foilfeed®

INSTALLATION GUIDE

M1

MAINSAILS

Major improvements to your mainsails heads, whatever style you choose

About this guide
Use this guide when installing the M1, whatever style you choose. The guide is based on the basic geometrical principles and dimensions of the Foilfeed® M1 and the experiences derived from installment by various sailmakers around the world. The guide will continually be updated as new experiences come in.
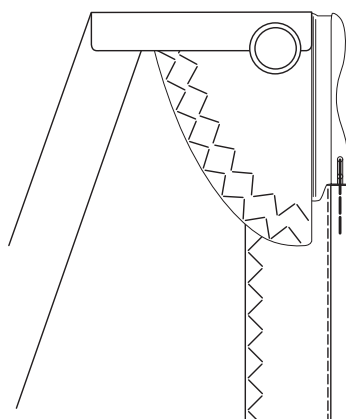
Share your installment experiences
If you do have additions to this guide, or any general comments about the product, we will happily accept these and mail them to comment@foilfeed.com.

Advantages gained by installing Foilfeed® M1
- Protects Luff Tapes when inserted and functioning in grooves
- Built-in Protection Rail between headboard edge and masts surface when bending out sideways
- 100% hoisting and feeding reliability
- Quality improvement compared to all existing sailmaking standards
- Lightest and most durable solution in the industry
- Mounting very simple, cost-cutting and saves 3-5 production routines
- Save time and money mounting Foilfeed® to your mainsails
- Easier, safer and faster handling for sailors
- M1 come in 3 sizes: For 6 , 8 and 10 mm rope
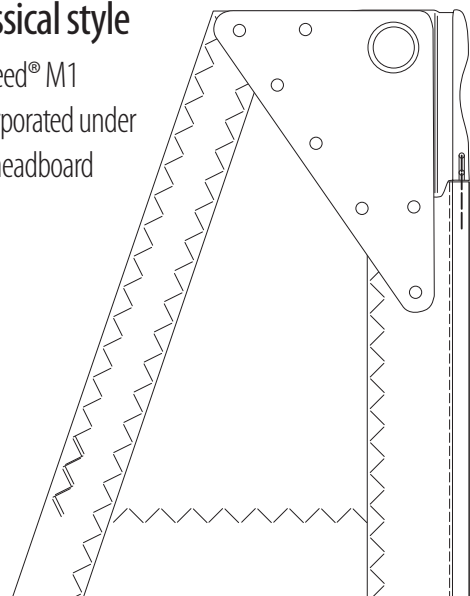- Made in white Nylon®. UV protected solution added

Classical style
Foilfeed® M1 incorporated under the headboard

Race style
Foilfeed® M1 No headboard
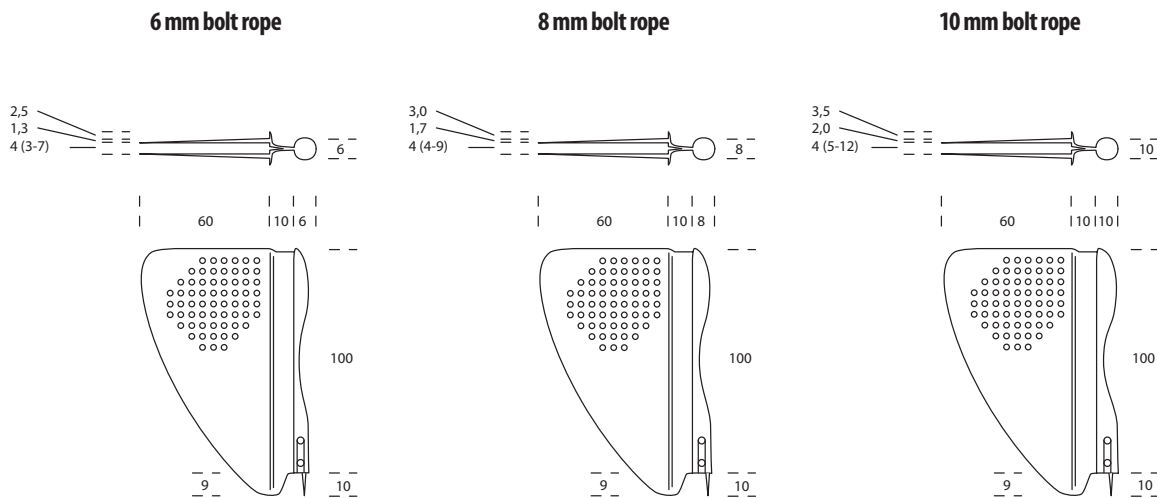
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Geometry and design

The Foilfeed® M1 is designed to solve the old problem with chafing luff tape, improving functionality and at the same time building in some features not found in the existing solutions, saving the sailmakers 3-7 manual routines at the same time.

The 3 variants – made for bolt rope diameters 6, 8 and 10 mm – is also expandable at the surfaces underneath the headboard plates, enabling various dimensions of reinforcements to fit inside as desired. Whatever M1 variant you may choose, the cutout dimension is the same (10 by 100 mm), so that sailmakers easily can remember dimensions.

The 10 mm version weighs just about 18 grams making it the lightest solution possible in the sailmaking Industry. The height of the mastcover rails keep headboards of 3 mm thicknes clear of masts and due to the material Nylon®, friction is kept at a low level.

6 mm bolt rope

2,5
1,3
4 (3-7)
6

60 | 10 | 6

100

9 | 10

8 mm bolt rope

3,0
1,7
4 (4-9)
8

60 | 10 | 8

100

9 | 10

10 mm bolt rope

3,5
2,0
4 (5-12)
10

60 | 10 | 10

100

9 | 10

Yes... The Foilfeed® M1 will bend out sideways when going downwind!
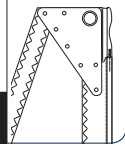
Classical style

