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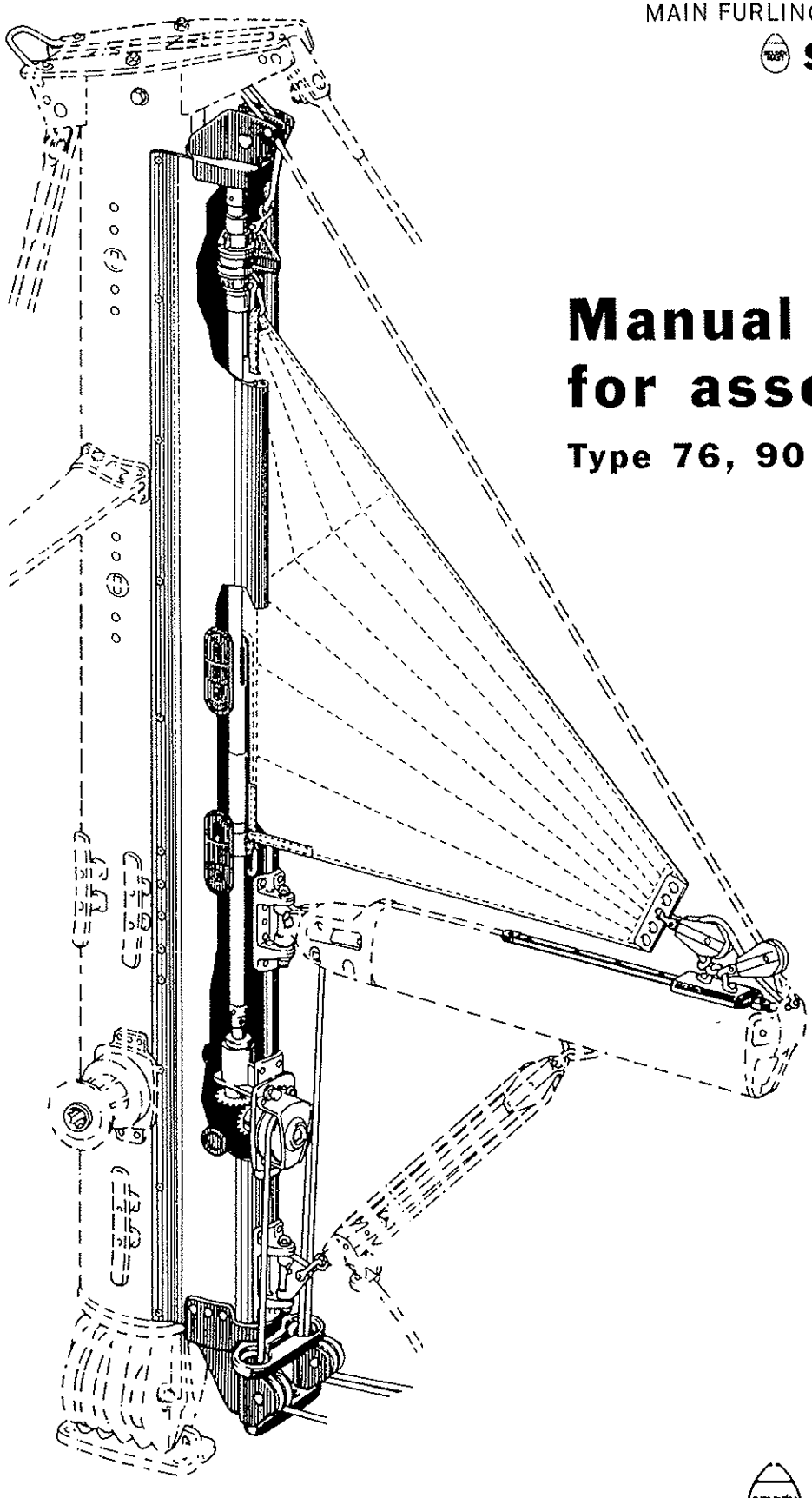
FURLEX MAIN

MAIN FURLING & REEFING SYSTEM

SELDÉN



Manual for assembly

Type 76, 90 & 108

SELDÉN MAST SELDÉN

CONTENTS:

This Instruction Manual covers preparation, tips on shaping, assembly, and fitting to the mast to attain the best results. It is primarily compiled for Seldén and Kemp masts, but will also be found to cover the major points for masts of other manufacture. Study the instructions and follow them carefully.

See the FURLIN' / FURLEX MAIN instructions for more detailed product descriptions and their handling.

All non-annotated text refers to FURLEX MAIN in general, and thus to all of types 76, 90, and 108.

Information referring to a specific product only is framed, with a reference to the product in question at the top.

Example:

FURLEX MAIN 108
This information applies only to FURLEX MAIN 108

CHECK LIST.

Basic Kit No. 1:

Basic Extrusion (L=2,400mm) with Goose-Neck Fitting & Winch fitted.
Luff Extrusion with Sail Feeder.
Kicker Bracket.
Bottom Fitting.
Turning Block Fitting.
Top Fitting.
Halyard Swivel.
Clew Outhaul Track.
Clew Outhaul Car.
Outhaul Blocks, 2 off.
Grease.
Locking Adhesive.
Assembly Set, (pop rivets, screws, etc).

Luff Extrusion Sample.
Fitting Instructions.
Users' Manual.

Basic Kit No. 2:

Basic Outer Extrusion (L = 2000mm).
Luff Extrusion (L = 2000mm).
Assembly Set.
Outer Extrusion Sample.

Extrusion Kit:

Outer Extrusion (L = 2400mm).
Luff Extrusion (L = 2400mm).
Assembly Set.

OPTIONAL EXTRAS FOR FURLEX MAIN.

ENDLESS LINE:	2 x 5000mm	611-011-05
	2 x 7000mm	611-011-06
	2 x 9000mm	611-011-07
LEAD BLOCKS:	3 Sheaves (removable)	538-809-01
	4 Sheaves (removable)	538-810-01
ROPE STOPPERS	Rutgerson Tough Baby	511-092
	Spinlock Midi-Single	
	Spinlock Midi-Double	
BOOM TOGGLE:	Stainless Steel, width 15mm	528-077
BOOM FITTINGS:	AL-45 Sheave Box	505-004-01
(For modifying boom)	AL-70 Sheave Box	505-006-01
	Chafe Slot, "Small", width 10mm	505-017
	Chafe Slot, "Medium", width 14mm	505-014
	Outhaul Line, 10mm, double plaited, white	611-009
WINCH HANDLE:	Andersen 8"	533-908

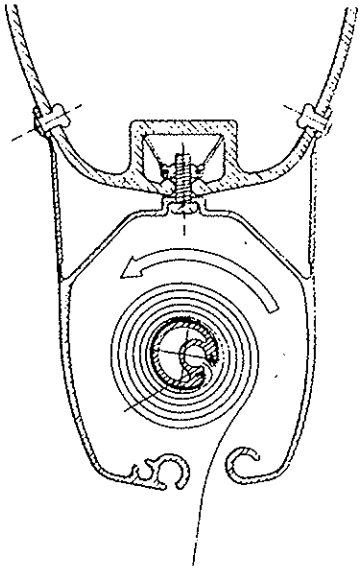
PRODUCT INFORMATION.

FURLEX MAIN is a roller reefing and furling system for fitting to existing main & mizzen masts. The design is based on experience gained from FURLIN' masts and FURLEX foresail reefing systems, both of which are dimensioned for heavy weather conditions.

FURLEX MAIN is equipped with all those special features that are associated wih FURLIN' masts.

FURLEX MAIN is supplied as a complete set ready for assembly. Some additional items are necessary, as they can vary between different boat types. (See the list on page 3).

The outer extrusion is relatively very light. This has been made possible because of its special shape, with attachment being through its flanges as well as to the mast track.



FURLEX MAIN is fitted with an integral extra luff groove for a storm trysail or spare mainsail.

FURLEX MAIN has a tensioned luff extrusion of asymmetric shape with ball bearings at each end. The unique design of the halyard swivel ball bearing is based on a patented system which distributes loads evenly over the entire race. It turns easily even under heavy load.

