

INSTALLING THE ZEST TWO EXP™ RUDDER

Rudder will be operated in the rear paddling position only.

Parts Included:

Steering Parts:	Foot Rail Parts:	Rudder Parts:	Retraction Parts:
4 Rubber	2 Rail Assemblies	1 Rudder Body	1 Rudder Retraction
Grommets	(includes steering	1 Flat Bracket	Line (Deploy Line)
2 Lengths of	cable)	1 Stepped Bracket	1 Bungee
Tubing	4 -1/2" screws &	4 -1/2" Machine Screws	1 Clam Cleat
2 Oval Copper	washers	1 Assembly of	1 Strapeye
Crimps		Screw/Nut/Washer/	4 -5/8" Machine Screws
2 -1" pieces black		Bushing (large)	1 Rabbit Ears
shrink tube		1 Assembly of	2 -1/2" Machine Screws
		Screw/Nut/Washer/	4 O rings
		Roller Guide (small)	4 Nylok nuts
		1 Rudder Blade	

Tools Needed:

Drill	4" Hole Saw	Hot Glue Gun	3/8" Wrench
13/64" Drill Bit	Lighter	Soapy Water (as lubricant)	Knife or Scissors
3/8" Drill Bit	Crimper or Pliers	#2 Phillips Head Screwdriver	Tape
Rivet Gun	Wire Cutter	7/16" Wrench	Silicone
Long Strip of Wire	Safety Goggles		

Please read the instructions thoroughly before installing the Zest Two EXP™ Rudder. You will need to install the 6" Hatch directly in front of the rear seat well to install this rudder. If you have questions, do not hesitate to contact Ocean Kayak (800-8-KAYAKS or service @oceankayak.com) or your nearest Ocean Kayak dealer for more information.

Installing 6" Hatch:

- 1. Follow 6" Hatch instructions to cut out hatch opening. **Do not** continue with hatch installation at this point. You will use the cut out hatch opening to assist in the rudder installation.
- 2. When the rudder is completely installed, then you can continue and finish the 6" Hatch installation process.

Drill Tubing Holes:

- There will be a total of 4 tubing holes through which the steering lines will run. In the rear paddling position, you will find 2 vertical notches at the rear of the foot well ledge and 2 vertical notches at the stern of the kayak. Using a 3/8" drill bit, drill straight into the center of these vertical surfaces. See photo F.
- 2. Insert the 4 rubber grommets into each of the drilled holes. See photo G.





Install Tubing:

- 1. Using scissors, cut the ends of the tubing at an angle to make inserting the tubing easier.
- 2. Straighten a coat hanger (or use another length of straight wire), and insert it through the tubing to keep it straight as you are inserting it.
- 3. Spray the tubing with soapy water (or another lubricant) and insert it into one of the rear/stern grommets. See photo H. Continue pushing the tubing through the grommet towards the front of the kayak, keeping it in the space between the tank well and the outside wall of the kayak. (Tilting the boat to the side that you are working on may help keep the tubing in place.)

- 4. Spray tubing with lubricant as needed.
- 5. Reach inside the 6" hatch to pull the tubing through the hull and guide it through the foot well grommet. Hold your fingers over the grommet as you pull the tubing through so the grommet stays in place.
- 6. Remove the wire.
- 7. Pull tubing taut. Rub the tubing immediately in front of the grommets with a dry cloth to remove the lubricant and finish, creating a dull, sticky area. See photo J. Position the tubing so the dull part is at the grommets. This will prevent the tubing from sliding through the grommets.
- 8. Pull tubing taut. Cut tubing 1" from grommets on both ends.
- 9. Repeat for other side.

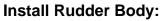
Install Foot Rail Assemblies:

- 1. Place one rail assembly on the ledge above the foot well making sure the pedal is toward the bow of the boat.
- 2. Note how the two pre-drilled holes in the track line up with the two gold-colored screw inserts on the boat.
- 3. Using two ½" screws and washer sets, attach track to boat using the inserts. See photo K. Do not over-tighten!
- 4. Repeat for other track.

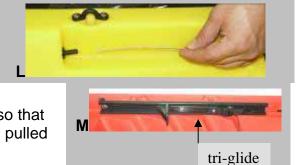


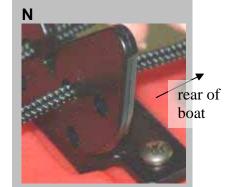
Install Steering Lines:

- 1. Unwind and straighten steering cable.
- 2. Feed cable through tubing (starting at the foot well grommet) so all excess is out the stern grommet. See photo L.
- Adjust the pedal on the track using the tri-glide, so that the tri-glide is in the center of the track when it is pulled straight. See photo M.