Foilfeed® M1 built into a conventional head solution inside headboards

There are many reasons why a sailmaker will choose this solution, mostly depending on the actual setup, forces aloft and tradition. The Foilfeed® M1 fits right in the traditional production line without the need of extra tools, procedures etc.
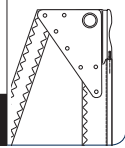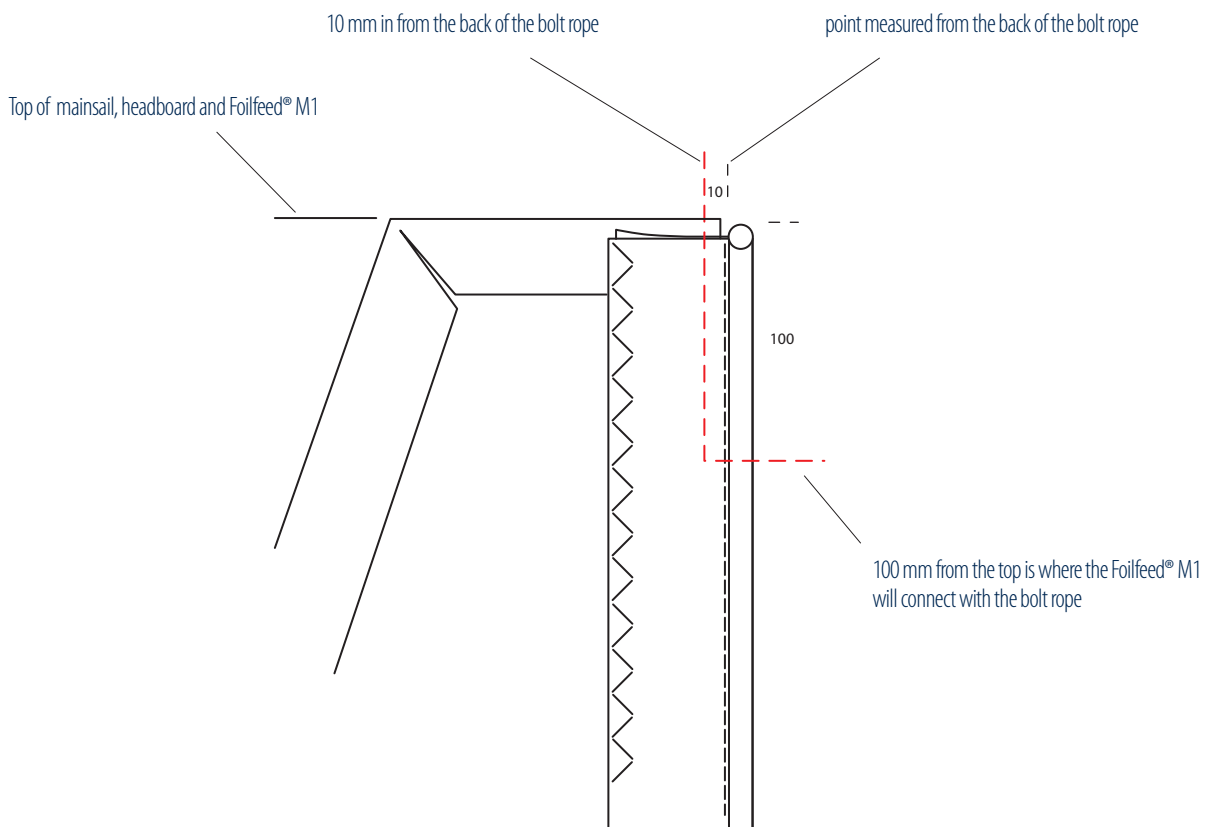
Step 1

1. Determine the final headboard position

Mark the top of your mainsail and where you will mount the headboard. This top will also be the top of the Foilfeed® M1.
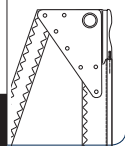
10 mm in from the back of the bolt rope

point measured from the back of the bolt rope

Top of mainsail, headboard and Foilfeed® M1

10

100

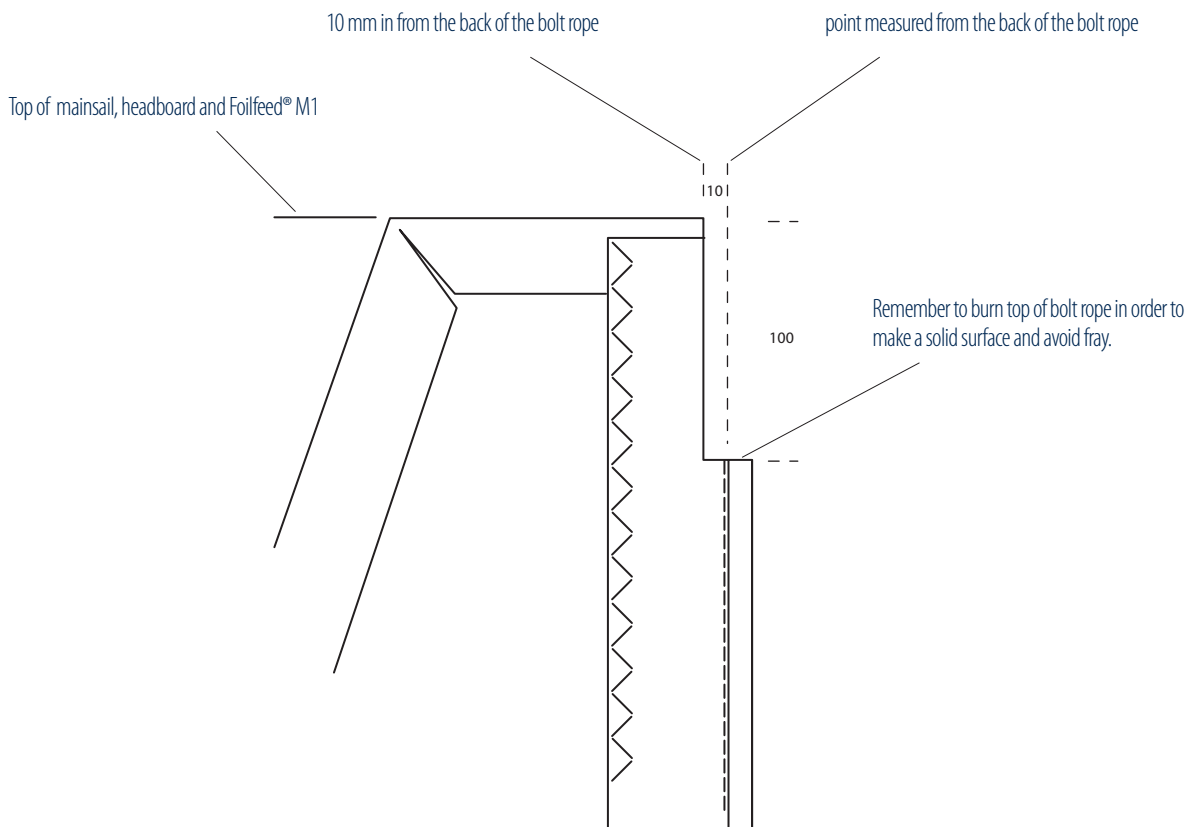100 mm from the top is where the Foilfeed® M1 will connect with the bolt rope

Step 2

2. Make cutout. Same dimensions whether 6, 8 or 10 mm

Measure – from the back of the rope (sail side of rope) – 10 mm in and 100 mm down. Cut this area out.
Remember to burn the top of the bolt rope. The rest of the edges cut out will be sealed within the Foilfeed® M1.
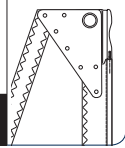
10 mm in from the back of the bolt rope

point measured from the back of the bolt rope

Top of mainsail, headboard and Foilfeed® M1

10

100

Remember to burn top of bolt rope in order to make a solid surface and avoid fray.

