Old Town Canoe Co

LOON 160T RUDDER KIT INSTRUCTIONS – FOR KAYAKS PRODUCED BEFORE NOVEMBER 2000

Kit Contents: **(1) Rudder assembly: Includes rudder, pivot bolt, split ring, and cord – E0359**
(2) Cable assemblies: Consisting of cable and cable tube

- **(1) 11"raising cord bungee with cord lock**
- **(2) Foot pedals w/ long straps**
- **(2) Barrel Nuts-E1792**
- **(2) 48" Foot Tracks-E0973**
- **(2) Stamped washers–E3000**
- **(1) Tube Aqua Seal–E1226**
- **(3) Sm. Washers –E1568**
- **(2) 1" bolts (small) – E1569**
- **(4) 1" bolts (large)-E1603**
- **(1) M Block –1331.3143**
- **(4) Lg. Washers– 1574**
- **(4) Swages –E0355**
- **(5) Cable clamps –E0354**
- **(1) Jam cleat–E0353**
- **(2) 3/8"lock nuts–E1585**
- **(9) Rivets–E1571**
- **(4) 5/8" Locknut-E0149**
- **(2) 3/4"(1/2") bolts-E1607**

THIS IS A GOOD TIME TO SORT OUT ALL THE PARTS AND SEPARATE THEM FOR EASY ACCESS DURING ASSEMBLY. PLEASE READ INSTRUCTIONS THOROUGHLY BEFORE BEGINNING THE RUDDER ASSEMBLY.

Required tools:
- **3/16" Drill bit**
- **1/4" Drill bit**
- **Vice grips**
- **Pop rivet tool**
- **Phillips head driver**
- **3/8" wrench**
- **7/16" wrench**
- **Tape Measure**
- **Black Marker**

Procedure

1. **Install the rudder assembly by sliding the pivot bolt through the holes in the aluminum casting. Secure the rudder by placing the split ring through the small hole in the end of the pivot bolt. (Illustration #1)**

2. **On each side, approximately 8" forward from the stern end are the rudder cable entrance points. Drill 1/4" holes into these entrance points with the holes angling down toward the front of the boat. (Illustration #2 and #3)**

3. **Push the straight end of the rudder cable and the black carrier tube through the hole you just drilled. Keep feeding the black carrier tube through until only 2 1/4" of the black carrier tube remains outside the hull. Place a small amount of aqua seal around the black carrier tube, then slowly slide the black carrier tube into the hole until 1 ¼" of the black carrier tube is left. Place a cable clamp around the black carrier tube 1" from the end and make a mark through the hole in the cable clamp, move the cable clamp slightly and drill a 3/16" hole. Anchor the cable clamp to the deck with a rivet, then dab a small amount of aqua seal onto the head of the rivet. Repeat for the other rudder cable and black carrier tube assembly. (Illustration #3 and #4)**

4. **Measure 6 1/2" from the stern end of the kayak and center the rear edge of the M block so that the rudder can rest between the V notch of the M block when it is in the raised position. Mark the location of the four holes on the deck; drill 3/16" holes and rivet the M block into place. (NOTE: M Block cannot be used to anchor kayak during transportation.) (Illustration #2)**

5. **Remove the nuts from the rear bolts of the seat tubing using the 3/8" wrench and the Phillips head screwdriver. Put a cable clamp on each carrier tube, and then install the cable clamp on the underside of the seat tube using the seat bolts. The cables should run to the outside of the kayak. Reinstall the washer and lock nuts that hold the seat in place. (Illustration #5)**

6. **At this point, you should decide which side you want to have the raising cord for the rudder (usually on the opposite side of the paddle holder.) Drill a 3/16" hole 12" forward from the rear seat bolt, of the seat tubing, and 1" up from the parting line. A cable clamp needs to be placed on the deck for the raising cord bungee. This is accomplished by putting a cable clamp on the rivet before it is placed in the drilled hole then place a flat washer on the underside of the hull. Set the rivet using a pop rivet tool. (Illustrations #6)**

