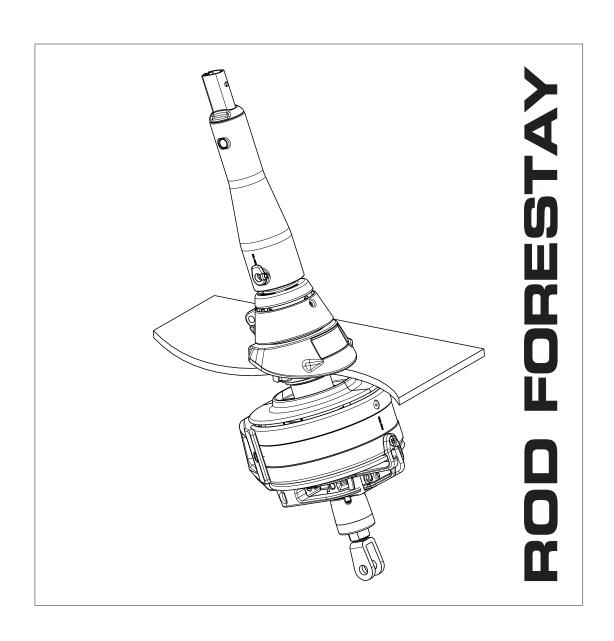


Assembly manual Furlex 200 TD, 300 TD & 400 TD with rod forestay





1 Introduction

1.1 The manual

This manual covers assembly of the rod forestay and replaces the corresponding headings in the "Manual Furlex 200 TD, 300 TD" (part no: 595-231-E) These instructions are included in Furlex box. See "Contents" on page 3.
It is very important to read both manuals and note any cross references.
All safety-related information is indicated by the following symbol:
The manual covers three different Furlex sizes, 200 TD, 300 TD and 400 TD. The model designation can be found on the deck collar. The assembly procedure varies slightly between the different sizes. These differences are marked in the manual.
All dimensions specified in the manual are in millimetres (mm) unless otherwise indicated.



This information must be followed to avoid damage to the system and the risk of personal injury.

The 5-year guarantee on the Furlex-system is only valid if the system is assembled and operated correctly according to the manual.



PLEASE read the entire manual prior to assembly.

Seldén Mast AB guarantees the Furlex-system for 5 years. The guarantee covers faults arising from defective design, materials or workmanship.

The guarantee is only valid if the Furlex-system is assembled, operated and maintained in accordance with this manual and is not subjected to loads in excess of those indicated in the brochure and instructions.

If the system is repaired by anyone other than Seldén Mast AB or one of our authorised dealers, the guarantee ceases to be valid.

Seldén Mast AB reserves the right to alter the content and design without prior warning and to future design changes.

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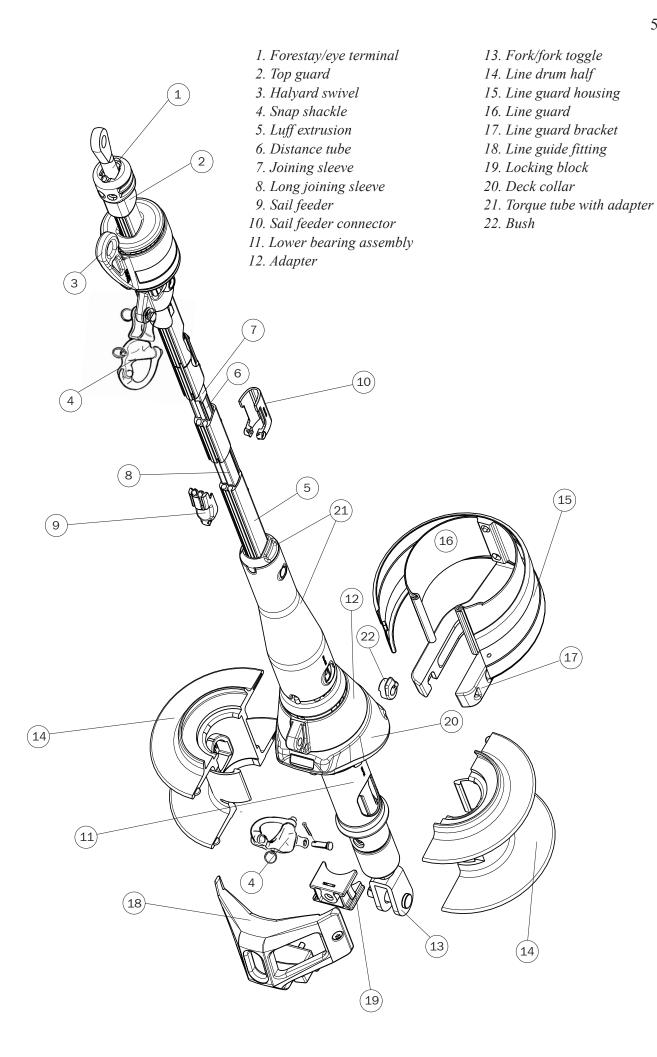
1.2 Product information