Step 3

3. Slide Foilfeed® M1 firmly down from top

Press the Foilfeed® M1 firmly with it's back onto to the sail side, so that it is fully supported top to down on the inside of Foilfeed® M1's back. Align the bolt rope and the 'projectile with the 'spike' pointing down the rope. You may want to pre-poke the crusted surface of the rope with an awl in case you have burnt it making a thick crust. The 'Projectile' and luff tape shall close the edges completely.
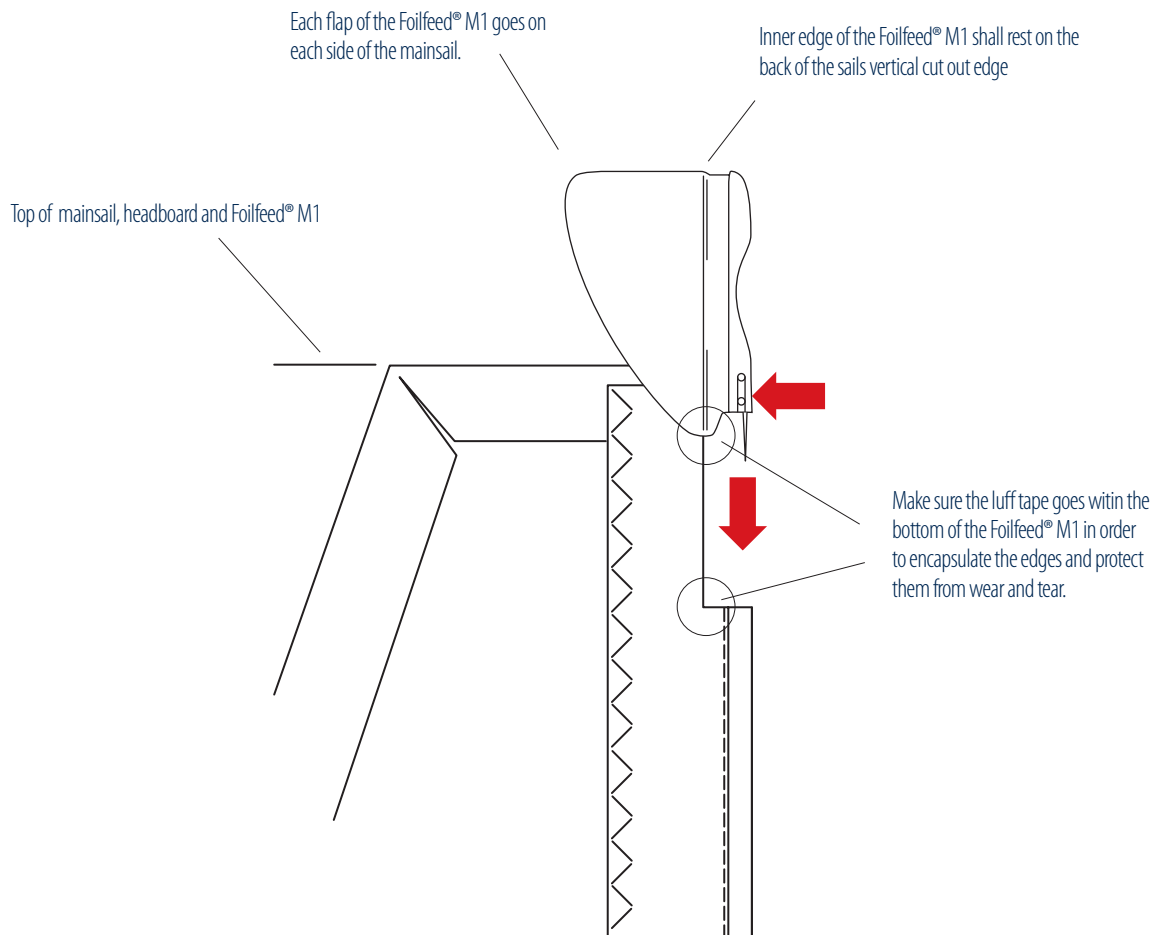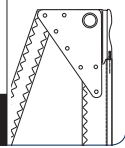

Each flap of the Foilfeed® M1 goes on each side of the mainsail.

Inner edge of the Foilfeed® M1 shall rest on the back of the sails vertical cut out edge

Top of mainsail, headboard and Foilfeed® M1

Make sure the luff tape goes witin the bottom of the Foilfeed® M1 in order to encapsulate the edges and protect them from wear and tear.

Step 4

4. Lower spike into rope and hand stitch

Stitch – with a sailmakers needle and waxed thread – in order to fix the bolt rope position with the Foilfeed® M1. Make sure your stitching is tight in order to both stabilize the fixture and to make it solid for pulling the cunningham and maintaining the desired rope tension.
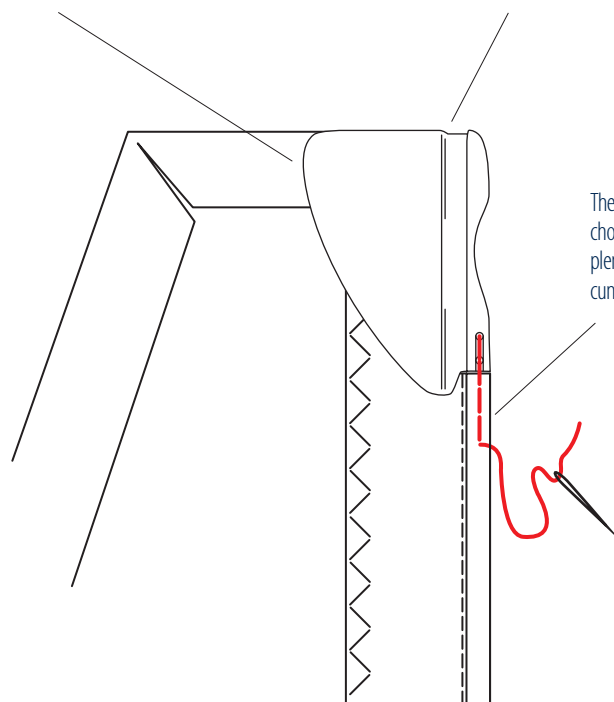
Attention:
The fixture of the bolt rope to the projetile part of the Foilfeed® M1 wil secure the item to the mailsail in the lower part. You may want to stabilize the whole fixture in the markup process for the hole punch outs by adding sticky tape to the inside of the flaps of the Foilfeed® M1. This secures perfect line up of the vertical cout out edge and the inner edge of the Foilfeed® M1.

