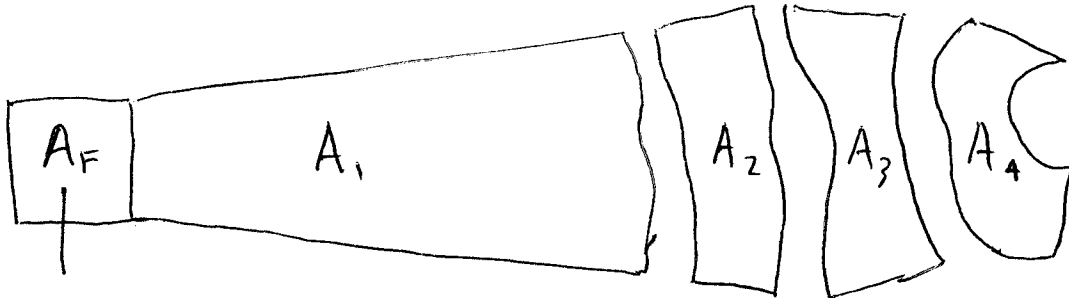


SEWING RIBS

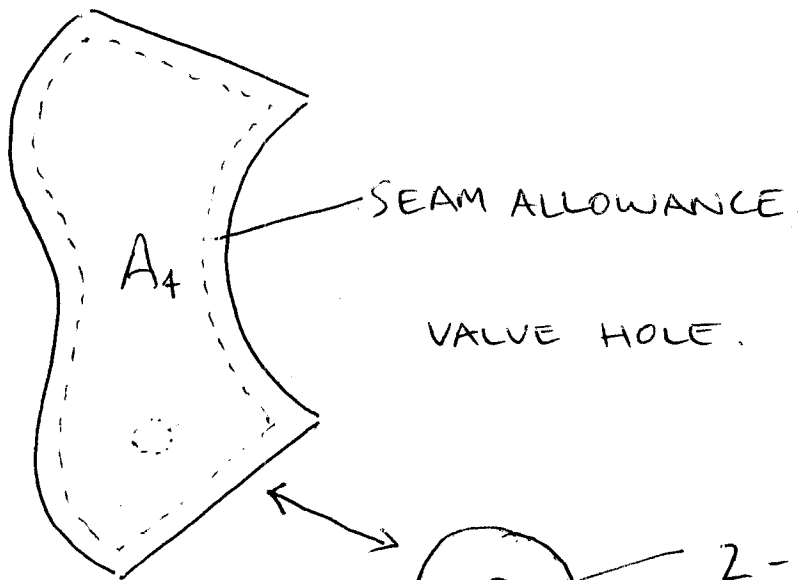


FLAP FOR
TUCKING IN TUBE.

* $A_F \neq A_1$ SHOULD BE CUT AS ONE PIECE.

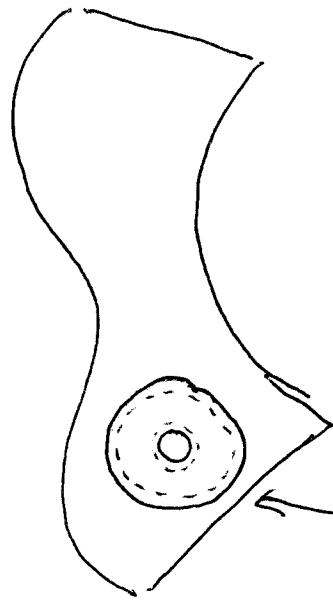
* 3.902/SQ.YD DACRON RECOMMENDED

① a.



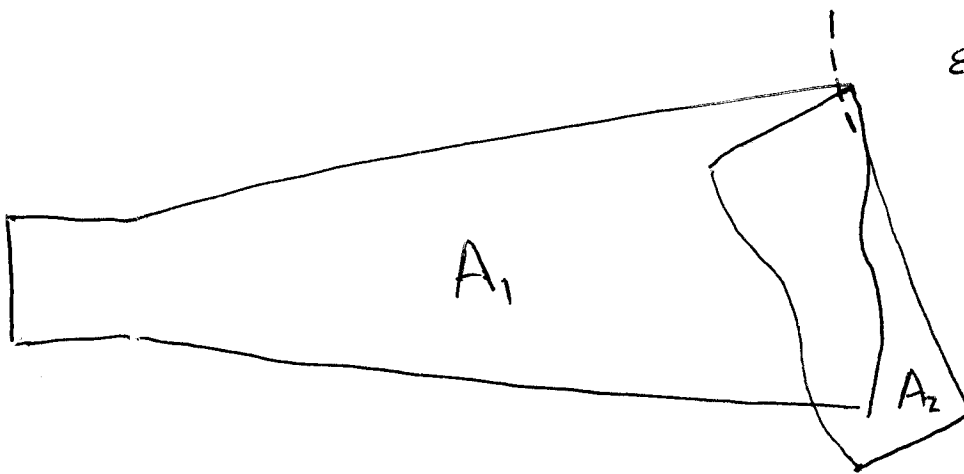
2 - 2.5" DIAMETER
SELF ADHESIVE DACRON
FOR VALVE HOLE
REINFORCEMENT.

① b.



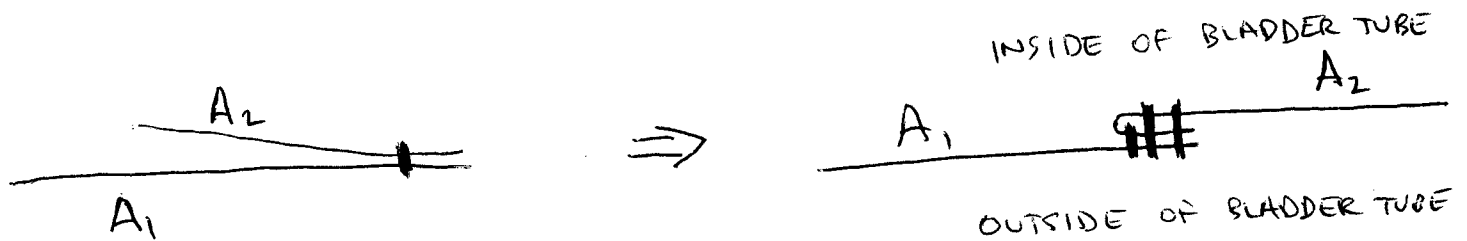
STRAIGHT STITCH VALVE HOLE REINFORCEMENT.

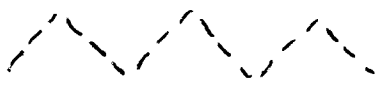

② a. PIECE RIB PARTS TOGETHER.

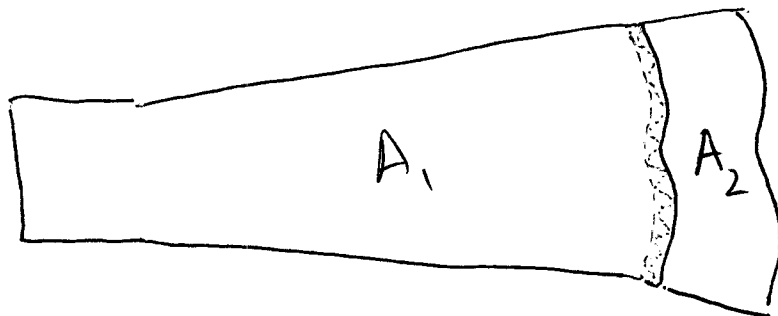


FLIP PIECE A₂
& SEW ALONG
SEAM LINES TO
A₁ - USE
BROAD STRAIGHT
STITCH.

② b. FLAT FELLED SEAM $A_1 = A_2$

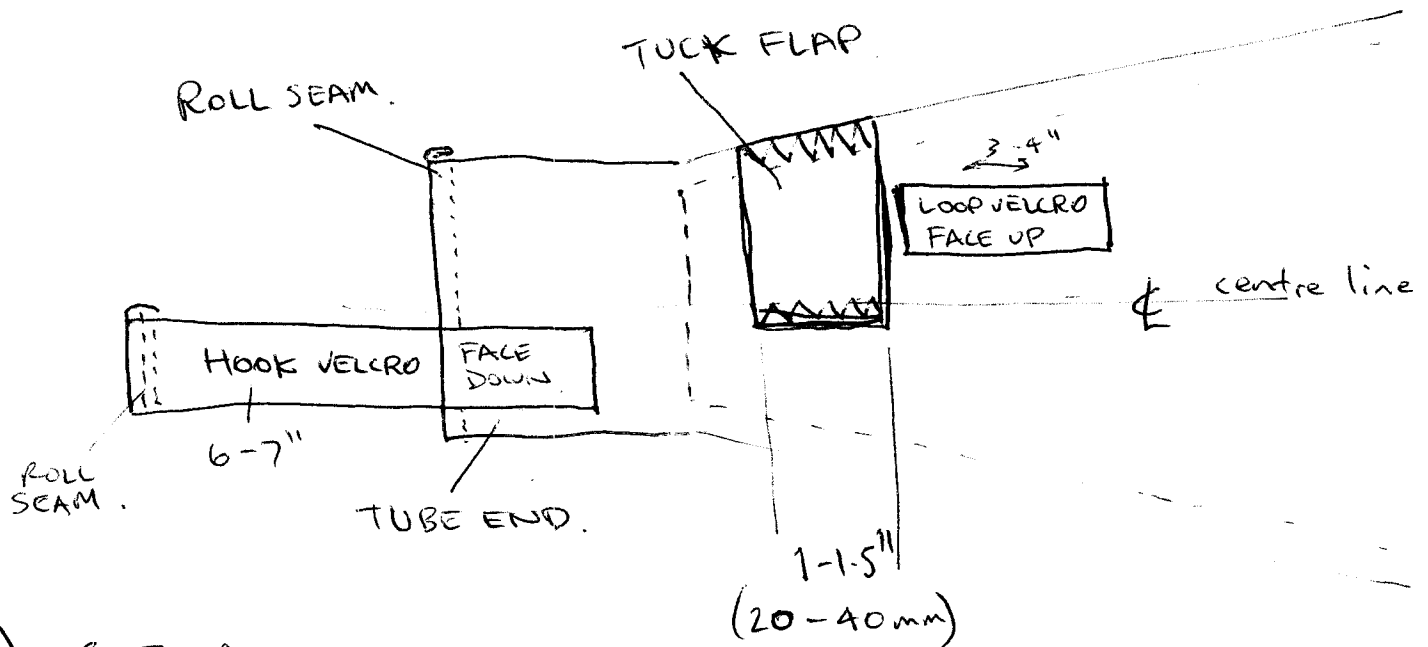


FOLD A_2 BACK AND KEEP TENSION ON WHILE SEWING A "TRIPLE ZIG-ZAG" STITCH ON SEAM.  IF YOUR MACHINE DOES NOT SUPPORT THIS STITCH YOU CAN USE PLAIN ZIG-ZAG . THE SMOOTH FOLDED OVER SECTION WILL BE ON THE INSIDE OF THE RIB, THE SEAM ON THE OUTSIDE. THIS WAY NO SHARP EDGES WILL DAMAGE THE BLADDER.



② c REPEAT FOR $A_2 = A_3 \neq A_3 = A_4$ etc.

③ SEW VELCRO TABS ON TUBE END.



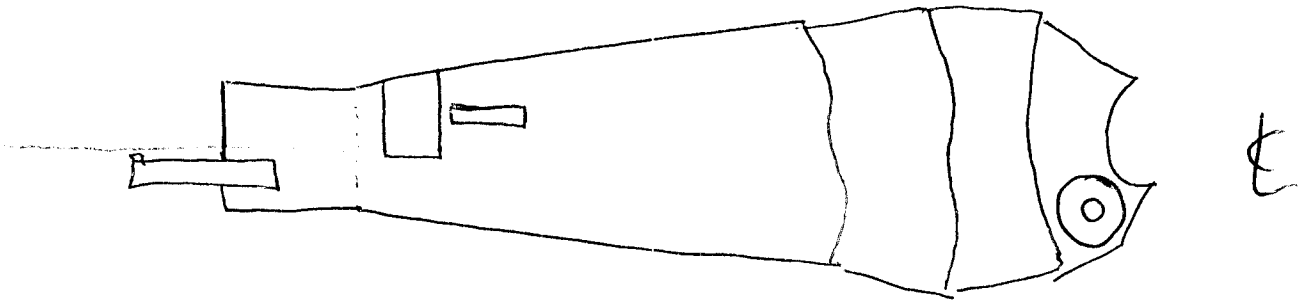
① CUT AND SEW A TUCK FLAP ROUGHLY 1-1.5" WIDE WITH STITCHES ON ONE SIDE WITHIN THE RIB SEAM ALLOWANCE, & ON THE OTHER SIDE BEYOND THE CENTRE LINE OF THE RIB. * MAKE SURE TO SEW ALL OF THESE PARTS ON THE OUTSIDE OF THE RIB, THAT IS, ON THE SEAM UP SIDE.

