

Converting in-mast furling - Linedriver (manual) to in-mast furling hydraulic

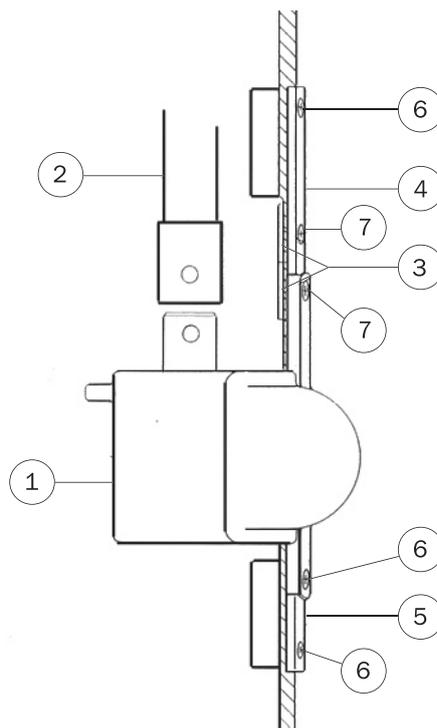
Two copies of drawing No. PS-277 are enclosed with these instructions. One of them should be cut out as instructed and used as a pattern.

One copy of drawing PS 312 is also enclosed (holes for hydraulic hoses).

Conversion can be undertaken on a fully rigged boat.

Components required for mast conversion.

Item	Part No.	Quantity	Description	Remarks
1	540-822-01	1	Drive Unit	
2		1	Tack Assembly	
3	540-824	2	Backing Plate	
4	540-825	1	Cover Plate, Upper	
5	540-908	1	Cover Plate, Lower	
6	162-037	6	Screw, MFX 8x40	
7	162-050	4	Screw, MFX 8x25	
	319-161	6	Clamp Half	
	155-802	3	Screw, MRX 6x30	
	533-910	1	Emergency Handle, L=125mm	
	591-303	1	Label, Warning.....	
	540-889-02	1	Deck Gland	
	540-884	2	Hydraulic Hose	Deck stepped mast
	540-880-02	2	Hydraulic Hose, L=350mm	Keel stepped mast
	540-880-13	2	Hydraulic Hose	Keel stepped mast



Fitting the drive unit:

1. Remove the sail from the mast.
2. Slacken off the backstay and lower shrouds so the mast stands perfectly straight. Reduce tension on the upper shrouds to approx. 500 N.
3. Remove the covers. (Points 3-5 as described in in-mast furling-instruction 595-063-E).
4. Remove the lock retaining screw from the locking tube and push the locking tube up.
5. Turn the reefing winch anti-clockwise with a winch handle until the luff extrusion is slack.
6. Remove the upper plastic plug, ④, in fig. 4:1. Remove the extrusion adapter through the hole. Remove the lower split and clevis pins, ⑤.
7. Undo the reefing mechanism (8 screws) and remove it from the mast.
8. Remove the adapter and spacer wheel from the lower extrusion. Then unscrew it from the tensioning screw.
9. Following the marks, cut out the pattern from one of the drawings "PS-277". Tape it to the mast. Carefully check the marking arrows so that the pattern is correctly positioned both vertically and horizontally.
10. Use the pattern to draw round those places which have to be sawn away. Check again that the pattern is correctly positioned.
11. Check that the hole will not be in the way of existing winches or other mast equipment. In that event, those fittings will have to be repositioned. Any outhaul fairleads can be removed, and will not be needed again. Remember that the winch handle supplied will have to have free turning space .
12. Saw out to the marks. **Be careful not to saw out too much.** The straight upper and lower edges of the drive unit must fit the hole exactly. The hole must be filed true using the drive unit itself as a pattern. Start by filing from aft, and pass up often.
13. Using a square, measure up for the hole in the inner walling. The dimension is 15mm from the upper edge of the sawn out opening. (See drawing PS-277). Drill a 5~6 mm pilot hole, and then increase to 12 mm.
14. Finish off by burring and thoroughly smoothing all edges.
15. Applies only to keel stepped masts: If the hydraulic hoses are to be taken through the coachroof inside the mast, that work must be done before continuing to fit the drive unit. See "THROUGH-MAST FITTING - KEEL STEPPED MAST" below.
16. Remove all chips and shavings from inside the mast.
17. Fit the "new" lower extrusion in the mast. The adapter and spacer wheel must be removed before inserting, and refitted after insertion. Tighten the tensioning screw home.
18. Put the drive unit in place and fasten the bottom plate with two MFX 8x40 screws into the existing holes in the mast.
19. Insert one of the stainless steel brackets into the mast, and fit the drive unit upper screws (MFX 8x25) to it. The holes in the bracket are asymmetrical.
20. Extend the tensioning screw sufficiently to allow fitting the adapter to the drive unit drive shaft.
21. Put the supplied winch handle into the motor. Take a firm grip on the locking sleeve. Turn the handle and tension the luff extrusion until the locking sleeve starts to slip in your hand. Tension will then be correct. NB!! To be able to turn the motor during this operation it must be connected to the deck gland. The by-pass valve must be in Manual position. lose the by-pass valve when finished.
22. Adjust turn to allow the locking tube to be pushed down over the lower part of the luff extrusion. Push the locking tube down into the locked position.
23. Secure the locking tube with its locking screw.
24. Put the cover plate over the upper half of the hole above the drive unit. Fit the remaining stainless steel bracket to the lower holes in the cover plate (MFX 8x25).