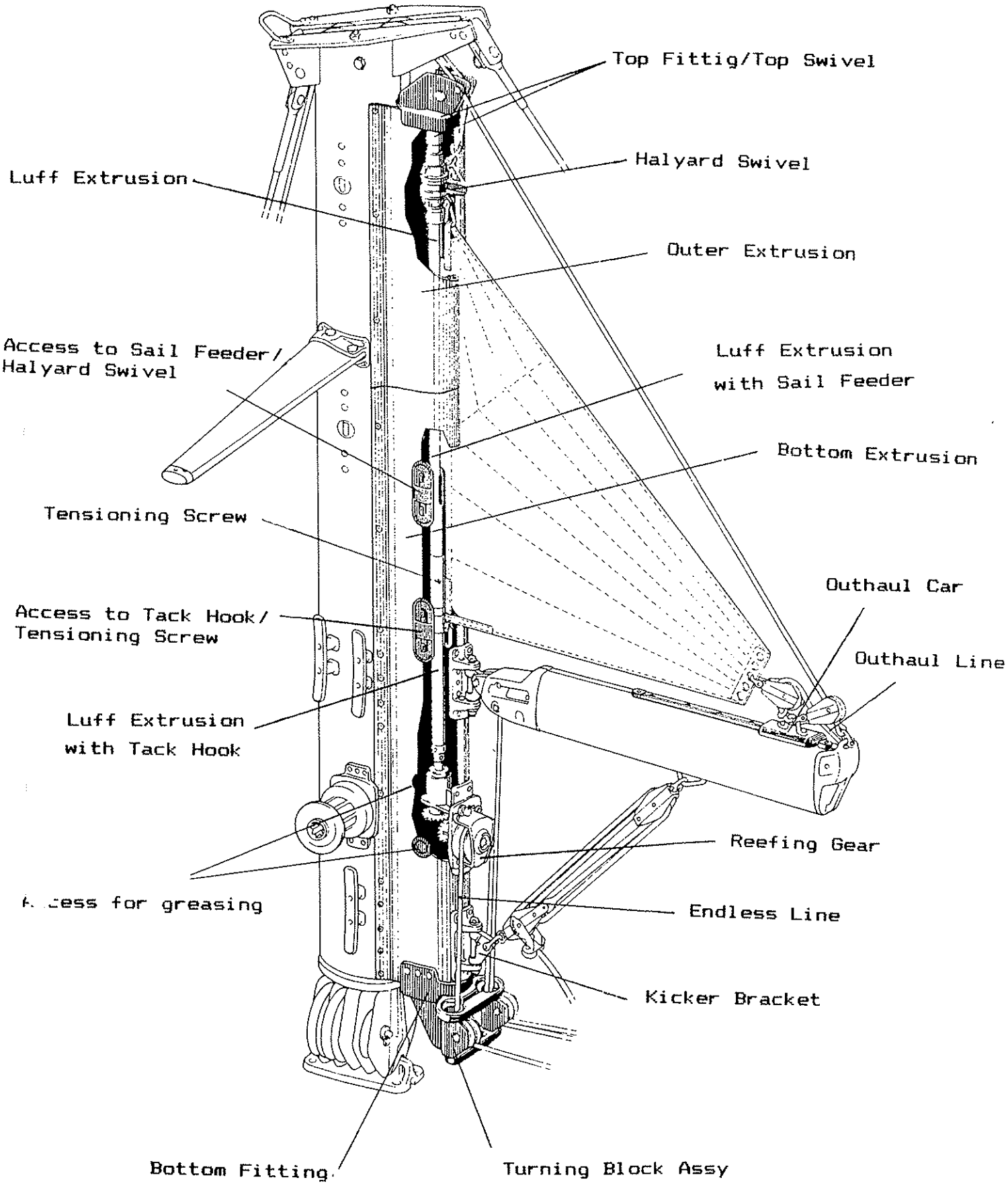
The Top Fitting has sheaves to lead the main halyard and the topping lift clear of the outer extrusion. The halyard is thus always easily replaced, and the topping lift can be used as a halyard if needed. A spare sail can be set in the second luff groove.

FURLEX MAIN can be operated with a line from the cockpit, or at the mast with a standard winch handle.

FURLEX MAIN is available in three sizes:

Type 76; maximum foot = 3,500mm.
Type 90; maximum foot = 4,000mm.
Type 108; maximum foot = 5,000mm.

A foresail for use with a luff foil can also be used.


Top Fittig/Top Swivel
Halyard Swivel
Luff Extrusion
Outer Extrusion
Access to Sail Feeder/
Halyard Swivel
Luff Extrusion
with Sail Feeder
Bottom Extrusion
Tensioning Screw
Outhaul Car
Access to Tack Hook/
Tensioning Screw
Outhaul Line
Luff Extrusion
with Tack Hook
Reefing Gear
Endless Line
Kicker Bracket
Bottom Fitting
Turning Block Assy

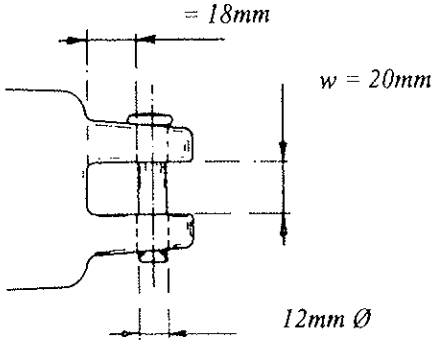
PREPARATION.

Outer Extrusion :

Check how the Outer Extrusion fits against the mast. This is easiest done by using the short sample length sent with the kit. If the extrusion does not fit perfectly the Outer Flanges must be re-formed on each extrusion length before fitting them to the mast. Bend the flanges carefully on the sample length so it can be used as a pattern

Boom :

Check the fit of the boom to the FURLEX MAIN boom toggle.



If the goose-neck pin is only 10mm Ø it can still be used.

If the toggle does not fit, then check whether the special toggle, 528-077 on page 3, fits better. This is stainless steel and can be modified as required.

HALYARDS :

The main halyard must exit the mast-head to starboard. The topping lift should exit to port.

Whilst not essential, it is best if the main halyard exits to port at deck level.

Fitting :

Fitting is easiest carried out with the mast horizontal, but can also be done while the mast is stepped and rigged. These instructons cover both eventualities. The mast must be absolutely straight in either case. If the mast is horizontal it must be supported under at least three points. If it is stepped, the fore and aft stays should be slackened off.

WARNING !
Ascertain the locations of internally run cables to avoid damaging them when drilling.

TOOLS :

The following tools are required for assembly :

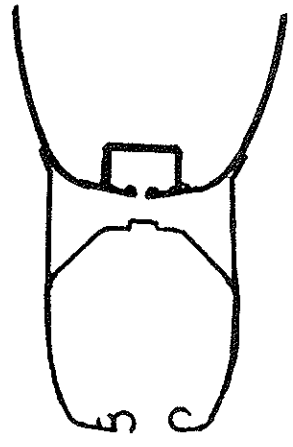
Steel tape measure, 20m.
Hacksaw.
Drill.
Drill bits : 4.9 or 5mm Ø.
5.3mm Ø.
6.0mm Ø.
Mandrel, maximum 2.5mm Ø, for driving out pop rivet pins.
Hammer.
Philips screwdriver with screw retainer.

SHAPING THE OUTER EXTRUSION.

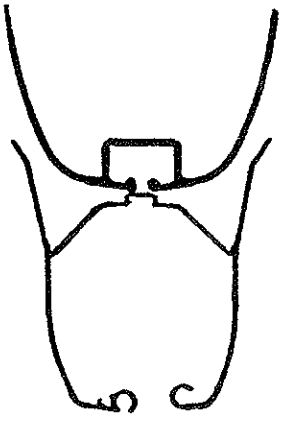
A bending jig and bending tool are needed for re-shaping the outer extrusions. Accuracy in bending is important so that the sections will be as similar as possible and match well. Bending should always be done by a trained person.

The Outer Flanges of the sample length should first be bent to fit the mast so the sample can be used as a template. The sail slot width of the Outer Extrusions as supplied is: FLX-M 76: 13,5 +/–3.
FLX-M 90: 13,5 +/–3.
FLX-M 108: 15,0 +/–3.

When reshaping and/or fitting the Outer Extrusion, check that the final width of the sail slot is as close as possible to the nominal dimension. Do not exceed the stated tolerances.

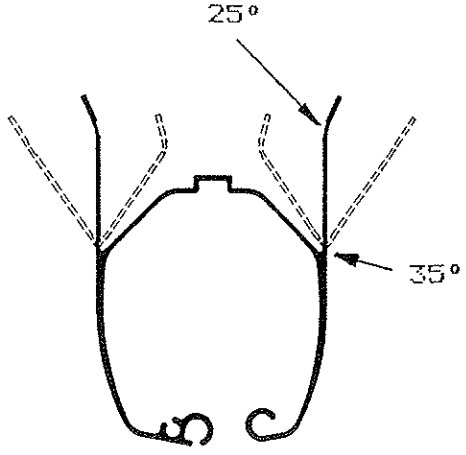


Too little shaping results in too small a sail slot. It may be impossible to hoist the halyard swivel.



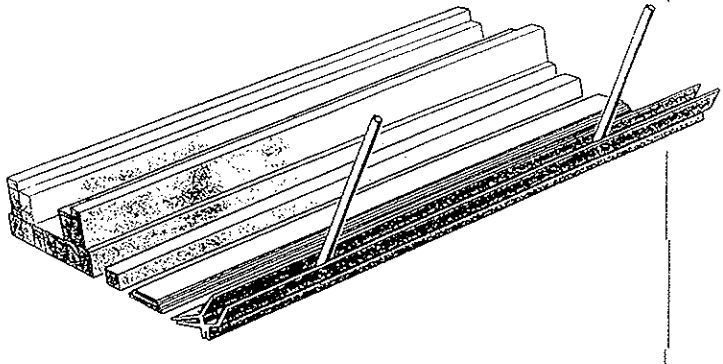
Too much bend will result in a bad fit against the mast between the pop rivets. The edge will be wavy, and the sail slot may also be too large.

Recommended Maximum Bend:



A complete forming set comprises:

Bending jig with clamps for outer extrusions.
Support batten ; 45 x 80 x 2200mm.
Spacer batten ;
FLX-M 76; 14 x 80 x 2200mm.
FLX-M 90; 14 x 95 x 2200mm.
FLX-M 108; 14 x 111 x 2200mm.
Bending Tool (aluminium) L = 2200mm.

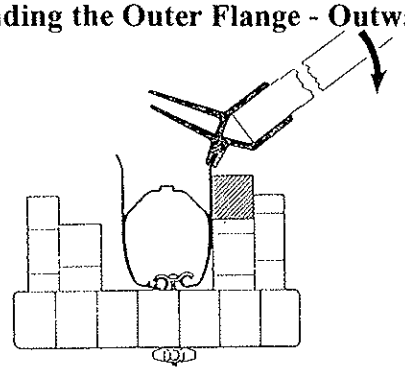


Bending jigs supplied prior to 1993 have too small a cut-out for the reefing winch. The cut-out must be enlarged upwards to be able to bend the Basic Extrusion.