Start your stitchin from the side of the bolt rope and ziz zag from one side to the other, connect with the Foilfeed® M1's holes, turn back at the top hole and go back the other way. Stitch length should be about the same as the distance between the holes of the Foilfeed® M1 (about 10 mm)

You may stabilize with sticky tape on the inside

No gap between the two edges on the inside

The number of stitches down the bolt rope is your choice and estimate, but make sure that there are plenty in order to take the load from pulling the cunningham haul.

Step 5

5. Place headboard correctly and mark up holes

Press the Foilfeed® M1 back to back with the cutout and place the headboard plate correctly and start marking up for the final hole punching. Line up the top of both Foilfeed® M1 and the headboard vertically. Push the headboard all the way to the built-in mast cover rails (no chafe between headboard and surface of mast).

Attention:
The main liner/ hole for the fixture of the halyard varies in position and diameter depending on which brand or supplier of headboards being used. The foilfeed® M1 is designed to give you the possibility to choose of your own, but make sure that the hole is punched within the whole area as shown on the illustration at right.

The holes on the flap is a feature designed to control splitting in all directions, whatever hole puncher you may use.
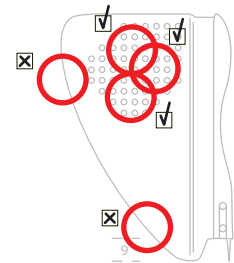
Slide the head board to the back edge of the rail. Make sure the edges between the headboard and rail is closed
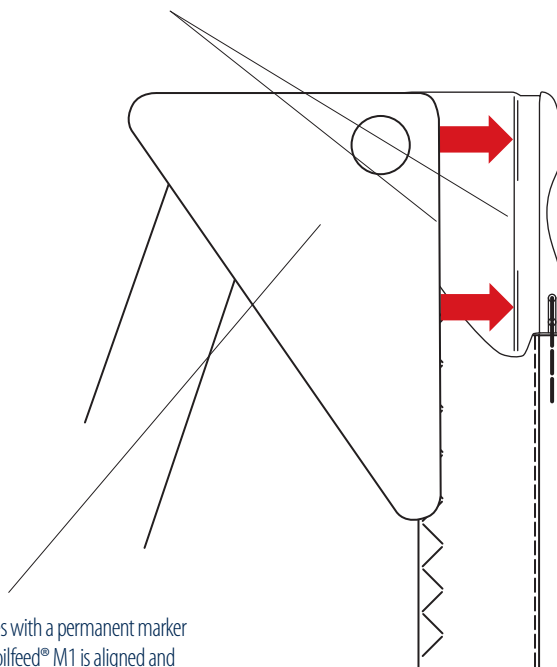
Mark your desired holes with a permanent marker and recheck that the Foilfeed® M1 is aligned and positioned correctly.
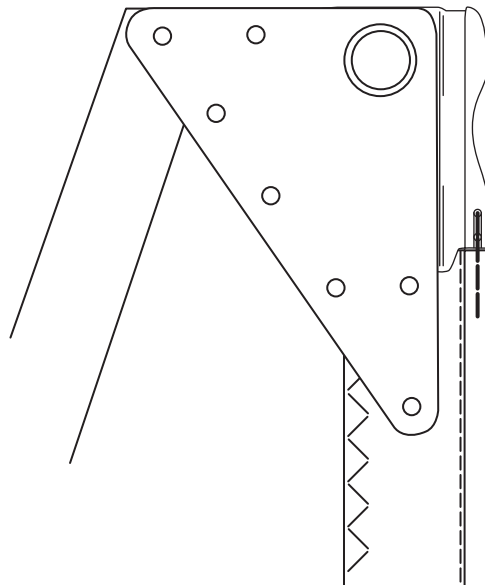
Step 6

6. Punch holes and assemble headboard

Punch all the holes needed, fix headboard on both sides with rivets or bolts (whatever your standard) and press the liner for the halyard. With a foilfeed® M1 your feeding will never be the same...
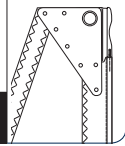
Example with Headboard, 6 mm bolt rope
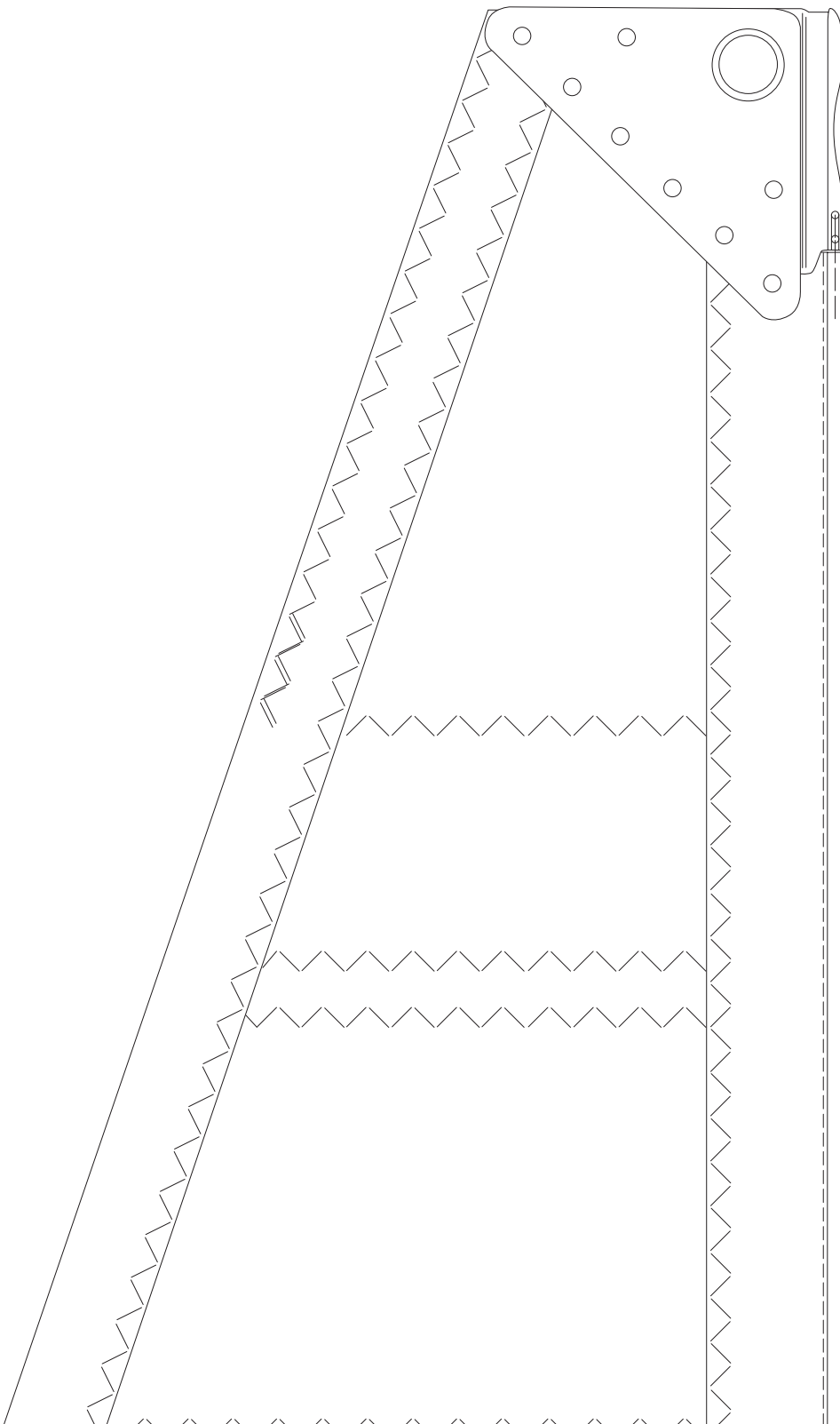
foilfeed®

