

Manual for Furling mast TYPE RB Mk II/RC Mk II

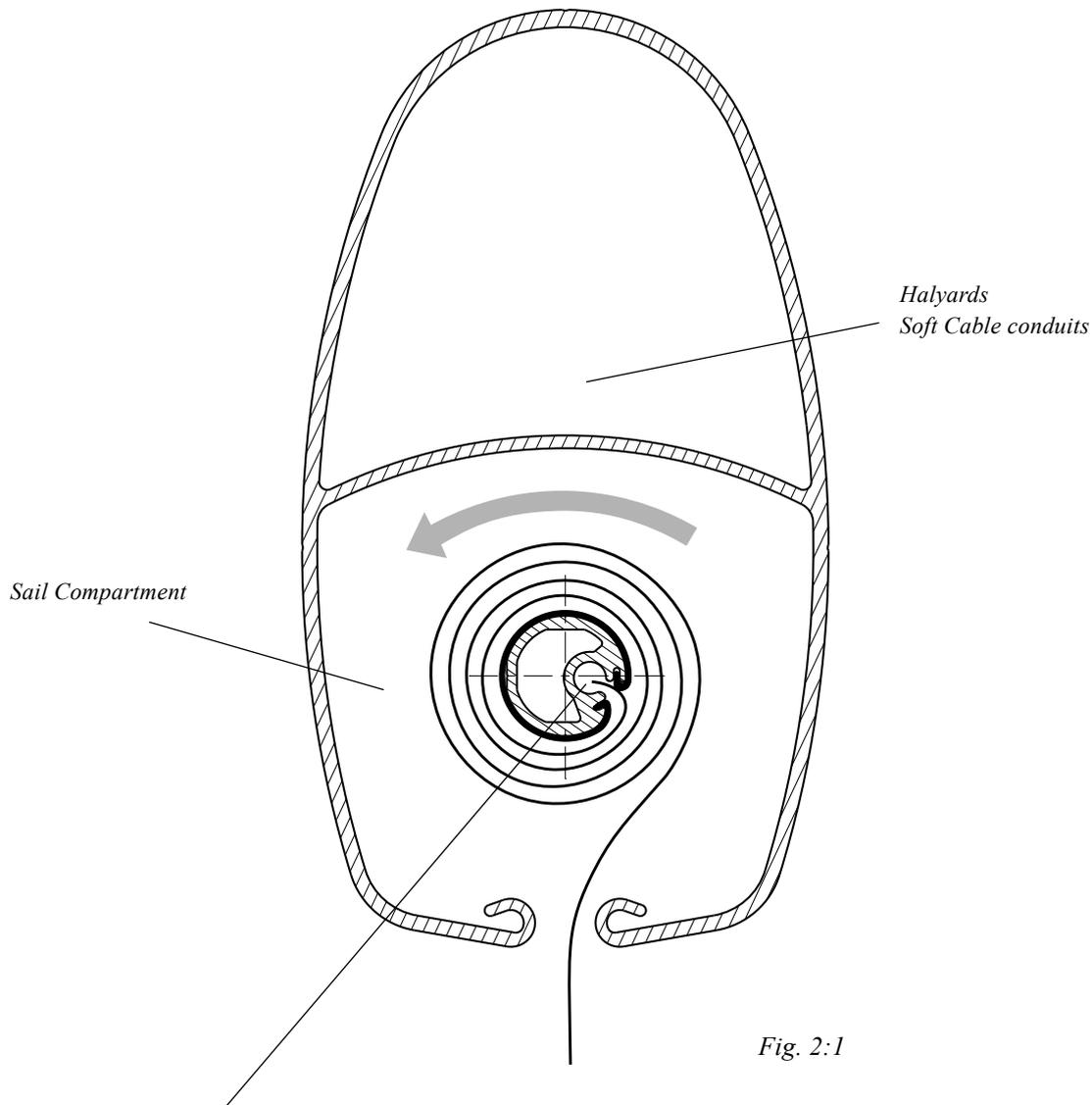
Mast sections F217, F234, F252



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Product description

- Seldén furling mast is a mainsail reefing and furling system.
- The unique design of the halyard swivel bearing distributes the load over the whole ballrace to give smoother furling and the lowest possible friction, even under high loads.
- The entire reefing mechanism can be easily removed from the mast for service. Stainless steel thread inserts are used for all screws, so that dismantling is easy even after many years usage in a corrosive environment.
- This Instruction Manual has been compiled to give you information on the furling mast system. Study it and follow the instructions carefully, and we guarantee you many years of pleasurable use from your Seldén furling mast.
- Follow the relevant rigging instructions in our booklet "HINTS AND ADVICE" for tuning the rig.



Asymmetric luff extrusion giving reduced initial resistance to reefing due to easier bending of the luff.

