



RUDDER KIT - TARPON TANDEM

The addition of a rudder to your Wilderness Systems kayak will result in added control and course efficiency as well as be an additional aid in staying on course in rough conditions. The Course Control rudder features a foiled design for maximum efficiency and minimal drag and is injection molded of a high impact plastic hybrid material that is stiff yet very durable and is impervious to corrosion.

Safety Note:

Installation of a rudder on any kayak will require the drilling of a number of holes in your hull and deck. Proceed carefully and subscribe to the “measure twice / drill once” process.

Warranty:

If your paddling gear fails we want to help you get back on the water as quickly as possible. If our product fails within one year of the original purchase date due to a manufacturer defect, you can quickly receive a replacement by returning the product to the store where purchased or by contacting Wilderness Systems directly. Products damaged as a result of normal wear and tear or via abuse will not be covered.

Exclusions:

Our warranty applies only to the original purchaser of the product and is voided if the product has been used for commercial use or has been altered.

Notes:

All directions referenced in these instructions are given from the perspective of standing at stern of your kayak and looking forward.

Individual part numbers are provided throughout the instructions to make it easier and faster to obtain replacement parts if parts are missing or become lost or damaged.

You may have components or hardware left over after installation.

Tools Required:

#2 Philips head screwdriver	Crimping Tool
3/8" Box or open end wrench	Electric Tape
Measuring tape or ruler	Scissors or Knife
Drill with 5/32" bit	Rivet Gun (possible, depending on age & model)
Lighter or Matches	

Parts List:

2/ 18501042: Cable Assemblies	1/ 14810028: Tarpon Deck Fitting
4/ 3455-0099: Round Pad Eyes, Black	1/ 2FAS041: J-Hook, black, molded
1/ 14820041: Rudder Bracket, black, molded	1/ 14830022: Deckloop, Nylon, black
2/ 17020021: Footbrace Extrusions, black, aluminum	2/ 17010028: Footbraces w/pedals, black
1/ 17060023: Rudder Assembly w/lifelines	1/ 17070009: Hexhead Key
1/ 18500163: Lifeline Turtle Tension Assembly	2/ 30000015: Socket Head Screws
4/ 1FAS004: Screw, 10-32x1", Truss head	3/ 1FAS0045: Screw, 10-32x1", Flat head
2/ 2FAS011: Screw, ¼"-20x½", Truss head	2/ 2FAS012: Screw, ¼"-20x 5/8", Truss head
5/ 3585-0223: Screw, 10-32x¾", Flat head	2/ 3585-3201: Screw, 10-32x½", Truss head
6/ 3585-3205: Screw, 10-32x¾", Truss head	2/ 3545-0303: Rivet, Star, black
4/ 1FAS015: Nut, stainless/nylon, lock, 10-32	2/ 1FAS016: Nut, stainless/nylon, ¼-20
4/ 2RUD004: Nut, Cap, Brass, 10-32	8/ 1FAS090: Washer, combination, 10 x 5/8"
2/ 3040008: Washer, lock, tooth	2/ 3730-0103: Washer, lock, ¼"
2/ 30300008: Rivet, Aluminum, 3/16" x 1-3/16"	4/ 59602000: Washer, neoprene, 1/4x5/8"
1/ 5715-0300: Tubing, clear, 20'	1/ 5715-3200: Shrink Tube, ¼ x ½", black
1/ 2CORD3/16: Shock Cord, Black, 3/16" x 1'	4/ 3104-0300: Cable Clamp, ¼", black
4/ 3250-0100: Ferrule, Copper	1/ 7075-0102: V-block, Rudder Rest
4/ 3140-0300: ½" Nylon Cable Clamp	1/ 3290-0120: Handle w/ Bungee
	2/ 3430-0102: 8-32 Locknut

It is recommended to lay out the hardware prior to starting the installation and confirming quantities provided.

INSTALLATION INSTRUCTIONS:

STEP 1: INSTALLING RUDDER ASSEMBLY

Parts Needed:

1/ 17060023: Course Control Rudder Assembly with Split Ring

1. Discard split ring.
2. Rotate rudder assembly so that blade is horizontal and extends beyond the stern of the kayak. This will position the flat side of the rudder post towards the bow of the kayak.
3. Insert assembly into rudder mounting hole.
4. Rotate assembly 180o to the left to lock rudder in place.
5. Spin assembly around so that blade is resting on deck. If not flush to deck, see #4 above.