M1

MAINSAILS

Example with Headboard, 8 mm bolt rope

Example with Headboard and slug
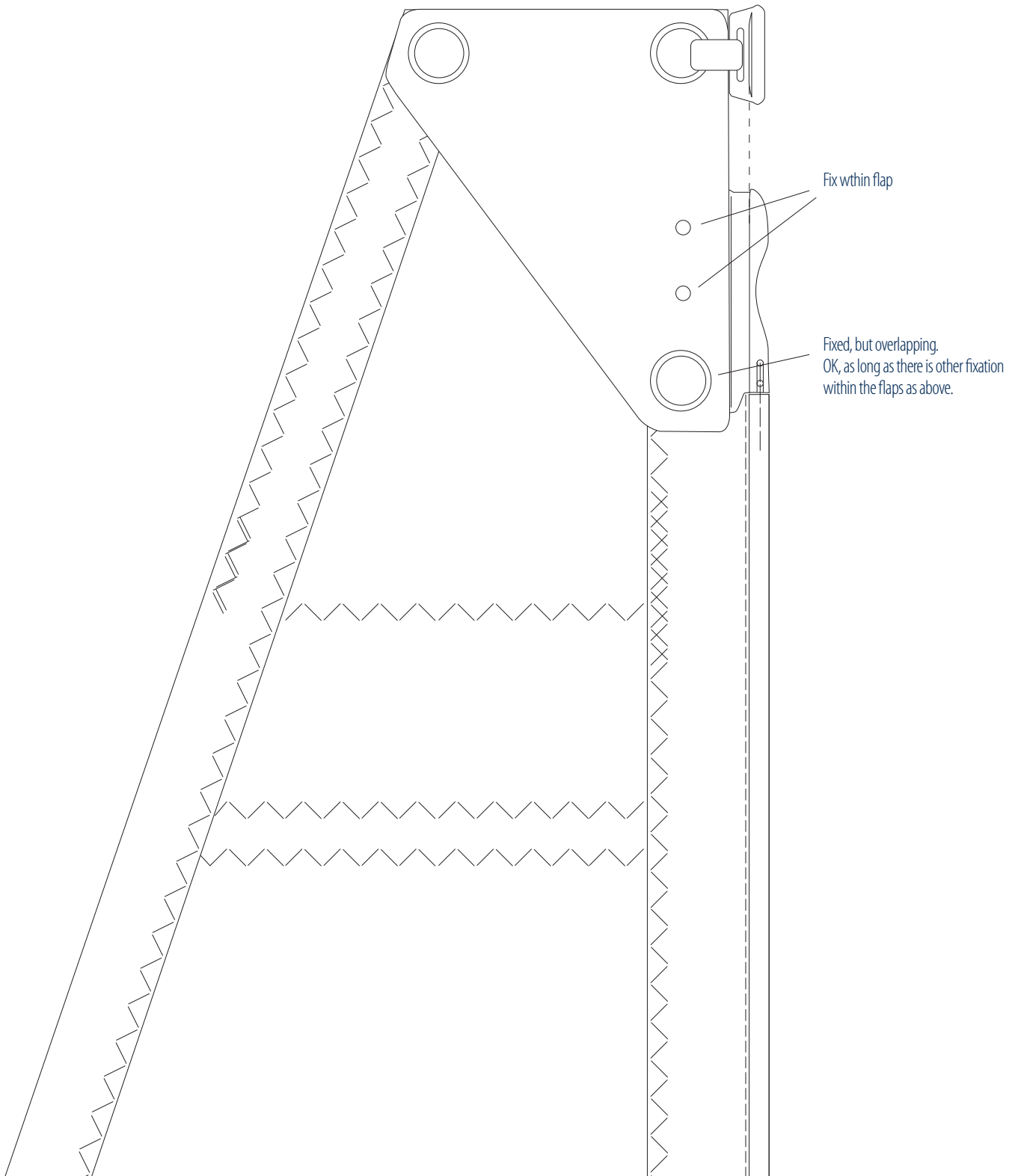
Fix wthin flap