7. **Measure 60" back from the bow end and down 4" from the top edge of the kayak (the top edge is where the top turns down to the side – DO NOT REFERANCE THE KAYAK PART-LINE) Drill a 3/16" hole, install one end of the foot brace track by putting a large bolt through the hull and securing it with a 5/8" lock nut. Now, working inside your kayak, measures down 4" from the contour of the deck (this will be the same distance down as the first hole you just drilled) hold your footbrace over your mark and drill out through the hull. Slide you foot pedal on to the track and secure the track with a large bolt through the hull and a lock nut. Measure to the middle of the track and drill another 3/16" hole out through the hull – insert the 3/4" bolt and barrel nut to secure the middle of the track to the hull**

8. **With your black marker - mark the rudder cable 6" back from the bow end of the rudder cable. Put two swages onto the rudder cable and slide the two swages to this mark – slip the loop (on the foot pedal adjustment strap) onto the rudder cable. Loop the rudder cable back around and slip the rudder cable back into the swages. Clamp the swages tight around the cable with vice grips or pliers. (NOTE: Make sure the rudder cable does not stick out beyond the end of the last swage.) (Illustration #7)**

9. **Attach the stern ends of the cables to the outer holes on the rudder. Place a stamped washer on each 1" bolt (small) and drop them down through the holes on the rudder. Place a large flat washer then the cable loop then another large flat washer onto the bolt and secure with a locknut. (NOTE: Tighten the nut, being careful to leave enough room for the cable to move freely.) (Illustration #8)**

10. **Tying the raising cords on the rudder. Fisherman's Knot: A. Lay your two ropes side by side, the ends pointing in different direction. You will need about 15" of free end on each rope. B. Moving towards the second line's free end, wrap the free end of the first line twice around the standing part of the second so that the coils wrap around both ropes. Push the free end through the center of the coils, leaving a 2–4 inch tail. C. Repeat by wrapping the second line around the first in the opposite direction and on the other side, and then push the free ends through the coils. Tighten the knot by pulling the standing ends of both ropes. You can adjust the length of your raising cord by sliding the knots apart. (Illustration #9)**

11. **Stretch the rudder raising cord forward along the topside of the deck you mounted the cable clamp to in step 7. Clip the hook end of the raising cord bungee to the raising cord, between the two knots you just tied. Remove the cord lock from the end of the raising cord bungee and slide the end of the raising cord bungee through the cable clamp on the topside of the deck. After the raising cord bungee is through the cable clamp, replace the cord lock to keep tension on the raising cord. (Illustration #6)**

12. **Rivet the jam cleat in line with the raising cord on the side deck. Position the jam cleat (in a comfortable position about) 12" back from the rear seat track bolt along side the raising cord. Use small flat washers on the underside of the rivet when mounting the jam cleat, secure with a pop rivet tool. The sloped side of the jam cleat should be facing the stern of the kayak so that when the cord is in the cleat, it can be pulled out in the forward direction but will not slip out when there is tension from the stern. (Illustration #10)**