When the original Furlex was introduced in 1983, it was not a pioneering project. We had studied the market and seen what was already available. We improved the jib furling concept in a number of ways. Furlex quickly became the market leader, a position it still occupies today. The first systems sold are still functioning well. Providing ample proof of the design's effectiveness and long-term staying power. Our success can also be put down to how we select a system for a specific yacht. First we calculate the boat's righting moment, which is the function of its displacement, ballast, beam and draught. Then we use righting moment in combination with the rig type to calculate its power when sailing, and the likely loads on the Furlex system. In this way, we achieve a correctly dimension jib furling system for each individual yacht.

It has always been our intention to retain responsibility for our products through all stages of supply. Furlex is only sold through authorised local dealers who are able to cover all service requirements for the customer. Including assistance with assembly, the modification of sails or the production of new sails, as well as service.

This new Furlex model range, for through-deck mounting, incorporates improvements based on our extensive experience, and represents the very latest development of the jib furling and reefing concept. ☐ Furlex is supplied as a complete assembly kit containing all the components required. ☐ Furlex TD can be split between the lower bearing assembly and the luft extrusion. The lower bearing assembly with line drum, etc. can be permanently installed in the yacht, even if the luff extrusion is disconnected. ☐ Furlex TD has a permanently fitted adjusting screw for exact adjustment in relation to the deck level, which considerably simplifies customising to different boat types. ☐ The halyard swivel features a load distribution system. A unique patented system which distributes loads over the entire ball race. This permits smoother furling and considerably reduces bearing wear. ☐ The tack ring's "free turn" flattens out the sail, promoting an efficient shape when reefed. ☐ Furlex TD is suited to both cruising and racing. With the line drum and line guide unit mounted below deck, the leading edge of the sail can be maximised along its entire length. ☐ The luff section has two luff grooves, allowing two jibs to be goose-winged when running down wind. And facilitating fast sail changes for racing yachtsmen. ☐ The aluminium extrusion is insulated from the forestay over its whole length. The extrusion joining sleeves are also are insulated internally. In order to prevent wear and corrosion. ☐ The line guide fitting centres the line as it is wound onto the drum. The flexible internal line guard maintains light pressure on the line to ensure even distribution on the drum. ☐ Furlex is manufactured by Seldén Mast, the world's leading manufacturer of masts and rigging systems. We wish you fine sailing with your Furlex.





ASSEMBLY

2 Check list

2.1 Furlex box

☐ Wire terminal with toggle	
☐ Halyard swivel with snap shackle	
Lower bearing assembly with snap shackle	
☐ Deckcollar with screws and template.	
☐ Torque tube with adapter and extrusion screws	000
☐ 2 x line drum halves (One with lock for furling line end, not 400 TD)	
☐ Line guide fitting	

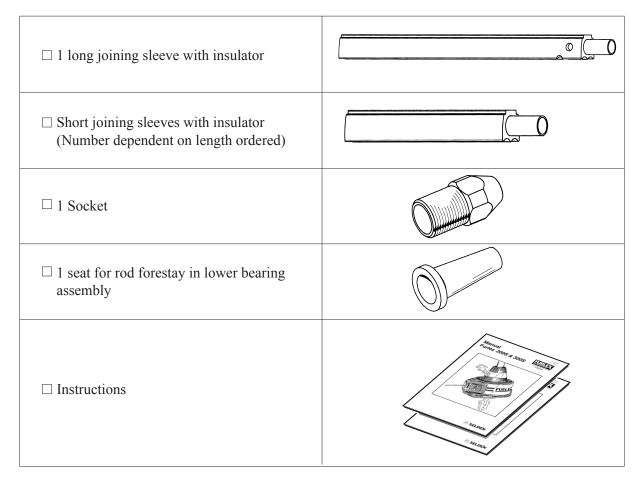
☐ Line guard housing	
☐ Locking block	
☐ Furling line	
200 TD: □ 2 halyard leads 508-159 with insulator sheets incl. 4 screws □ Drill bit Ø 5.3 mm 300 TD: □ 2 halyard leads 508-128 with insulator sheets incl. 6 screws □ Drill bit Ø 5.3 mm 400 TD: □ 2 halyard leads 508-128 with insulator sheets incl. 6 screws □ Drill bit Ø 5.3 mm	
200 TD: □ 4 stanchion blocks 538-971-02 300 TD: □ 4 x Stanchion blocks 538-210-01 + 1 x 538-971-01 400 TD: □ 6 Stanchion blocks 538-210-01	
□ Locking adhesive□ Lubricating grease	