Fixed, but overlapping.
OK, as long as there is other fixation
within the flaps as above.
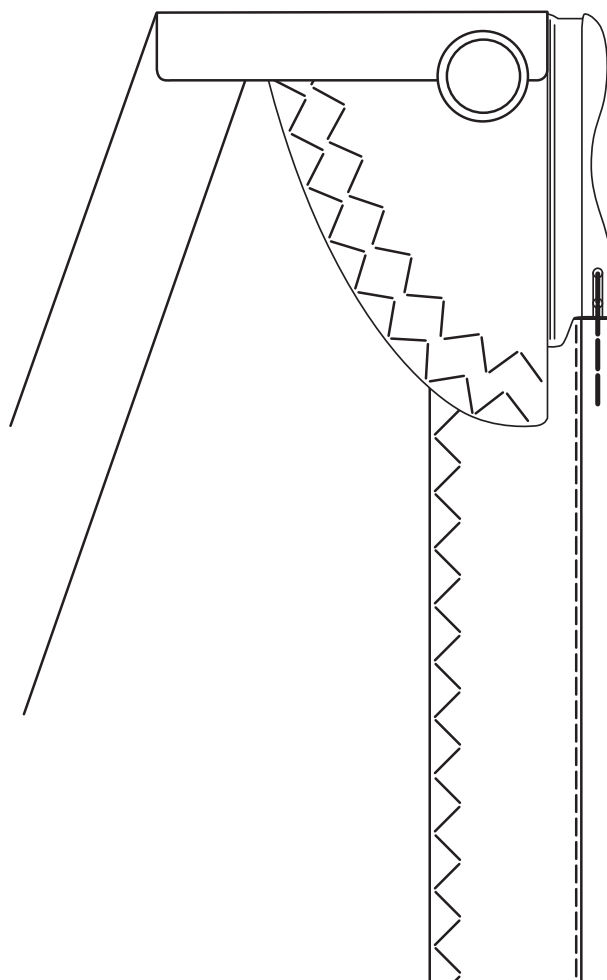
MAINSAILS
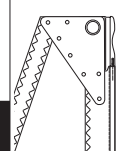
Race style

Foilfeed® M1 built without use of conventional headboard

Lose excess weight aloft and drop the traditional headboards and rivets. With the Foilfeed® M1 you can both protect you luff tape, get easier feeding and get a solid base for stiffening the head, whatever width your mainsail head need.

The stiffening of the head can be done by quilt-sowing/ criss-cross on the cloth. To stiffen even more you may apply some extra stiff layers inside as i.e. Pure™ or Yarntemper™.

This solution complies with all ISAF's standard One Design class rule, including classes with mandantory headboard use.

NB: This is a principal guide to the Race solution. Every class has its own properties, concerns and dimensions, so the sailmaker has to evaluate the precise specifications from class to class. The used shapes in the examples are free for any sailmaker to use or otherwise redesign for own branding purposes.
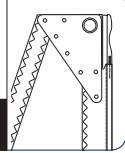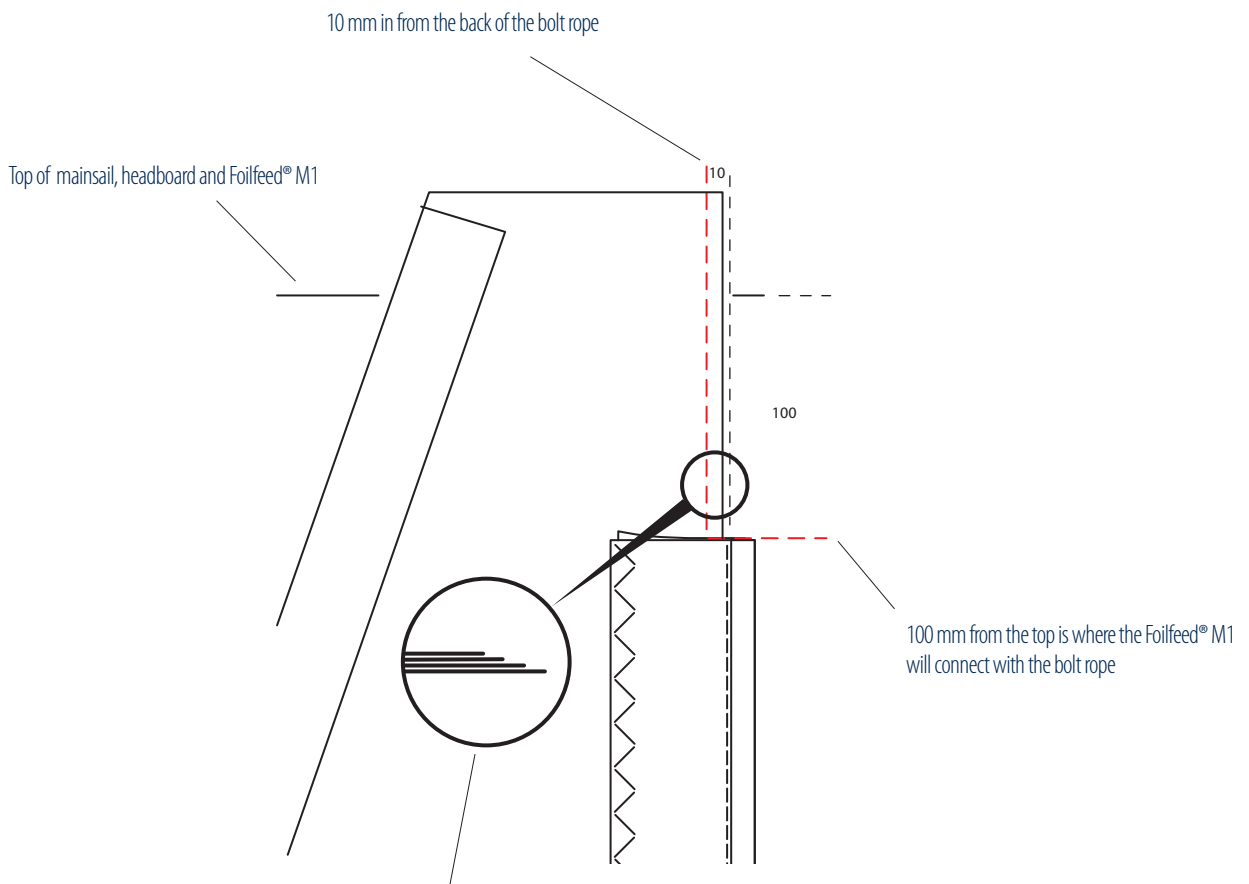
Step 1

1. Determine the final headboard position

Mark the top of your mainsail and where you will mount the headboard. This top will also be the top of the Foilfeed® M1.

Remember to count the total amount of layers used when you have gone through all steps 1-7. This solution can save you a lot of weight at the top and it will be unfortunate to exaggerate the fulness of reinforcement. You may also have certain requirements from specific One Design class rules governing the amount of layers allowed.