② SEW A SINGLE OR DOUBLE ROLLED OVER SEAM ON THE TUBE END ~~⊕~~

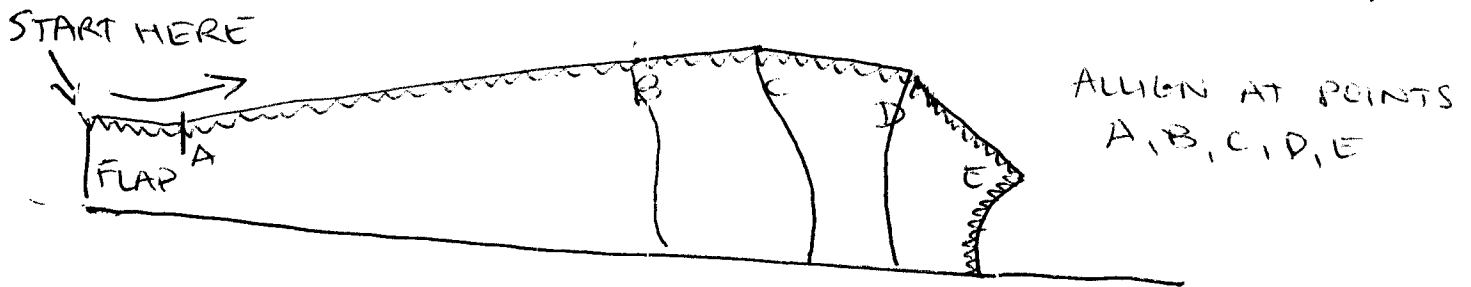
③ SEW A 3-4" LENGTH OF LOOP VELCRO (THE SOFT ONE) IN FRONT OF THE TUCK FLAP.

④ TAKE A 6-7" LENGTH OF HOOK VELCRO (SCRATCHY ONE). ROLL OVER ONE END. SEW FACE DOWN TO THE SAME SIDE OF RIB FABRIC, BUT OPPOSITE SIDE OF CENTRE LINE

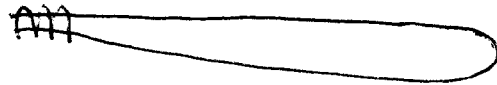
④ a. YOU SHOULD NOW HAVE SOMETHING THAT LOOKS LIKE THIS.



THE REMAINING STEP IS TO FOLD THE KITE DOWN THE CENTRE-LINE (E) AND SEW THE FINAL SEAM LEAVING THE FLAP OPEN.



THIS SHOULD BE A FLAT SEAM, CLOSE TRIPLE ZIG-ZAG



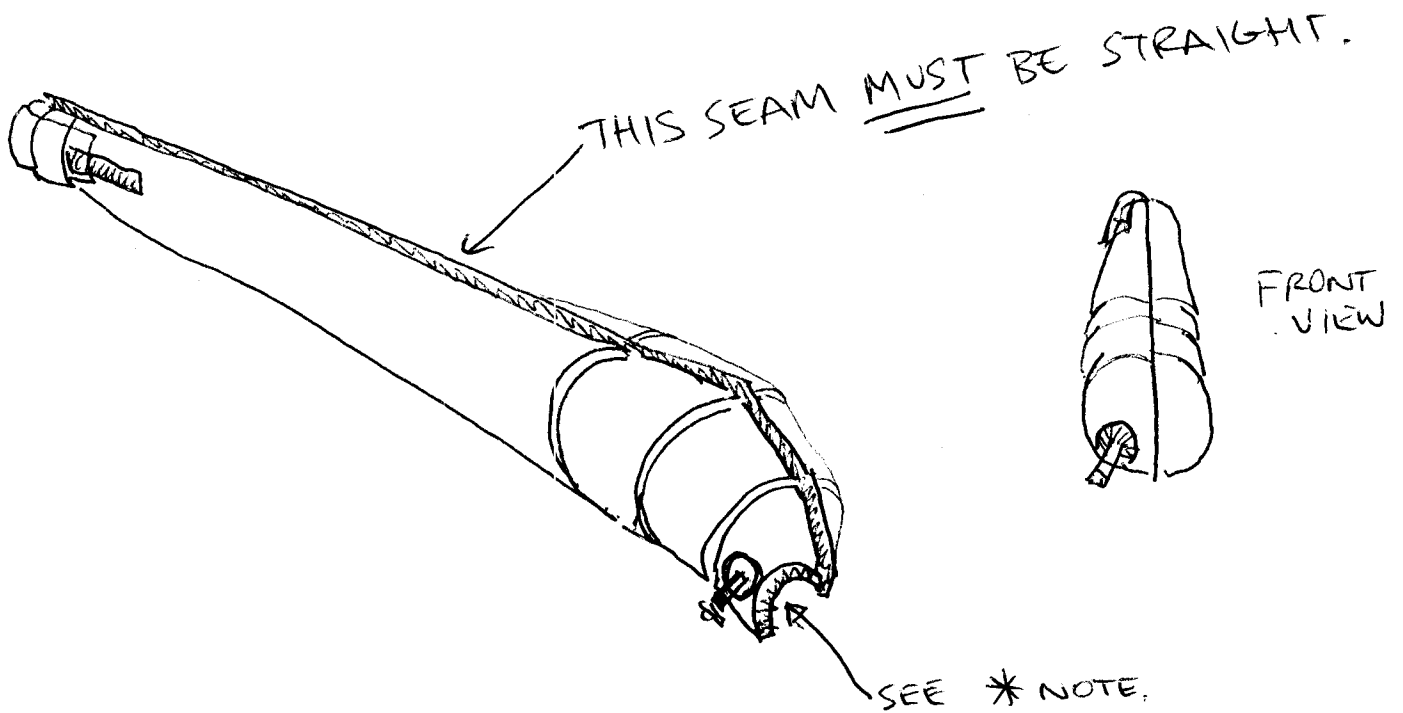
THE STRAIGHTNESS OF THIS SEAM DETERMINES



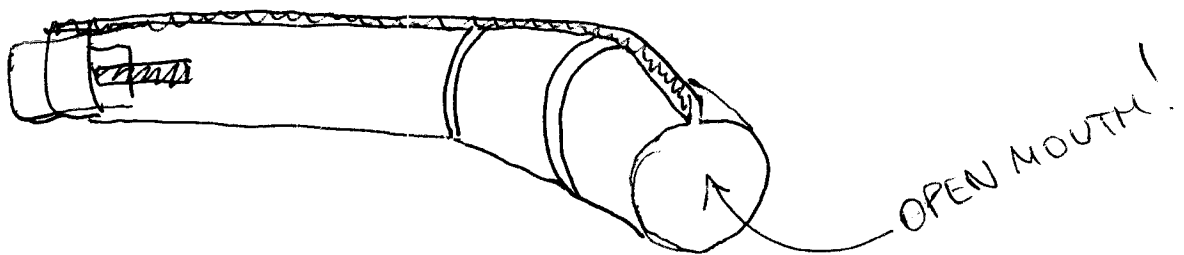
HOW ACCURATE YOUR FINISHED FOIL SHAPE IS.

ALIGN IT CAREFULLY AT POINTS A, B, C, D, E etc & UNSTITCH & RE-SEW IF IT DEVIATES SIGNIFICANTLY. IT IS A GOOD IDEA TO INFLATE IT NOW (WITH A TUBE INSIDE) TO SEE IF THE SHAPE IS GOOD.

⑤ SEW ALL OF YOUR RIBS. INFLATED THEY SHOULD LOOK LIKE THIS:

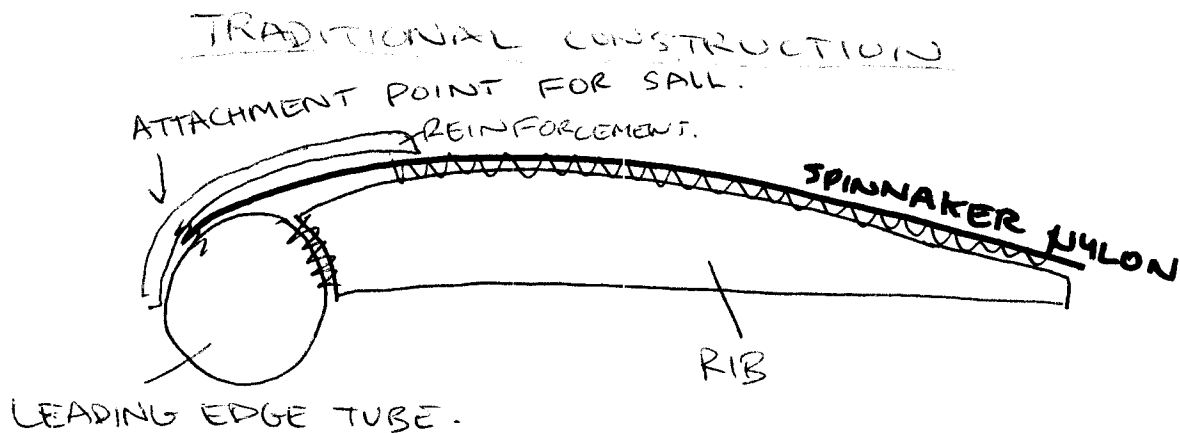


* NOTE. IF YOU ARE USING WING TIP RIBS THAT ARE CONNECTED TO THE LEADING EDGE (NAISH X2 STYLE) THEN DO NOT SEW UP THE MOUTH OF YOUR TIP BATTENS, LEAVE THEM OPEN.



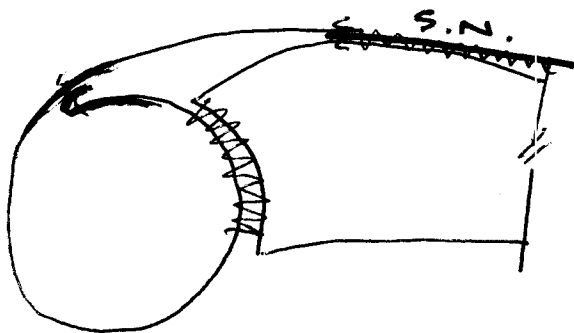
SEWING THE LEADING EDGE.

IN MOST COMMERCIAL KITES THE SPINNAKER NYLON IS SEWN DIRECTLY TO THE LEADING EDGE. THIS IS WHERE THE TEARS MOST FREQUENTLY OCCUR, SO THE TWO OPTIONS HERE SHOW YOU A METHOD WHERE A SMALL EXTRA LENGTH OF DACRON ROLLS OVER INTO THE BELLY OF THE KITE. THIS MAKES A STRONGER KITE, AND AS YOU WILL SEE, MAKES SEWING EASIER.

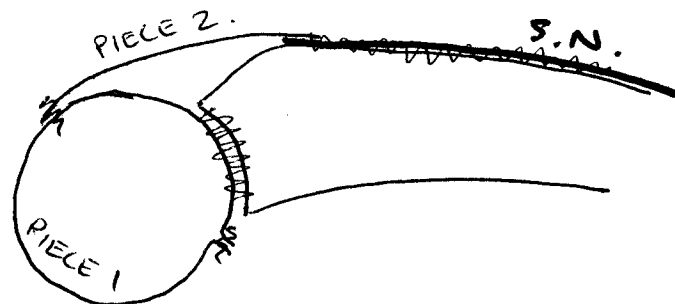


SAUL'S 2 IMPROVED METHODS.