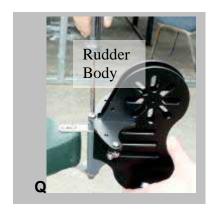
 Attach rabbit ears to stern of kayak by placing the rabbit ears in the recessed mounting area 2" from the end of the boat. The mounting platform should be towards the rear of the boat (see photo N), and the ears towards the front.



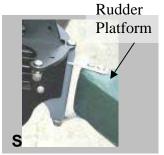


- 2. Use two ½" screws to attach rabbit ears into the two gold colored gold inserts.
- 3. Attach flat bracket to top of rudder platform using 2 machine screws (½" long). Lightly tighten, allowing for adjustments. See photo O.
- 4. Attach stepped bracket to bottom of rudder platform using other machine screw. Lightly tighten, allowing for adjustments. See photo P.
- 5. Remove nut, washer, and 4" screw from front of rudder body. Insert rudder body between brackets. Put 4" screw, washer, and nut back in place. Using 7/16" wrench and screwdriver, tighten self-locking nut until screw is flush with nut. Do not over-tighten. The rudder body should be able to swivel freely. See photo Q.
- 6. Position the rudder body so that it is straight, in line with the rabbit ears, shown in photo R. Also make sure that the rudder body is parallel with the rudder platform, as in photo S.
- 7. When the rudder body is properly aligned, tighten the 3 machine screws that are holding the flat and stepped brackets.









Attach Steering Lines:

- 1. Unscrew the nut and remove it plus the 2 washers from left wing of the rudder body.
- 2. Take one of the pieces of black shrink tube and insert it onto the cable that is on the left side.
- 3. Insert one of the copper crimps onto the same cable.
- 4. Take the end of the cable and re-insert it through the copper crimp creating a loop. See photo T.
- 5. Place this loop around the screw on the wing.
- 6. Tighten loop using copper crimp until crimp is just in front of the wing. See photo U. Make sure rudder body is still properly aligned (see step 5 above) and that the cable is pulled straight.
- 7. Hold crimp in place and remove the loop from the screw.
- 8. Using the crimpers (or pliers), crimp in 3 places, both ends and the middle, to secure the cable. See photos V and W.
- 9. Cut the loose cable end, close to the copper crimp.
- 10. Slide the black shrink tube over the copper crimp and the cut end of the cable. Using the lighter, heat the shrink tube until it shrinks and molds over the crimp and the cut end of the cable. Do not overheat! See photo X.









- 11. Put one washer back onto screw. Place cable loop on the screw.
- 12. Add the other washer and self-locking nut, and tighten using 3/8" wrench and screwdriver. Do not over-tighten. Stop when the screw is flush with the nut. See photo Y.
- 13. Tighten the pedal strap, using the tri-glide, to take up any loose cable, keeping the tri-glide in the center of the track.
- 14. Attach the other side the same way.



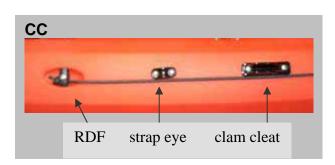
Install Rudder Blade:

- 1. Disassemble the larger screw/nut/washer/bushing.
- 2. Insert the rudder blade into the rudder body, lining up the center holes of the body and the cam.
- 3. Insert the bushing through the center hole.
- 4. Insert the screw through the bushing, and tighten washer and self-locking nut with 7/16" wrench and screwdriver. Do not overtighten. Stop when the screw is flush with the nut. See photo Z.
- 5. Disassemble the smaller screw/nut/washer/roller guide.
- 6. Insert the roller guide between the two holes in front of the rudder body. Insert the screw through the holes, keeping the roller guide in place. Use 3/8" wrench and screwdriver to tighten the washer and self-locking nut. Do not over tighten. Stop when the screw is flush with the nut. See photo AA.



Install Strap Eye and Clam Cleat:

- See photo CC for strap eye and clam cleat placement on left side of boat. Note where the RDF is. The strap eye is about 5" from the RDF and the clam cleat is about 10" from the RDF (going towards the rear of the boat).
- 2. Using 13/64" drill bit, drill the front two holes where the strap eye will go.
- 3. Place strap eye over the holes, insert screws and using the hatch cut-out hole to reach the inserted screws, install an O ring and nylok nut. Tighten with wrench and screwdriver.
- 4. Position clam cleat so slope is going towards the rear of the boat.
- 5. Using 13/64" drill bit, drill the back two holes where the clam cleat will go.
- 6. Place clam cleat over the holes, insert screws and using the hatch cut-out hole to reach the inserted screws, install an O ring and nylok nut. Tighten with wrench and screwdriver.





