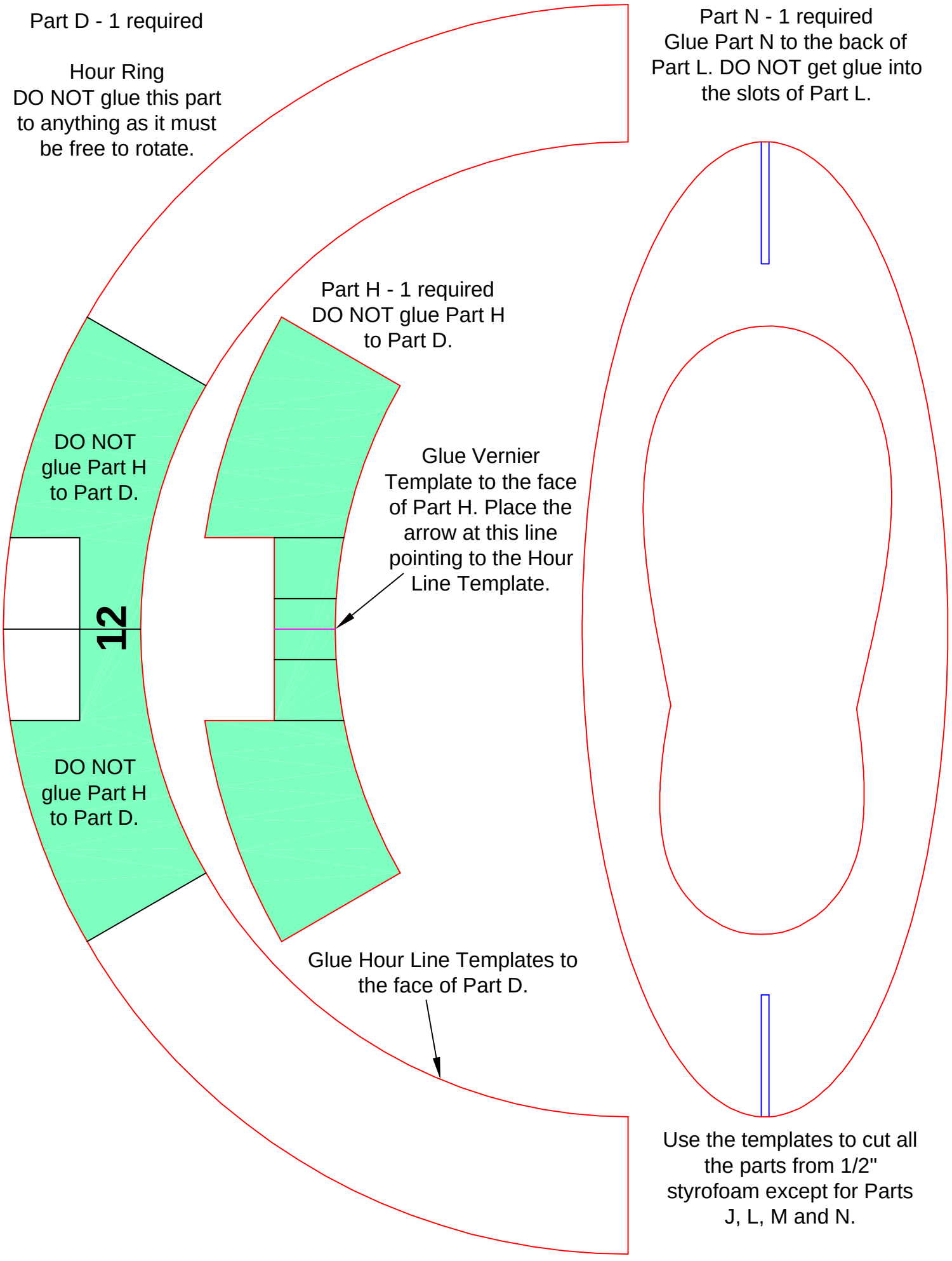
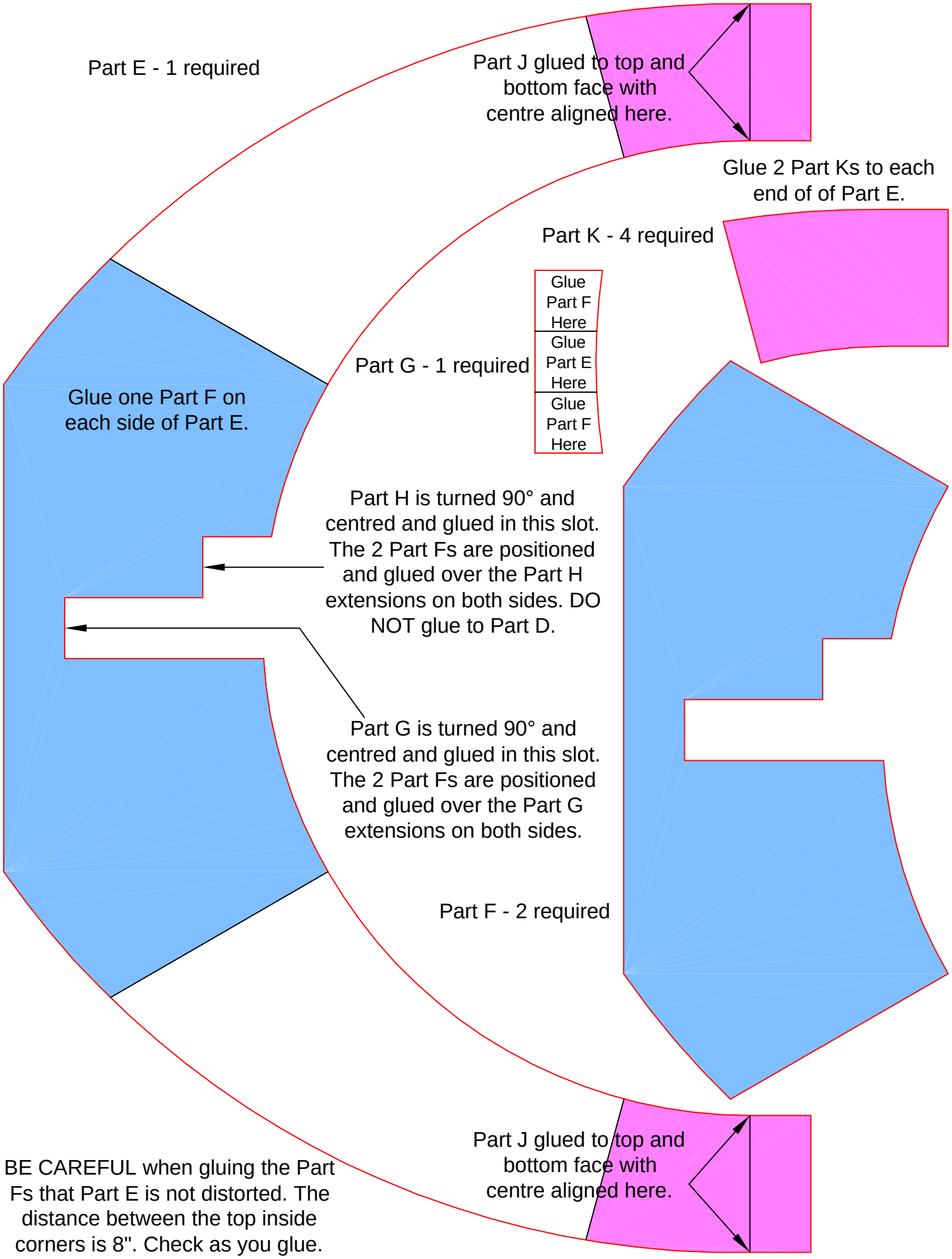
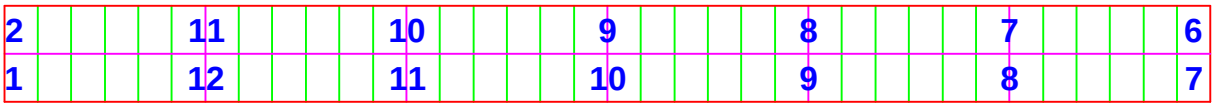
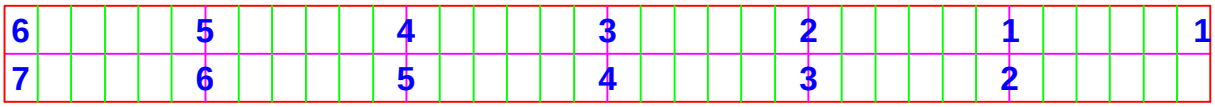