① ONE PIECE METHOD

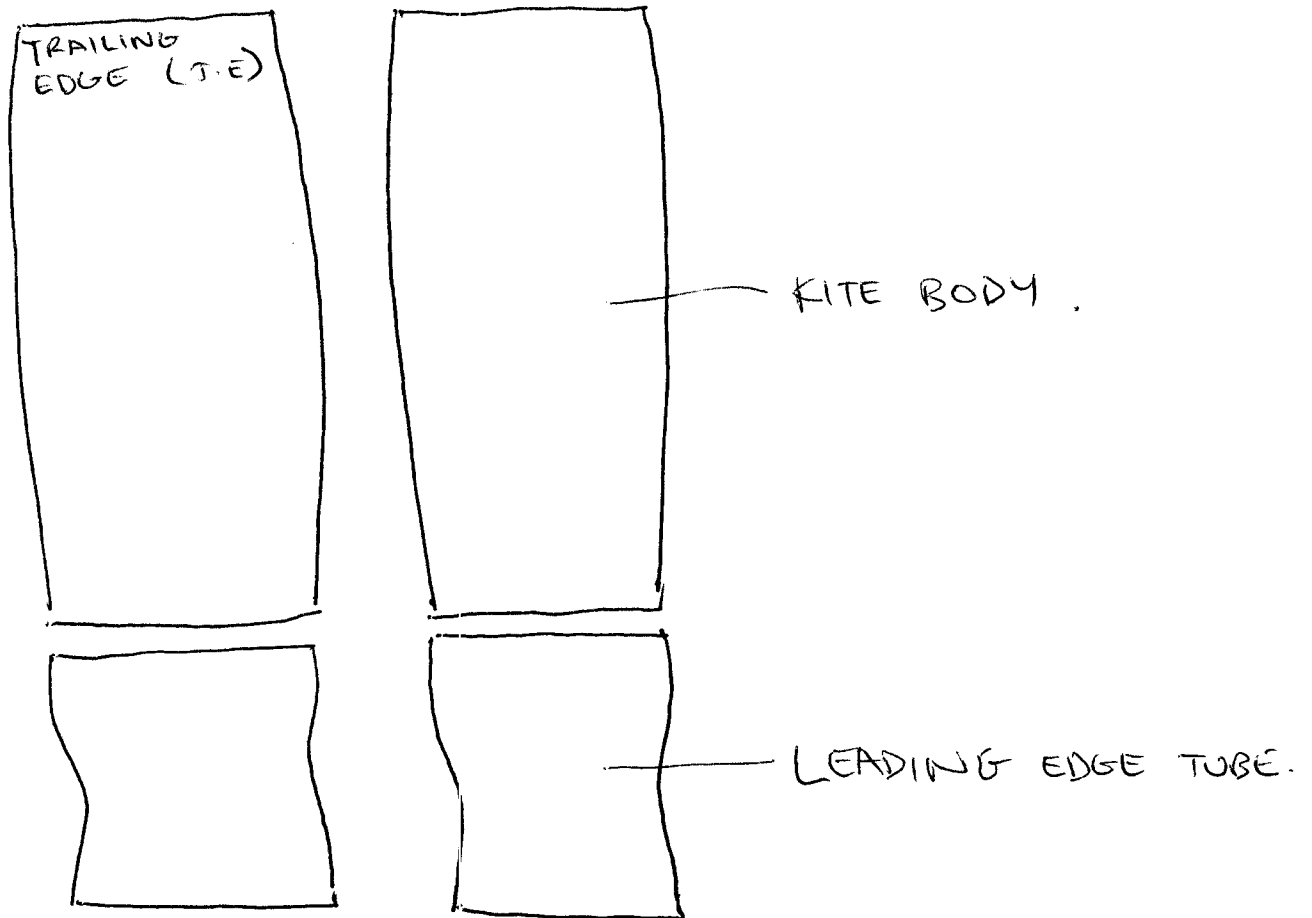


② TWO PIECE METHOD

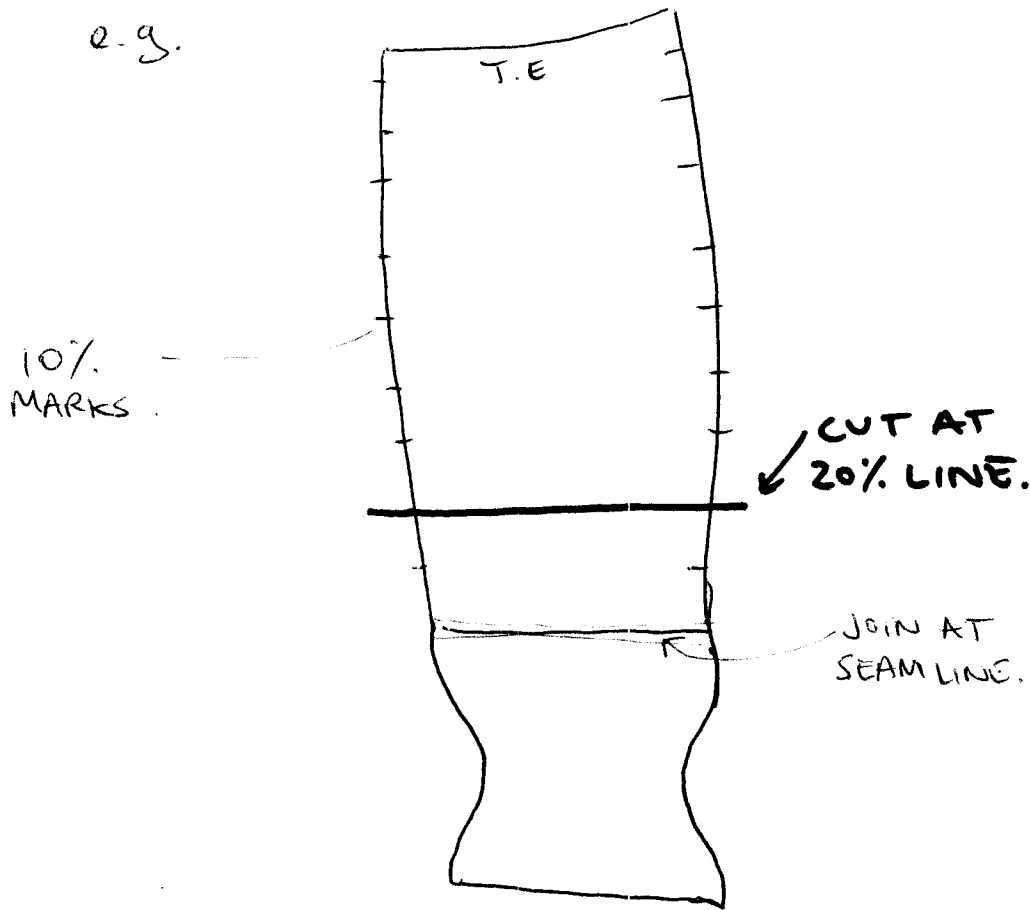


* BY USING ONE OF THESE 2 METHODS YOU WILL GET A STRONGER KITE & NOT REQUIRE REINFORCEMENT PATCHES AT THE RIBS. THIS IS BECAUSE THE RIB IS SEWN TO THE LEADING EDGE DACRON EXTENSION NOT JUST THE SPINNAKER NYLON.

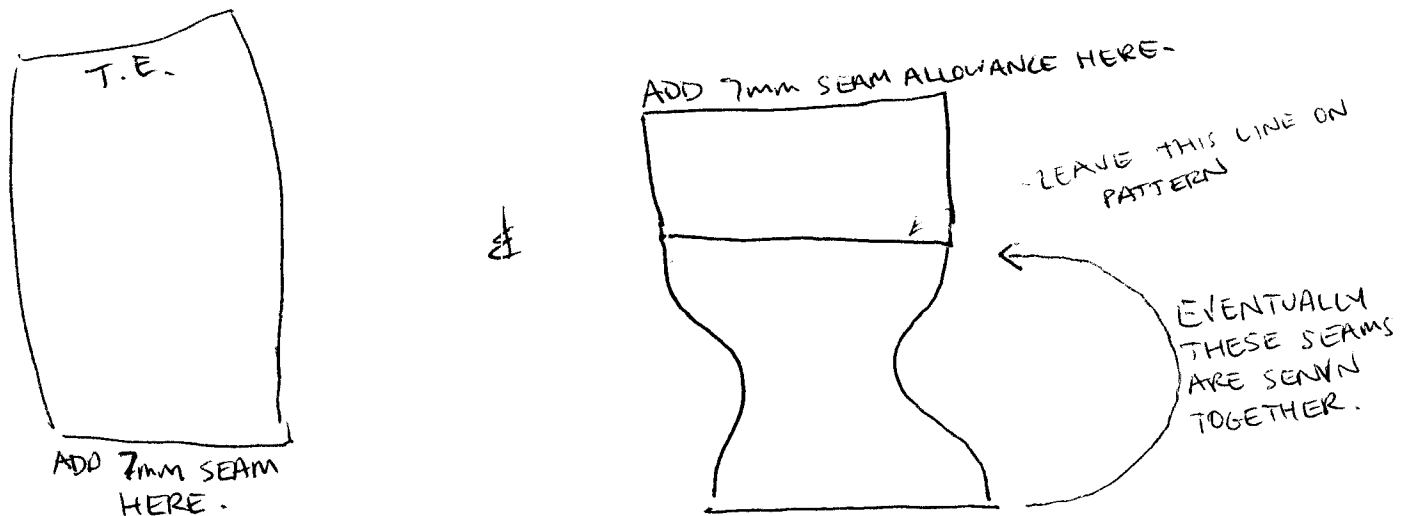
① MAKING PATTERNS FROM SURFPLANS.



①a) IF YOU ARE USING ALTERNATIVE METHOD 1
JOIN THE BODY & LEADING EDGE (L.E)
PIECES IN A CAD PROGRAM SUCH AS ADOBE
ILLUSTRATOR OR COREL DRAW.

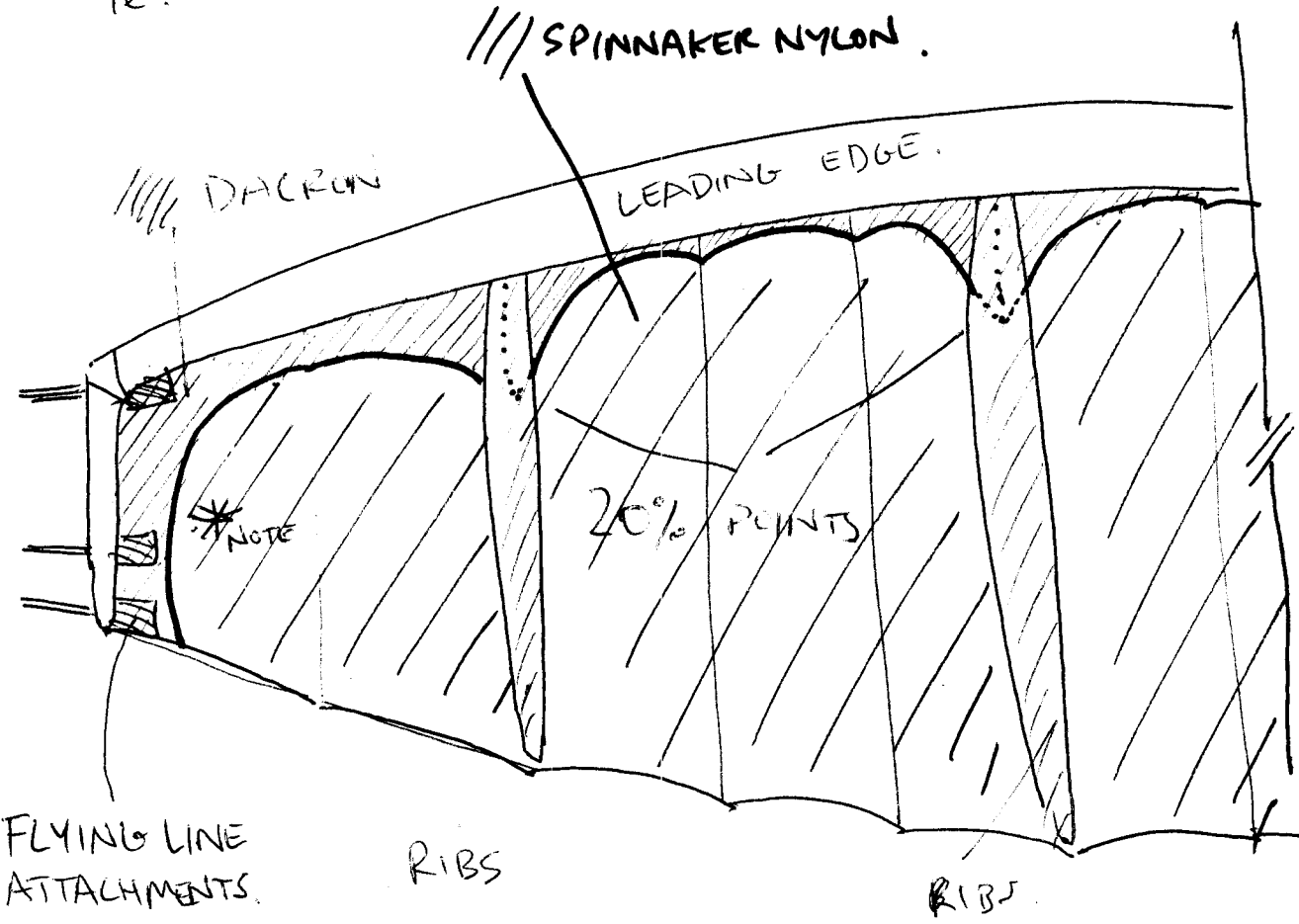


NOW YOU WILL HAVE 2 PIECES.