25. Push the cover plate downwards and put in the two upper screws (MFX 8x40).
26. Apply the transfer for emergency reefing (591-303) to the mast in proximity to the winch handle socket in the drive unit.
27. Hydraulic hoses are laid out to suit other mast equipment. Three clips are supplied for that purpose.

Through-deck fitting - Deck stepped mast:

The through-deck fitting is mounted without sharp bends. See fig. 3.1. Contact the yard for advice if you are unsure about siting this fitting.

Through-mast fitting - Keel stepped mast:

(It can be difficult to thread the hydraulic hoses through a mast on a rigged boat. We recommend that you follow the same method as for deck-stepped masts).

Assembly Instruction:

1. Lay out the hoses from the drive unit while taking due regard to other mast fittings.
2. Join the hoses to the through-mast fitting.
3. Mark the centre of the through-mast fitting. Measure the diameter of the bottom part and then add 1mm. Mark the mast for the hole. Drill or saw out the hole.
4. Mark the side of the mast at the mast heel where the hoses will exit. Drill or saw out an oval hole as shown in fig. 3.2. Burr and thoroughly smoothen the hole.
5. Make a hole in the mast seal at deck level, and then thread the hoses through the seal and out through the hole at the mast heel. Seal with SIKAFLEX.
6. Fit the through-mast fitting and adapter ring.
7. Carefully seal the hose through run in the seal. We recommend our cable glue (312-301-03) for this. Ensure that no glue runs down the mast into the boat.

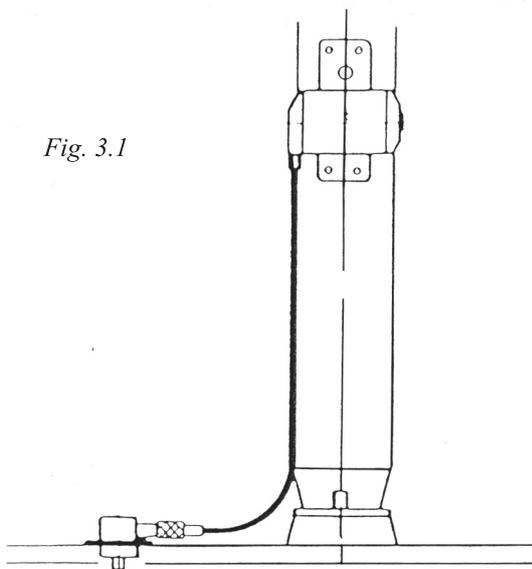
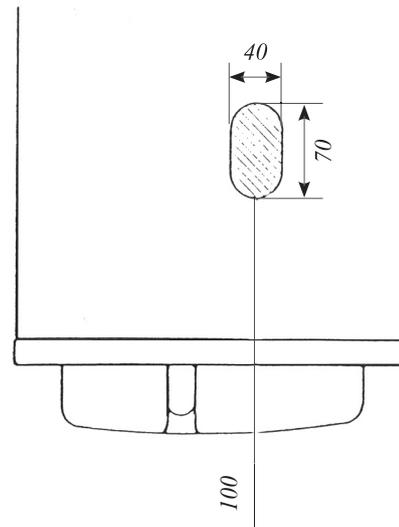