Part D - 1 required
Hour Ring
DO NOT glue this part to anything as it must be free to rotate.
Part N - 1 required
Glue Part N to the back of Part L. DO NOT get glue into the slots of Part L.
Part H - 1 required
DO NOT glue Part H to Part D.
DO NOT glue Part H to Part D.
12
Glue Vernier Template to the face of Part H. Place the arrow at this line pointing to the Hour Line Template.
DO NOT glue Part H to Part D.
Glue Hour Line Templates to the face of Part D.
Use the templates to cut all the parts from 1/2" styrofoam except for Parts J, L, M and N.

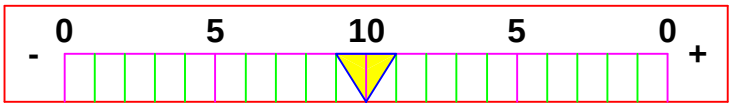

Part E - 1 required
Part J glued to top and bottom face with centre aligned here.
Glue 2 Part Ks to each end of of Part E.
Part K - 4 required
Glue Part F Here
Glue Part E Here
Glue Part F Here
Part G - 1 required
Glue one Part F on each side of Part E.
Part H is turned 90° and centred and glued in this slot. The 2 Part Fs are positioned and glued over the Part H extensions on both sides. DO NOT glue to Part D.
Part G is turned 90° and centred and glued in this slot. The 2 Part Fs are positioned and glued over the Part G extensions on both sides.
Part F - 2 required
Part J glued to top and bottom face with centre aligned here.
BE CAREFUL when gluing the Part Fs that Part E is not distorted. The distance between the top inside corners is 8". Check as you glue.



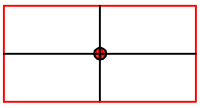
Hour Line Templates

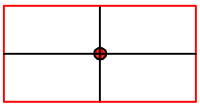


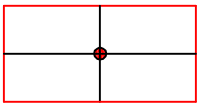
Vernier Template

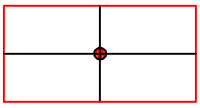


Part J - 4 required
Cut from paper.
Glue to both side of Part E at the top and bottom.