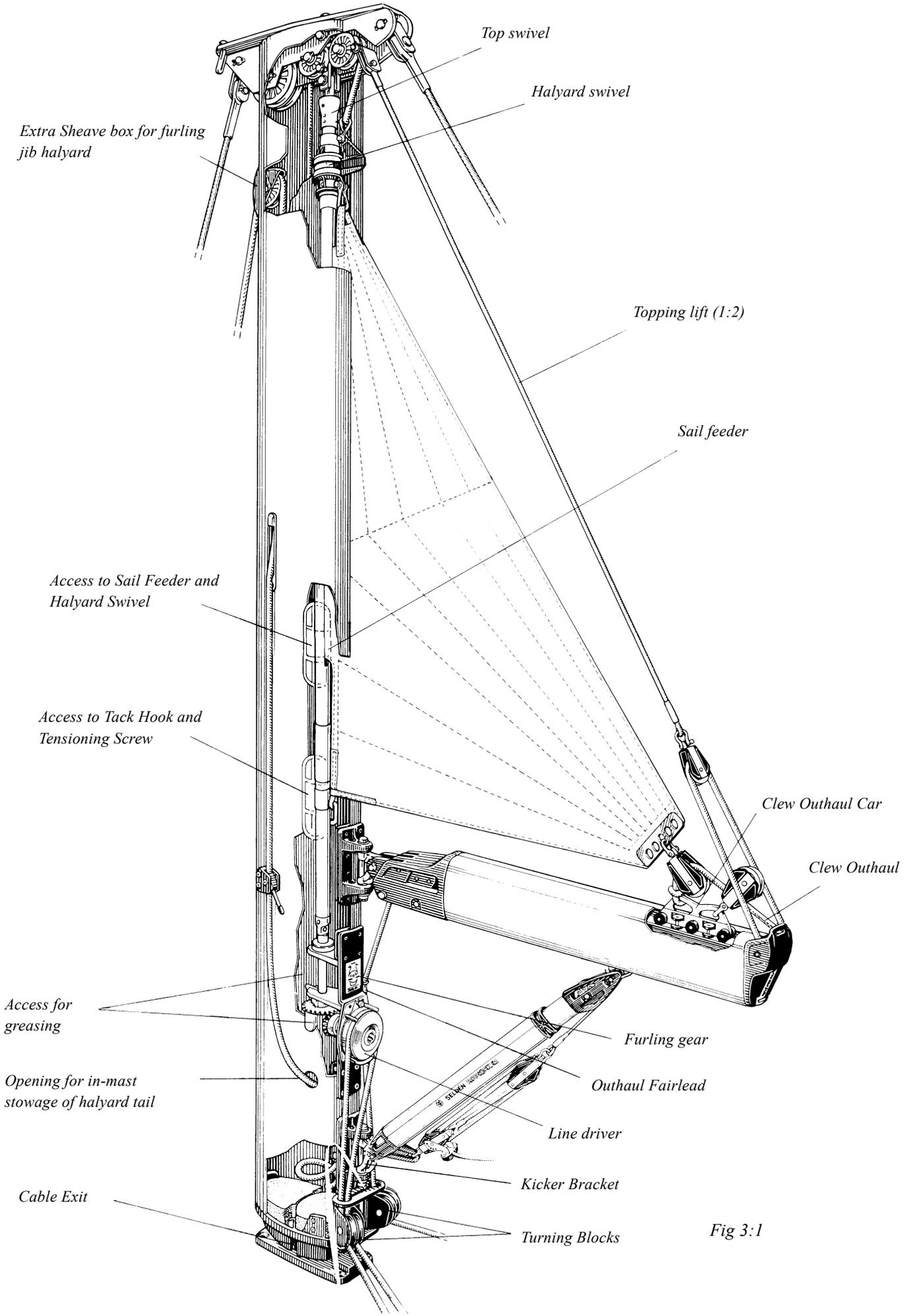


Fig 3:1

Checking luff extrusion tension prior to stepping the mast

The luff extrusion is tensioned before leaving the factory. Tension can be re-checked before stepping the mast in the following manner:

Lay the mast horizontally and check that the extrusion is just clear of the mast wall at its mid point.

If adjustment has to be made after the mast has been stepped, the luff extrusion should be tensioned so that it does not contact the mast wall when you grasp it through the upper access hole and shake it. Note! Always release backstay tension before tensioning luff.

Part of the extrusion will be resting on the aft face of the sail compartment when sailing.

If adjustment is necessary see points 1-5 below. **DO NOT OVER-TENSION!** A luff extrusion that is over-tensioned will require increased furling effort.

Luff extrusion adjustment

1. Remove the Access covers.

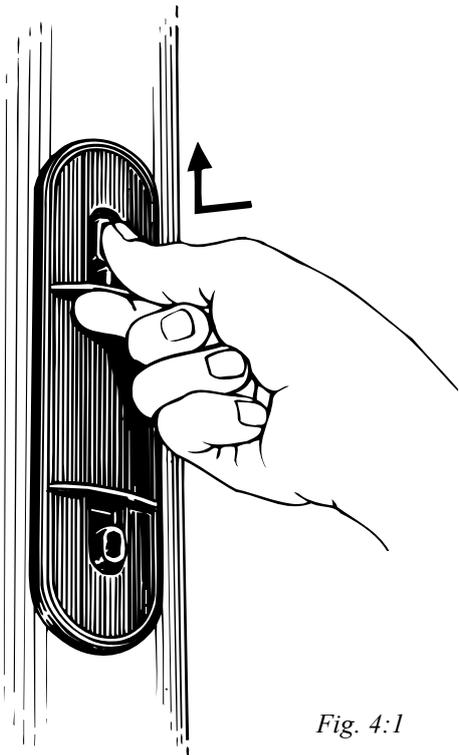


Fig. 4:1

Depress one button and push.

