



You can bet your bottom dollar that after fitting a new reefing system there'll be very light winds for weeks on end, but it's perfect for fine tuning the set up.

# Fitting a single line REEFING SYSTEM



Having wobbled around on the coachroof with a partly jammed roller boom system **Stewart Wheeler** decided it was definitely time to fit a single line reefing system, and enlisted the help of **Christian Brewer** of Barton Marine to help

I got my knickers in a twist the other day. On a run home to Chichester Harbour I decided it was getting a bit too exciting and went to furl in the main. Wife at the helm, kids peering out of the hatch. I got to the mast and merrily wound the handle on the roller boom mechanism while easing the main. The only problem was I had forgotten to ease the topping lift, and the sail went in twisted, and got fairly stuck. It didn't take too long to sort out, and it was only just blowing a 6. But any more wind and a bit more of a jam could have been a right pain in the proverbial. So it was time to fit the Barton single line reefing kit. In *Sailing Today* issue 171 we installed all the deck gear required to run the lines back to the cockpit in the Centaur for safer family sailing. So



this was to be a fairly simple add-on. As well as giving a flatter sail in reefed conditions, and not jamming up, it also does away with that old hoop that comes with the notoriously baggy original roller boom reefing system, giving the old Westerly a more modern look, and hopefully a bit more pointing ability. The thing that annoys me when it starts to get windy is reefing the sail, ending up with it very baggy and then not being able to remotely point where I want to get to when going to wind. Barton have been established since 1948 and making these reefing kits for yachts up to 30ft for eight years now, without a change. There's a good reason why: They're easy to fit and easy to use.

### Tools and Materials

- Tape measure
- Drill
- 3.3, 4.2mm bit,
- 5mm tap, 4mm tap
- 5mm rivets and gun
- Masking tape or similar
- Hammer and punch
- Rivet gun
- Pencil
- 8mm rope, length dependant on boom size
- Tea

### What's in the box

- 1 x Reefing slide on 25mm 'T' track with end fittings (No.1)
- 2 x Eye Straps (No.2)
- 1 x Tang Block (No.3)
- 1 x Bullseye (No.4)
- 1 x Mast Base block (No.5)
- Rivets and machine screws.
- 4 x 5mm counter sunk machine screws, penny washers (or backing pad) are not provided as deck thickness will vary

### Time taken

One day

### COSTS

£106 each – we installed two reefs, so £212

### OTHER COSTS

Sail needs to have reefing eyelets put in. Cost depends on your sail size and material. We were quoted £280 from Hyde Sails, and £200 from Arun sails for a 26ft boat with standard mainsail.

### Skill level

Easy

Before we start on the guide on how to fit the system you will need to firstly sort the sail. Reefing eyelets need to go in. It's worth remembering that sail lofts can have quite a long lead time, I tried to get it done mid summer, and got caught in a queue for Cowes Week and Fastnet repairs! I used Hyde sails, who put in the two sets of reef eyes, and patches to strength, for £280. It's worth calling around, for instance Arun Sails quoted £200.

The main reason for getting the sail changed first though is the measurements of the eyelets from the luff are required before any fitting can take place. It is possible to ask the loft to measure out where the eyes will be to get the measurements, and then pick it up after the work is completed.



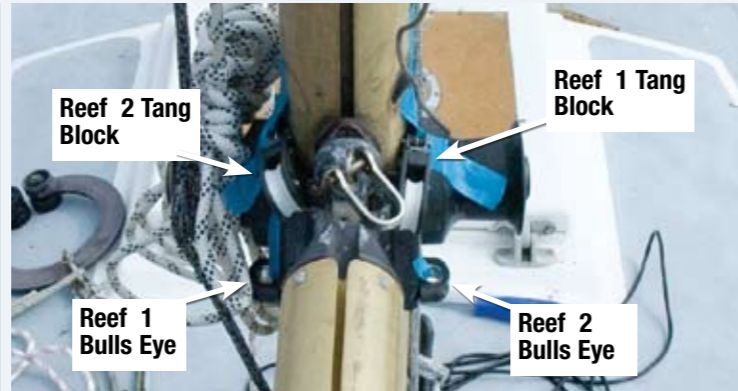
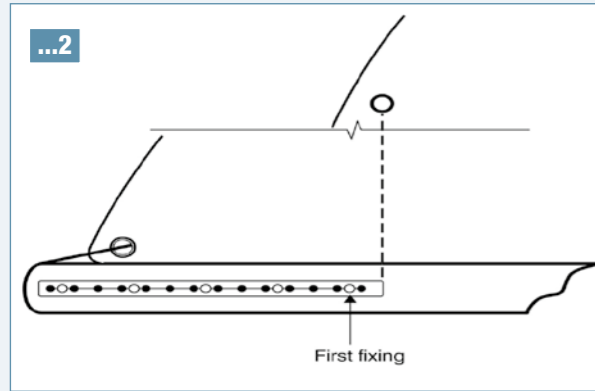
**Step 1:** Take measurements from the base of the mast slider to the eyelets – you could just put the sail on, and mark where the eyelets line up with the boom, but the sail will just get in the way if left on. This measurement gives the forward end of the track placement on the boom (inset arrow).