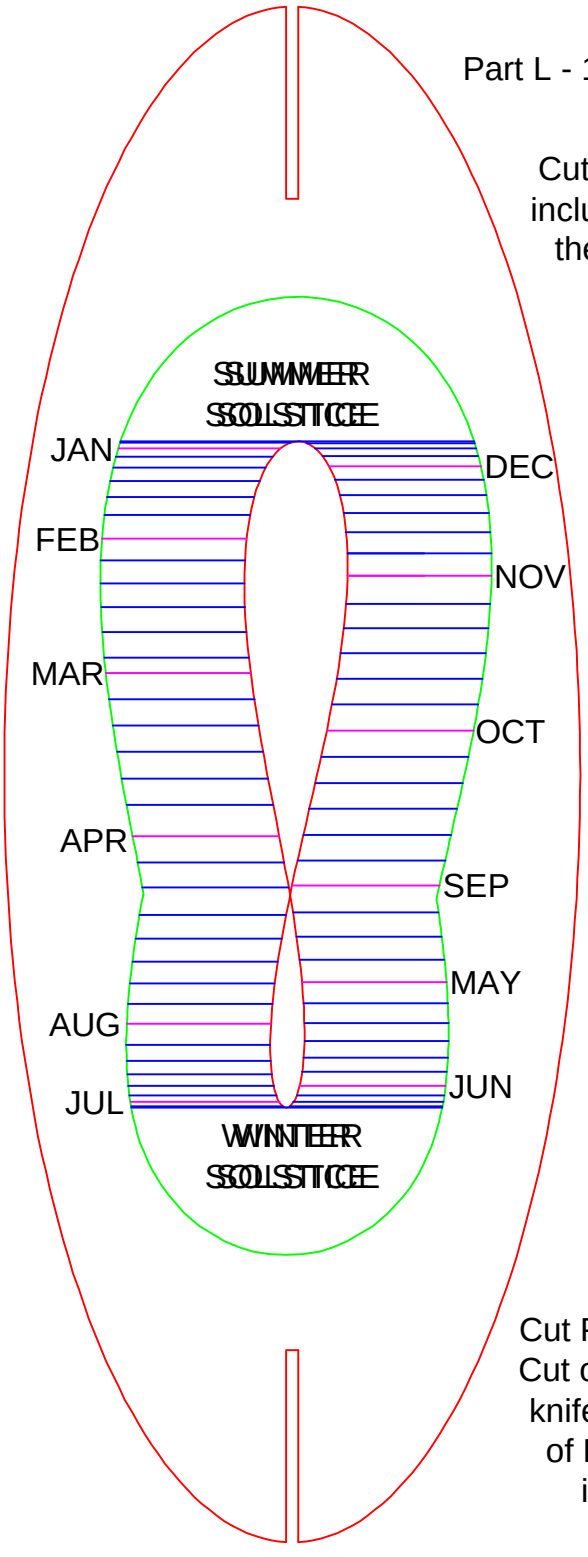






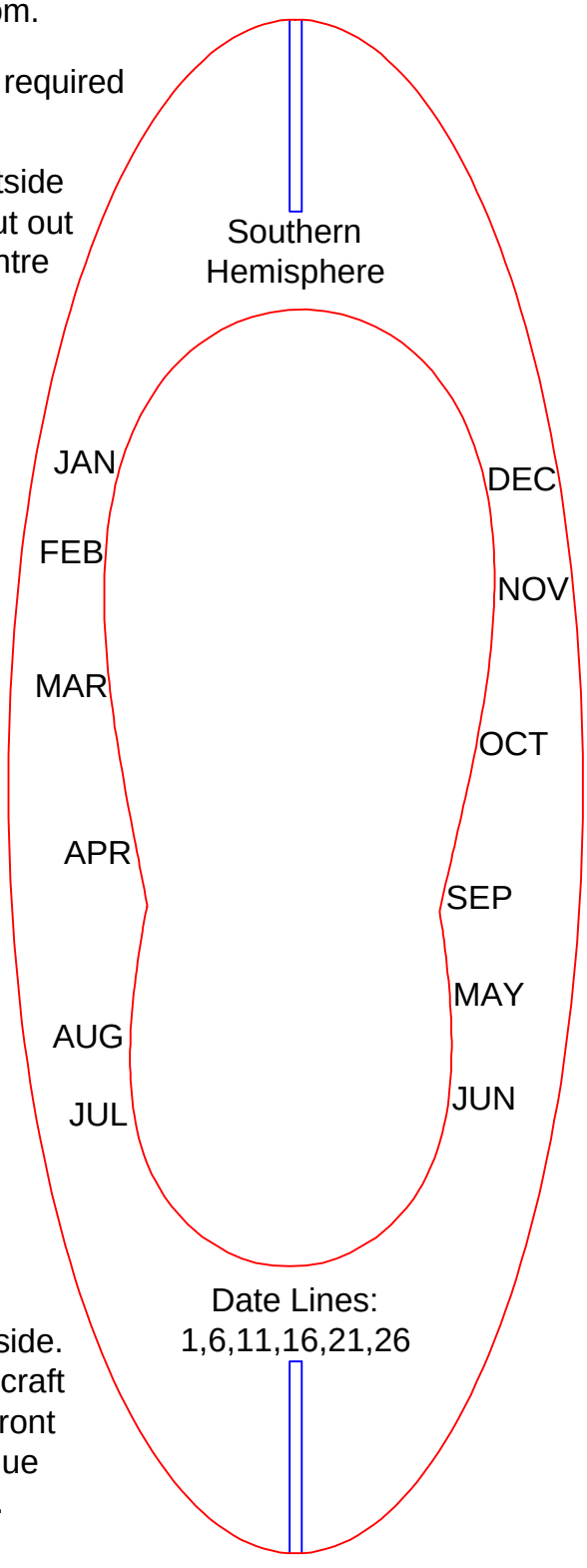
Part L - 1 required Part M - 1 required

Cut Part L around the outside including the two slots. Cut out the analemma in the centre using a craft knife.



Use card stock for Parts L, M and N. It is advisable to print all the sheets on card stock as it is easier to cut the styrofoam more accurately.