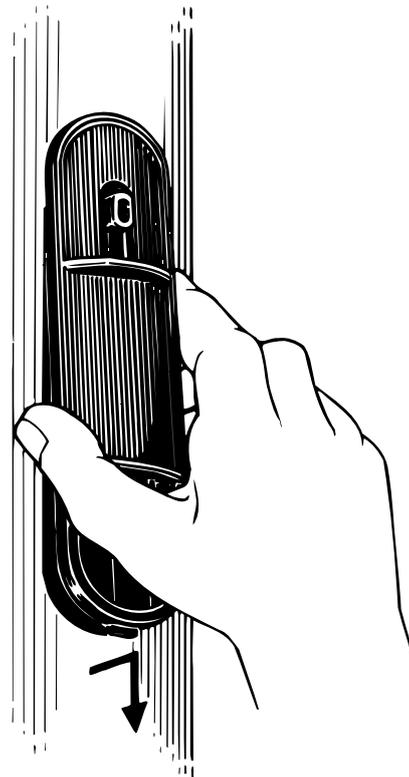
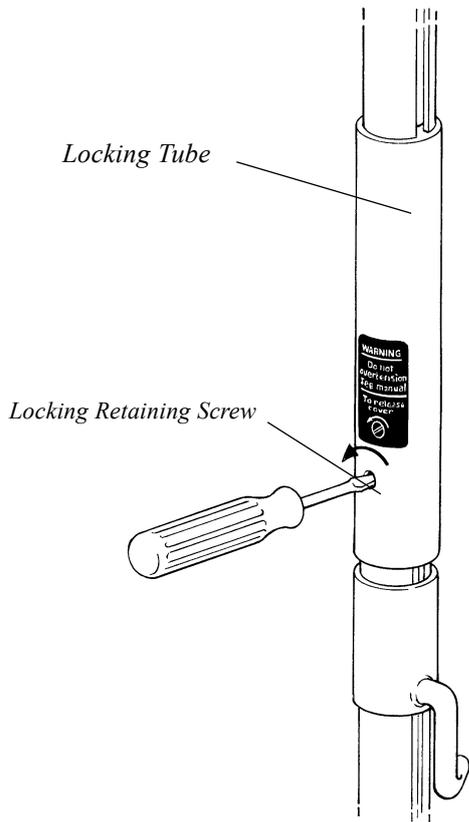


Fig. 4:2

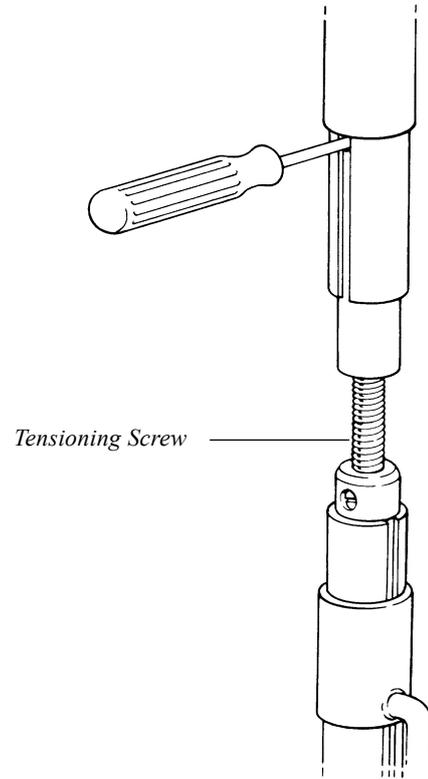
Lift the opposite end and remove.

2.



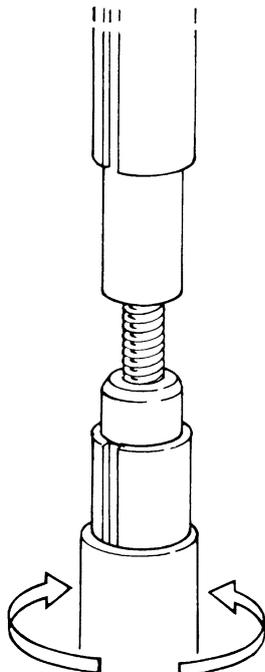
Undo the Lock Retaining Screw and free the Locking Tube.

3.



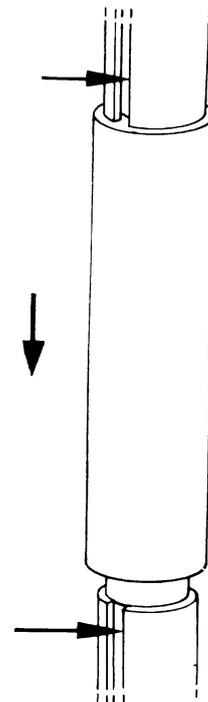
Push the Locking Tube upwards above the Sail Feeder. Lock the Tube in this position by putting a screwdriver through the hole at the lower end of the Sail Feeder. The screwdriver will also stop the luff Section from turning while tensioning. (step 4).

4.



Lubricate the tensioning screw with rigging screw oil. Turn the furling gear using the winch handle until the luff is correctly tensioned.

5.



Adjust so that the Locking Tube fits over the lower part off the Luff Section. Lower the Locking Tube to locking position. Replace the Lock Retaining Screw.

Line routing

Furling and unfurling is accomplished with a reefing line and an outhaul operated either from the cockpit or by working at the mast. In the latter case the outhaul is also taken to the boom or mast near the gooseneck. (See Fig. 7.1).

Operating at the mast is recommended with type RC. This is due to the friction in the control lines system from mast to cockpit on a large yacht.