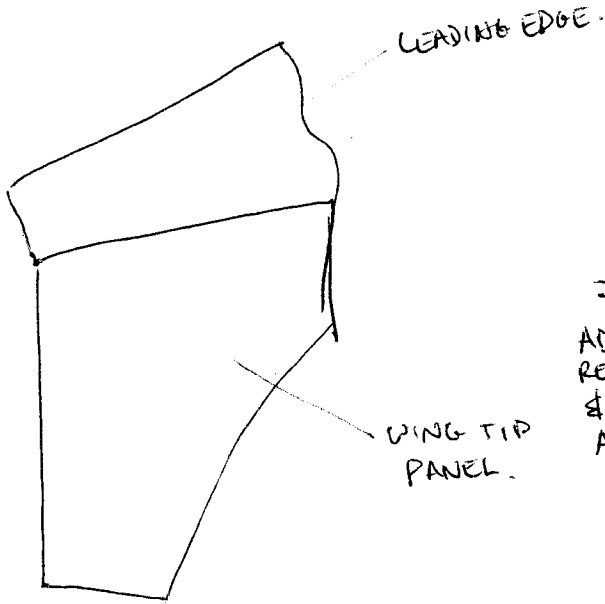
①b. IF YOU WISH TO SPEND A LITTLE MORE TIME,
AND TO MAKE THE KITE A LITTLE LIGHTER YOU
CAN SCALLOP THE DACRON BETWEEN RIBS.

12.



*NOTE THAT AT THE WING-TIP YOU BRING THE
DACRON RIGHT AROUND TO THE EDGE AS LOAD
DISTRIBUTOR AND STRESS / REINFORCEMENT POINT.

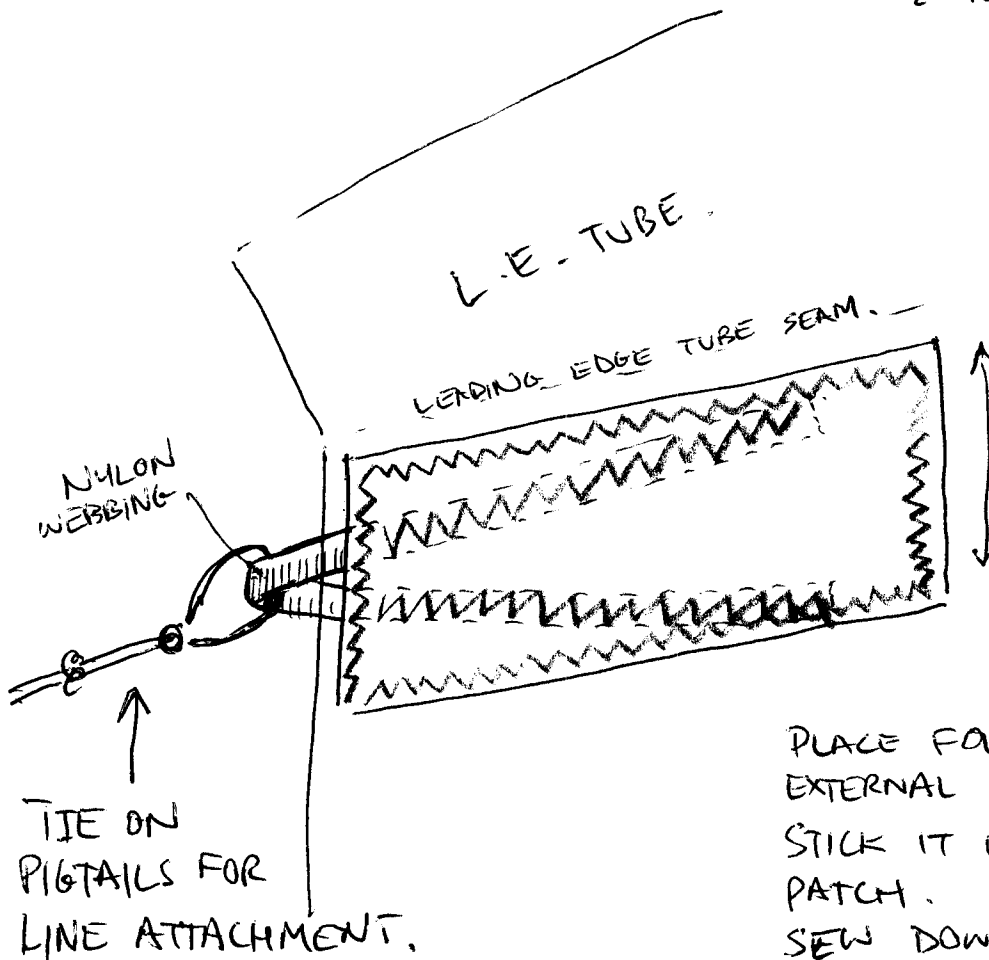
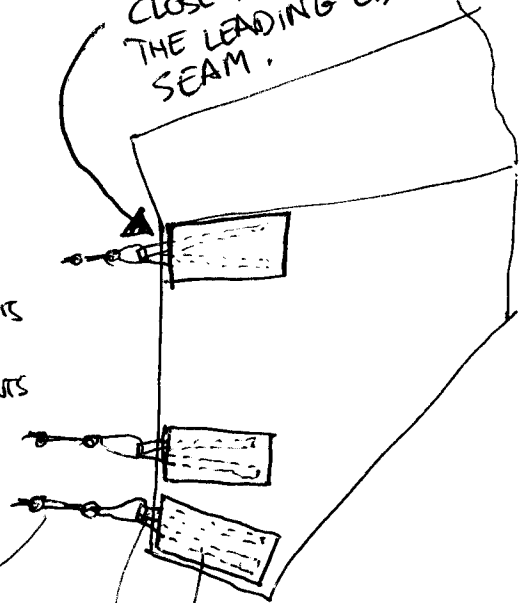
WING-TIP REINFORCEMENTS.



ADD REINFORCEMENTS & LINE ATTACHMENTS

*YOU WANT THE FRONT LINE ATTACHMENT AS CLOSE AS POSSIBLE TO THE LEADING EDGE TUBE SEAM.

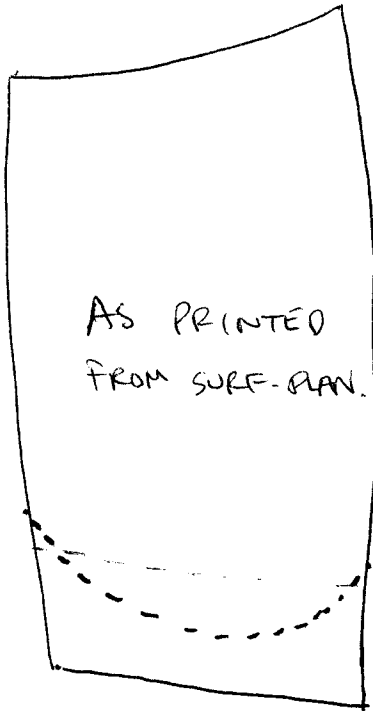
LINE ATTACHMENT PIG-TAILS.
- USE MIN 1000LB DACRON LINE.



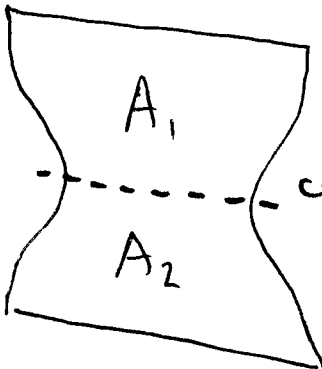
3" WIDE DACRON SELF ADHESIVE TAPE/ROLL.

PLACE FOLDED NYLON WEBBING ON EXTERNAL SIDE OF WING TIP DACRON. STICK IT UNDERNEATH REINFORCEMENT PATCH. SEW DOWN AS SHOWN IN RED.

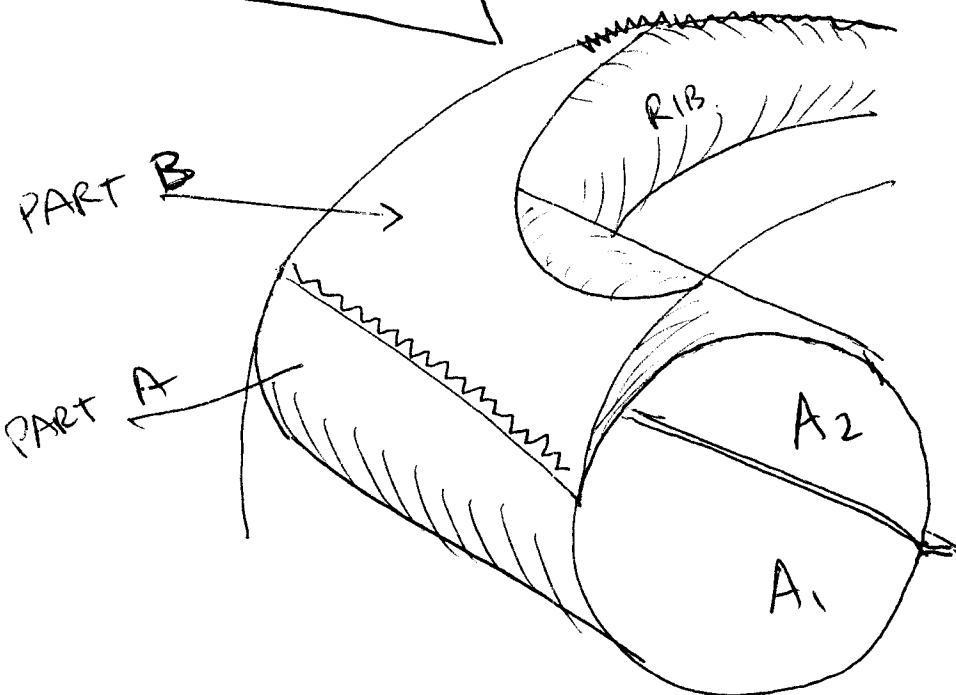
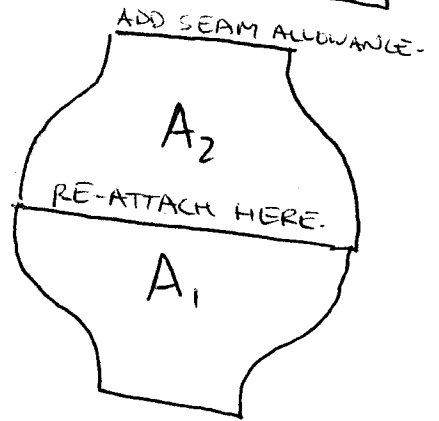
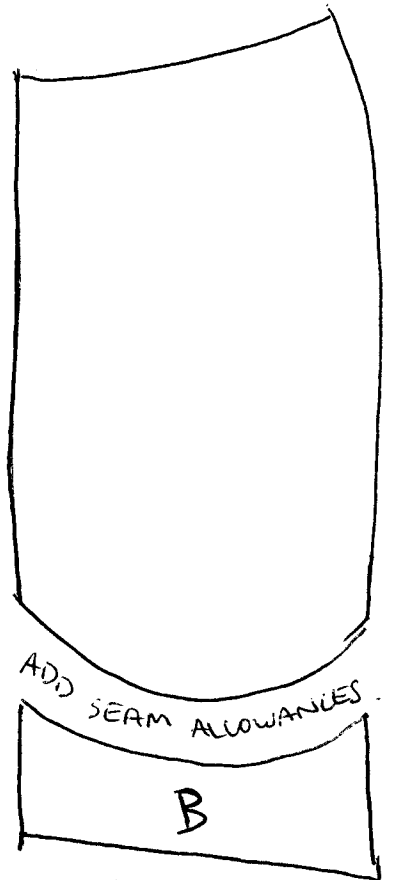
② a) IF YOU CHOOSE OPTION 2 YOU NEED TO MAKE MORE CHANGES.



CUT DESIRED PATTERN AT 20% POINTS.