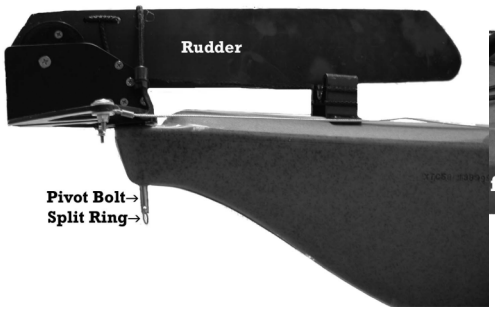


Illustration #1

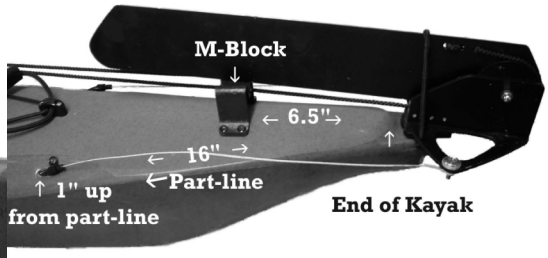


Illustration #2



Illustration #3

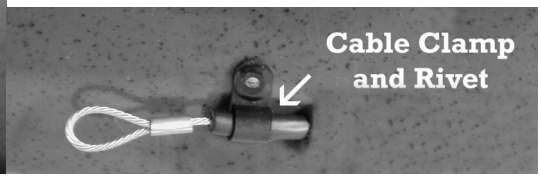


Illustration #4

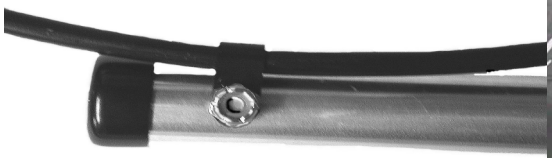


Illustration #5

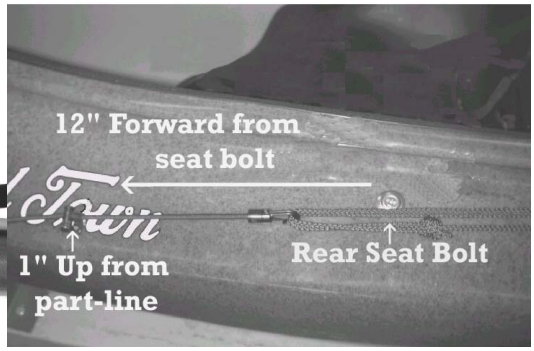


Illustration #6



Illustration #7

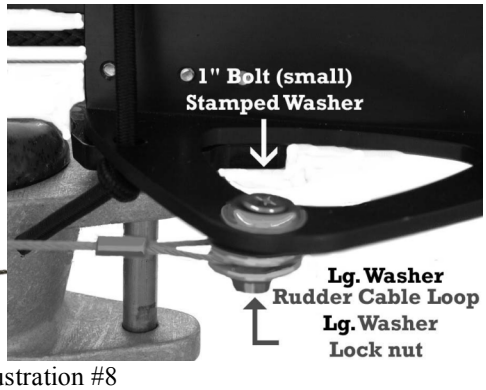


Illustration #8



Illustration #9

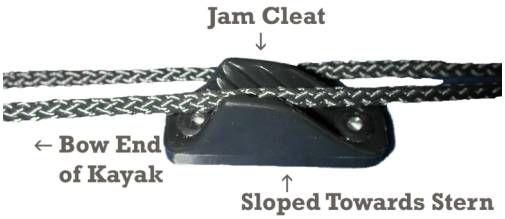
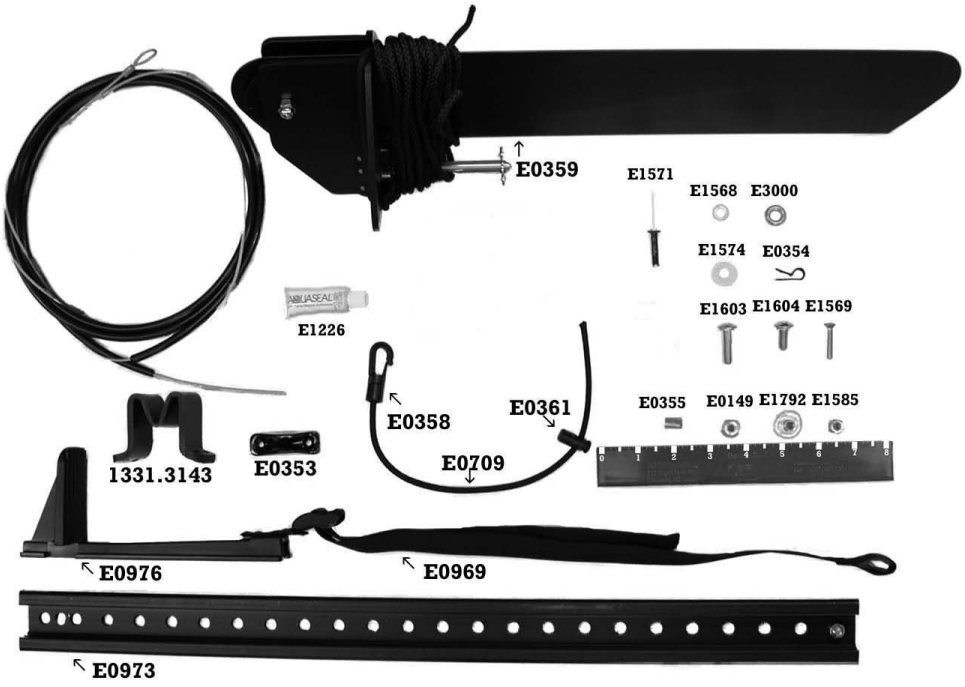


Illustration #10



Have any comments or suggestions about these instructions, please send them to: instructions@oldtowncanoe.com