Endless reefing line

If the furling mast is to be operated from the cockpit an endless reefing line (loop) in combination with a self-tailing winch is recommended. Reefing line should be $\varnothing 10$ mm polyester rope. The endless loop must have extra length to allow it to be easily removed from the winch. The tail-end of the loop must also be belayed on a stopper.

Warning! Take caution if an electric winch is used.

On most installations, the reefing line needs to be fed through blocks and stoppers before making an endless splice according to Seldén instruction 595-673. If the blocks and stoppers are possible to dismantle, a pre-spliced endless line can be used.

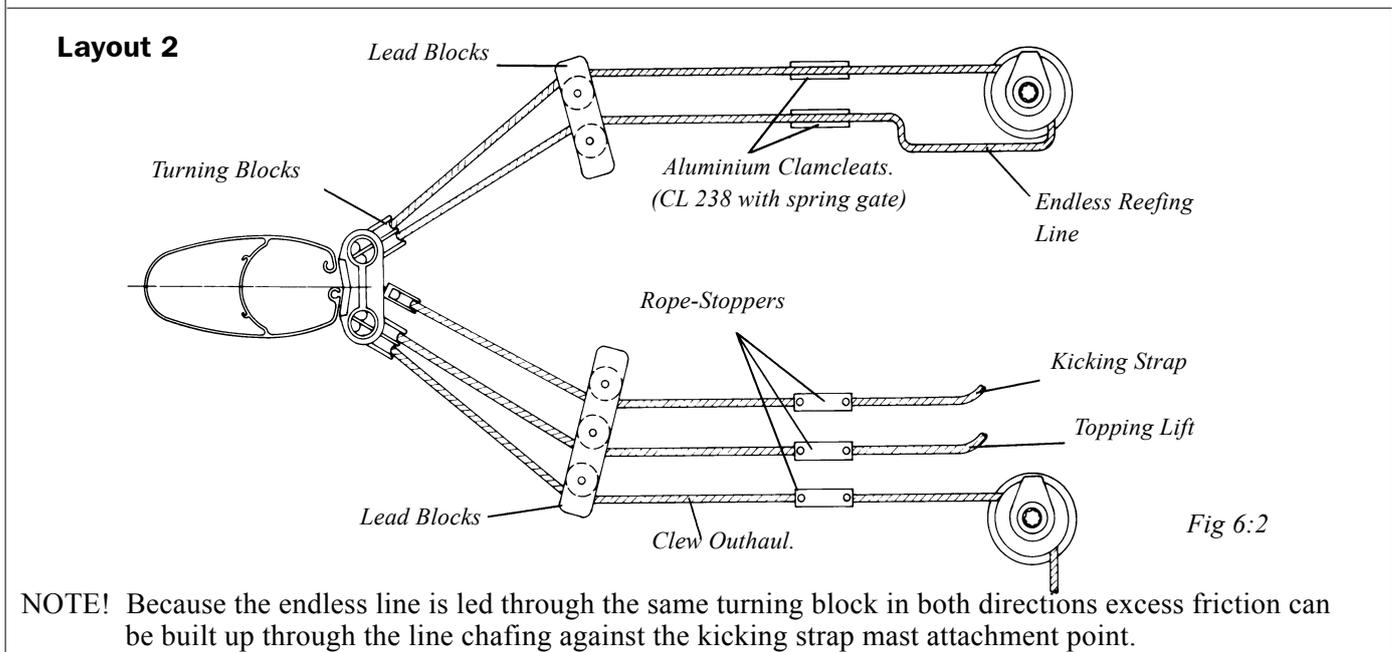
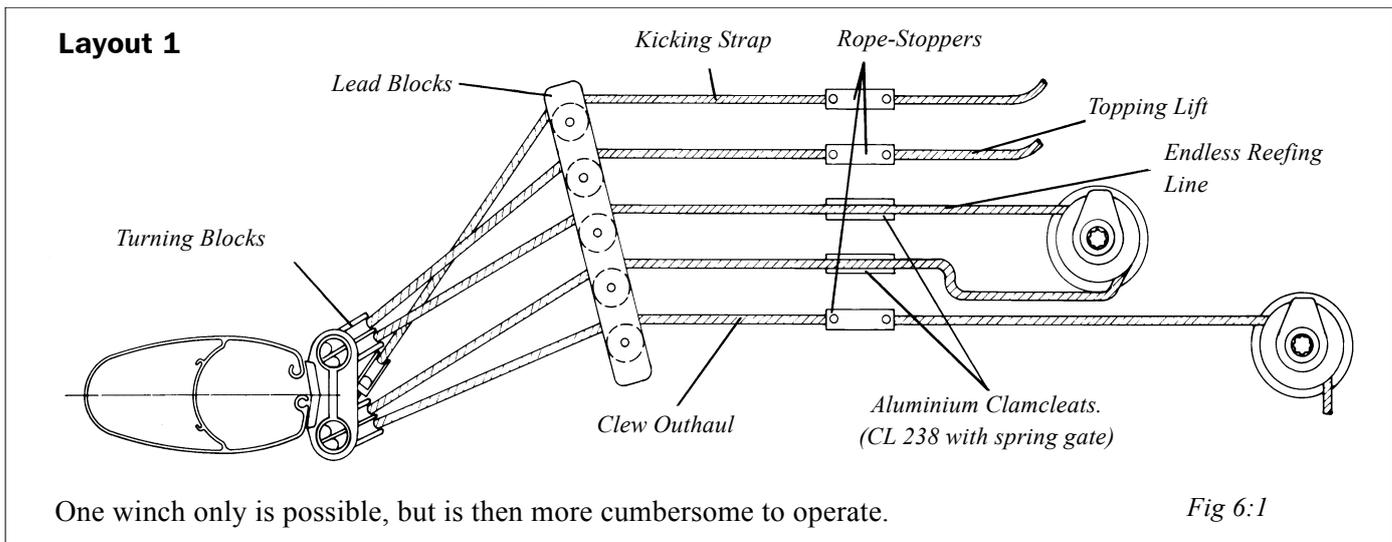
Outhaul line

A self-tailing winch and a stopper is also recommended for the outhaul line.

