

Tartan 37 Technical Resources

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Chapter 2 - Sails and Rigging

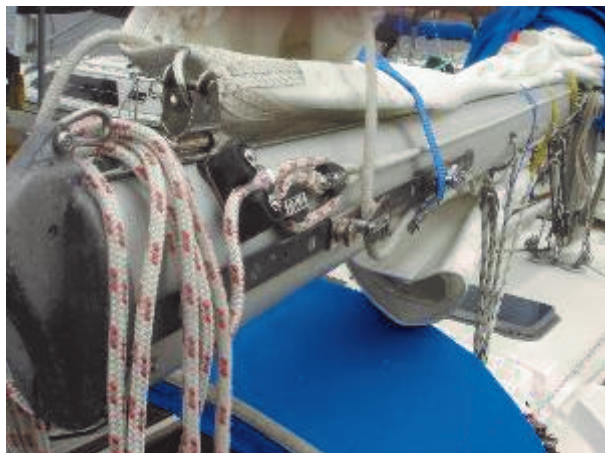
Section 1: Boom-end Outhaul Control

Tom Wells #224 Higher Porpoise

This control allows easy adjustment of the outhaul from the cockpit. It is especially useful with a loose-footed mainsail, but will work with a conventional main as well.

The three photos show the installation aboard a Tartan 37, #224 Higher Porpoise. The original outhaul line exits the boom in a forward direction, and is turned aft through a new cheek block. The line is spliced to the bail of a single common block with a becket. The new external line is spliced to the becket, and then is routed aft to a cheek block, back through the common block, and finally back aft to a cam cleat mounted near the end of the boom.

The photos show the system with the outhaul pulled all the way aft for a flat main. By releasing the line from the cam cleat and easing the outhaul forward, the main can be powered up easily on a reach, all without leaving the cockpit. The external 3:1 purchase combines with the T37's internal 3:1 purchase for a 9:1 advantage. Small crew can flatten the main easily in a blow. The line is easily coiled and stowed on the end of the boom.



Boom-End Outhaul Control

Instructions for making and using a convenient boom end outhaul control with a loose-footed mainsail.

Other than basic skills with tools, the only thing you will need to know is how to splice yacht braid. (Or have a good rigger handy!)

Bill of materials:

- 20 feet of 5/16" Yacht Braid
 - Two cheek blocks (Harken 092)
 - One single block with becket (Harken 083)
 - One Cam Cleat, with bail (Harken 365 Carbo)
1. Carefully position one Harken 092 cheek block a few inches forward of the outhaul exit on the boom. The block must be placed so the outhaul line leads straight forward from the boom exit to the underside of the cheek block sheave. Mark the mount hole locations.
 2. Drill and tap for SS mounting screws, then install the cheek block. Use a thread compound such as Loc-Tite – it will also serve to isolate the SS & aluminum.
 3. Pass the outhaul line through the cheek block (in under and out over) and lead the line to the aft end of the boom.
 4. Adjust the outhaul to its farthest-aft position. (This is where you want it when the foot of the sail is as flat as a board.)
 5. Mark the outhaul line 12" from the end of the boom.
 6. Make an eye splice in the outhaul line to connect it to the bail of the Harken 083 block. (**IMPORTANT: The mark you made on the outhaul line is where you want the center of the splice eye to be when you are done splicing!**) If you are not comfortable making eye splices in Yacht Braid, hire a rigger to come to your boat and do them. If you do want to do it yourself and have not done these before, it's suggested that you buy a fid set and practice on some new line before you try it.
- Note: You will probably be splicing an older line. Old line is harder to work when splicing, but it can be done. The trick is to have a bucket of fresh water handy when doing the final steps. Wetting the line will help you work the splice tight.
7. Make an eye splice in the new line about the becket of the Harken 083 block.
 8. Position the cam cleat 6" from the end of the boom and mark the outline on the curved boom surface. (One side of the cam cleat base should be at the edge of the slot in the top of the boom.)
 9. Using scrap teak or other weather-resistant material, shape a leveling block to place between the cam cleat base and the boom. The underside of the block should be shaped to fit the curvature of the boom, and the top should remain flat.

10. Place the shaped block under the cam cleat and mark hole location on the block. Pre-drill holes in the block to freely pass the mounting screw thread.
11. Place the cam cleat and block in the previously marked position on the boom. Mark the hole locations and then drill and tap for the mounting screws.
12. Mount the leveling block, cam cleat and bail with SS screws and Loc-Tite. Be sure you have positioned the cam cleat to prevent forward travel of the line.
13. Position the second Harken 092 cheek block 2" forward of the cam cleat and just below it, so the line through the cam cleat will lead fair forward. Mark the hole locations, drill and tap, and mount the cheek block.
14. Pass the free end of the new line through the aft cheek block, in over and out under. Pass the line through the sheave of the Harken 083, in under and out over, and then pass the line through the bail of the cam cleat.
15. Haul out on the line to remove slack, and then cleat it home.

YOU ARE FINISHED.

You can now easily adjust your outhaul from the cockpit, in any wind strength. It's great to be able to ease the outhaul and provide a full shape to the loose-footed main on a reach and to readily flatten it when beating or when the wind strengthens. A small crew can easily haul the foot of the main in tight, even when the wind is up.

Mechanical Advantage: The original outhaul has a 3:1 purchase inside the boom. You are hauling on the old line with a new system that also provides 3:1 purchase, so the effect is multiple. The new system provides a 9:1 purchase for outhaul adjustment.

Line stowage: The coiled line stows neatly over the boom end. It does not work loose or come off in a blow, yet it is easily reached and handled to adjust the outhaul. When you are finished adjusting, coil the excess and place it back on the boom end. (If you do not have a projecting shackle or other retainer there, you may mount one.)

