

24 PANEL ROTOR PLAN

The 24 panel rotor was designed to have a maximum diameter with a minimum of fabric.
The prototype has 1.5 m inner diameter.

Prototype 1

The rotor can be flown on a kite line or without a kite on a long line anchored to the ground.
This 24 panel rotor has low pull compared to a bol, and it has 48 connection points so these connection points do not take a lot of stress.

The rotor can be scaled up or down inclusive of the bridle lengths. The plan below is for a 3.69 meter inner diameter.

3.6 inner diameter held by hand



Building instructions:

(hot)cut 12 rectangular panels: 1397 long, 374 high (add seam allowance)

Cut these on the diagonal, thus they become 24 triangular panels.

Sew these together as shown on the drawing.

Make sure to use a double straight stitch or a zigzag.

When the used fabric is strong enough no tabs are needed.

This can be tested with a piece of scrap: fold it like the hems you use and sew the

bridle along the hem with a zigzag be sure the needle runs through the bridle. Pull and see what happens.

The bridles:

For the bridle use 0.7mm Dacron (tensile strength: 30kg).

There are :

24 external bridles: 1720mm long + losses in attachment point

24 internal bridles: 2010mm long + losses in attachment point

12 secondary bridles: 3400mm long + losses in attachment point

I usually combine inner and outer bridle in one piece of Dacron:

Cut 24 pieces: $1720+2010= 3730$ long + losses in attachment point;

Mark the 1720mm point. This is the center point where the secondary bridle goes

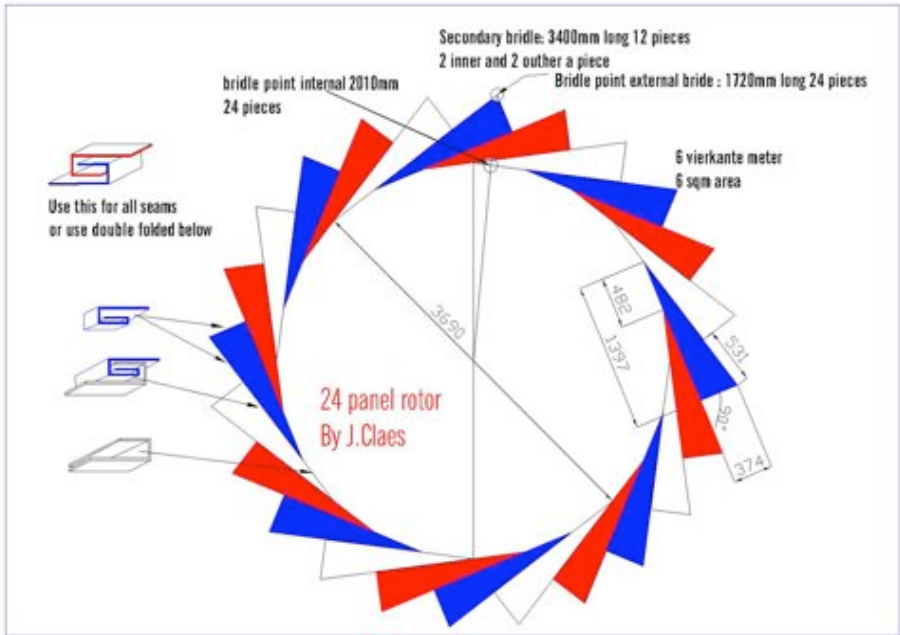
The bridle is sewn on to the rotor inner and outer diameter.

Losses in attachment point are 150mm for sewn on bridle.

I usually combine two secondary in one piece of Dacron:

Cut 6 pieces: $2*3400= 6800$ long + losses in attachment;

Mark the centre point here the swivel is connected.



Attach 2 internal and 2 external bridles to one side of a secondary.
Do this 12 times. Use **“simple simon over”** knot.

Take together all the centre marks on the secondary bridles (6 lines)
And knot them with a larks head to a thicker rope : 75 kg, 4mm polypropylene is used.
Mainly to have a thick string for the swivel.
A 75 kg swivel with bearing is required. This is how it should look:

After connecting the swivel make sure all external bridles have the same length. To adjust move the knot of the secondary along the inner-external bridle combination.

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(Many thanks to Jan for giving me permission to reprint his plan in our Newsletter. Dazzz)