☐ Top guard incl. 2 screws	
☐ Instructions ☐ Spare parts list ☐ Certificate of guarantee	

2.2 Foil pack

□ 200 TD: 1 x 800 mm luff extrusion 300 TD: 1 x 770 mm luff extrusion 400 TD: 1 x 660 mm luff extrusion	
□ 200 TD and 300 TD: 1 x 2000 mm luff extrusion with slotted distance tube 400 TD: 1 x 1700 mm luff extrusion with slotted □ distancetube	
 2400 mm luff extrusion with slotted distance tube. (Number dependent on length ordered). 	
☐ 200 TD, 300 TD and 400 TD: Sail feeder (Sail feeder + sailfeeder connector)	
☐ 1 short connecting plate for each 2400 mm luff extrusion	
☐ 1 long connecting plate (For sail feeder) ☐ 1 locking pin forlower luffextrusion 200 TD: Ø 5x20 300 TD: Ø 5x25 400 TD: Ø 6x30	

2.3 Joining sleeve pack



The joining sleeve pack and foil pack may be delivered as a combined package

2.4 Tools

Tools needed for assembly:

Screwdriver

Hacksaw

2 adjustable spanners

Polygrip pliers

Adhesive tape

File

Marker pen (water-proof)

Set of Torx keys

Set of Allen keys (metric)

Steel measuring tape (30 m) (100")

Knife

For halyard leads:

Heavy-duty Philips screwdriver

Dril

Drill bit Ø 5.3 mm (included in Furlex package)

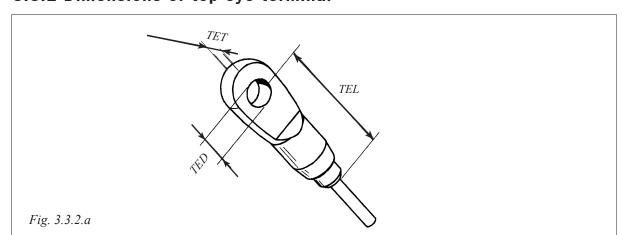
3 Assembly preparations

- 3.1 Forestay attachment guiding principle
- 3.2 Mast attachment
- 3.3 Deck attachment
- 3.3.1 Dimensions of lower bearing assembly



See "Manual Furlex 200 TD and 300 TD" (part no: 595-231-E) or "Manual Furlex 400 TD" (part no. 595-240-E)

3.3.2 Dimensions of top eye terminal



Rod diameter (mm)	Navtec	(M	arine Ey	ye)	OYS (Pigging)	(1	(MYNEA)1)		BSI	(RFE)		
(111111)		TET	TED	TEL	(Rigging)	TET	TED	TEL		TET	TED	TEL
-8 (ø 5.7)	•	12.4	13.1	72	•	10.0	11.3	71	•	10.0	11.3	62
-10 (ø 6.4)	•	12.4	13.1	72	•	11.0	12.9	76	•	11.0	13.1	68
-12 (ø 7.1)	•	15.7	16.3	82	•	_	_	_	•	14.0	16.0	80
-15 (ø 7.5)	•	_	_	_	•	14.0	16.0	89	•	14.0	16.0	80
-17 (ø 8.4)	•	15.7	16.3	82	•	_	_	_	•	14.0	16.0	86
-22 (ø 9.5)	•	18.8	19.4	99	•	16.0	19.2	87	•	17.0	19.3	100
-30 (ø 11.1)	•	21.8	22.6	111	•	20.0	22.4	108	•	19.5	22.6	115
-40 (ø 12.7)	•	25.1	22.8	122	•	23.0	25.7	123	•	22.0	25.7	129
-48 (ø 14.3)	•	28.2	29.0	127	•	26.0	29.0	139	•	25.0	29.0	146

¹⁾ Type MYE can <u>not</u> be used.

3.3.3 Toggle dimensions

3.4 Assembly below deck



See "Manual Furlex 200 TD and 300 TD" (part no: 595-231-E) or "Manual Furlex 400 TD" (part no. 595-240-E)

3.5 Calculating the length of the rod forestay

- 1. Determine the rake of the mast with the fore-/backstay tensioned.
- 2. Slacken **backstay** as much as possible. But make sure that any rigging screw is not unscrewed so far that the threads are no longer visible "on the inside". The forestay setting should not be adjusted. However, if the forestay rigging screw setting has to be adjusted, measure the length or mark the original setting.
- 3. Pull the masthead forward using the genoa halyard. Secure the halyard using a "D" shackle or tie it to a strong deck fitting. For safety reasons, do not use the halyard snap shackle.