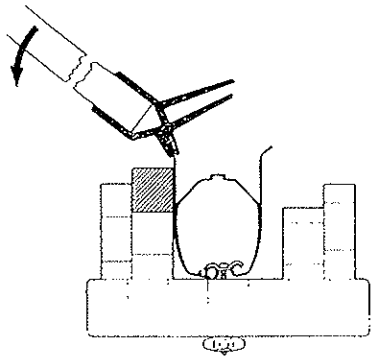
Ensure that the Bending Jig is securely anchored. The outer, mating, parts of the flanges are ALWAYS bent first.

1. Fix the outer extrusion in the Bending Jig with the support batten along one side.

2. Bending the Outer Flange - Outwards.

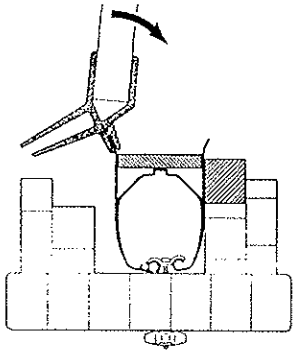


2:1. Place the 45 x 45mm support batten as illustrated.
2:2. Use the Bending Tool to bend the Outer Flange.

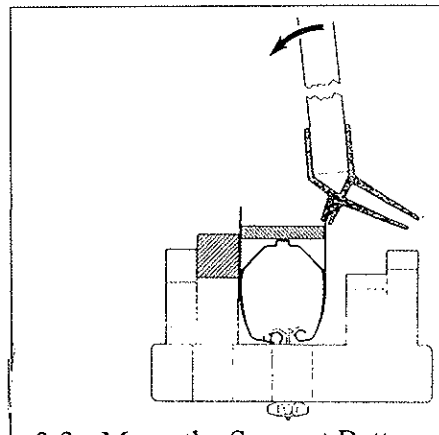


2:3. Move the support batten over to the other side of the jig, and slide the Outer Extrusion across.
2:4. Bend the other flange similarly.

3. Bending the Outer Flange - Inwards.

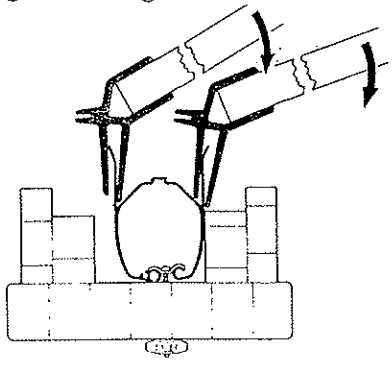


3:1. Place the 45 x 45mm Support Batten as illustrated. Put the Spacer Batten between the flanges.
3:2. Bend the Outer Flange towards the Spacer Batten with the Bending Tool.

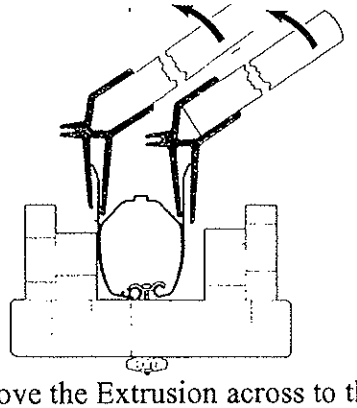


3:3. Move the Support Batten over to the other side of the jig, and slide the Outer Extrusion across.
3:4. Bend the other Flange similarly.

4. Bending the Flanges.



4:1 Use the Bending Tool's large jaw to bend the Flanges. Always bend towards the supporting side of the jig.



4:2. Move the Extrusion across to the other side of the Jig.
4:3. Bend the other Flange similarly.

CALCULATING LENGTH, & CUTTING EXTRUSIONS.

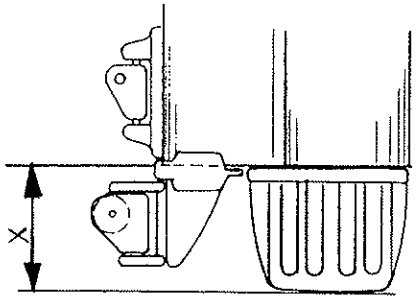
Note ! Refer to Fig. 13:1 for the measurement symbols.

Finish calculating all extrusion lengths before starting to cut.

1. Ascertain the lowest position on the mast for the Basic Extrusion. Do this with the Sample Extrusion and the Bottom Fitting together.

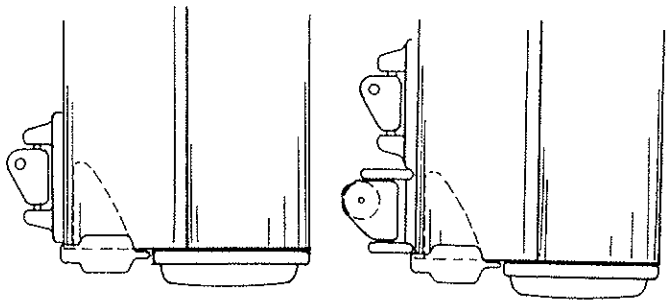
The Bottom Fitting can be used in one of two ways:

Types 76, 90 & 108.
Alternative 1:
Bracket turned downwards.



Space "x" can be fully utilized on masts with shoes or collars if a Turning Block is fitted.

Types 76 & 90
Alternative 2:
Bracket turned inwards.



This allows the Outer Extrusion to extend to max length. If the bottom fitting is to be used in this way, the central web of the bottom fitting must be removed to allow it to fit correctly. Fit with machine screws M6 x 35 mm.

2. Mark the mast for the lowest point for the Extrusion (H1).

3. Measure the distance BTH between H1 and the centre of the horizontal hole in the bottom toggle. Enter this dimension into "Calculation Table 1" under "BTH". If you wish to adjust the height of the boom on the mast, this should be done under that item.

Note 3:1 To have sufficient space for the Kicker Bracket on the Basic Extrusion.

Types 76 & 90	Type 108
620mm	690mm

Note 3:2 To have free space for an 8" Andersen winch handle the BTH measurement must not less than :
(Primarily for at-mast operation)

Kicker Angle.	BTH	
	Typ 76 & 90	Typ 108
V = 30°	790 mm	890 mm
V = 45°	850 mm	950 mm

Note 3:3. (Applies only when Kicker Bracket fitted).

If the goose-neck bracket fitting is extremely high on the mast, the necessary BTH measurement may exceed the BTH measurement supplied

Types 76 & 80	Type 108
If the outer extrusion needs to be extended downwards, and if the Kicker Bracket is to be fitted to it,then the length of the extension piece must be greater than 300mm.	If the outer extrusion needs to be extended then the internal reinforcement must also be extended when a Kicker Bracket is to be fitted to it. The parts needed can be requisitioned from Seldén Mast AB.

Calculation Table 1: For Cutting the Basic Extrusion.					
		Type 76	Type 90	Type 108	Example (Type 90)
BTH Delivery Length		1015	1215	1315	1215
BTH	BTH Measured Length	—	—	—	—
A	Cut the Basic Extrusion to this length from the bottom edge of the extrusion.	=	=	=	=

4. Check out the highest position for the outer extrusion on the mast. Do this with the extrusion sample and Top Fitting. The Top Fitting must be at least 50mm from the existing Top Fitting (see Fig. 13:1). Check that the halyard can run freely, and that the backstay is free.

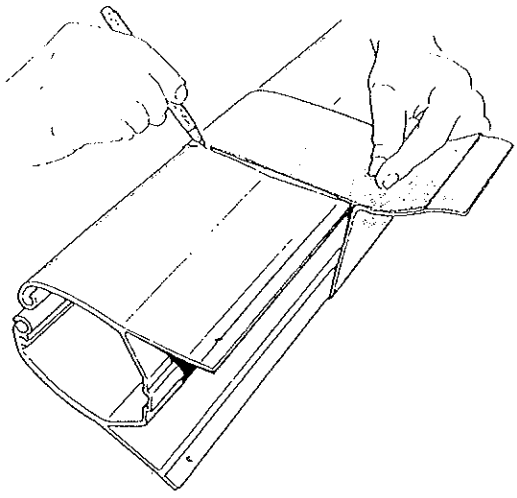
The average backstay angle is between 23° to 27°

Mark the highest position of the outer extrusion on the mast (H2).

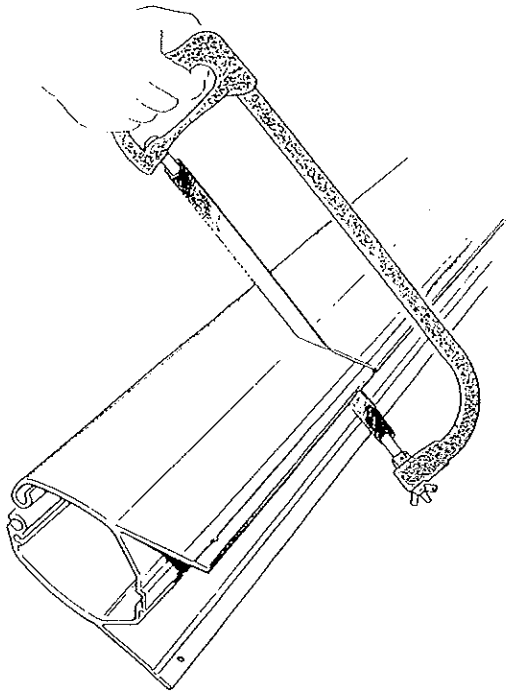
5. Using the steel tape measure the distance between H1 and H2. Enter the measurement in Calculation Table 2.

6. Calculate the lengths of each extrusion in Calculation Table 2.

7. Transfer measurement "A" from Calculation Table 1 to the Basic Extrusion; and measurement "D" to the top extrusion from Calculation Table 2.