STEP 2: INSTALLING RUDDER TIE DOWN

Rudder blades need to be secured to the deck in order to be transported safely.

Parts Needed:

1 / 15440072 Rudder Keeper Strap

1/ FAS041: J-Hook Fitting

1. Locate the rear plastic handle
2. Pry off the top cover with a flat screwdriver
3. Remove a screw from the left side of the handle
4. Place the tab of the rudder keeper between the kayak and the handle so the holes line up
5. Replace the screw in the handle
6. Snap the handle cover back into place
7. Thread the j-hook on the bungee and tie an overhand knot to keep the hook on the bungee

STEP 3: INSTALL LIFT LINE CONTROL

Parts Needed:

1/ 3455- 0099: Round Pad Eye, black

1/ 1FAS0045: Flat head Phillips head screw, #10-32 x 1"

1/ 18500163: "Turtle" Line Adjustment Assembly (with 2 "turtles" on bungee)

1. Locate recess on side of hull as described above.
2. Thread bungee on Turtle assembly through guides on base of round pad eye and position pad eye over drilled hole.
3. Secure with screw.
4. Tighten fully and test to make sure Turtle assembly will slide back and forth and is not pinched by pad eye.

STEP 4: INSTALLING THE LIFT LINE SYSTEM

Parts Needed:

- 2 to 4/ 3455-0099: Round Pad Eye, black
- 2 to 4/ 1FAS0045: Flat head Phillips head screw, #10-32 x 1"

1. Locate molded in recesses along right side of deck along the parting line separating hull from deck. Check from stern of kayak forward to right side of cockpit.
2. Back out filler screws and set aside.
3. Secure a round pad eye at each recess using above hardware. Position pad eyes so that the line channels are oriented parallel to the keel line of the kayak, allowing line to run straight and true from rudder forward.
4. Thread lines from rudder assembly forward through round pad eyes, threading left side line through the top channel and the right side line through the bottom channel. Do not twist lines, they need to run clean through pad eyes and be easily pulled forward and back.
5. Confirm that the rudder is centered over stern deck.
6. Thread the top lifeline through the open hole in the top Turtle. Position Turtle 3 ½" behind the deck fitting installed in Step Tie lifeline off with an overhand knot. Pull the knot into the hole in the Turtle.
7. Thread the bottom lifeline through the bottom hole in the other Turtle. Slide this Turtle towards stern until there is tension in the bungee. Secure Turtle in that position via an overhand knot in the lifeline and pull line back into Turtle.
8. Trim off excess line from each Turtle and sear the raw ends of the lifelines to prevent fraying.
9. Make sure rudder blade is released from hold-down and test the lifeline action. Pull the stern most Turtle forward and the rudder blade should deploy to vertical position. Pull the opposite Turtle to raise the blade to resting position on kayak deck.

STEP 5: INSTALLING THE FOOTBRACES

Parts Needed:

- 2/ 17010028: Keepers Footbraces, Black
- 2/ 17010021: Aluminum Extrusions, Black
- 2/ 2FAS011: Screw, Phillips Truss Head, ¼-20 x ¼"
- 2/ 2FAS012: Screw, Phillips Truss Head, ¼-20 x ⅝"
- 4/ 59602000: Washer, Neoprene, ¼ x ⅝"
- 2/ 30400008: Washer, Lock, Toothed
- 2/ 2FAS011: Screw, Phillips Truss Head, 14-20 x ½"
- 2/ 3585-3205: Screw, Flat Head, 10-32 x ⅞"

1. Secure rudder centered on stern deck.
2. Remove existing footbraces from hull.
3. Install metal extrusions:
4. Tighten hardware securely to secure extrusions to hull.
5. Identify the raised stopper molded into one end of the Keeper footbraces. Slide footbraces (with pedals installed) into extrusions so that the stopper is at front end of extrusion.
6. If not installed, slide foot pedals onto molded footbrace runners. The raised stopper on end of runner will be on the bow end of the footbraces. Slide foot pedals in place so that triggers face towards the bow.
7. Secure rudder centered in rudder rest.