Topping lift & kicker controls

We recommend that the topping lift and kicker controls also be handled from the cockpit. These lines are best belayed with rope-stoppers. The topping lift should be ended with a figure-of-eight stopper knot to prevent it inadvertently running out. This stopper-knot should be placed where the rope exits from the boom, and in such a position that it will prevent the boom from dropping below its lowest necessary level. (NOTE. This is not necessary if a rod type kicker control is used).

Figs. 6:1 and 6:2 show two suggested arrangements.



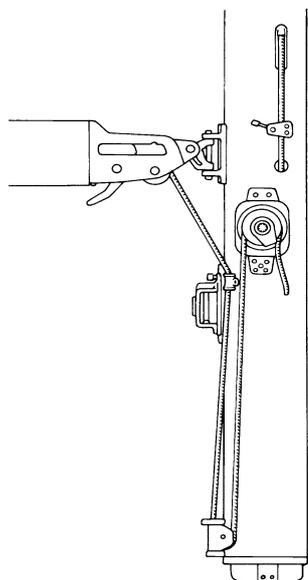


Fig. 7:1

Alternative Clew Outhaul Arrangement.

RATCHET FREE

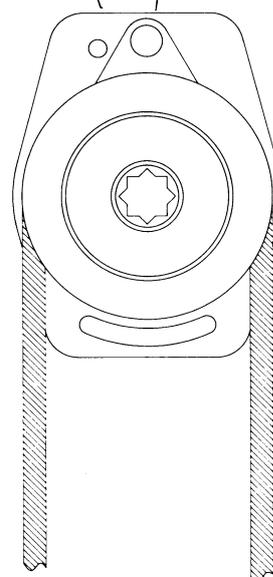


Fig. 7:2

Operation

Unfurling

When unfurling from the cockpit the line driver must be set to "free". (See Fig. 7:2).

1. Free both sides of the endless loop from the winch and stopper. It will then slide on the line driver.
2. Pull out the sail with the outhaul line.

Furling

1. Keep the leech fairly tight by adjusting the boom angle (vang or topping lift).
2. Put the starboard part of the endless furling line on the winch and pull by hand or use a winch handle.
3. Keep slight tension on the outhaul while doing this. This applies especially when the wind is abaft the beam or in light air.
4. Always lock the furling gear when leaving the boat.

Reducing sail

1. Carefully slacken off the outhaul line.
2. Whilst continuing to ease off the outhaul, roll in the desired amount of sail.
3. The leech should be kept fairly tight.

When working at the mast: activate the lock on the furling gear (RATCHET') before reefing the sail.
When the desired amount of sail is rolled in, use the outhaul to stretch the foot of the sail.

When operating from the cockpit: make both "sides" of the reefing line fast to prevent slip on the line driver.
Finally, tension the outhaul.



**WARNING! Never leave the handle in the line driver!
It will rotate very rapidly when the sail is unfurled.**

Fitting and hoisting sail

Check that the tack and head of the sail are made in accordance with Seldén instruction 595-542 “Sailmakers guide”. An incorrectly made tack can cause wrinkles in the sail and make furling difficult.

1. Remove the covers.

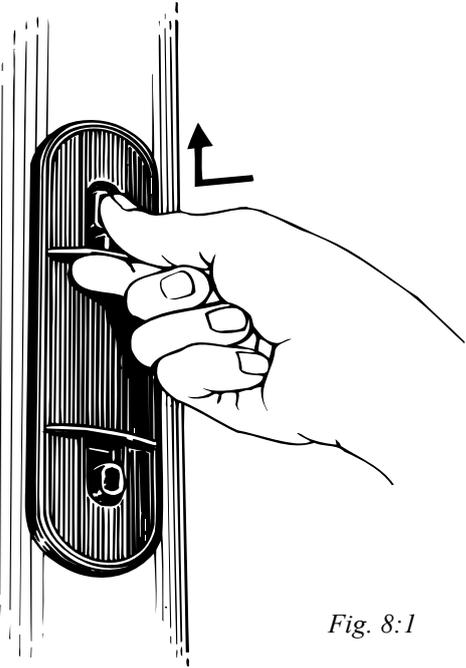


Fig. 8:1

Depress one button and push.



Fig. 8:2

Lift the opposite end and remove.

2. Attach the head of the sail to the halyard swivel.
3. Attach the clew to the outhaul car.
4. Hoist the mainsail whilst simultaneously ensuring that it is feeding correctly into the luff extrusion.