Always use a strong "D" shackle or tie the halyard!

- 4. Take down the forestay. (If the rigging screw was adjusted, return it to its original setting.)
- 5. Measure the forestay length (FL) with just enough tension to keep it straight.
- 6. Enter the measurement in "Calculation Table 1" below, under the heading "Your forestay", on the row marked FL.
- 7. Calculate the new rod length WL in "Calculation Table 1". Refer to the column marked "example" to see how this is done.

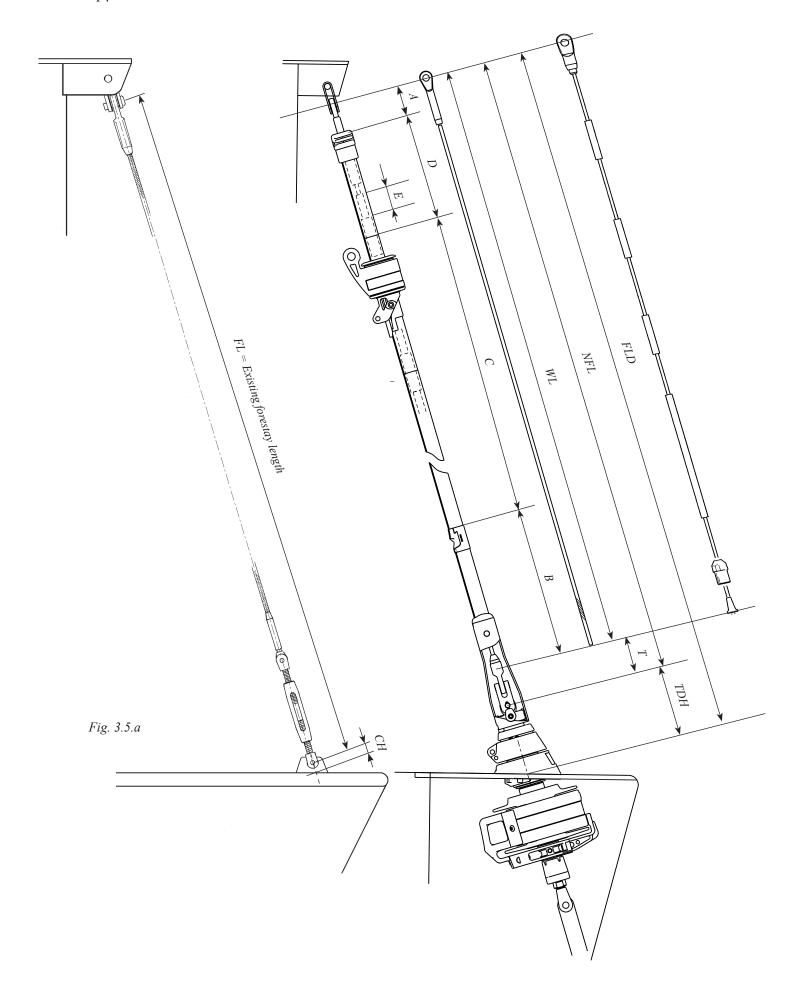
3.5.1	Calculation Table 1: Length of rod forestay							Example (200 TD -8)
FL		estay length (FL), wi ging screw (See fig.			12.700			
СН		ance between the four				ting and the deck	+	+ 50
FLD		LD. rresponds with the tgging diagram.	heoretical o	distance tha	at can be	= measured from		
TDH	Deduction for	or Furlex TD's high a	above deck	•				
		TD deduction	n					
	200 T	D 145 mm						
	300 T	D 170 mm						
	400 T	D 250 mm						
							-	- 145
NFL					Nev	v forestay length=		- 145 12.605
	Deduction for	or						
				OYS		Without		
		Rod diameter	Navtec	(Rigging)	BSI	rigging screw		
		-8 (ø 5.7 mm)	•	•	•	70		
	000 TD	-10 (ø 6.4 mm)	•	•	•	75		
	200 TD	-12 (ø 7.1 mm)	•	-	•	85		
_		-15 (ø 7.5 mm)	•	•	•	85		
Т		-12 (ø 7.1 mm)	•	-	•	85		
	300 TD	-15 (ø 7.5 mm)	-	•	•	85		
		-17 (ø 8.4 mm)	•	-	•	90		
		-22 (ø 9.5 mm)	•	•	•	90		
		-22 (ø 9.5 mm)	•	•	•	110		
	400 TD	-30 (ø 11.1 mm)	•	•	•	110		
		-40 (ø 12.7 mm)	•	•	•	135	_	_ 70
н		extra toggles are to					_	-
WL	See fig 3.	5.a						12.535

3.6 Calculating the length of the luff extrusion

- 1. Insert the length of the new rod forestay (WL) as calculated in "Calculation Table 1" i "Calculation Table 2", in the row marked WL.
- 2. Calculate the number of full-length extrusions and the length of the top extrusion.