Southern Hemisphere



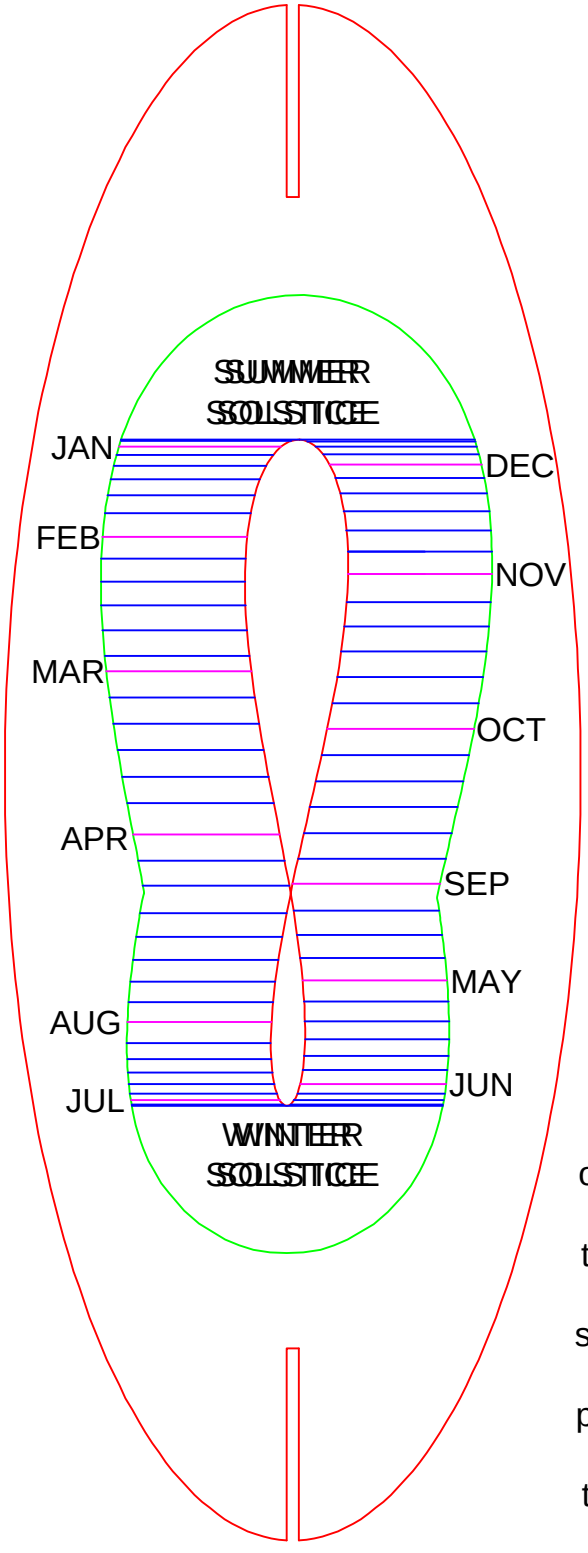
Date Lines:
1,6,11,16,21,26

Cut Part M around the outside. Cut out the centre using a craft knife. Glue Part M to the front of Part L. DO NOT get glue into the slots of Part L.