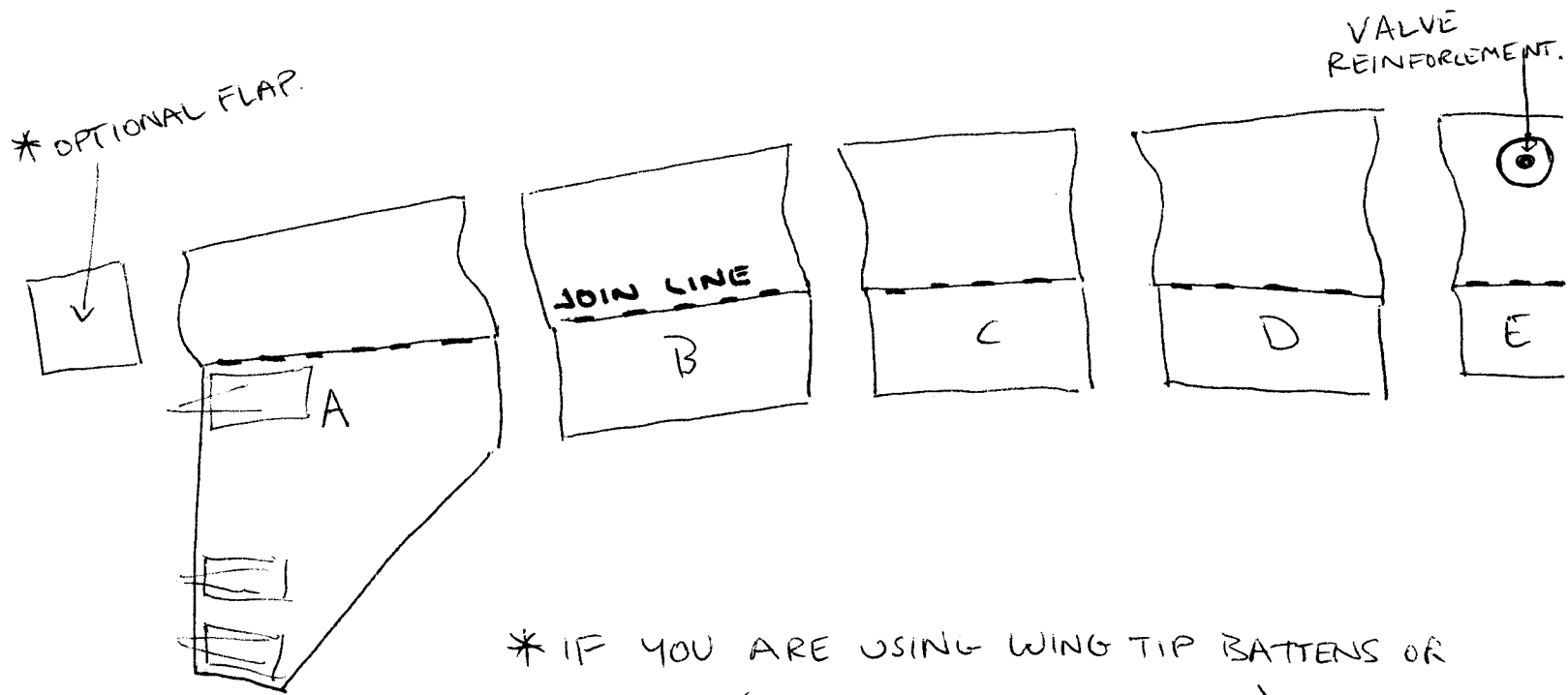


CUT IN CENTRE OF L.E. TUBE SEGMENT.



SEWING THE LEADING EDGE.

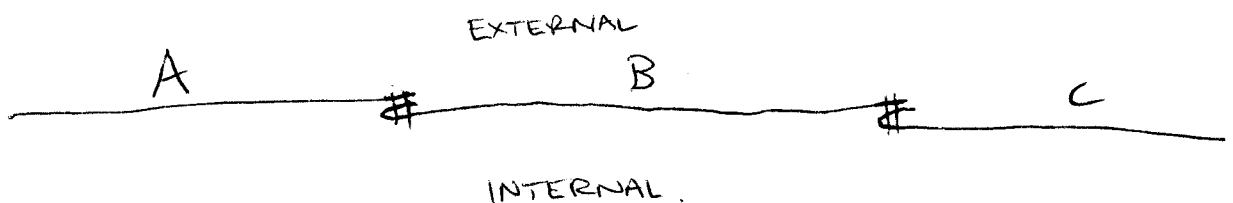
③ ASSUMING YOU ARE USING OPTION 1.



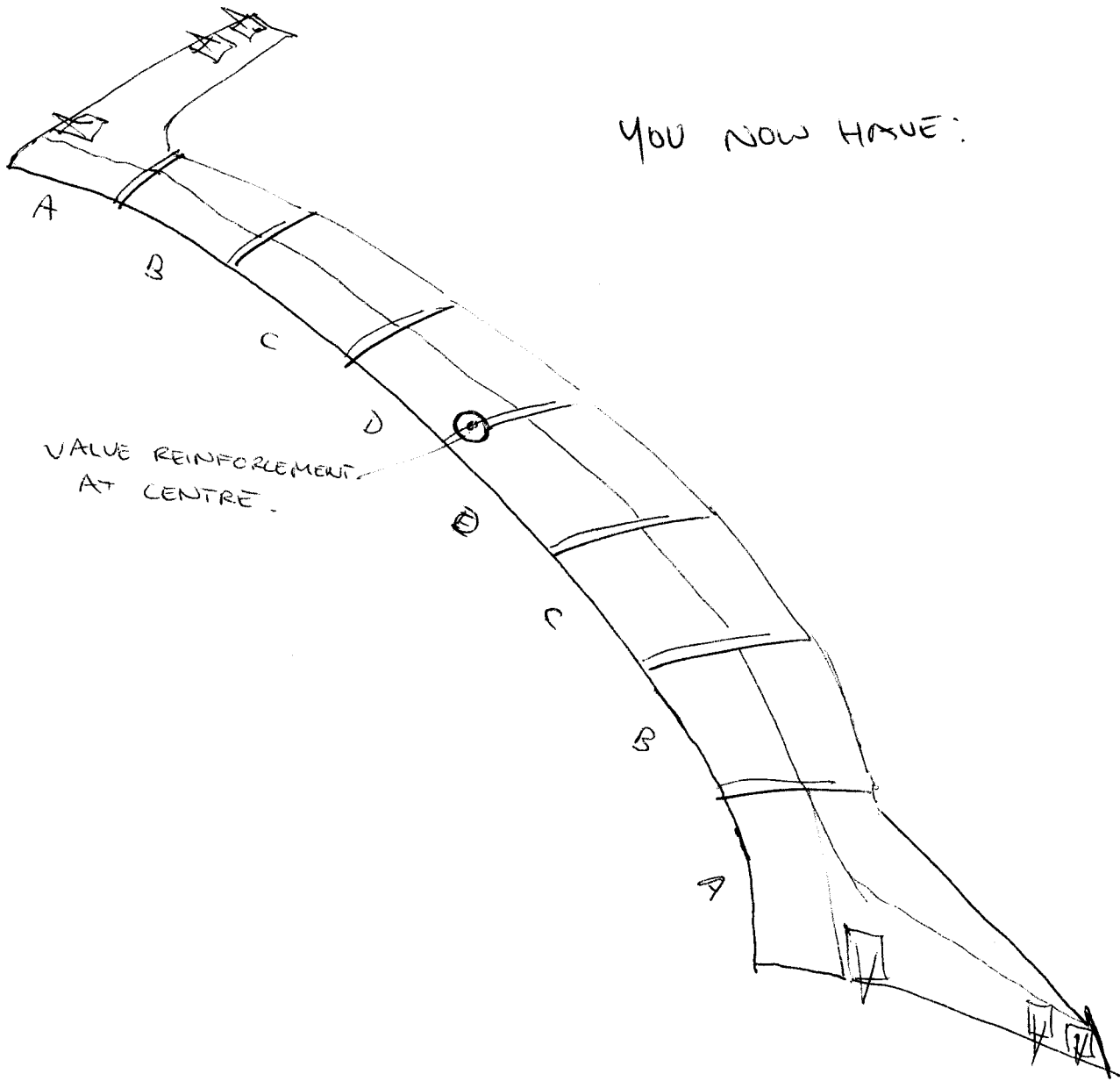
* IF YOU ARE USING WING TIP BATTENS OR SPARS (NO INFLATABLE RIB AT TIP) SEW A SIMILAR FLAP & VELCRO PIECE AS YOU DID AT THE RIB ENDS.

③ a. SEW A VALVE REINFORCEMENT PATCH ON YOUR CENTRAL PANEL.

③ b. SEW FROM ONE END TO THE OTHER A:B:C:D:.....:D:B USING FLAT FELLED SEAMS SIMILAR TO THE RIB. ENSURE THAT ALL OF YOUR SEAMS ARE EXTERNAL ON ONE SIDE OF THE CLOTH AS WITH THE RIBS. * VALVE ON EXTERNAL SIDE. REINFORCEMENT



4a



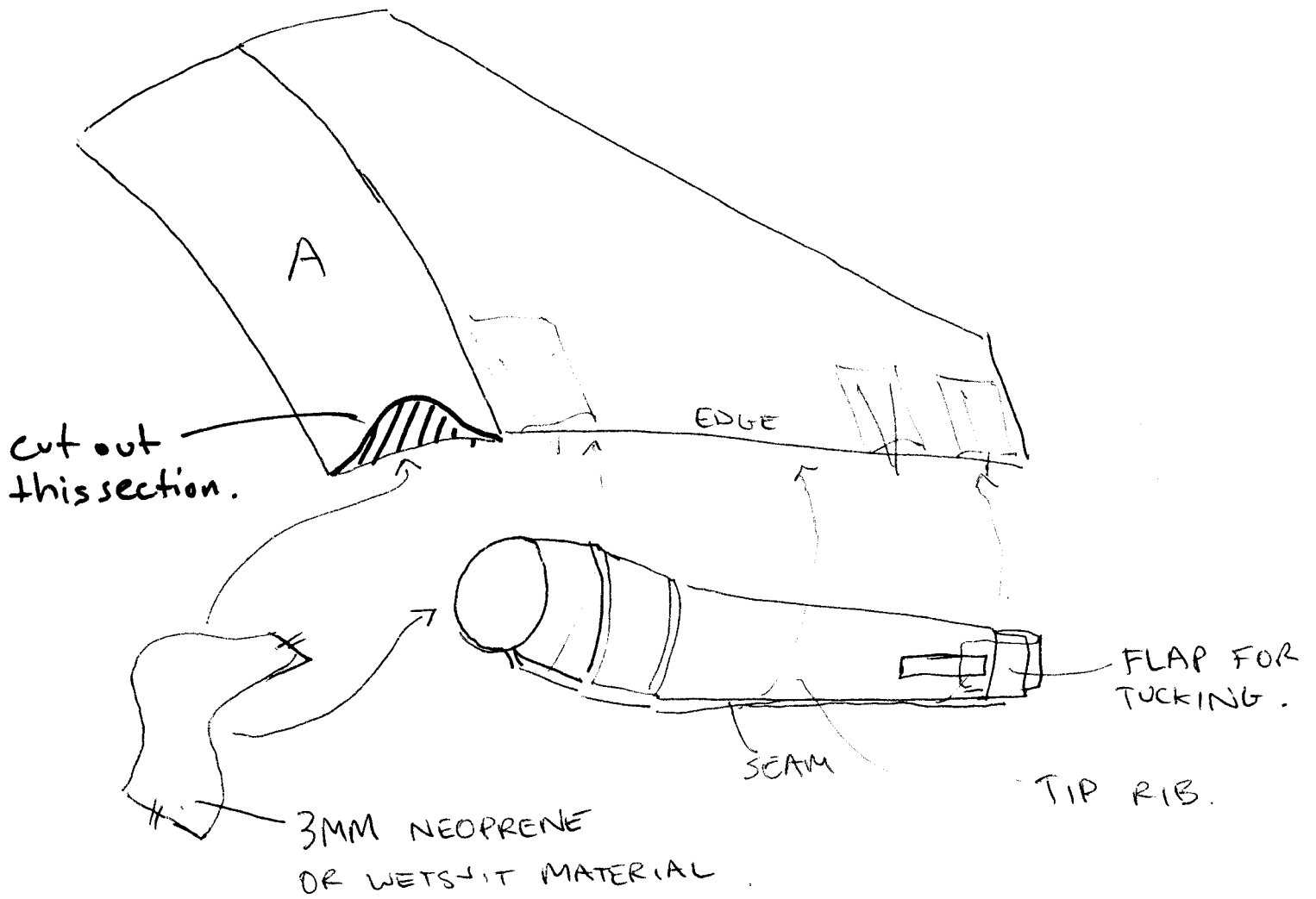
YOU NOW HAVE:

VALVE REINFORCEMENT
AT CENTRE.

IF YOU ARE USING WING TIP ~~RIBS~~ RIBS
THAT ARE PART OF LEADING EDGE YOU NOW
ATTACH THOSE RIBS

X2 - STYLE CONTINUOUS LEADING EDGE / WING TIP RIBS .