10 mm in from the back of the bolt rope

Top of mainsail, headboard and Foilfeed® M1

10

100

100 mm from the top is where the Foilfeed® M1 will connect with the bolt rope

ZOOM: Use displaced reinforcement layers - seen from top - to make a better transition of the bolt rope and tape, that will soften the front edge and make the whole top work better.
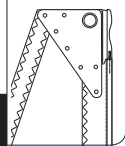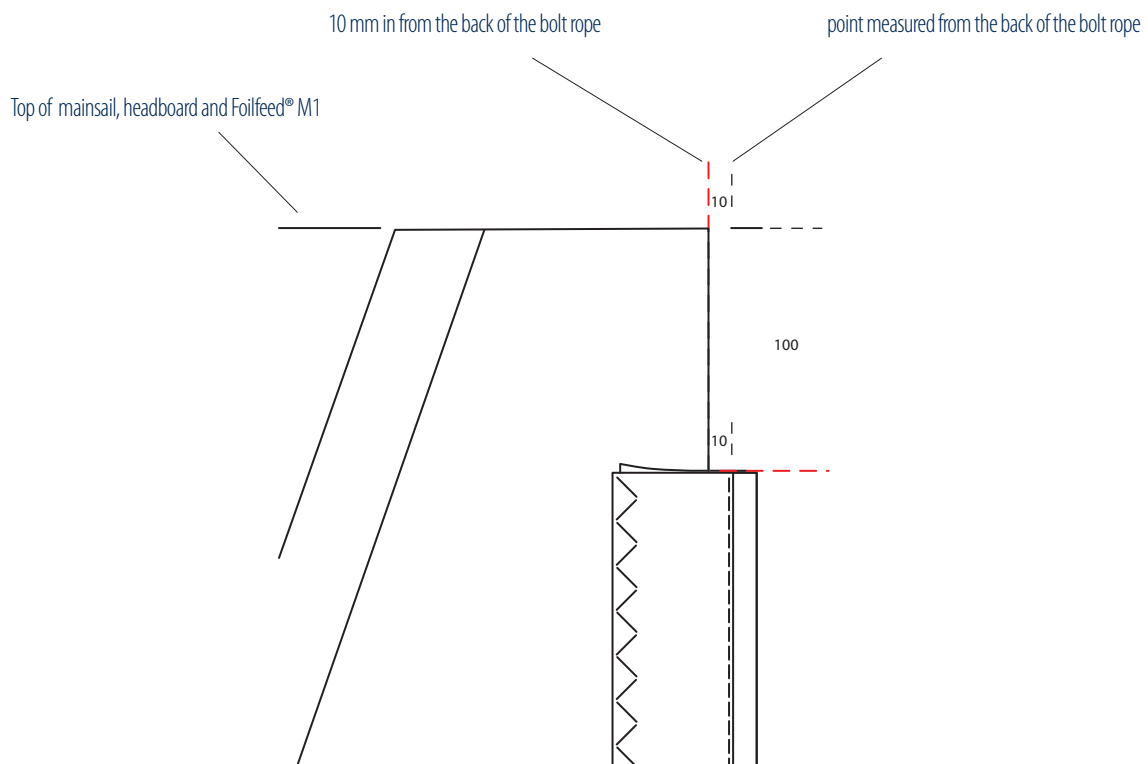
Step 2

2. Make cutout. Same dimensions whether 6, 8 or 10 mm

Measure - from the back of the rope (sail side of rope) - 10 mm in and 100 mm down. Cut this area out.
Remember to burn the top of the bolt rope. The rest of the edges cut out will be sealed within the Foilfeed® M1.
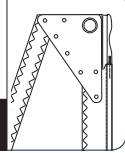
10 mm in from the back of the bolt rope

point measured from the back of the bolt rope

Top of mainsail, headboard and Foilfeed® M1

10

100

10

Step 3

3. Lower spike into rope and align the Foilfeed® M1 exactly with the bolt rope

Slide the Foilfeed® M1 firmly downwards with the sail in the middle. The cut out edge of the mainsail shall rest on the inner edge of the Foilfeed® M1. Make sure that the luff tape get inside the bottom part of the Foilfeed® M1 as well.

You may stabilize with sticky tape on the inside
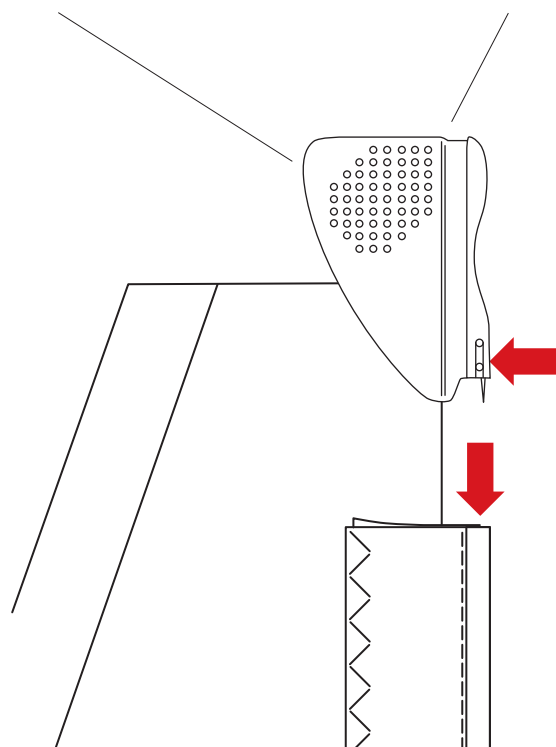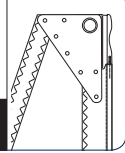
No gap between the two edges on the inside