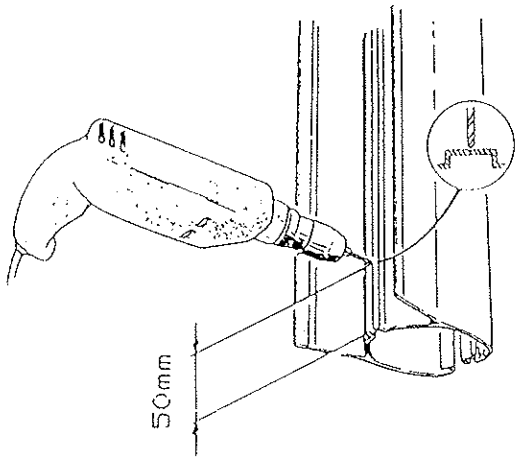
8:1. Stretch a piece of paper tightly around the extrusion at the mark made, and trace around the edge. A right-angled cut will then be assured.

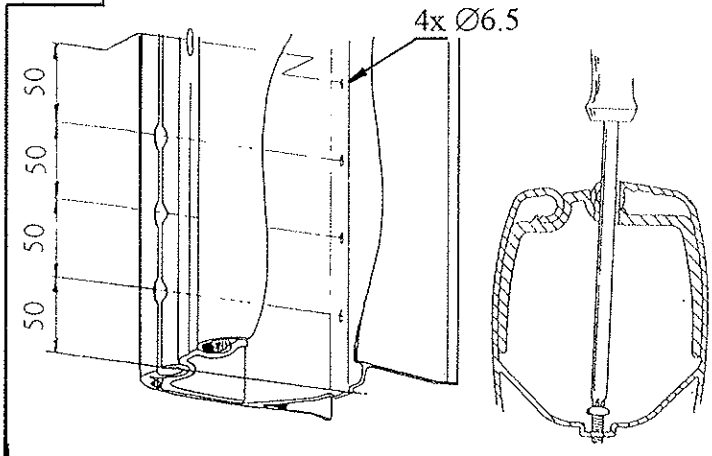


8:2. Cut the extrusions and remove the burrs from the edges with a fine file.

9. After cutting the basic extrusion drill ∅6.5 mm holes in the lower part of the extrusion acc. to the illustrations below.

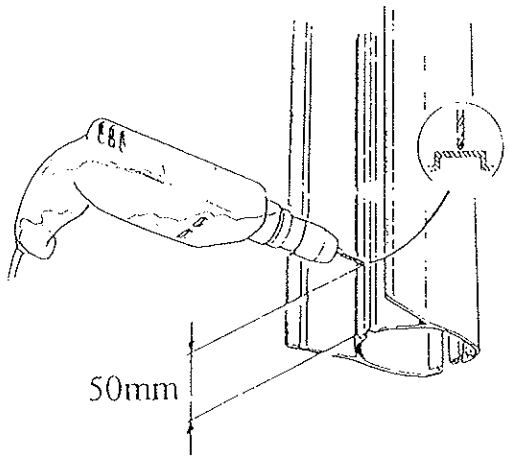
	Type 108
Drill one ∅6.5 mm hole 50 mm from the end of extrusion.	Drill four ∅6.5 mm holes 50 mm from the end of the extrusion (50 mm c/c spacing). To be able to tighten the screws in the ∅6.5 mm holes, access holes must be drilled as the internal reinforcement plate covers the sail slot. Drill four ∅15 mm holes 50 mm from the end of extrusion (50 mm c/c spacing). The three lower holes must be drilled in the spare luff groove acc. to the illustration below. Drill the top hole in the reinforcement plate identically to the hole drilled by the manufacturer further up the extrusion. FOR BEST RESULTS USE A ∅15 mm HOLE SAW NOTE!Do not drill the three lower ∅15 holes in the reinforcement plate in the sail slot as the kicker bracket will be fitted here.





The two holes drilled in the reinforcement plate should be covered by fitting the plastic plugs supplied.

10. If the top extrusion (D) is shortened by more than 280mm, a 6.5mm Ø hole must be drilled in the central groove and 50mm from its upper edge, but not closer than 50mm to any existing hole.



Calculation Table 2:
For Cutting the Top Outer Extrusion & Top Luff Extrusion.

		Type 76	Type 90	Type 108	Example: (Type 90)
OXL	Maximum Length, Outer Extrusion =				
	Fixed Reduction, Basic Extrusion =	- 2200	- 2200	- 2200	- 2200
		=	=	=	=
A	Add Dimension "A" from Calculation Table 1.	+	+	+	+
C+D	C + D =	=	=	=	=
C	Maximum No. of extrusions at 2200mm that together are shorter than C+D . . . . . off x 2200mm = C =	_	_	_	_
D	Top Extrusion Length. D = The Top Extrusion is shortened according to the following and dependant upon the length of "D" If "D" is longer than 2000mm : The top extrusion is cut from a 2200mm length. If "D" is between 200 and 2000mm : The top extrusion is cut from a 2000mm length If "D" is shorter than 200mm : Replace the topmost 2200mm extrusion with a 2000mm length.The joint will then be moved down by 200mm. Then adjust the "C" & "D" dimensions as follows: Reduce dimension "C" by 200mm. Increase dimension "D" by 200mm. The top extrusion is cut from a 2200mm section. Cut the Top Extrusion. Measure from the bottom edge of the extrusion (where the pilot pins are fitted).	=	=	=	=
F	Upper Luff Extrusion Length : Fixed deduction :	- 140	- 340	- 180	- 340
	"F" = The Luff Extrusion is cut to "F. NOTE ! The Luff Extrusion is asymmetric. Measure from the bottom edge of the extrusion - i.e. the end where the pilot studs are fitted.	=	=	=	=
G	A part of the protective plastic, L = G, must be removed from the cut end. "G" =	17mm	17mm	32mm	17mm

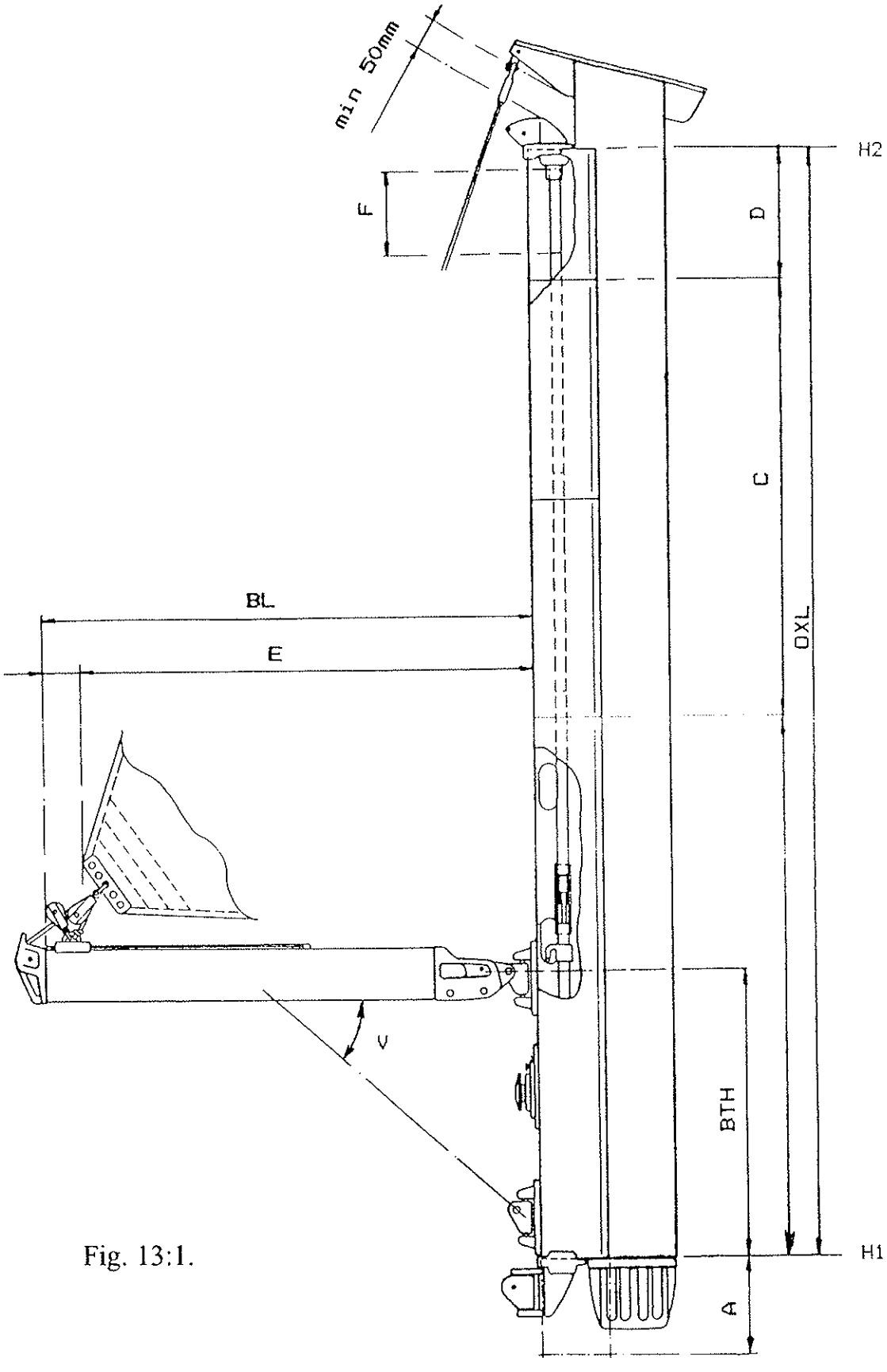


Fig. 13:1.