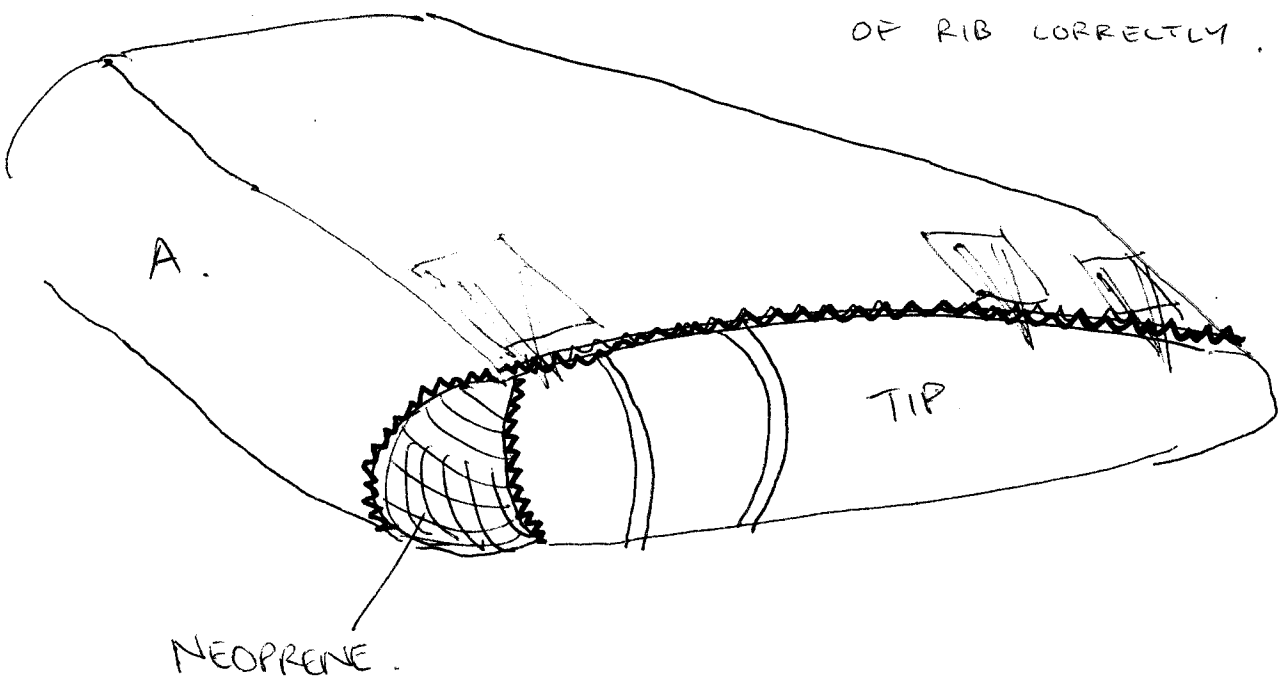
4b



* CUT A NEOPRENE "CORNER JOINT" THAT IS SEWN TO WING-TIP A AND THEN TO YOUR WING TIP RIB. STARTING FROM THE TRAILING EDGE NOW SEW THE SEAM OF YOUR WING-TIP RIB TO THE EDGE OF PANEL A .

④c

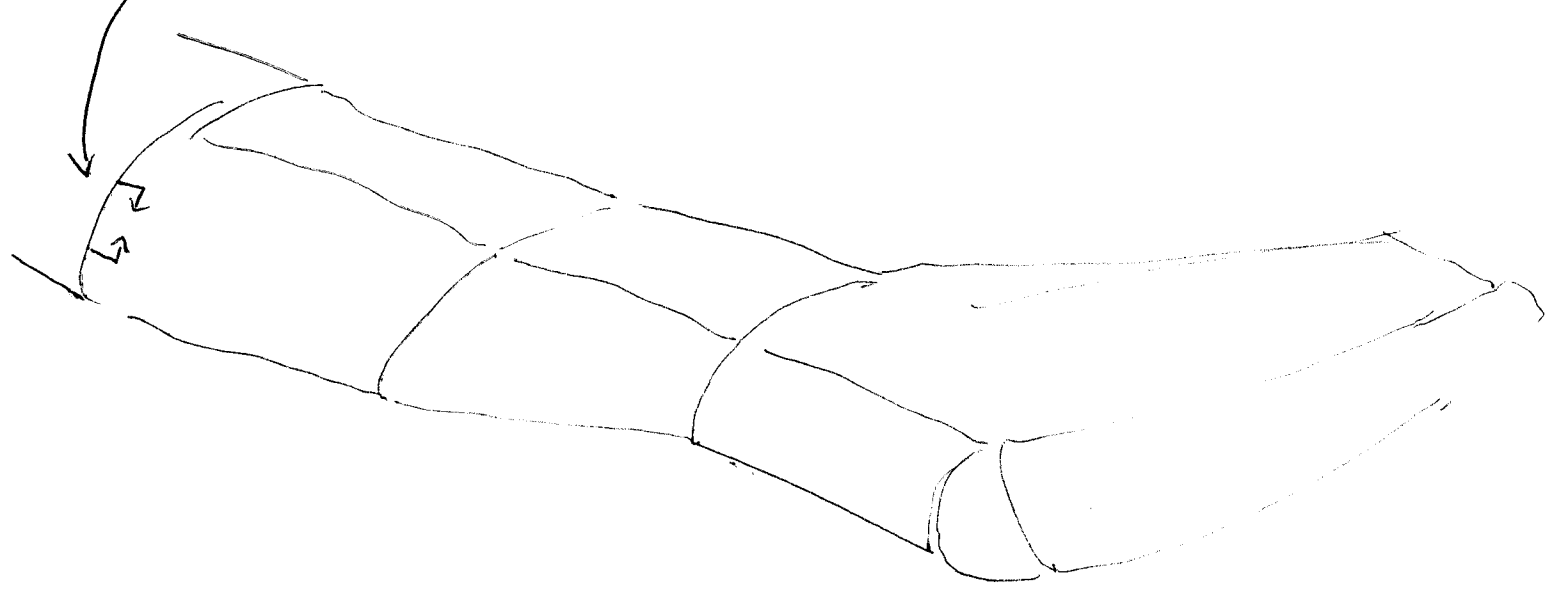
* BE CAREFUL TO ORIENT FOIL SHAPE OF RIB CORRECTLY.



* DO NOT SEW LEADING EDGE TOGETHER YET!!

④d YOU ARE NOW READY TO SEW THE OTHER RIBS TO THE EXTERNAL SIDE OF THE LEADING EDGE AT THE SURFPLAN ATTACHMENT POINTS

ATTACH RIBS HERE.

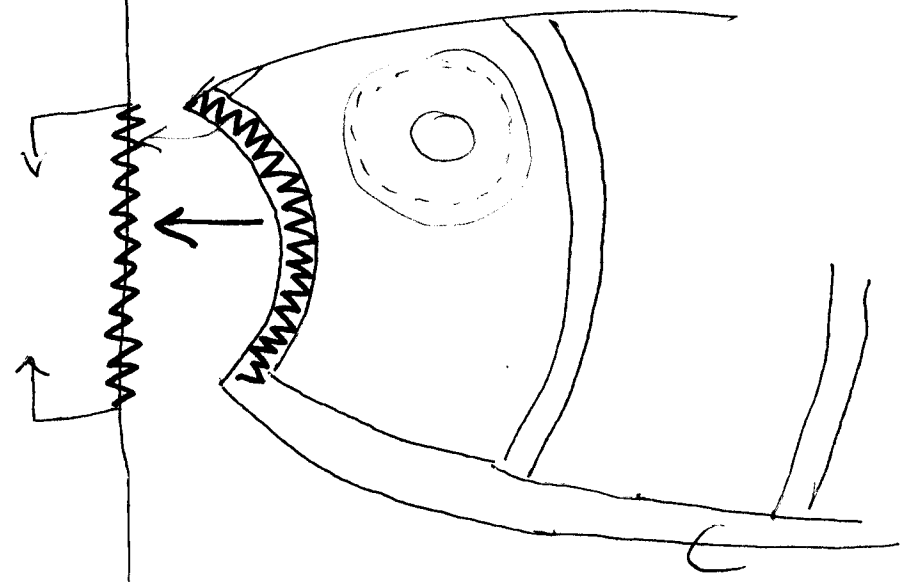


4e

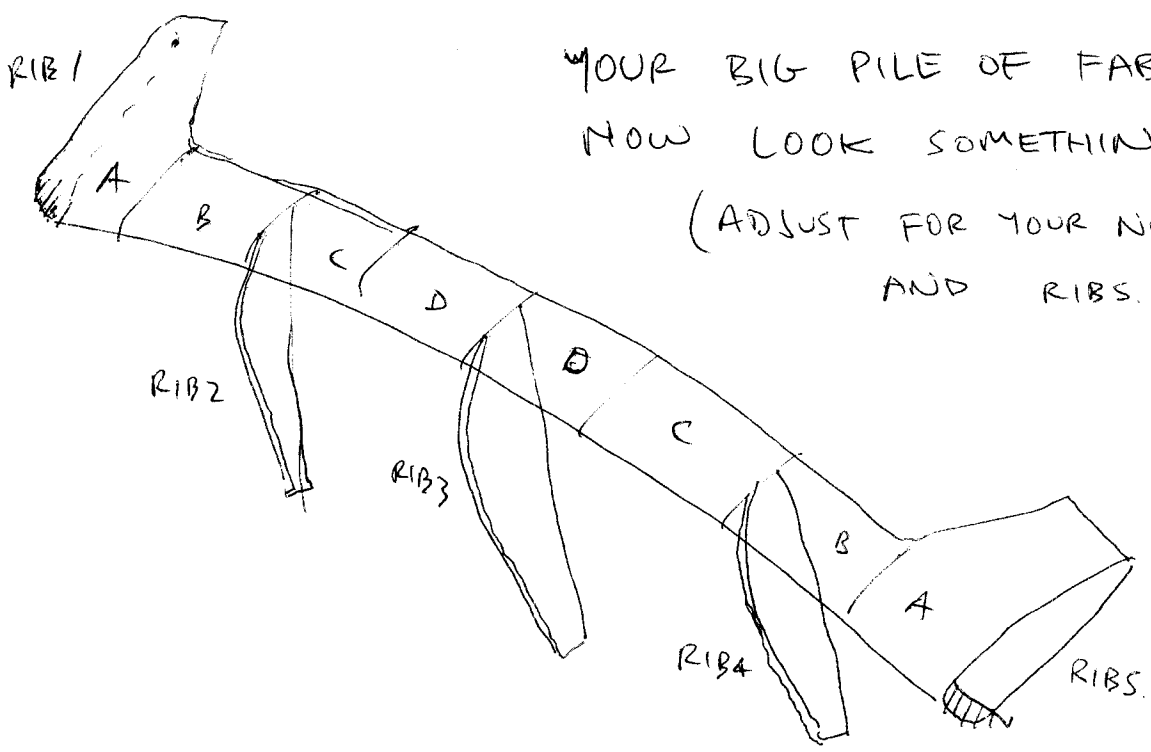
LEADING EDGE JOINING

LINE.

D



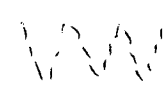
SEW RIB TO LEADING EDGE AS SHOWN TAKING CARE TO ALLIGN CURVED RIB TO STRAIGHT L.E. SEAM.