5. Join the Tack to the tack hook.

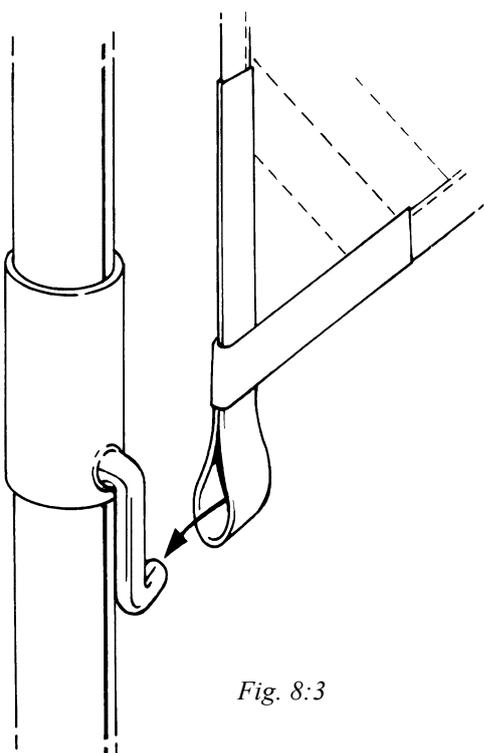


Fig. 8:3

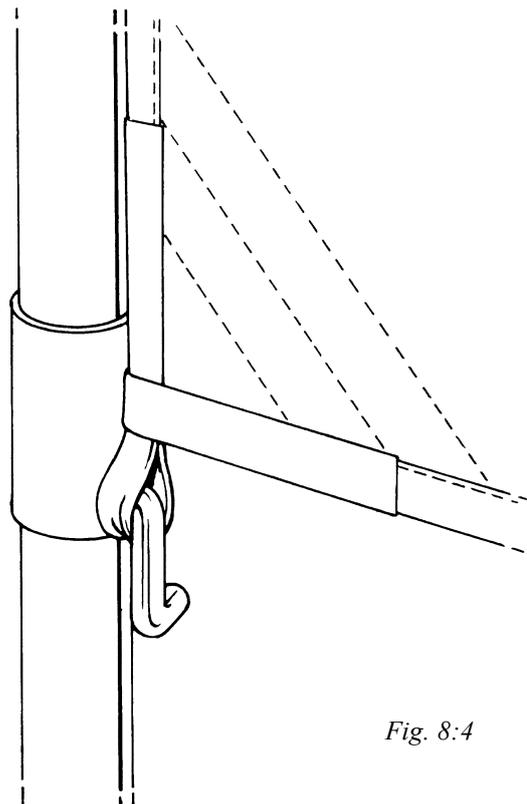


Fig. 8:4

7. Tighten the halyard.
8. Furl the sail until only 200-300 mm of the clew is exposed. The line driver should be turned clockwise. (See Fig. 9:1).

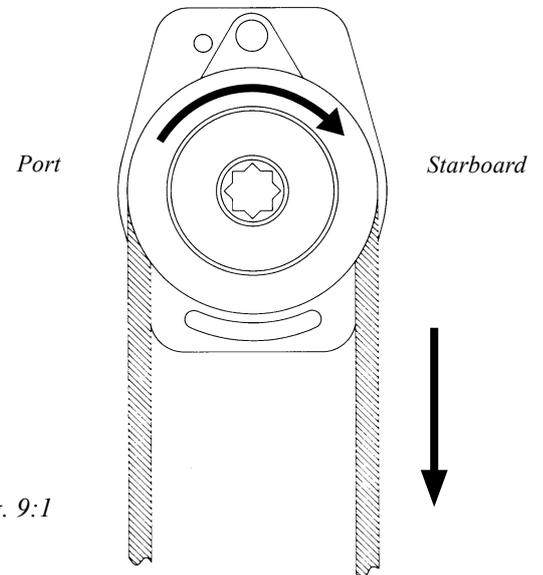
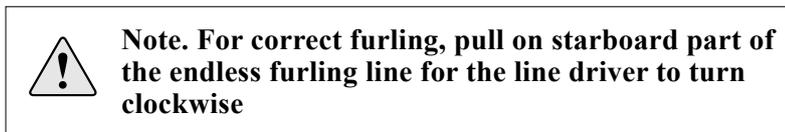


Fig. 9:1

Before sailing

1. Check that the sail is correctly furled on the STARBOARD SIDE of the luff extrusion. (See Fig. 9:1).
2. Furl and unfurl the sail a couple of times to ensure that the system works as it should, and to familiarise yourself with its operation, also checking the sail is the correct size.
3. The area aft of the mast must be free from halyards etc. as these can be caught by the sail during the furling procedure.

Sail dimensions

For up to date sail design information, please see the sailmakers guide, 595-542-E

Running cables

Cables are protected inside the mast with one or multiple soft cable conduits. Cables can be added to the mast in two ways:

1. Add cable into an existing soft conduit via messenger line. A new messenger line should be pulled through the conduit together with the new cable.
2. Insert all new cable(s) and new messenger line into a new soft conduit. Hoist the conduit in the front mast compartment.

Maintenance of the furling mast

Periodic Maintenance

Maintenance should be undertaken at least once a year. More frequent cleaning for removal of salt and sand is done by rinsing with fresh water only. All bearings should be greased with GREASE Part No. 312-501 (tube delivered with the mast).

When greasing bearings and gears, do not over-grease. A thin coating of evenly applied grease is sufficient.

TOP SWIVEL:

The bearing has a lubrication hole ① marked "GREASE" where the grease should be injected. Accessed through the sail slot.

HALYARD SWIVEL:

Lubricate the swivel by injecting grease into the gaps ② & ③ in the ring. This is best done through the upper access hole.