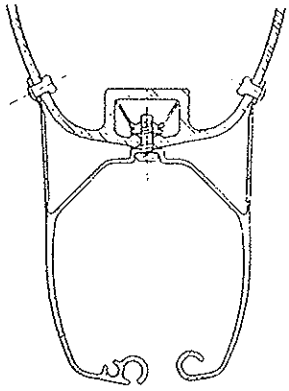
Calculation Table 3: Maximum Sail Space.					
Types 76 & 90			Type 108		
P	P=OXL-BTH-330mm	=	P	P=OXL-BTH-335mm	=
E	E = BL - 180mm	=	E	E = BL - 260mm	=

FITTING FURLEX MAIN.

The mast should be absolutely straight during fitting. If fitting is done on a horizontal mast, then it should be supported at at least three points. If the mast is stepped, the fore-and-aft rigging should be slackened

1. Take all fittings off the mast that will be within the area the extrusions will cover. NOTE ! Do NOT remove the spreader brackets ! It may be necessary to make cut-outs in the extrusions for them.

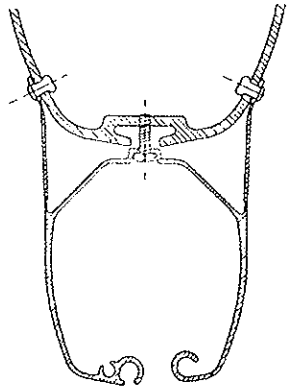
2:1. The outer extrusion main bodies are fitted to the mast with screws and special nuts in the mast luff groove. The outer flanges are also pop-riveted tothe mast body. The fixing parts are included in the packaging with each extrusion section. The Basic Extrusion package contains 2 spare screws.



2:2. The screws must be tapped into the bottom of the luff groove on those masts where the special nuts do not fit.

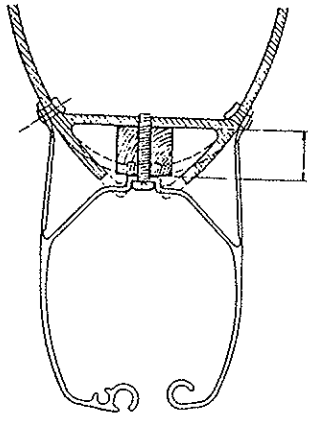
1. Mark out the hole with a 6-7mm Ø long drill.
2. Drill the hole to 4mm Ø.
3. Tap with an M-5 threaded tap.

Thereafter follow the main instructions.



2:3. Some older masts have an enlarged luff groove for a sail intake and boom slide track. As their flanges are higher they prevent fitting the Basic Extrusion parallel to the aft face of the mast, they must have their flanges removed and a spacer fitted.

A suitable spacer batten would be 22 x 26mm teak.



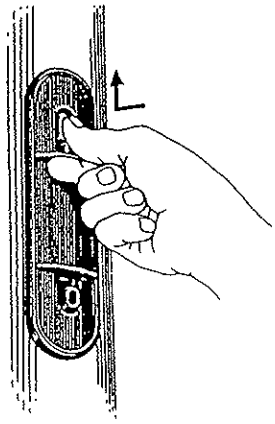
3. Insert the requisite number of screws with their special nuts into the mast luff groove through the sail feeder. The special nuts have springs that will hold them in place. Spread them fairly evenly over the whole length of the mast.
The number of screws needed is shown in the following table :

	Type 76	Type 90	Type 108
Needed for the Basic Extrusion : Needed for each intermediate extrusion :	4 off 3 off	4 off 3 off	7 off 3 off
Needed for the Top Extrusion :	3 off	3 off	3 off

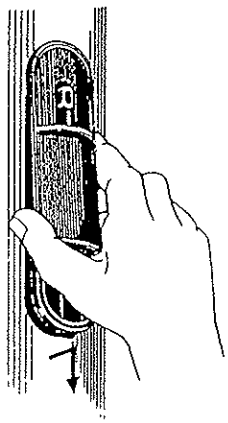
Fitting the Basic Extrusion:

4. Remove the covers from the Basic Extrusion.

Depress one of the buttons and slide the cover upwards.

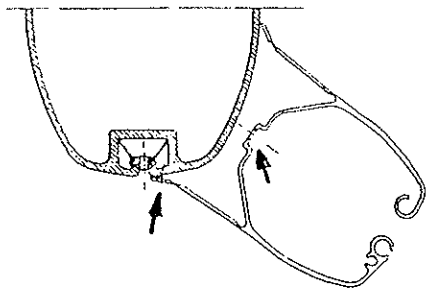


Lift the opposite end and pull out.

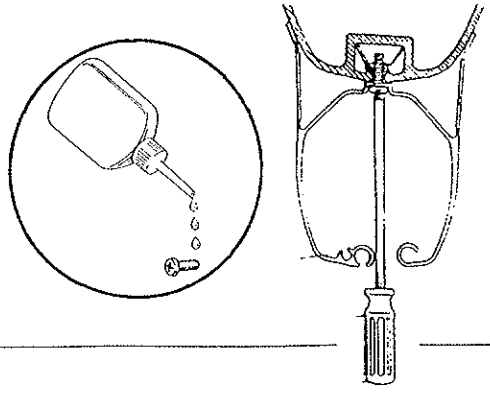


5. The Basic Extrusion is fitted first. Place the extrusion against the mast at the height determined, and with the port Outer Flange by the luff groove.

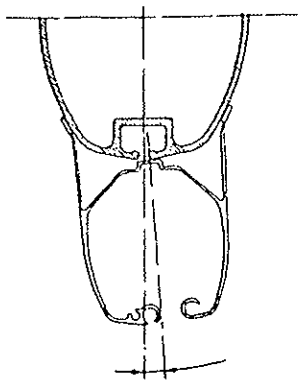
Position the screws with special nuts to mate up with the holes in the Basic Extrusion centre groove. Make fine adjustments to the three uppermost special nuts which are on the same level as the corresponding holes in the



6. Remove the 4 (7) screws, taking care not to alter the positioning of the special nuts. Put a drop of lockng adhesive on the screw threads. Fasten the Basic Extrusion with its screws in its final position on the mast. Use a screwdriver with a screw holding attachment.

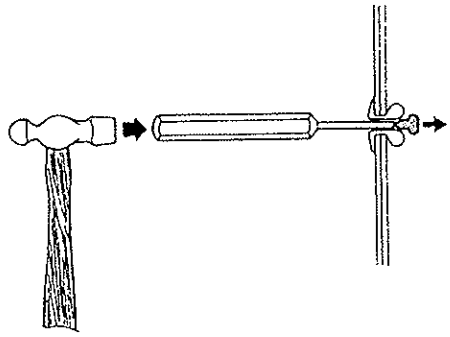


7. Check that the Basic Extrusion is properly centred on the mast.



Minimum Deflection

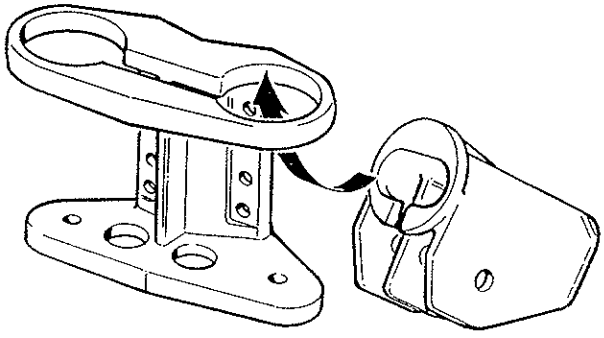
8. Attach the Basic Extrusion Outer Flanges at four places top and bottom. Drill 4.9 mm Ø and pop rivet it to the mast. Check that the final sail slot width is within the limits stated on page 7. Drill out the rest of the holes in the Outer Flanges and pop rivet them. Knock all the pins out of the rivets as they are not made of non-corrosive material and must be removed.

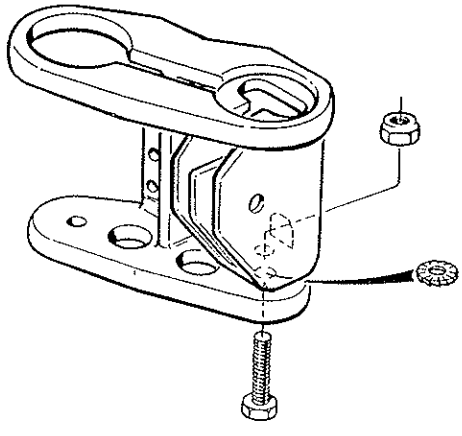


9. Drill and Fit the Bottom Attachment.

Types 76 & 90.	Type 108.
9:1 Drill 4.9mm Ø and fit the Bottom Fitting with the 6-8 pop rivets supplied. Put a wedge into the luff opening to prevent it being squeezed together while drilling. 9:2 Fit the Turning Block assembly if that is going to be used. Use the 6 off 6.4mm pop rivets, and knock out the steel pins.	9:3 Drill 6.4mm Ø and fit the Bottom Fitting with the 12 pop rivets supplied. 9:4 Fit the Turning Block assembly if this is going to be used. Use the 6 off 6.4mm pop rivets, and knock out the steel pins.

9:4 Fit the Turning Block as shown below





10. If the Kicker Bracket is to be fitted to the Base Extrusion it should be at the lowest level. Centre and fit it in the same manner as the boom goose-neck bracket. Drill 6.5mm Ø using the Kicker Bracket as a pattern, and pop rivet it in place.