### STEP 2: POSITIONING THE REEFING SLIDE ON THE TRACK AND POSITION ON BOOM

The forward end of the track should line up with the position of the reefing eye on the sail. If you are fitting two single line reefing systems for reefing of two points of the sail, as we did here, the position and angle of the sail on the tang block and the bullseye may vary. In this case it really didn't change anything, both tang blocks and bulls eyes were in the same place on either side of the mast. It is well worth taping all items in place first before drilling



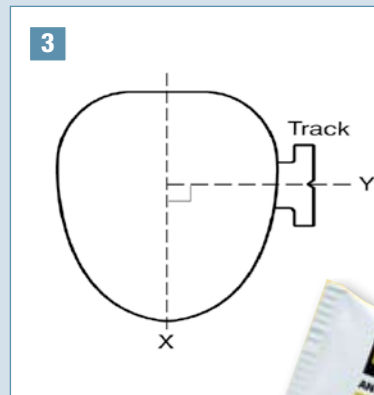


any holes and reefing the line to ensure friction is kept to a minimum, and that no school boys errors have been made (see following steps for position guide).

If you are fitting one reefing system, decide whether to place the track on

the port or starboard side of the boom - remembering that the line running back into the cockpit will be on the opposite side to the position of the track, so the bulls eye goes on the other side of the mast to the tang block.

Allow ample room at the mast base to fit the stand up block and checking the position of the tang block and bullseye in order to prevent the possibility of snagging and wear.



**STEP 3: MOUNTING THE TRACK**

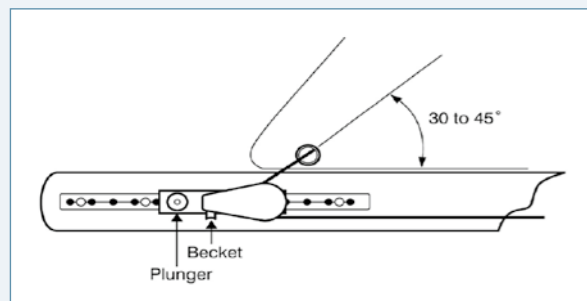
Ensure the track is at 90° (Y) to the centre line of the boom (X). Position the track and mark first fixing location. Remove the track, drill using 4.2mm drill and tap using a 5mm tap then secure in position using a 5mm machine screw. Centre punch the second fixing hole, loosen screw of the first fixing, take the track off and then drill and tap for second fixing. Remember to use Duralac on the stainless to prevent corrosion between the two metals.



**STEP 4: POSITIONING OF THE REEFING SLIDE**

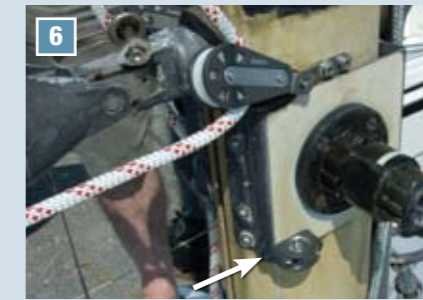
Position the slide on the track ensuring the plunger end of the slide is aft and the becket on the slide is facing down. (This may need to be adjusted depending on whether it is fitted on port or starboard side of the boom. The eye will rotate but may require the use of pliers to carry out this operation) The position of the slide on the track can be adjusted during a sail trial.