Fig. 3.1

Fig. 3.2



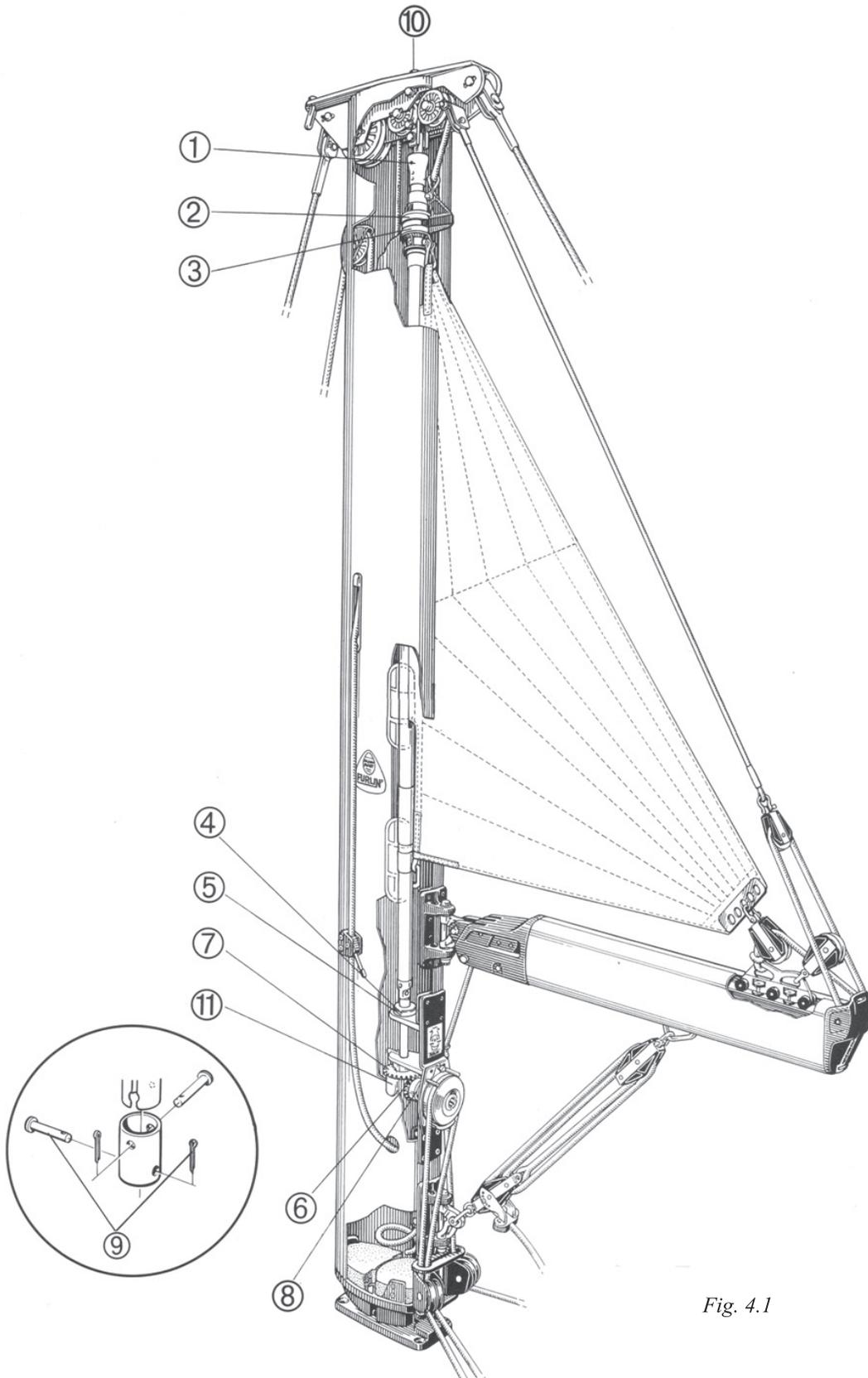


Fig. 4.1

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