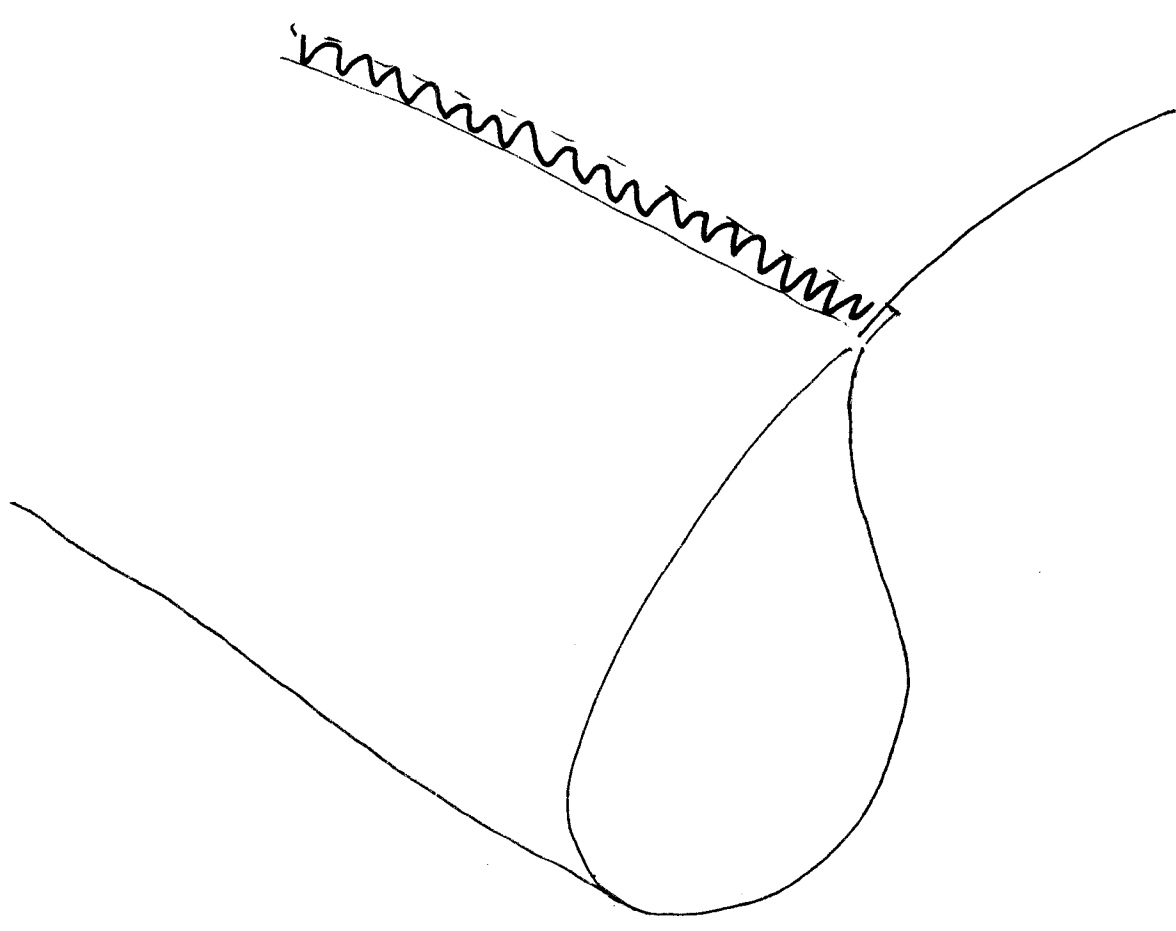
YOUR BIG PILE OF FABRIC SHOULD NOW LOOK SOMETHING LIKE THIS...
 (ADJUST FOR YOUR NUMBER OF PANELS) AND RIBS.

④ f.

NOW SEW THE LEADING EDGE SHUT.

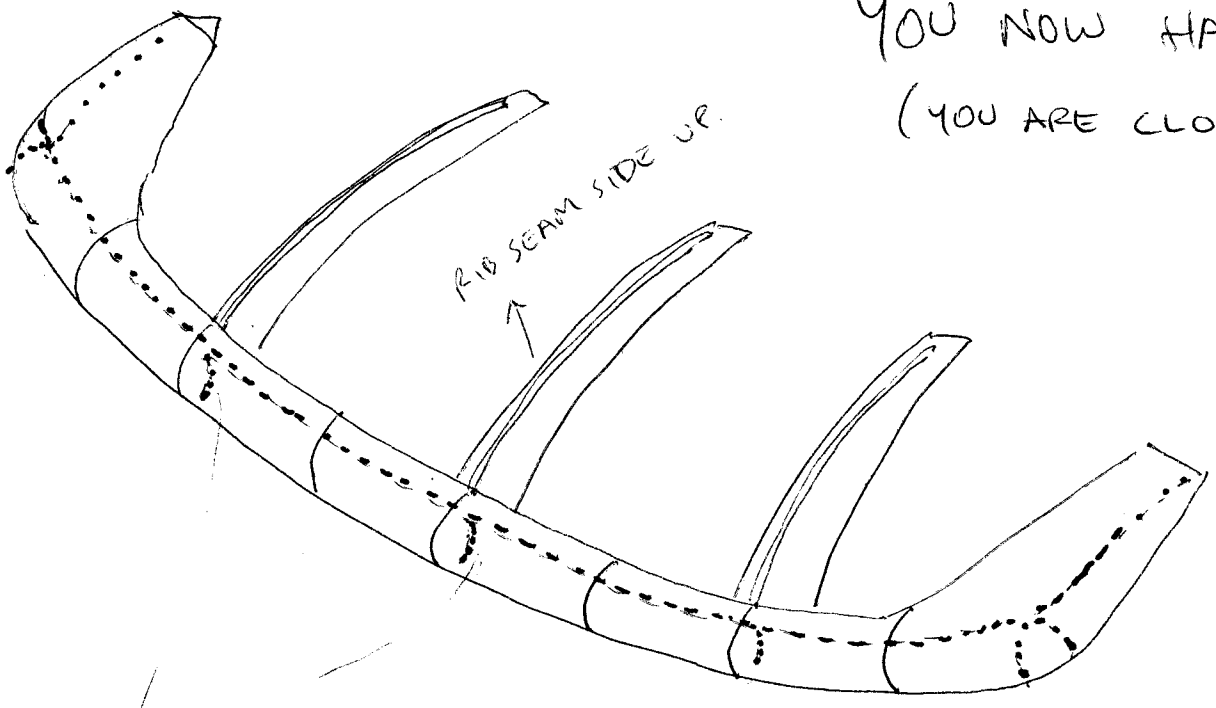
START AT ONE END AND SEW A FLAT SEAM, TRIPLE ZIG ZAG. 

TAKE CARE AS ACCURACY OF THIS SEAM DETERMINES L.E SHAPE. DO NOT SEW OVER THE RIBS!!



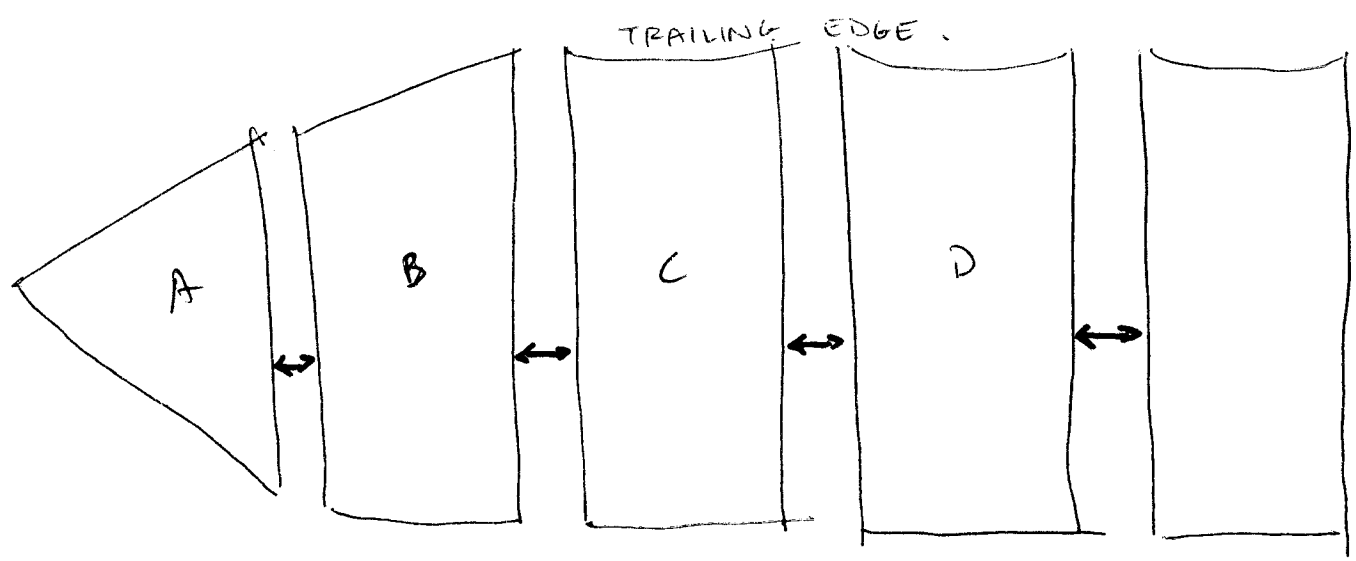
4g.

YOU NOW HAVE THIS
(YOU ARE CLOSE)

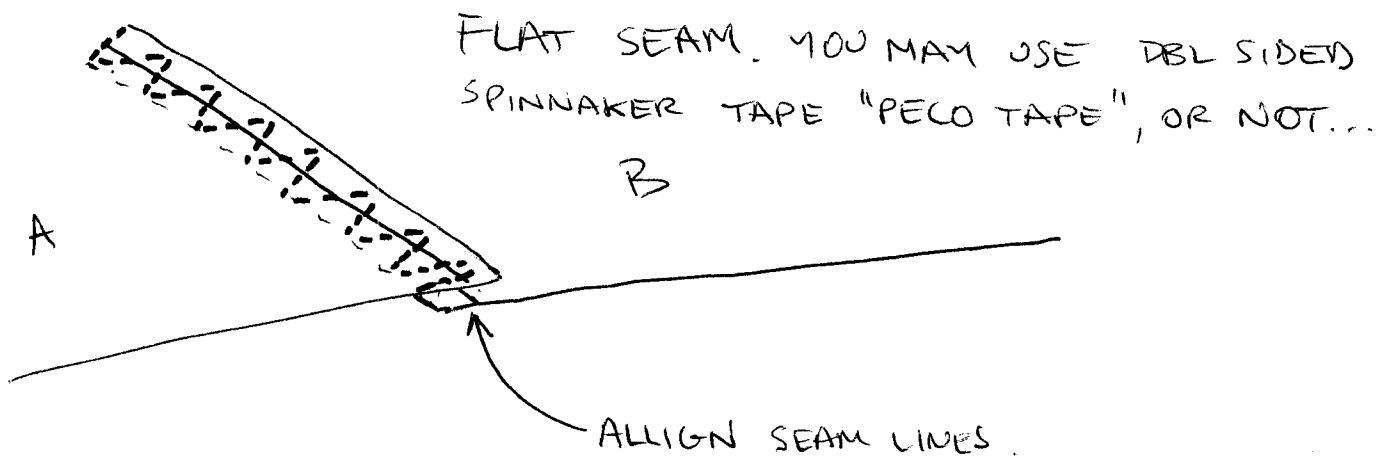


RIB ATTACHMENTS.

5 BODY OR SAIL OF KITE



3a MOVING FROM ONE TIP TO THE OTHER SEW YOUR BODY PANELS TOGETHER. MAKE SURE ALL TRAILING EDGES ARE ALIGNED

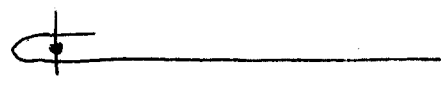



*OPTIONAL... YOU MAY REINFORCE THIS SEAM WITH SELF ADHESIVE NYLON "RIP-AIR" TAPE. THIS IS 1-5" WIDE ADHESIVE BACKED SPINNAKER NYLON. YOU CAN EASILY SPLIT THE ROLLS INTO 1/2" OR 3/4" WIDTHS!

5B SEW A LEACH ONTO THE TRAILING EDGE.