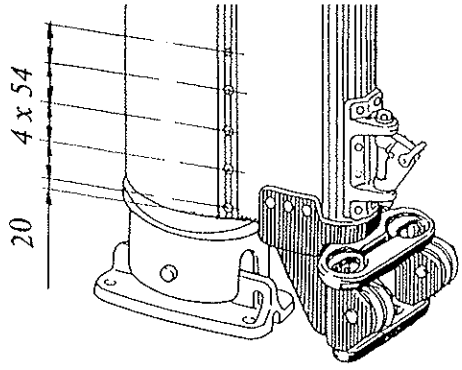
Type 108.

10:1. The Kicker Bracket is supplied temporarily assembled to show the correct positioning of its various components. It must be dismantled before pop rivetting it to the Basic Extrusion. Use the spring pin supplied when re-assembling.

11. FURLEX-MAIN outer extrusions are designed for low weight. This means that some local reinforcements must be added to take up the forces from the Kicker tackle or rod.

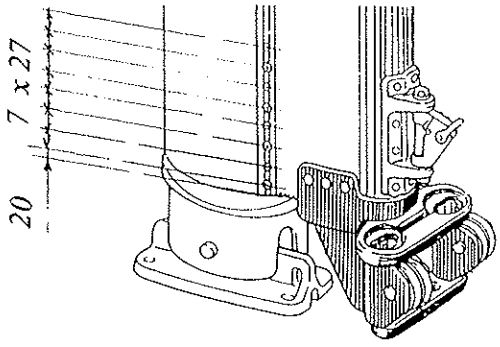
Types 76 & 90.

11:1. The Basic Extrusion must have additional fastenings to the mast in way of the Kicker Bracket. Drill five 4.9mm Ø holes with 54mm c/c spacing in each of the Outer Flanges.
Then pop rivet them, and knock out the pins.

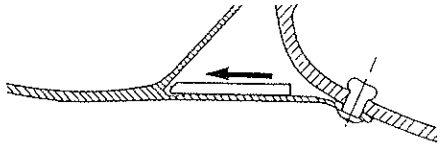


Type 108.

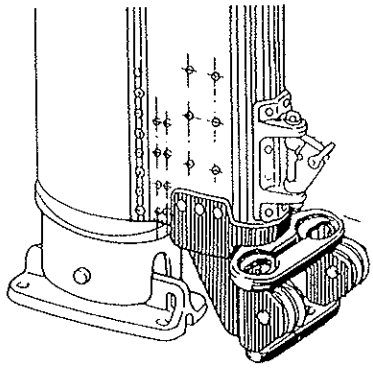
11:2. The Basic Extrusion must have additional fastenings to the mast in way of the Kicker Bracket. Drill eight 4.9mm Ø holes with 27mm c/c spacing in each Outer Flange. Pop rivet them, and knock out the pins.



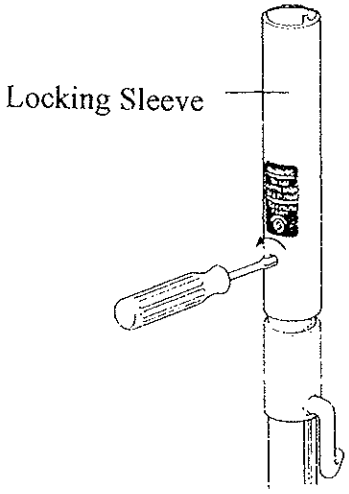
11:3. The Outer Flanges must be reinforced at their lower ends with the reinforcement plates supplied . Use the drilling jigs supplied, and mark for the holes. (No. 595-692 Stb to starboard; No. 595-692 Prt to port).
11:4. Press the plates into the corners of the Basic Extrusion as shown, and hold in place with clamps. The bottom edges of the plates must be flush with the bottom edge of the extrusion.
Drill 4.9mm Ø, taking care not to alter the position of the plates, and pop rivet with the 2 x 8 off 4.8mm pop rivets. Knock out the steel pins.



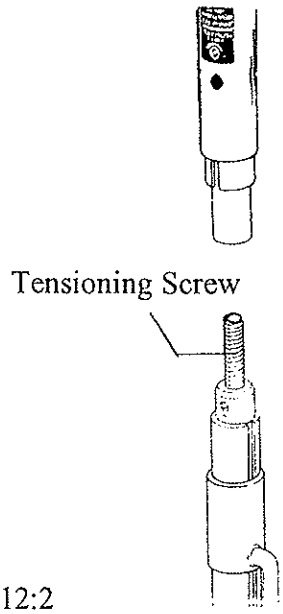
11.5. The Basic Extrusion has an internal reinforcement plate from the goose-neck bracket down. This has to be further joined at the bottom. Drill 4.9mm Ø holes with the jigs supplied (No. 595-692 Stb. to starboard, and No. 595-692 Prt. to port).
Pop rivet with 2 x 6 off 4.8mm Ø rivets, and drive out the pins.



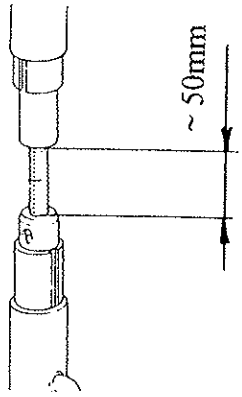
12. Fitting the Luff Extrusion to the Basic Extrusion.



12:1
Remove the Locking Sleeve from the Tensioning Screw.



12:2
Transfer the Locking Sleeve to the Luff Extrusion with the Sail Feeder. Put the Luff Extrusion down in the Basic Extrusion.

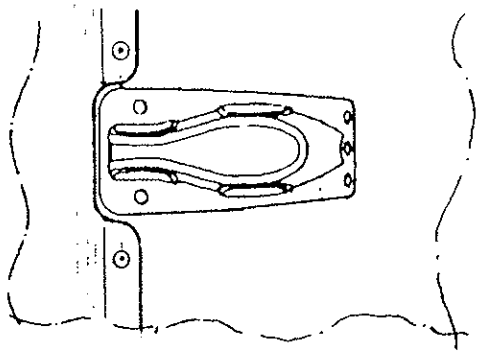


12:3
Screw the parts together by about 15mm. Some 50mm of the screw will then remain visible.

Fitting the remaining Extrusions and Luff Sections:

Continue to build upwards with extrusions according to Calculation Table 2. These are fitted in the same way as the Basic Extrusion.

13.
It may be necessary to make cut-outs in the outer flanges in way of the spreader brackets. De-burr the edges carefully and thoroughly.



14. Locate the screws and special nuts accurately. The pilot pins in the outer extrusion must point downwards.

15. Lash the Outer Extrusion to the mast with a line, and with about a 0.5m gap between it and the Basic Extrusion. This gap is needed to give work space for points 16 and 17.

16. Fit the Luff Extrusion from the relevant extrusion set to the extrusion that is already fitted. Put the Luff Extrusion in with its Joint Sleeve downwards.

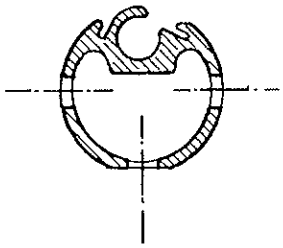
17 Pop rivet the Luff Extrusions together with the rivets supplied. It is not possible to knock the steel pins out, so they must be sealed off with the plastic plugs provided.

18. Push the outer extrusion down and join it to the Basic Extrusion. Then attach it to the mast with the three screws.

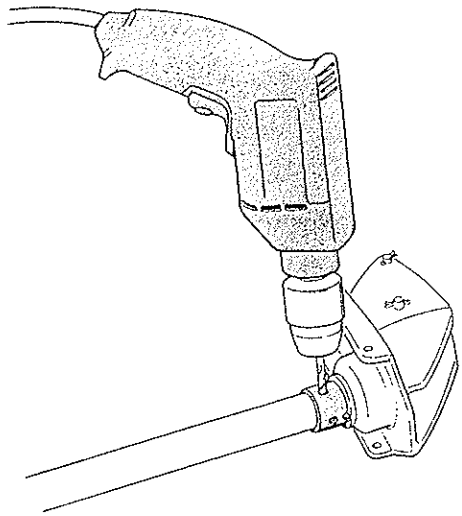
19. Adjust the Outer Extrusion so it lies straight on the mast. Drill 4.9mm Ø and pop rivet the upper holes. Check for straightness.

20. Drill and pop rivet the remaining holes. Drive out the pins.

21. Before fitting the upper Luff Extrusion three 4.9mm Ø holes must be drilled into the top end. Use the Halyard Swivel Sleeve on the Top Fitting as a pattern. The holes are made as shown in the illustration.



Hole positions in the Luff Extrusion.



WARNING ! AVOID GETTING DRILLING CHIPS IN THE BEARING !

22. Fit the upper Luff and Outer Extrusions. The Luff Extrusion must be about 30 to 40mm shorter than the Outer Extrusion when fitted up.

Assembling the Top Fitting.

23. Joing the main halyard to the Halyard Swivel. Thread the Halyard Swivel over the Luff Extrusion and push it down to the Tensioning Screw. Take the halyard out through the sail opening.

24. Unscrew the Luff Extrusion from the Tensioning Screw. Grease the Tensioning Screw with the FURLEX grease supplied.

25. Put the top of the Luff Extrusion in the Halyard Swivel Sleeve, and pop rivet it fast. Drive out the steel pins .

26. Screw the Luff Extrusion back on the Tensioning Screw again, and put the Top Fitting in place.

27. Drill 5.3mm Ø through the four holes in the Top Fitting, and fasten it with the four M6 screws. Put a wedge in the Outer Extrusion sail opening to stop it being squeezed together while drilling.

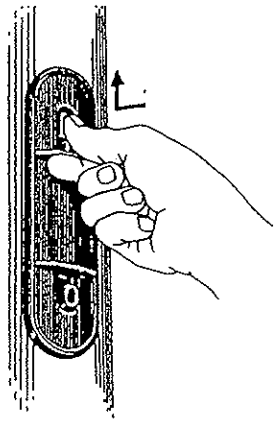
28 Take out the securing pin fom the Top Fitting. Place the main halyard over the starboard sheave and the topping lift on the port. Replace the pin.