3.6.1	Calculatio	n Table 2: Length	of luff ex	trusion			Your extrusion	Example (200 TD -8)
WL	Length of no		12.535					
A+B	Fixed deduc Check that	ction (A+B): length of terminal pa	rt of stay m	atches the mea	asuremen	t in 3.3.2.		
		Rod diameter	Navtec	OYS (Rigging)	BSI	A+B deduction		
		-8 (ø 5.7 mm)	•	•	•	1020		
		-10 (ø 6.4 mm)	•	•	•	1020		
	200 TD	-12 (ø 7.1 mm)	•	-	•	1020		
		-15 (ø 7.5 mm)	-	•	•	1020		
		-12 (ø 7.1 mm)	•	-	•	1045		
	200 TD	-15 (ø 7.5 mm)	-	•	•	1045		
	300 TD	-17 (ø 8.4 mm)	•	-	•	1045		
		-22 (ø 9.5 mm)	•	•	•	1025		
		-22 (ø 9.5 mm)	•	•	•	1025		
	400 TD	-30 (ø 11.1 mm)	•	•	•	1025		
		-40 (ø 12.7 mm)	•	•	•	1025		- 1.020
C+D						C+D=	=	= 11-515
C		2400 mm (94 1/2") ethan C+D: [= C]		C= f top extrusion =	-	- 9.600 = 1.915
	200/300 T 200 TD & If the top e will be too 2400 mm (In this way	atrusion is normally of the control	an 400 mm (s case replate the 2000 mwn by 400 r	15 3/4") (200/30 ace the uppermound (78 3/4") extr nm (15 3/4").	on. 00 TD), the	e joint		
	Add to the 400 TD If the top e will be too 2400 mm (In this way Adjust the	om the C measurement: extrusion is shorter that close to the top. In the (94 ½") extrusion with a the joint is moved do C and D measurement the C measurement.	200/300 mm (s case replathe 1700 m wn by 700 r nts as follow	TD: 400 mm (1 27 9/16") (200/3 ace the uppermo m (67") extrusion nm (27 9/16"). vs:	5 3/4") 300 TD), tr ost full leng	-		

3.6.1	Calculation	on Table 2: Length of	Your extrusion	Example (200 TD -8)	
E		istance tube for the top ex d deduction:	xtrusion in accordance with the follo-		
	Furlex				
	200 TD	E = D - 100 mm (4")			
	300 TD	E = D - 125 mm (5")			
	400TD	E = D - 150 mm (6")			
			Deduction:	-	- 100
			Length of distance tube E =	=	= 1.815

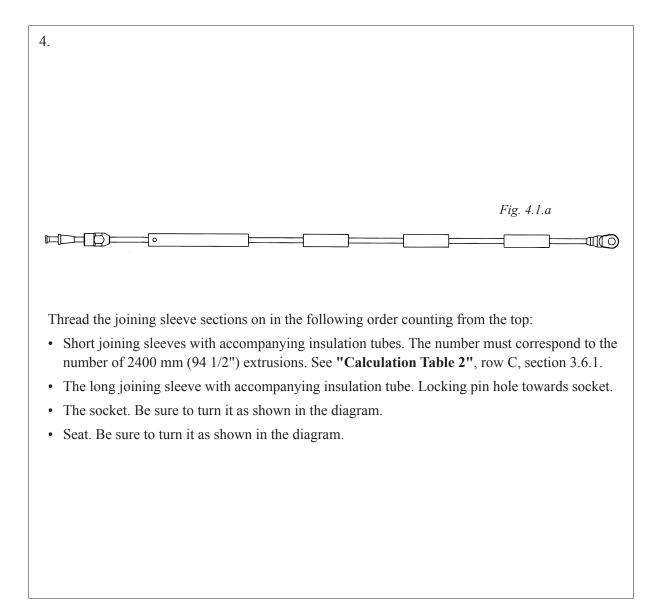


4 Assembly of the Furlex system

4.1 Assembly of the rod forestay

Assembly is carried out by the rod supplier. Apart from the actual rod forestay, only the joining sleeve pack is required.

