pulling the rearmost knot.



Rigging your triple

If you are rigging your triple for rudder use from both the center and stern cockpit, both aft and center footbraces are rigged with one cable. To create a continuous loop that will not kink follow the steps below and the diagram. Note that there are two swages on the cable. One is threaded before the cable goes through the footbrace, the other after.



Parts List

- 1 Rudder assembly with lift lines
- 2 Aluminum foot control tracks
- 4 1/4" x 20 x 1/2" Coarse-tread ss truss-head screws for aluminum control track
- 1 Rudder bracket
- 2 2 1/4" 10-32 SS screws for bracket mount
- 2 10-32 nylock nuts for bracket mount
- 2 10-24 nylock nuts attach rudder cables to rudder delta
- 1 Rudder blade chock
- 2 1/2" #8 pan head wood screws for rudder blade chock
- 2 Stainless steel (SS) rudder cables
- 2 3/4" 10-24 ss pan head screws to attach rudder cables to rudder delta
- 4 #10 washers to attach rudder cables to rudder delta
- 2 Cable swages to fasten rudder cables to footbraces
- 2 Poly rudder cable tubing
- 1 nylon pad eye to anchor lift line
- 2 1/2" 8-32 SS flat head screws and nuts for pad eye
- 1 ss split ring to lock rudder pivot pin