Tensioning the Luff Extrusion.

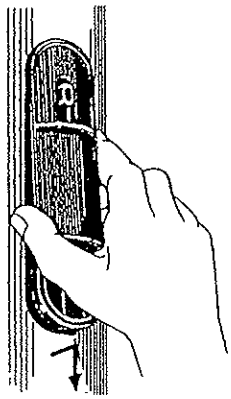
A correctly tensioned Luff Extrusion facilitates rolling the sail in and out. The Luff Extrusion will be pulled aft by the sail when sailing. The major part of the Luff Extrusion will rest against the aft inner face of the sail chamber when correctly tensioned,.

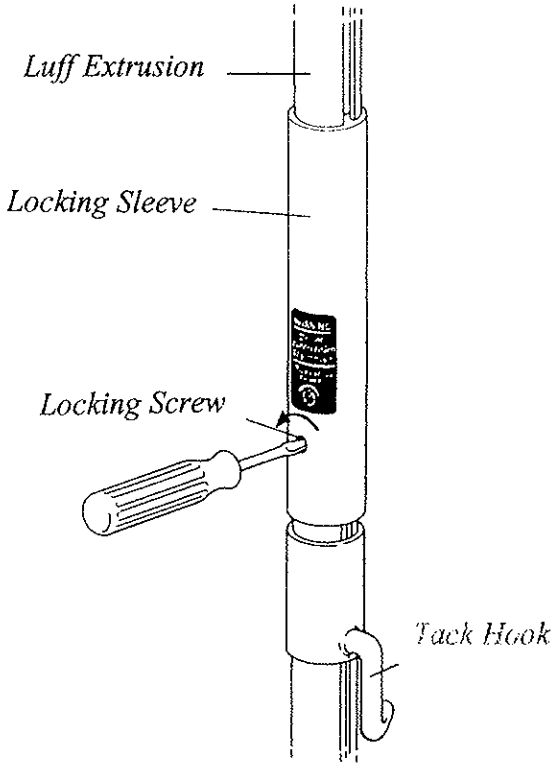
1. Removing the Covers:

Depress one of the buttons and slide.

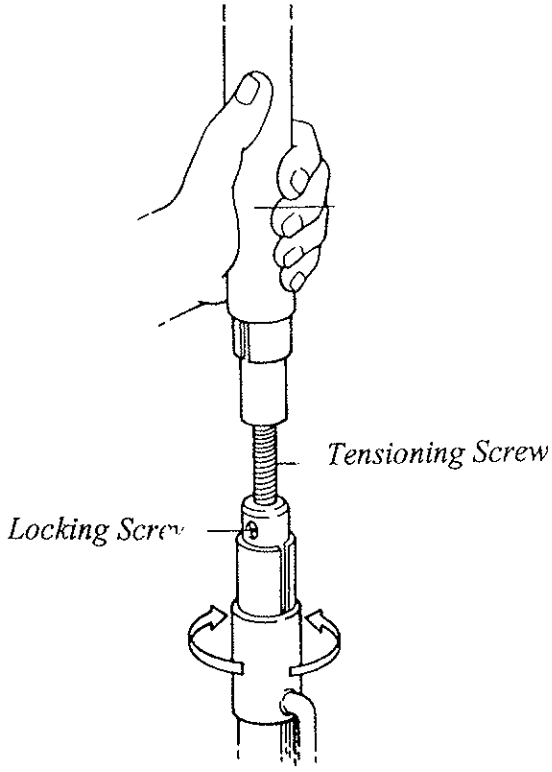


Lift the opposite





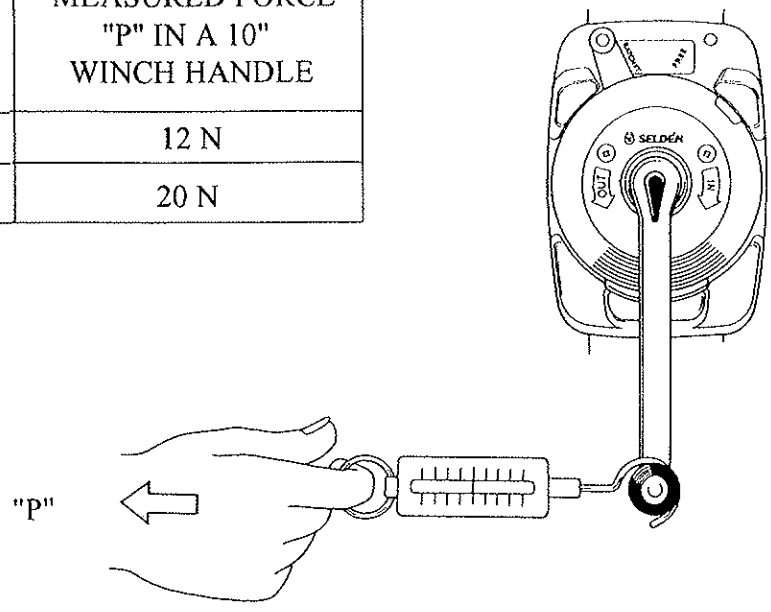
2. Undo the Locking Screw sufficiently to free the it.



3. Push the Locking Sleeve upwards and level with the upper opening. Put in your left hand and and grip the Locking Sleeve firmly.

4. Use the Reefing Winch to turn the Tensioning Screw. When the Locking Sleeve slips round in your hand the Luff Extrusion is satisfactorily, and simply, tensioned. For those who wish to be more exact, the following values can be used :

SYSTEM TYPE	MEASURED FORCE "P" IN A 10" WINCH HANDLE
Types 76 & 90	12 N
Type 108	20 N



5. Adjust the turn so that the Locking Sleeve can be drawn down over the bottom part of the Luff Extrusion.
6. Pull the Locking Sleeve down to the locking position.
7. Put in the lock screw to hold the Locking Sleeve in place.

WARNING !

TOO MUCH TENSION ON THE LUFF E XTRUSION WILL RISK OVERLOADING THE SYSTEM.

THE BOOM.

Fitting the Outhaul Track.

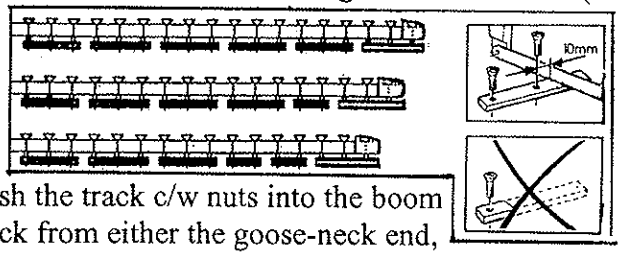
The Outhaul Track must be fitted as far out on the boom as possible in order to maximise use of the foot of the sail (the "E" measurement).

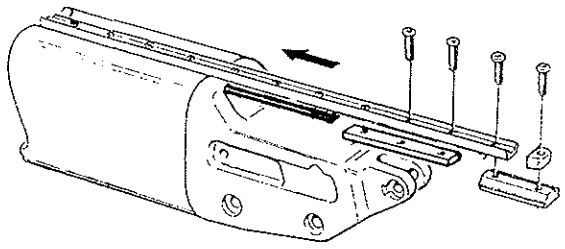
When removing the old outhaul line, use it to lead a new line or a pilot line through the boom.

Types 76 & 90.

1:1. Boom Track≥5mm :

Put a drop of locking adhesive on the threads of the screws, and place all screws with their special nuts loose in the Outhaul Track without their springs . A special nut with two holes is fitted to the outer track holes. The largest of those holes (M6) must be outside the track.



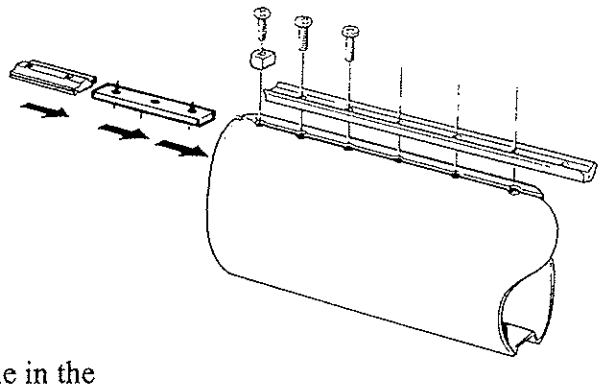


Push the track c/w nuts into the boom track from either the goose-neck end, or by removing the boom end-fitting. Tighten down all screws when the Outhaul Track is in position.

1:2. Boom Track,<5mm :

As the width of the boom track is narrower than the diameter of the M5 screws, the Outhaul Track cannot be pushed along it with the screws pre-fitted. Assembly must therefore be undertaken as follows:

A. Remove the boom end-fitting. Place the Outhaul Track in its correct position. Drill out the boom track through the after hole with a 5.3mm Ø bit, and secure the track in that position with a screw and special nut.



B. Use the Outhaul Track as a pattern to drill out the remainder of the boom track shoulder.

C. Put the special nuts in position one by one in the boom track, with a foam plastic cushion under each to hold them in place. The cushions can be cut from the foam strip supplied.

D. Begin with a special nut with two holes. The larger (M6) hole is forward. Finish off the after end in the same manner.