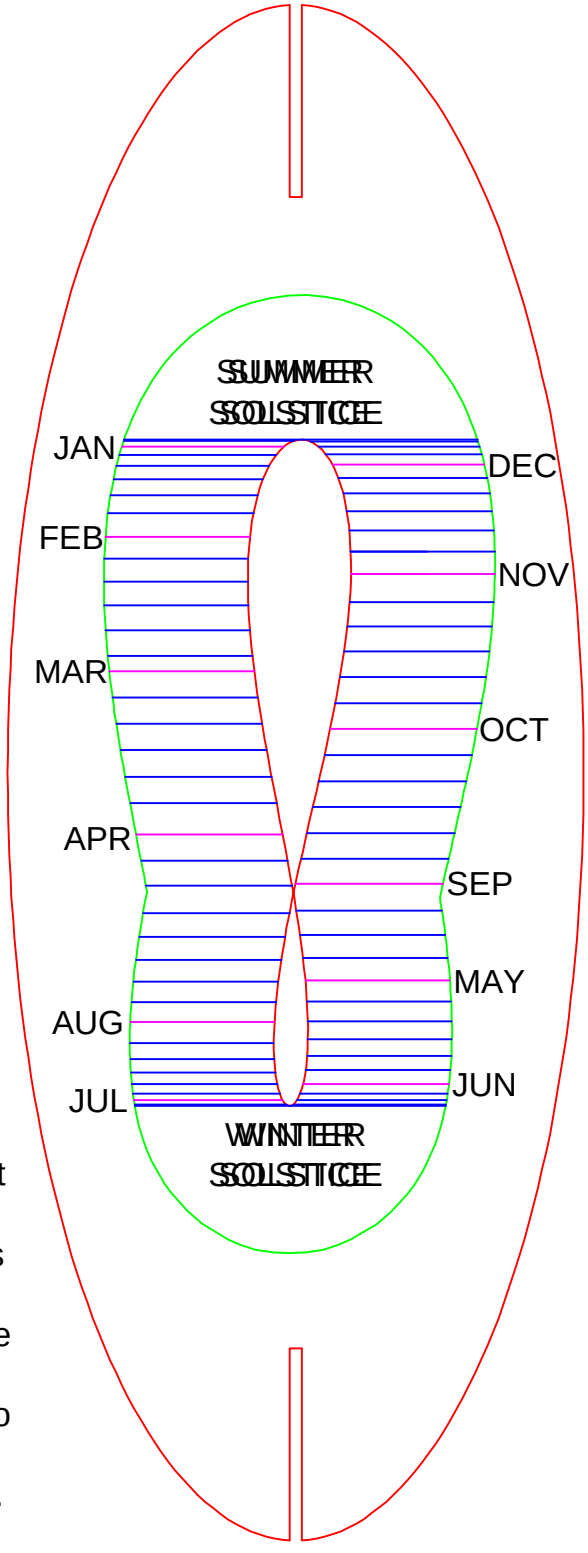
There are 3 different gnomons that can be made for this sundial. To position the gnomon use a small pointed rod to make a holes in Part E where the centre of the Parts J are located. A wire coat hanger works well.