Step 4

4. Fix with sticky tape on insides of Foilfeed® M1

A sure fix of the Foilfeed® M1 make it much easier when working along with the next steps of the installation.
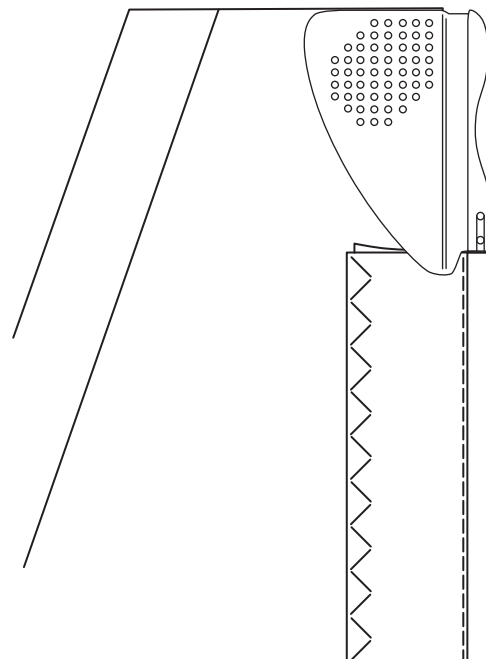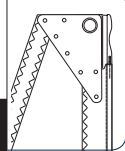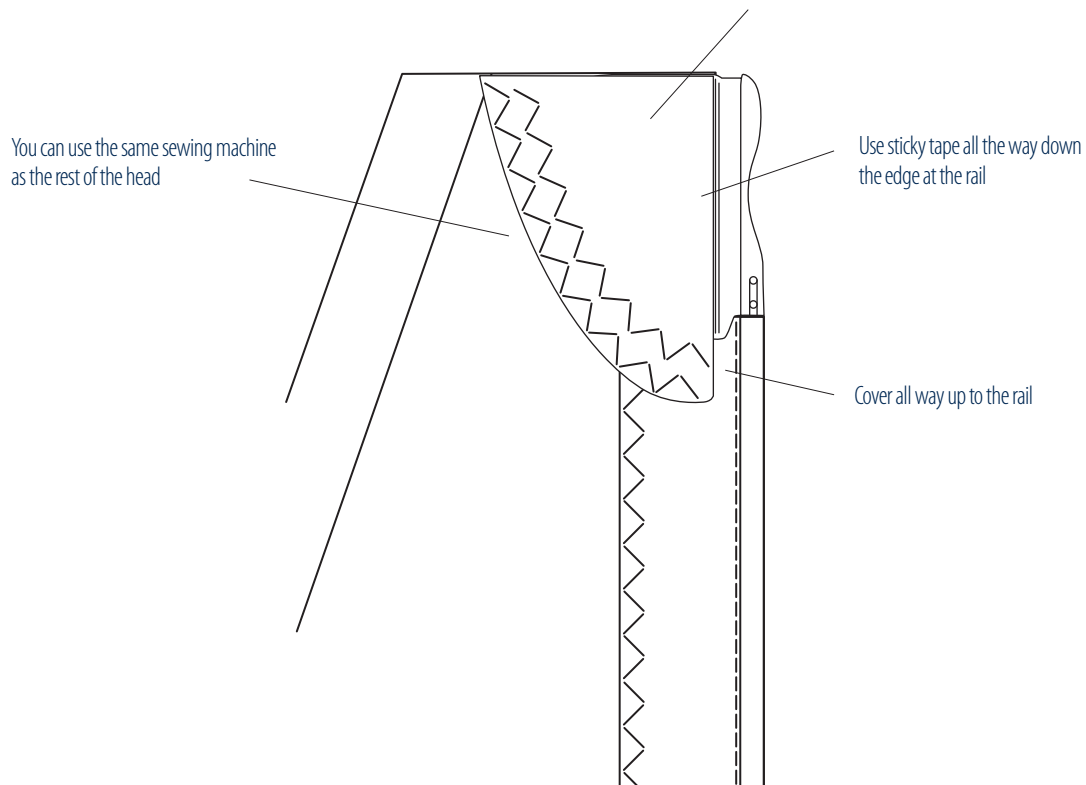
Step 5

5. Cover the Foilfeed® M1 with cloth patch on each side

The patches have basically two purposes; One is to protect edges of the Foilfeed® M1. The other is aethstetics - getting a more 'clean' look of the sail. You can sow by machine (cross stitching) in the Foilfeed® M1, but the liner and fixation to the bolt rope make the attachment more than solid enough to fulfill its basic purpose.

The shape is optional, though it shall cover the Foilfeed® M1 completely enabling space enough for sewing the edges.
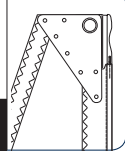
You can use the same sewing machine as the rest of the head

Use sticky tape all the way down the edge at the rail

Cover all way up to the rail

Step 6

6. Cover top with i.e. coloured number tape to seal top an stitch to bolt rope

Stitch – with a sailmakers needle and waxed thread – in order to fix the bolt rope position with the Foilfeed® M1. Make sure your stitching is tight in order to both stabilize the fixture and to make it solid for pulling the cunningham and maintaining the desired rope tension.

Fold number tape over the top to seal the top and get a nice 'clean' look

Use a colured band, so that the sailors can always get a visual on the alignment of the top band on the mast and the head.
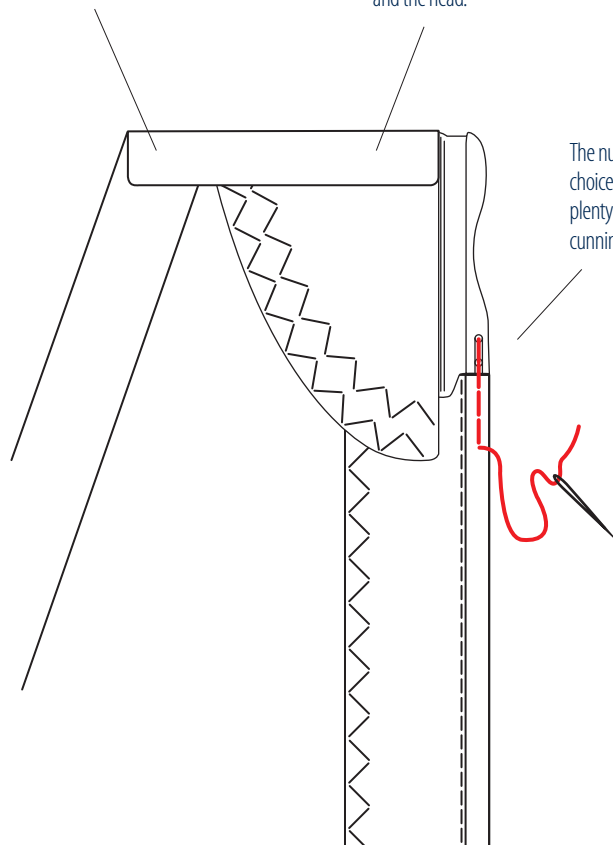
The number of stitches down the bolt rope is your choice and estimate, but make sure that there are plenty in order to take the load from pulling the cunningham haul.
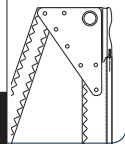
Step 7

7. Press liner

Be aware, that the presser tools can be obstructed by the Foilfeed® M1's rail. Check your dimensions before punching the hole!!!