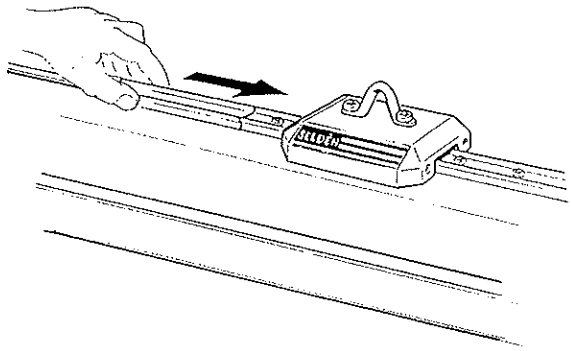
E. Tighten down the Outhaul Track and the after End Stop.

Typ 108

1:3 The Outhaul Track is secured with M6 screws tapped direct into the bottom of the boom groove. The long special nuts are used at Outhaul Track joints and at the joins to the End Stops however. These are threaded before they leave the factory.
Tighten down the Outhaul Track and after End stop. Fit all screws with locking adhesive.
NOTE. The wall thickness of the bottom of the boom's track must not be less than 3.2 mm to achieve adequate strenght.

WARNING!
CHECK THAT NO INTERNAL LINES CAN CHAFE
AGAINST THE SCREW ENDS INSIDE THE BOOM.

2. Transfer the Outhaul Car from the transport track to the Outhaul Track.

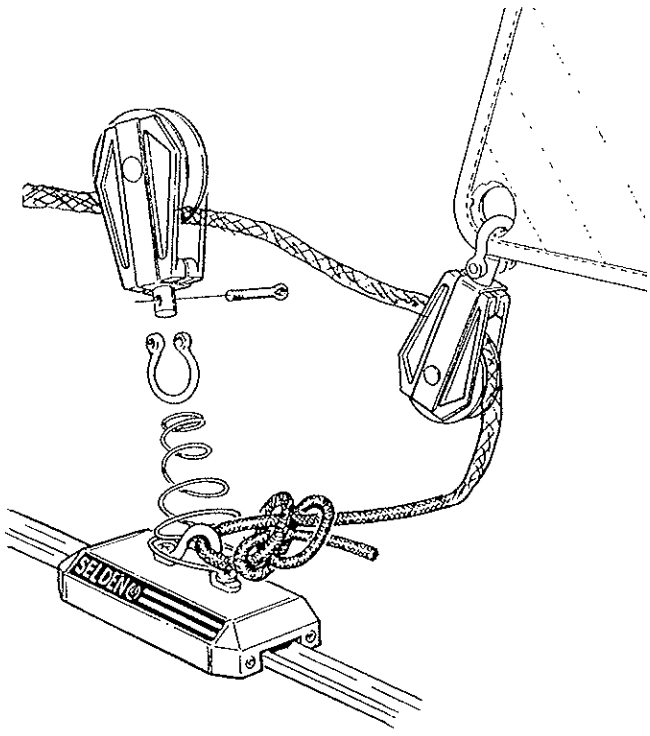


TAKE CARE TO ENSURE THAT
NO BALLS ARE DROPPED !

3. Fit the other End Stop.

4. Fit one of the two blocks supplied to the Outhaul Car. If the blocks are different sizes, the smaller should be fitted to the Car. If the Car has two eyes, the after one should be used.

5. Thread the outhaul line through the blocks and tie off as illustrated.



6. If the boom is not equipped for internal lines, the outhaul line can be given an alternative lead. Fig. 26:1. illustrates one method.

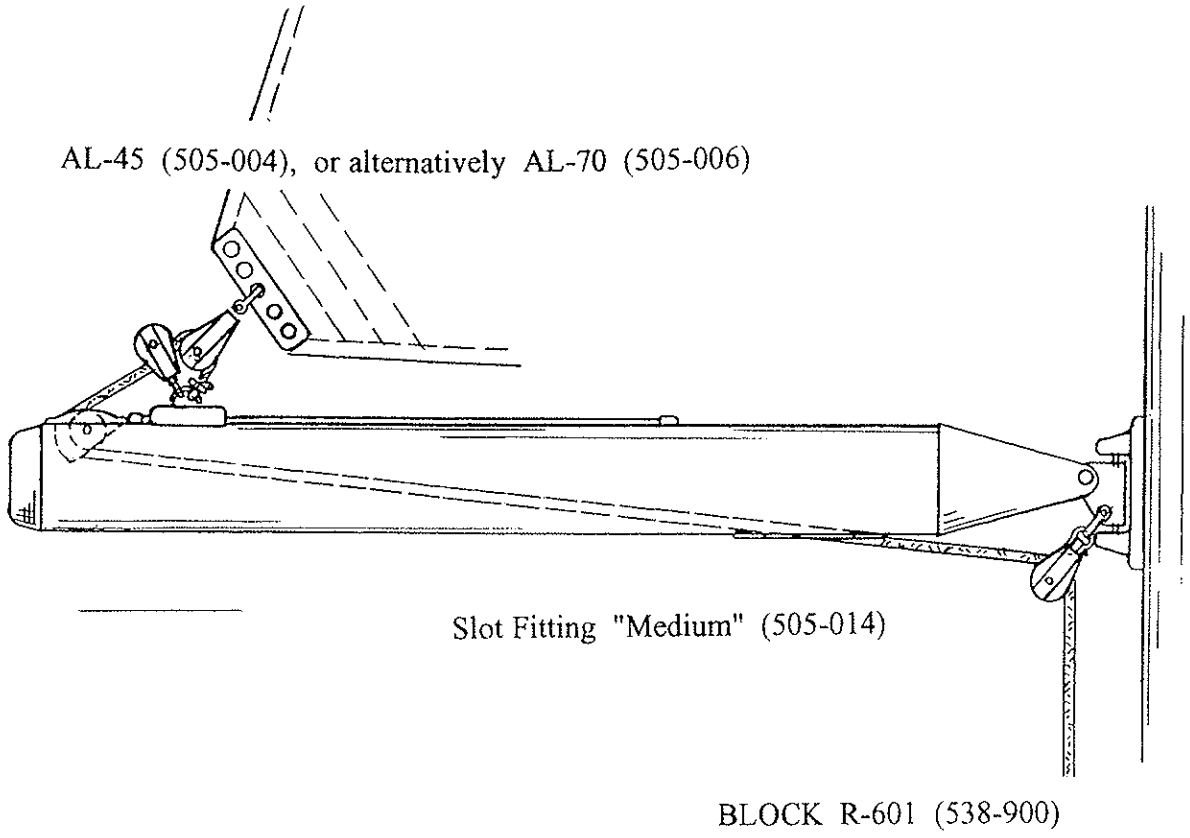


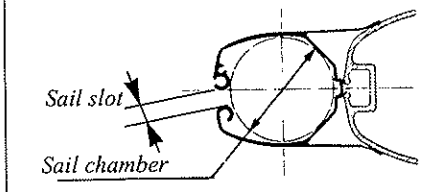
Fig. 26:1.

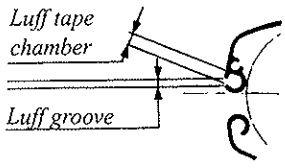
Roller furling mainsails

Furlex Main – Retro-fit system

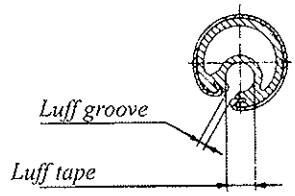
FURLEX MAIN
MAIN FURLING & REEFING SYSTEM
SELDÉN

Furlex Main – Other extrusion





Luff extrusion

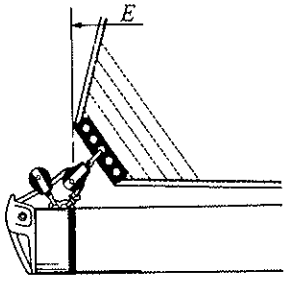


Furlex Main Type	Sail chamber	Sail slot	Max. foot length recommended "E"	Spare luff groove in mast			Type	Diameter	Luff groove	Max space available in chamber
				Luff groove	Max space available for luff tape	Slide				
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
Type 76 Type 90	ø76 ø90	13.5 ± 3	3500 4000	3.25 3.25	ø9.4 ø9.4	Aquabatten AO31 or Rutgerson 101	RA	ø25	2.75 ± 0.25	ø6.0
Type 108	ø108	15 ± 3	5000	3.25	ø10.0	Aquabatten AO32 or Rutgerson 101	RB	ø30	3.25 ± 0.35	ø8*

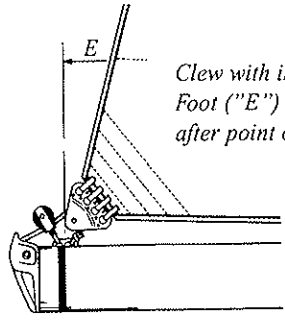
**1995 and earliger: ø10*

- ☐ The luff extrusion is asymmetrically shaped in order to help overcome initial resistance when starting to furl. Do not use too heavy sail-cloth in the luff area.
- ☐ Head and tack webbing bands should be of soft quality which can fold easily. 20 mm is a suitable width. Do not use metal cringles on them.
- ☐ Battens must be located on the port side of the sail so as not to snag on the inside of the sail compartment.
- ☐ If clew cringles are used they must not be thicker than 14 mm in order to fit the outhaul block.
- ☐ The upper part of the luff extrusion will be kept centred by the halyard swivel, while most of the extrusion will rest on the aft face of the sail compartment when sailing. The luff curve must have a wedge formed into it for compensation (0 to 30 mm) at the upper 500–800 mm of the luff.

Alternative clew executions



Clew with clew-board: Foot ("E") measured to after point of sail. Clew-board gives longer effective ("E") than integrated block or normal cringle.



Clew with integrated block: Foot ("E") measured to after point of block.

Furlex-Main Type	A	B	T	OS
76	600	270	60	180
90	600	270	60	180
108	650	270	65	260