The two plastic end caps can now be fitted ensuring they locate over the end of the track (this is a push fit). Use the centre punch to mark position, then remove before drilling and tapping.



**STEP 5: INSTALLING THE TANG BLOCK**

This should be installed on the same side of the boom as the track, and positioned on the mast so that the line pulls down and forward at 45° when reefed. Drill and tap.



**STEP 6: INSTALLING THE BULLSEYE**

The bullseye should be positioned on the opposite side of the mast to the tang block so the line pulls down and forward at 45° when reefed. Drill and tap.



**STEP 7: INSTALLING BOOM EYE STRAPS**

The two eye straps, which are placed at 1/3 intervals between the slide and the tang block, are designed to stop the line from sagging, use a line to get position before riveting.

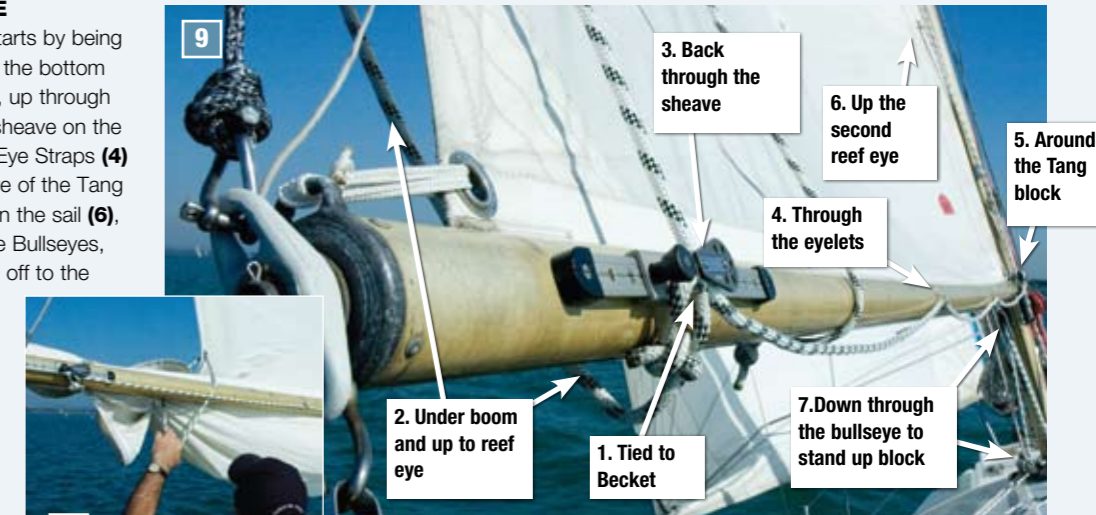


**STEP 8: INSTALLING STAND UP BLOCK**

The Stand Up Block should be mounted directly below the bullseye fixing and positioned so the block is angled toward the deck organiser. Four 5mm counter sink stainless bolts are required for fixing down the Stand Up Block, length dependant on your cabin roof thickness. Use a marine bedding compound such as Sikaflex to provide a durable water seal. We had already fitted a mast base organiser (ST171, P36 ) for the main halyard and topping lift, as picture.

**STEP 9: REEVING THE LINE**

8mm line is required. The line starts by being tied or spliced to the becket on the bottom of the slide (1) under the boom, up through the eye (2), down through the sheave on the slide (3), then through the two Eye Straps (4) on the boom, around the sheave of the Tang Block (5), up through the eye on the sail (6), down the other side through the Bullseyes, to the Stand Up Block, (7) then off to the Deck Organiser.



**STEP 10: ADJUSTMENT**

Go out on a nice light wind day and fine tune. The position of the slide can be altered, by lifting the plunger and re-locating the slide. It should be positioned so the line leaving the Eye in the sail pulls down and aft between 30° and 45°

Lower the main halyard to the correct position for reefing and reef mainsail. When correct, mark the halyard at the position of the cleat with permanent marker, or stitch.

**STEP 11: TO REEF**

Simple. Set the Topping Lift which ensures the boom does not fall accidentally. Ease the halyard to the marked 'Reef' position, pull in the reef line then tension the halyard. The sail is then reefed, with practice it's possible on the move while single handed, as Christian shows here!

Many thanks to Christian Brewer of Barton Marine, with the fit and set up.  
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