FURLING GEAR:

1. Remove access cover (4). Lift the rubber cover (5) and grease the upper shaft bearing.
2. Remove access cover in level with the line driver (11). Grease the bevel gears (6) and ball-bearings (7) and (8).
3. Grease the line driver bearing by injecting grease through the hole inside the winch socket (12).

All grease points are shown in Fig. 13:1.

Complete Service

It is a good idea after some years use to dismantle the gear for thorough cleaning and re-greasing. The furling mast is built so that servicing will be easy even after prolonged use. Stainless steel thread inserts for all screw fastenings ensure that corrosion is eliminated.

Removal of the furling gear from the mast

1. Lay the mast horizontally on trestles.
2. Relieve tension on the luff extrusion by slackening the tensioning screw. (The tensioning screw is described on page 4).
3. Remove the upper plastic plug ④. Detach the luff extrusion from the furling gear through the grease hole. The lower split pin and clevis pin ⑨ are removed.
4. Remove the furling gear from the mast by undoing the eight holding screws and taking it away from the mast. (The furling gear can be removed even when the mast is stepped).
5. Remove the headbox by undoing the nuts on top ⑩. The box can then be lifted off. Detach the tops wivel from the head box.
6. The luff section and the halyard swivel can now be pulled out of the mast.

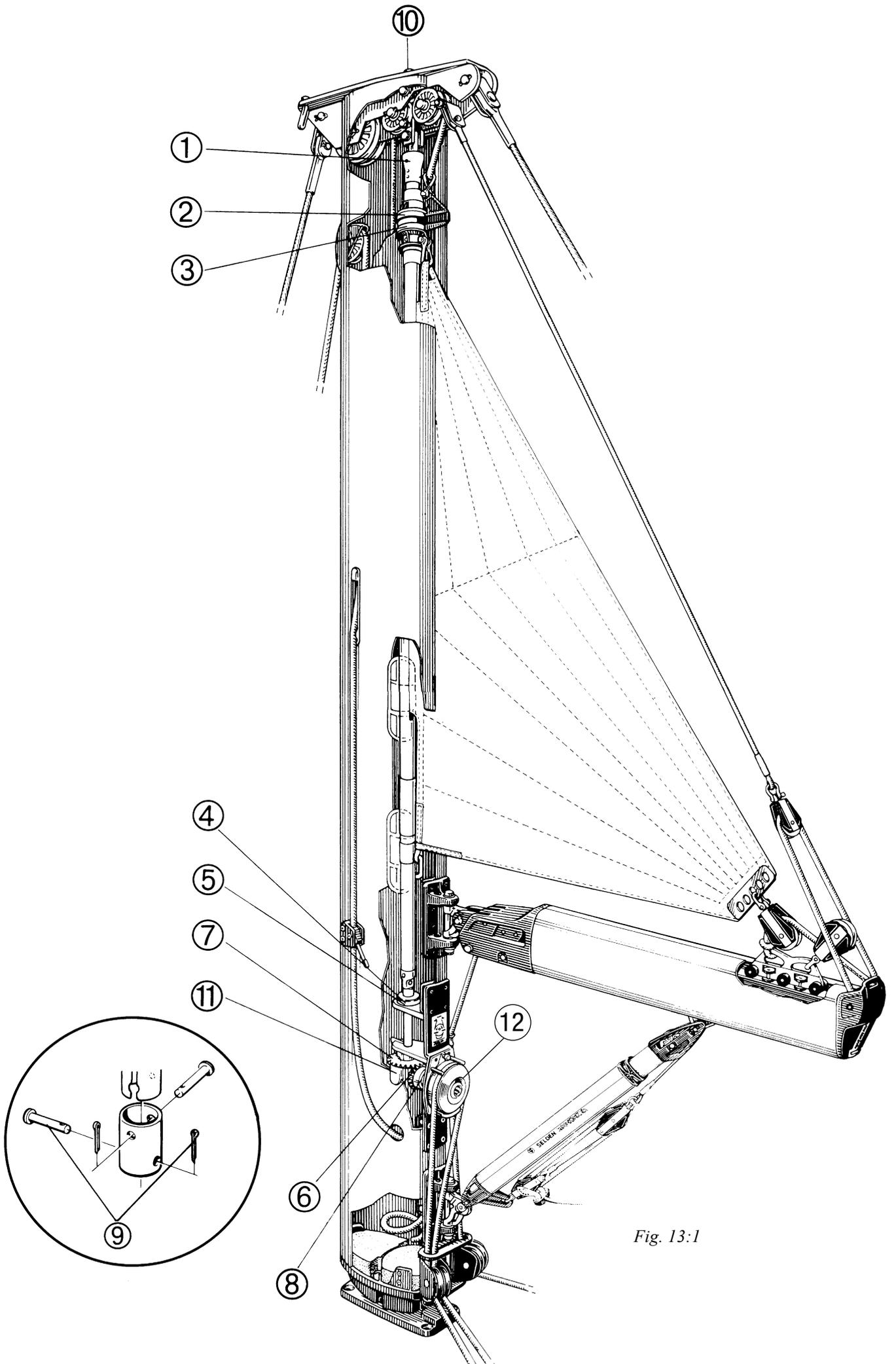


Fig. 13:1

Dismantling units with ball bearings

All dismantling should be done on a clean unbroken surface. The various ball bearing units contain many small parts, ensure these are contained when dismantling.

Note! Do not reuse spring pins. Replace the old spring pins with new ones when reassembling.