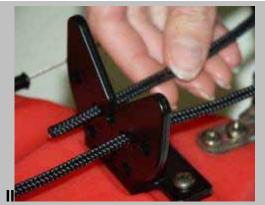
Install Rudder Retraction Line:

 Insert rudder retraction line up through strap eye and then along

side the boat, under the tank well bungee to the rabbit ears (as shown in photo DD).

ΕE

- 2. Thread retraction line through hole on left side of rabbit ear (see photo EE).
- 3. Then feed the retraction line under the roller guide on the rudder body. See photo FF.
- 4. Keep the retraction line to the left side of the rudder blade. Bring it under and then up and around the gray cam (on the rudder blade).
- 5. Thread the retraction line through the holes on the top of the rudder blade. Starting on the left hand side, insert the retraction line from left to right through the middle hole. Then insert the line from right to left through the front hole. Then insert the line a final time from left to right through the rear hole. See photo GG.
- 6. Thread the retraction line back under the roller guide. See photo HH.
- 7. Thread the line through the hole on the right side of the rabbit ears. See photo II.
- 8. Insert the bottom line in the clam cleat.









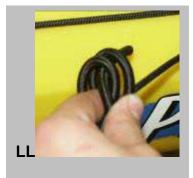


Knotting retraction line and bungee together:

 There will be two knots that will hold the bungee and retraction line together: one on the top retraction line (knot #2) and one on the bottom (knot #1). Each knot is made up of two knots which are positioned side by side. Photo JJ shows what the finished attachment will look like.

JJ







- 2. With rudder blade in down position, begin first knot by taking the bungee and looping over the bottom retraction line two times, from left to right. See photo KK.
- 3. Then take bungee and insert it through the loops, from left to right. See photo LL.
- 4. Then take right loop and place over the top of the left loop and tighten. The first half of knot #1 is finished. See photo MM.
- 5. Slide the knot along the retraction line until it is about one inch in front of the clam cleat. See photo NN.
- Working to the left of the previous knot, begin the second half of knot #1 by taking the retraction line and looping it over the bungee two times, from right to left. See photo OO.
- 7. Then take retraction line and insert it through the loops, from right to left. See photo OO.
- 8. Then take the left loop and place it over the top of the right loop and tighten.
- Slide this knot over so it is snug up to the previous knot. Pull long ends of retraction line and bungee to tighten. See photo PP.
- 10. Take the bungee on the left side (long end) and insert it through the bottom of the strap eye, up through the top. See photo QQ.
- 11. Move the rudder blade to the up position.
- 12. Take the bungee that has passed through the strap eye back to the clam cleat and begin the second knot (which is the same as the first knot).
- 13. Take bungee and loop it over the top retraction line two times, from left to right. See photo KK above.
- 14. Then take bungee and insert it through the loops, from left to right. See photo LL above.
- 15. Then take right loop and place over the top of the left loop and tighten. The first half of knot #2 is finished. See photo RR.











- 16. To tighten, slide knot towards the rear, along the retraction line until it is about one inch past the clam cleat.
- 17. Move the rudder blade to the down position.
- 18. Working to the left of the previous knot, take retraction line and loop it over the bungee two times, from right to left. See photo OO above.
- 19. Then take retraction line and insert it through the loops, from right to left. See photo OO above.
- 20. Then take the left loop and place it over the top of the right loop and tighten.
- 21. Slide this knot over so it is snug up to the previous knot. Pull retraction line and bungee to tighten.
- 22. Photo SS shows what the knot attachment should look like now.
- 23. Cut the excess retraction line and bungee about one inch from each knot.
- 24. Use lighter to seal the ends of the retraction lines and bungees to keep them from fraying.
- 25. Then use hot glue gun to seal ends of the bungee. See photo TT. Note: You can see samples of this on other bungee already installed on boat.

NOTE: When the rudder blade is in the up position, the top knot should be about one inch behind the clam cleat. When the rudder blade is in the down position, the bottom knot should be about one inch behind the clam cleat.





Finish installing 6" hatch.

Rear Access Hole Template