- 1. Measure the length of the rod forestay. (The WL measurement and corrections for the length of the top terminal and the cold-headed head at the lower end have been calculated in "Calculation Table 1".)
- 2. Cut the stay.
- 3. Form the head for the upper terminal and fit it. The eye part must only be fitted temporarily. Fasten any locking screws and attach the instructions for permanent assembly of the eye part.

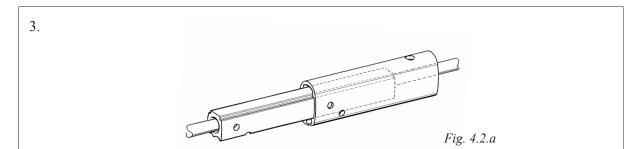


- 5. Cold-head the head of the rod forestay for the lower bearing part.
- 6. Pack the stay. Enclosing the completed "Calculation Tables 1 & 2".

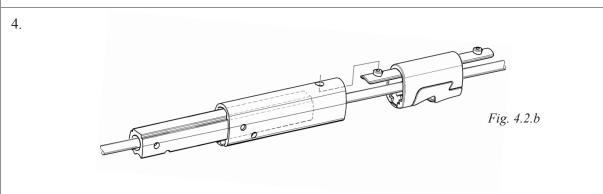
4.2 Assembly of the luff extrusion

Assembly should be carried out on a horizontal surface. Connect the extrusions after each other as follows:

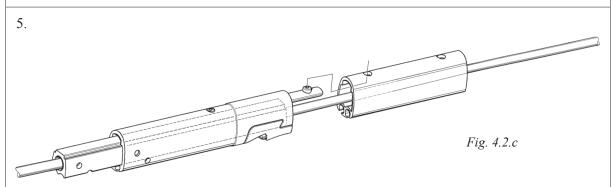
- 1. Unscrew the eye part of the upper terminal. Wind tape around the exposed thread of the male part to protect it.
- 2. Each extrusion must be pushed on over the short joining sleeves from the upper end of the stay in turn. Push the short joining sleeves up towards the upper end terminal and secure them in position with tape around the stay.



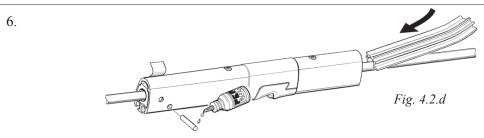
Push the short lower luff extrusion over all the short joining sleeves and partly over the long, lowest joining sleeve.



Fit the long connecting plate at the same time as the sail feeder as shown in the diagram. Push the joining sleeve up so that it is flush with the top edge of the sail feeder.



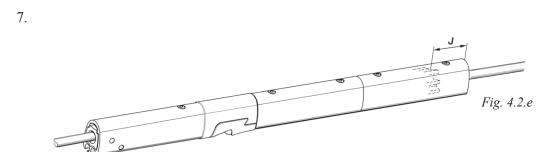
Connect a 2400 mm (94 1/2") extrusion to the lower extrusion. Push the long joining sleeve of the lower extrusion into the 2400 mm (94 1/2") extrusion until it lies flush with the lower edge of the lower extrusion.



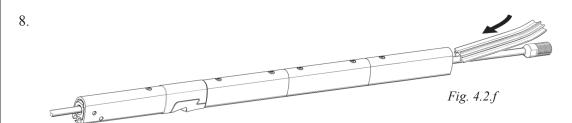
Insert the locking pin together with the locking fluid. Secure the pin with a piece of adhesive tape. (The tape is removed when the lower bearing assembly is slid on.)

NOTE: Do not allow locking adhesive to come into contact with the skin!

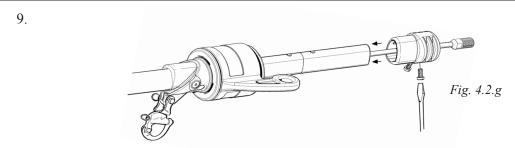
Fit a slotted distance tube on the rod forestay and push it into the 2400 mm (94 1/2") luff extrusion.



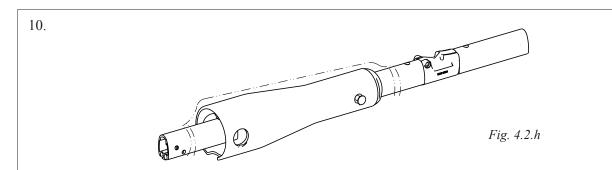
Release the lowest joining sleeve by the upper end terminal and secure the remaining sleeves again. Slide the next 2400 mm (94 1/2") extrusion over the rod's top, then fit the joining sleeve and connecting plate into it's lower end. Connect this to the lower extrusions. Fit a distance tube onto the rod and push it into the 2400 mm (94 1/2") extrusion. Release the next joining sleeve, and push the distance tube from the top until the lower joining sleeve touches the distance tube below the join. (A spare joining sleeve can be used as an aid.) Check that the distance (J) between the end of the distance tube and the end of the extrusion is approximately half the length of a joining sleeve. Connect the remaining extrusions in the same manner.