3 OPTIONS:

a)  fold over on self

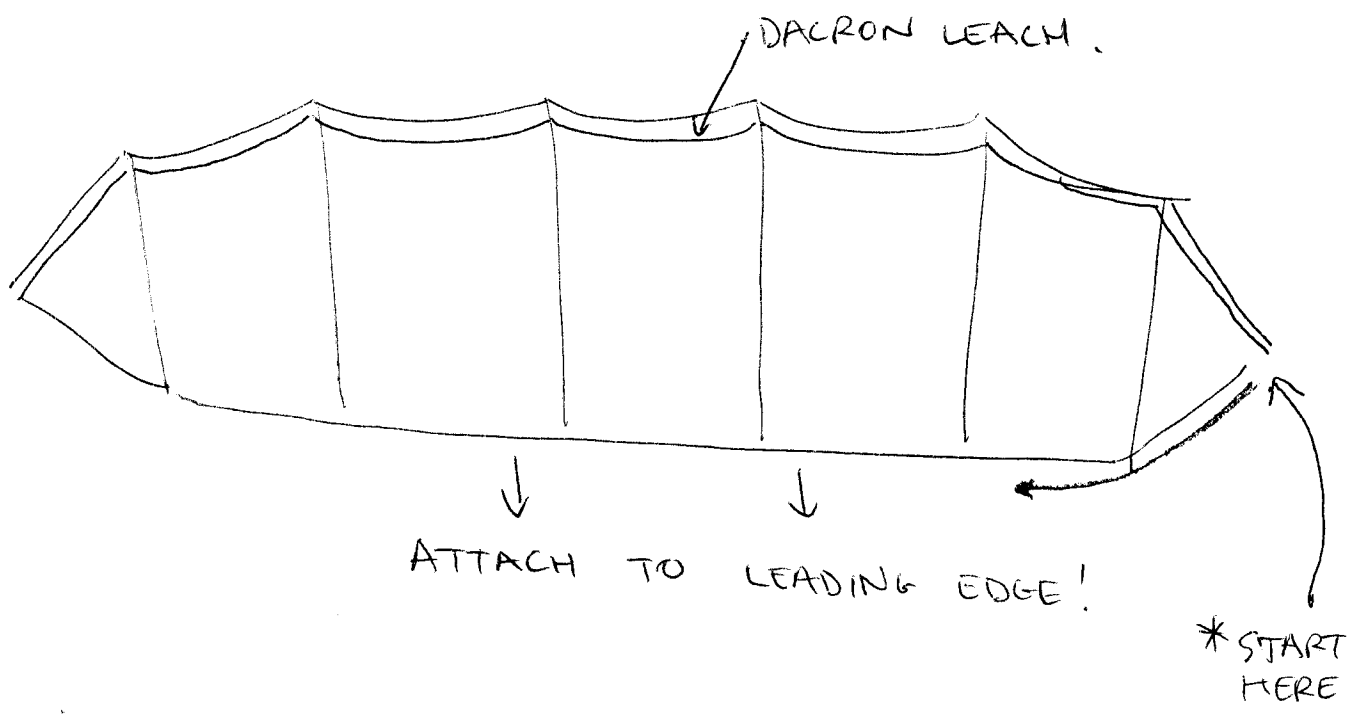
b)  fold over on self with spectra line (300lb or 500lb) in centre.

e)  using dacron tape fold over trailing edge and stitch through.

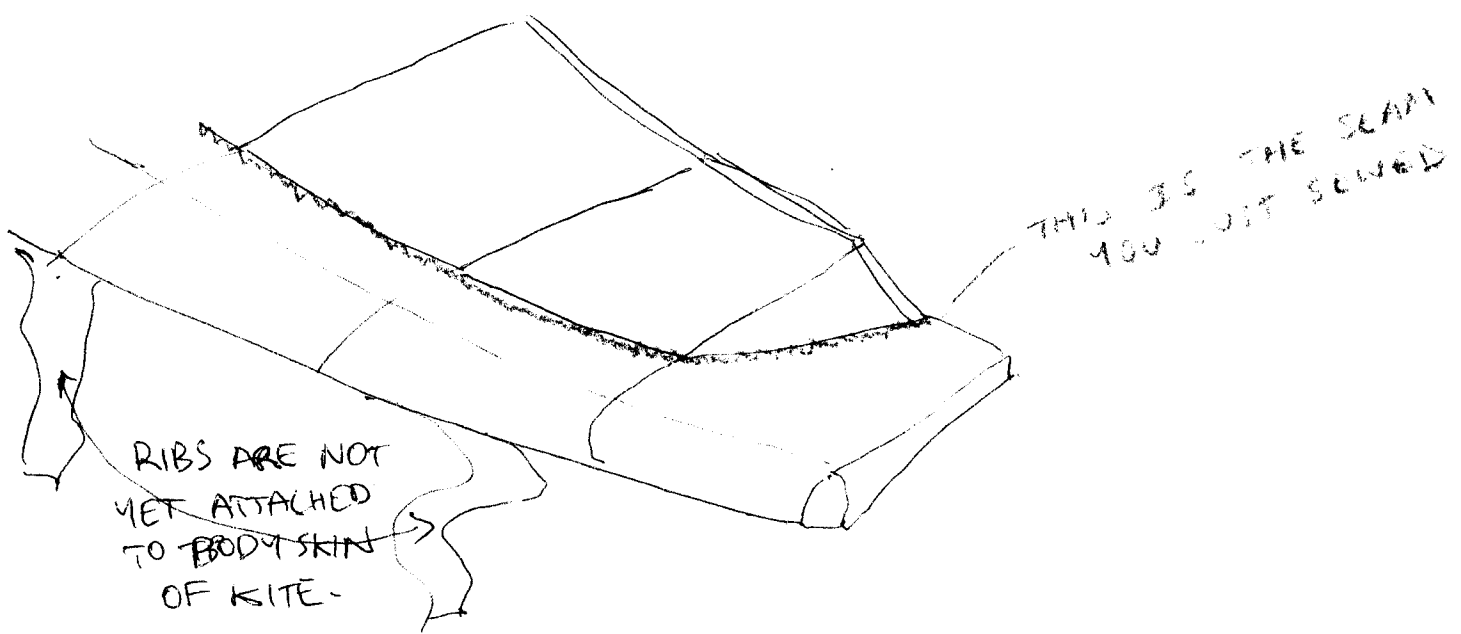
dacron tape
3/4 - 1"

* THIS IS MY PREFERRED METHOD

3 c ... YOU NOW HAVE .

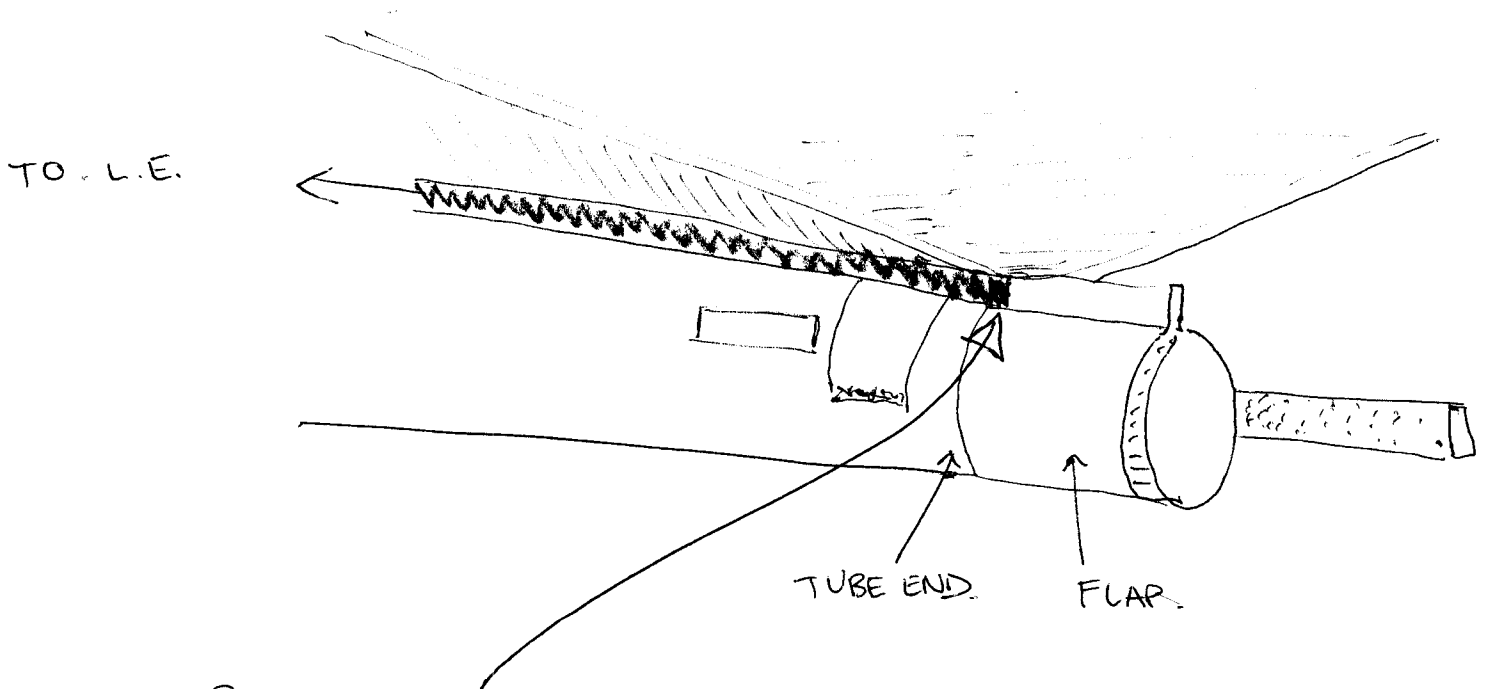


3 d. STARTING AT ONE END*, SEW THE NYLON BODY OF THE KITE (ABOVE) TO THE DACRON LEADING EDGE.
 (4 g). AS YOU GO ALLIGN THE L.E PANELS WITH BODY PANELS.
 YOU SHOULD NOW HAVE:

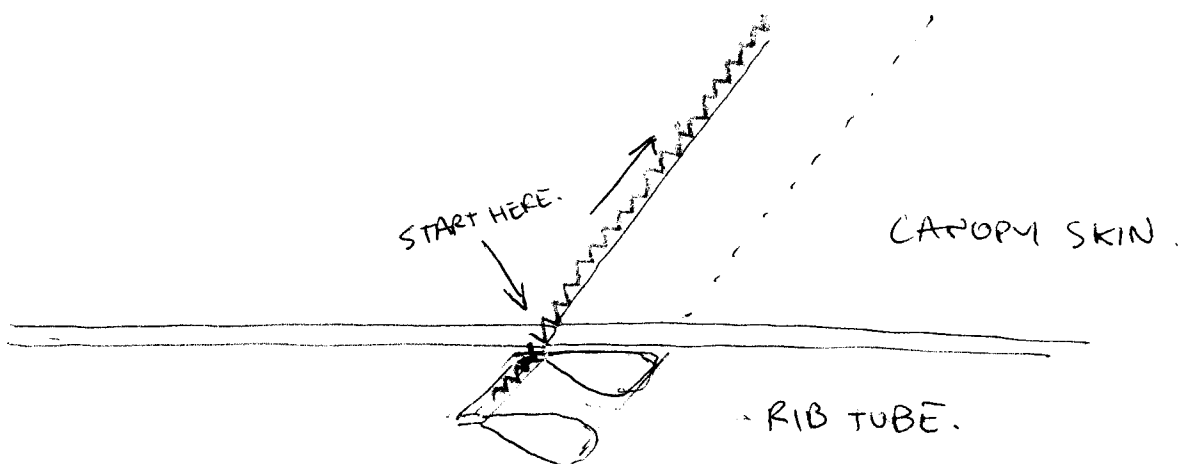


⑥ a. YOU ARE EXTREMELY CLOSE. THIS IS THE FINAL STEP.

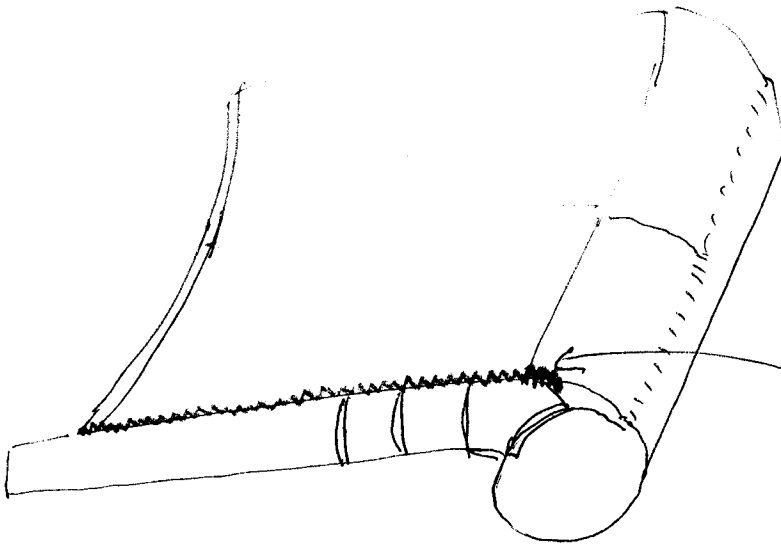
* STARTING AT THE TRAILING EDGE ALIGN THE RIB TO THE CANOPY SKIN AND SEW TOWARDS THE LEADING EDGE.



BE SURE TO ALIGN TRAILING EDGE TO THE TUBE END, NOT THE FLAP END.



6c



SEW RIB TUBE TO
CANOPY & FINISH 1-2
INCHES IN ON THE DACRON
REINFORCEMENT THAT ROLLS
OFF THE LEADING EDGE.

* THIS NEGATES THE NEED FOR THE FOAM
REINFORCEMENTS AT RIB/SKIN ATTACHMENT
THAT ARE LUMBERSOME AND CAUSE DRAG
ON COMMERCIAL KITES.

6d. REPEAT FOR ALL RIBS.

YOU ARE FINISHED!

ATTACH 4 FLYING LINES.

FIND WIND.

FIND WATER.

RIP