Dismantling the furling mast gear:

Tools required:

- Hammer
 - Punch, 6–8 mm (1/4–5/16”).
 - Allen key, 6 mm.
 - Screwdriver, small
 - New spring pins:
- 2x 166-857 (SPIROL PIN $\varnothing 8 \times 45$)
1x 166-528 (SPRING PIN $\varnothing 6 \times 40$)

1. Drive the spring-pin (1) from the large bevel gear. Use hammer and punch.
2. Pull the shaft (2) up and out from the furling gear. Take care of the balls and ballraces which will fall apart.



NOTE. Take care of ball bearings and races, which will fall apart.

3. Drive the spring-pin (3) from the small bevel gear. Pull the gear and ball bearings off the shaft. Take care of ball bearings and races, which will fall apart.
4. Undo the four screws holding the line driver, and remove the line driver from the holding bracket. Clean the ball bearings, races, gears and winch components in a solvent bath.
5. Reassemble all components in the reverse order. The winch must be greased before reassembly. A layer of grease in the cupped half of a ballrace will hold the balls in place during assembly. Grease the bevel gear teeth.

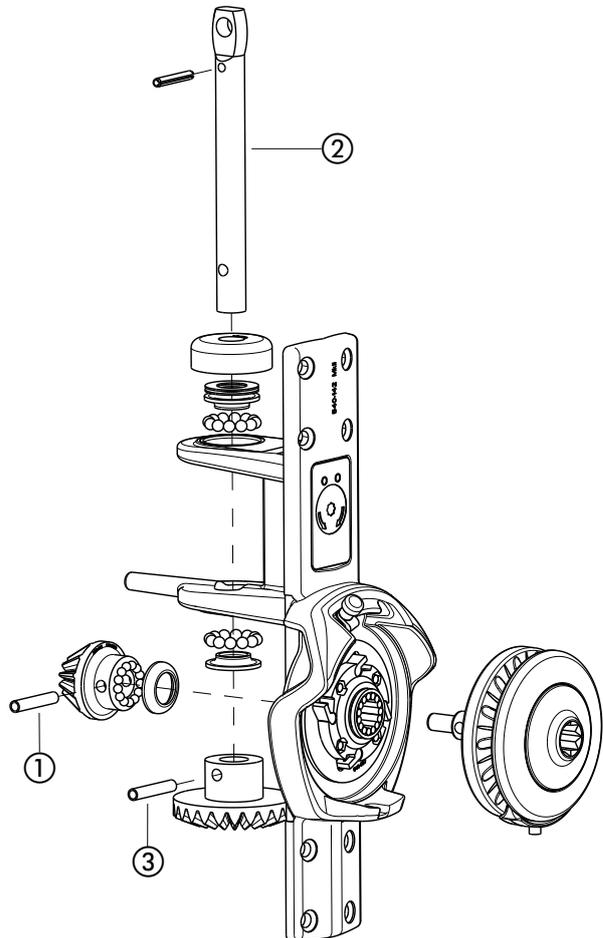


Fig 14.1

Dismantling the halyard Swivel:

1. Remove shackle (1).
2. Remove retainer ring (2).
3. Remove ball bearings (3) and (4). Clean ball bearings and their races.
4. Remove sliding sleeve (5) by bending in the two side snaps (6) inside the swivel and push the sliding sleeve down.



NOTE.
Ball bearings may fall apart. Take care not to lose any parts.

5. Reassemble the components in reverse order. A layer of grease in the ball bearing rings will hold the balls in place during assembly.

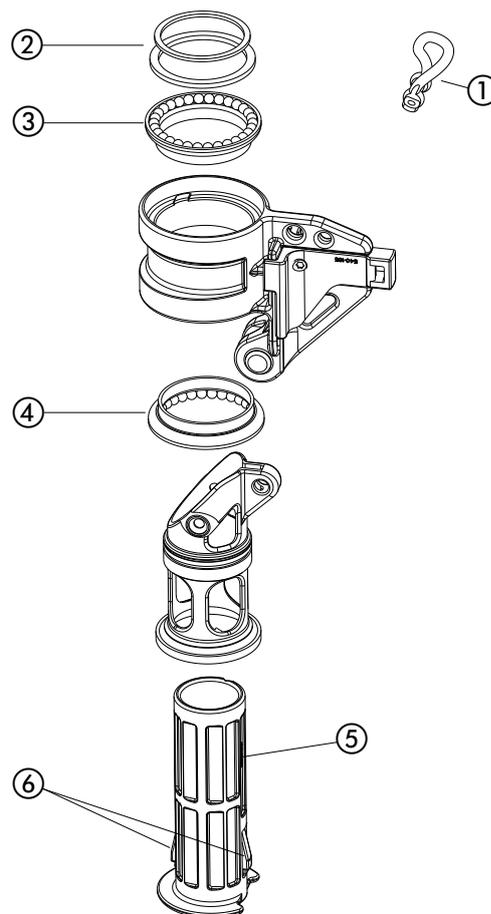


Fig. 15:1

Important points to remember before setting sail

- The Sail must always be rolled to the starboard side of the luff extrusion.
Turn the line driver clockwise!
- The leech should always be kept fairly tight when furling or unfurling.
- Never leave the handle in the furling gear – it will rotate very fast when unfurling the sail.
- Lock the furling gear at the mast when reefing in heavy weather.
- Lock the furling gear when you leave the boat.

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