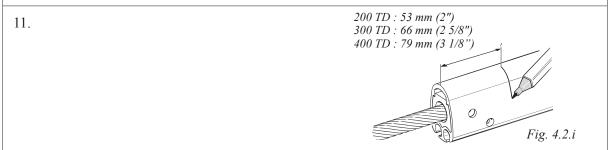
Fit the uppermost, cut distance tube. Release the next joining sleeve, and push the distance tube from the top until the lower joining sleeve touches the distance tube below the join. The top edge of the top distance tube should now be roughly flush with the top edge of the extrusion.



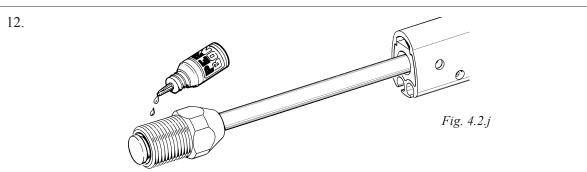
Fit the halyard swivel over the top end of the extrusion. Slide it down as far as the sail feeder and secure it in this position with adhesive tape. Fit the top guard and secure it with the two pre-fitted screws. Tighten the screws until they bottom, but do not over-tighten.



Feed the adapter on to the adapter tube and carefully slide them onto the lower end of the luff sections. Protect the adapter tube and luff section exterior surfaces from scratches.



Mark the lower extrusion with a permanent marker as shown. This will assist final alignment with adapter + adapter tube

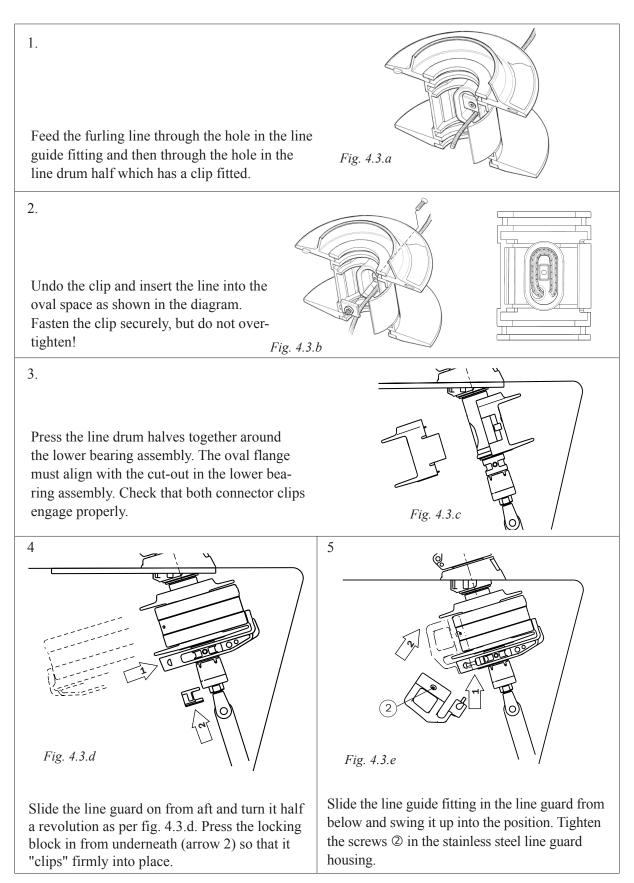


Screw out the socket on the wire terminal part and remove the wedge and former. These three parts are no longer required. Put 2–3 drops of locking fluid on the thread and screw the terminal together. Check that the rod head sits correctly in the seat and that the seat is in the socket correctly. Tighten it securely. This is now permanently locked.

- 12. Fit the eye part of the upper end terminal permanently with locking adhesive + any stop screw/locking pin supplied.
- 13. Check the stay length FL in "Calculation Table 1" (3.5.1) & fig. 3.5.a.
- 14. We recommend rigging the Furlex system in the boat at this stage of the assembly. See "**Rigging**" section 16 in "Manual Furlex 200 TD and 300 TD" (part no: 595-231-S)

4.3 Fitting the line drum and line guide - 200 TD & 300 TD

The line drum consists of two halves. It is easier to fit after the Furlex stay is fitted to the mast.