STEP 6: INSTALLING THE RUDDER CONTROL CABLES & CONNECTION TO HEAD OF RUDDER ASSEMBLY

Parts Needed:

- 2/ 18501042: Rudder Cable Assembly, stainless, 131" with shrink wrapped swage at one end
- 20/ 5715-300P: Tubing Clear x Foot (older models)
- 4/ 3104-0700: Cable Clamp ¾" Blk (older models)

1. Remove the plugs at each end of rudder tubing (at stern of kayak and behind the seat on each side).
2. Identify end of cable with shrink-wrapped swage.
3. Insert cable into outer-most notch in rudder wing so that end of swage butts up against stern side of rudder wing. Wedge cable tight in the horizontal leg of the notch.
4. Starting from stern, insert opposite end of cable into stern port and push slowly forward. Do not try to rush or push too hard as cable could bind.
5. Continue pushing until end of cable emerges from end of tubing behind the seat.
6. Pull cable forward to stern end of footbraces. Pull cable sufficiently forward to remove any slack in cable.

HINT: Be careful pulling the tubing forward so that you don't pull it through the stern port accidentally.

STEP 7: CONNECTING THE CABLES TO THE FOOTBRACES

For this step it is best to elevate the stern of the kayak sufficiently to allow the rudder to be deployed vertically.

Parts Needed:

- 2/ 5715-3200: Shrink Wrap, black, ¼" x 1 ¼"
- 4/ 3250-0100: Copper Ferrule

1. Position rudder in a deployed, vertical position.
2. Cut shrink tube into 2 equal parts. Slide 1 section of shrink tubing onto each cable followed by 2 copper swages. Loop forward end of cables through loops at stern end of footbraces. Make sure swages and shrink tube are positioned on cable before it runs through footbrace loop.
3. Holding end of cable, slide one footbrace as forward as possible pulling the cable forward as well. Inspect position of rudder. The wing on the rudder head should not contact the stern of the kayak when the footbrace is fully extended.
4. If rudder position is acceptable, run end of cable back through the two cable swages to create a cable loop. Tape the cable so that it holds position and length. Do not secure via swages at this point.
5. Repeat process for other side, inspecting final position of rudder assembly and making sure it does not contact stern of kayak.
6. With both cables temporarily taped, move footbraces into a centered position, even with one another and inspect the rudder position. Rudder should be centered and parallel to the kayak's keel line.
7. If rudder position is correct, butt both swages together and crimp both swages on each cable firmly to bind cable in position.
8. Cut off excess cable at end of swage and discard.
9. Slide shrink tubing over end of cable and both swages and melt with lighter or matches.

STEP 8: TESTING THE RUDDER SYSTEM

Test the lift line system operation while sitting in kayak to familiarize yourself with relative positioning of the Turtles and the rudder blade. You should be familiar enough with system to be able to tell rudder position by feeling the Turtles and not having to turn around and visually confirm rudder positioning.

Test the steering system while sitting in kayak, pushing one pedal forward and then the other. If you are new to paddling a ruddered boat, you'll need to get used to a fluid foot pedal system as compared to the fixed position system you likely had prior. Get used to the feeling of pushing forward with one foot while allowing the other to move close to your seat. To brace the kayak, you'll need to get used to applying equal pressure on each foot pedal.

With this rudder system, the foot pedal and footbrace runner move together, sliding within the metal extrusion. Most paddlers adjust the foot pedal position so that it is in a centered position when the rudder is also centered.

User Cautions:

- Always secure rudder blade in stowed position when transporting your kayak and always remember to release rudder blade from tie down prior to launch.
- The rudder is designed to kick up if it encounters an obstruction but it still makes sense to be cautious when approaching the shore or in shallow water. The more impact the blade encounters with an obstacle, the increased chances the blade could be bent or damaged before it can kick up.
- The addition of a rudder makes handling the stern of the kayak more awkward when moving the kayak. Make sure the rudder blade is secured in stowed position and that access to carry handles is not impeded. Beware of sharp edges on the blade or rudder head assembly.
- The addition of a rudder to a kayak positioned upside down on a vehicle roof lowers the clearance below the kayak by about 5 to 6". Check for clearance while walking behind vehicle or opening trunk or hatchback.
- The Course Control Rudder System is designed to be low maintenance. The biggest threat to proper operation is potential for sand and grit to accumulate in the foot brace extrusions. Periodic rinsing of these areas with fresh water will eliminate this issue.