

FLYING SCOT

Rudder Lift System Instructions

Kit Includes

- 1 - Harken Micro Cheek Block w/ one hole drilled to 1/4" along w/ one 1/4 x 2 1/2" bolt & nut and one #10 x 1/2" pan head screw
- 4 - Harken Micro Sheaves w/ two #10 x 3 1/2" bolts & lock nuts and eight #10 stainless steel washers
- 2 - Eye Straps w/ four #10 x 1/2" stainless steel pan head self tapping screws
- 1 - Clam Cleat w/ two #8 x 3/4" stainless steel oval head self tapping screws
- 1 - Piece 5/16" shock cord w/ two stainless steel hog rings
- 1 - Piece twisted line with loop spliced at one end
- 1 - Short wire w/ a Harken block at one end and a forked fitting with clevis and split ring keeper at one end
- 1 - 5/16" self locking nut to replace wing nut

Before Beginning Please Read Through All Instructions.

Please call us at 1-800-864-7208 with any questions.

Installation:

Cheek Block Installation

1. Remove the aft 1/4" bolt that the tiller slips under on the rudder head

Note: *The bolt is peened to prevent the nut from backing off. It may be more easily removed if you first file the end of the bolt to remove the peened end of the bolt*

2. Attach the Harken micro cheek block to the port side of the rudder head as shown

Note: *You can reuse the old bolt removed in step 1 if it is still good or you can use the new bolt included in the kit*

3. Place tiller in rudder head and tighten the 1/4" nut so that the rudder cheek plates are tight against the tiller
4. If you use the new bolt, cut the end of the bolt off so that the bolt protrudes about 1/16" from the nut and peen the end of the bolt with a hammer so that the end of the bolt is flattened
5. Back the nut up so that it is tight against the peen and the tiller can slide in and out of the rudder head
6. Use a file or sand paper to remove any sharp burrs from the bolt ends
7. Rotate the Harken micro cheek block around the 1/4" bolt so that the smaller hole is in line with the two 1/4" bolts that hold the rudder cheek plates to the rudder head

8. Drill a 3/16" hole through the stainless rudder cheek plate **only** and then a 1/8" hole into the rudder head
9. Use a #10 x 1/2" pan head screw to secure the lower hole on the block to the rudder head

Lift Line Dead End

1. Drill a 1/4" hole in the aft upper corner of the starboard rudder cheek plate. Use a countersink or larger bit to de-burr the hole if necessary

Note: *It may be easier to drill this with a smaller bit first and then step up to a 1/4". It is also easier if the drill bit is very sharp.*

Harken Sheaves Installation

1. Drill a 3/16" hole through the rudder head approximately 1" in from the aft edge of the rudder head and approximately 1" above the aft opening in the rudder head for the rudder blade

Note: *Be sure you drill this as straight as possible so that the sheaves turn properly on each side.*

2. Place one of the washers on the bolt, then a sheave, and then another washer and put the bolt through the 3/16" hole in the rudder head
3. Put a washer, a sheave, and another washer on the bolt and then place one of the lock nuts on the end of the bolt and tighten
4. Check to see if both sheaves turn freely then cut off the end of the bolt and smooth it with a file or sand paper
5. Install the remaining sheaves as described in steps #1 – 4 above on the lower forward edge of the rudder head approximately 1" from the bottom and 1" from the forward edge

Eye Strap Installation

1. Install the eye straps as shown on the aft bottom corner of the rudder head approximately 2" forward of the aft edge and 2" up from the bottom edge.
2. Drill 5/32" holes and countersink slightly to prevent chipping
3. Use the remaining 1/2" x #10 stainless steel pan head self tapping screws to mount eye straps

Wire & Shock Cord Rudder Blade Holes

1. Drill a 5/16" hole forward and a 3/16" hole aft through the rudder blade as shown.
The holes are located approximately 1" down from the head and 5/8" from the edge of the blade.
2. Countersink the holes slightly to remove any sharp edges

Clam Cleat Installation

1. Install the clam cleat to the port side of the tiller approximately 30" from the aft edge of the tiller
2. Drill a 1/8" pilot hole into the tiller and install the cleat with the open side up using the #8 x 3/4" stainless steel oval head self tapping screws



Line & Shock Cord Installation

1. Attach the short wire to the aft hole in the rudder blade using the forked fitting and clevis pin with split ring keeper
2. Thread the line as shown. Start by feeding the end of the line that does not have a loop through the Harken block on the rudder cheek plate and then down to the block on the short wire and finish by leading it through the 1/4" hole in the starboard rudder cheek plate and tying a figure eight to dead end the line.

Note: The line is cleated to the clam cleat on the port side of the tiller

3. Dead end the shock cord to an eye strap by making a loop around it with one of the enclosed hog rings or by tying a figure eight stopper knot
4. Thread the shock cord through the forward hole in the rudder blade and then dead end the free end to the remaining eye strap
5. Stretch the shock cord over the sheaves as shown on each side
6. Replace the tilt bolt wing nut with the self locking nut. Be sure the nut is loose enough to allow the blade to rotate freely.

Operation of Rudder Lift:

When you wish to lift the blade, pull on the lift line and cleat it at the desired height. To lower the blade, uncleat the line and let the shock cord pull the blade down **slowly**.

CAUTION – Letting the blade slam down could split the rudder head!

When the boat is not in use, unhook the shock cord from the sheaves and store the rudder out of the sun to prolong the life of the shock cord.