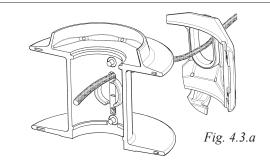


4.3 Fitting the line drum and line guide - 400 TD

The line drum consists of two halves. It is easier to fit after the Furlex stay is fitted to the mast.

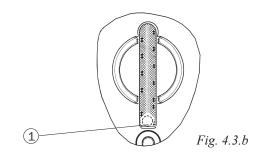
1.

Feed the furling line through the hole in the line guide fitting and then through the hole in one of the line drum halves.



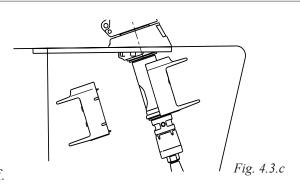
2.

Bend the end of the line down so that it covers the inspection hole ① in the line drum half.

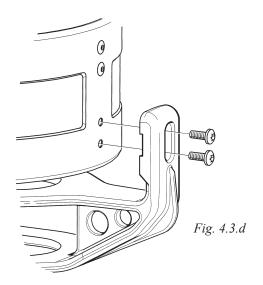


3.

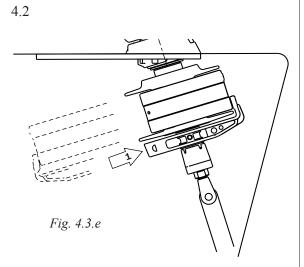
Start by first fitting the line drum half with the line onto the lower bearing assembly. Tighten the screws securely. This locks the furling line. Check that the end of the line is visible through the inspection hole. Rotate the lower bearing assembly by half a revolution, and fit the other line drum half.



4.1



Fasten the line guide fitting to the line guard casing using the screws enclosed.



Slide the line guard on from aft and turn it half a revolution as per fig 4.3.d. Press the locking block in from underneath (arrow 2) so that it "clips" firmly into place.

5.

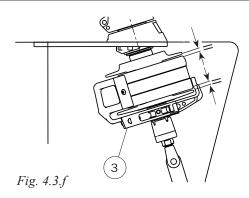
Fig. 4.3.e

Push the locking block in until it rests against the lower bearing assembly. Fasten the line guide fitting in the line guard and bring this up into the assembly position. Tighten the screws ② in the stainless steel housing.

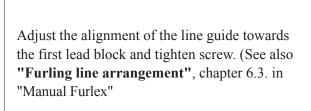
7.

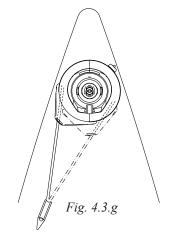
Tighten the screw ③ lightly.

Adjust the line guide vertically so that it is midway between the line drum flanges. If the casing or line guard come into contact with the line drum flanges, unnecessary friction will be caused.



8.





17 Dismantling

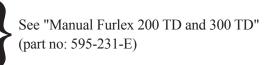
17.1 Halyard swivel

See "Manual Furlex Furlex 200 TD and 300 TD" (part no: 595-231-E).

Navtec -10, -12/200, -22, -30, -40 and Rigging -9.5 mm, -40, -48.

The top guard and halyard swivel cannot be removed from the system by sliding them over the top eye terminal unless the eye part of the terminal is removed first.

17.2 Sail feeder 17.3 Line guide 17.4 Line drum



17.7 Luff extrusion system

For a better understanding of the following instructions, we recommend that you first read the section on assembly in chapter 4.1.

- 1. Place the luff extrusions on a flat surface, and make sure that they are straight.
- 2. Remove the eye part of the upper terminal
- 3 Knock out the locking pin at 800 mm (200TD) / 770 mm (300TD) / 660 mm (400TD) extrusions lower end.
- 4. Hold the luff extrusion system firmly and pull the lower terminal. This will bring the rod forestay, joining sleeves and distance tubes out together.

If this method does not work due to corrosion or damage, the luff extrusion system connectors can be drilled out. Use a Ø 6 mm (15/64") drill bit for the 200 TD, Ø 8 mm for 300 TD, and 400 TD.

17.8 Top guard

If exchanging the top guard:

Navtec -12/200 S, -22, -30, -40 and Rigging -40, -48: The top guard cannot be removed from the system by sliding them over the top eye terminal unless the eye part of the terminal is removed first.

Navatec -48, Rigging -22 mm: The internal flange at the top edge of the guard needs to be filed down. Alternatively, the guard can be removed from below when dismantling the sail feeder and removing the lower bearing assembly and halyard swivel.

Notes/Comments

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