The first gnomon is a simple rod gnomon. Use a rod (wire coat hanger) about 1/16" in diameter and 10-3/4" long. Bend 1/2" of one end over at 90° and slide the rods through the holes in Part E.

The only difference between the next two gnomons is whether the analemma is transparent. Two 2-1/2" rods with a 1/2" - 90° bend at the end of each one are required. When the analemma gnomon is assembled carefully slide a rod into the two slots about 1". Remove the rods and spush them through the holes in Part E and then into the gnomon. The bottom rod can be taped so it does not fall out. The gmomon is now in place and can be rotated.



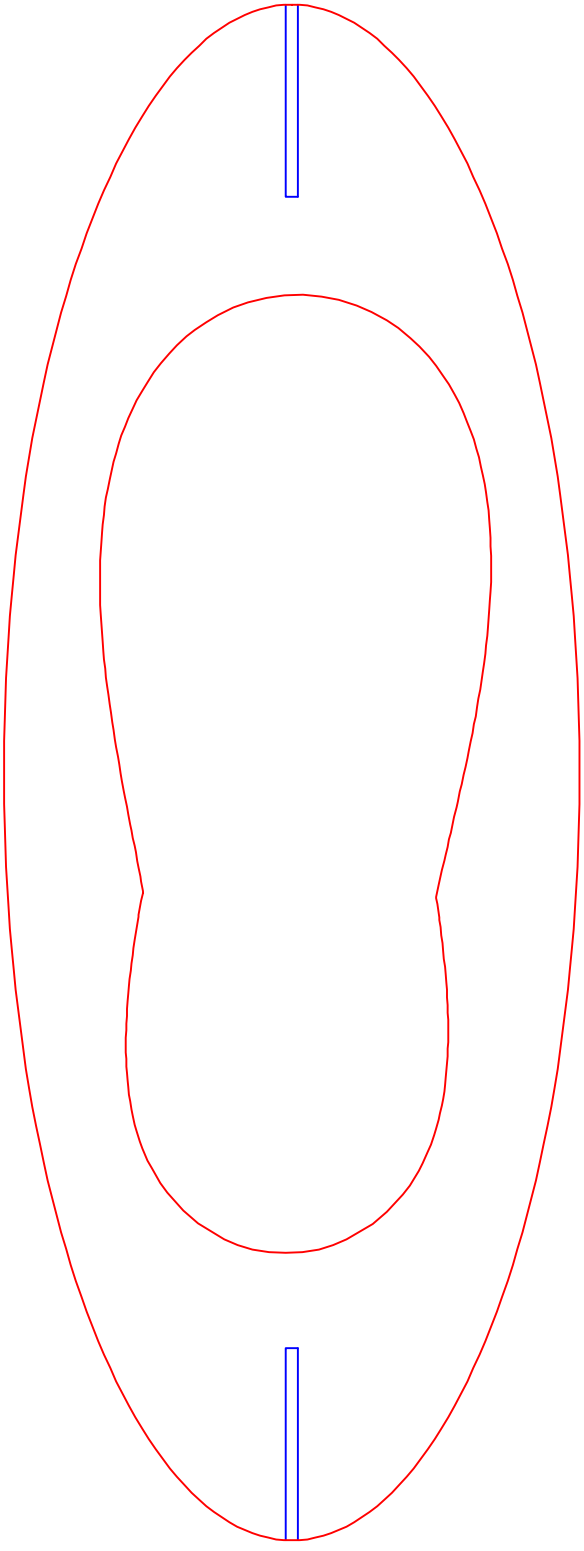
If you are making the transparent gnomon print this sheet on transparency and cut out Part L. DONOT cut out the analemma in the centre. Only one is required but the second one is available if needed. Glue the paper Parts M and N to the front and back of the transparent Part L.

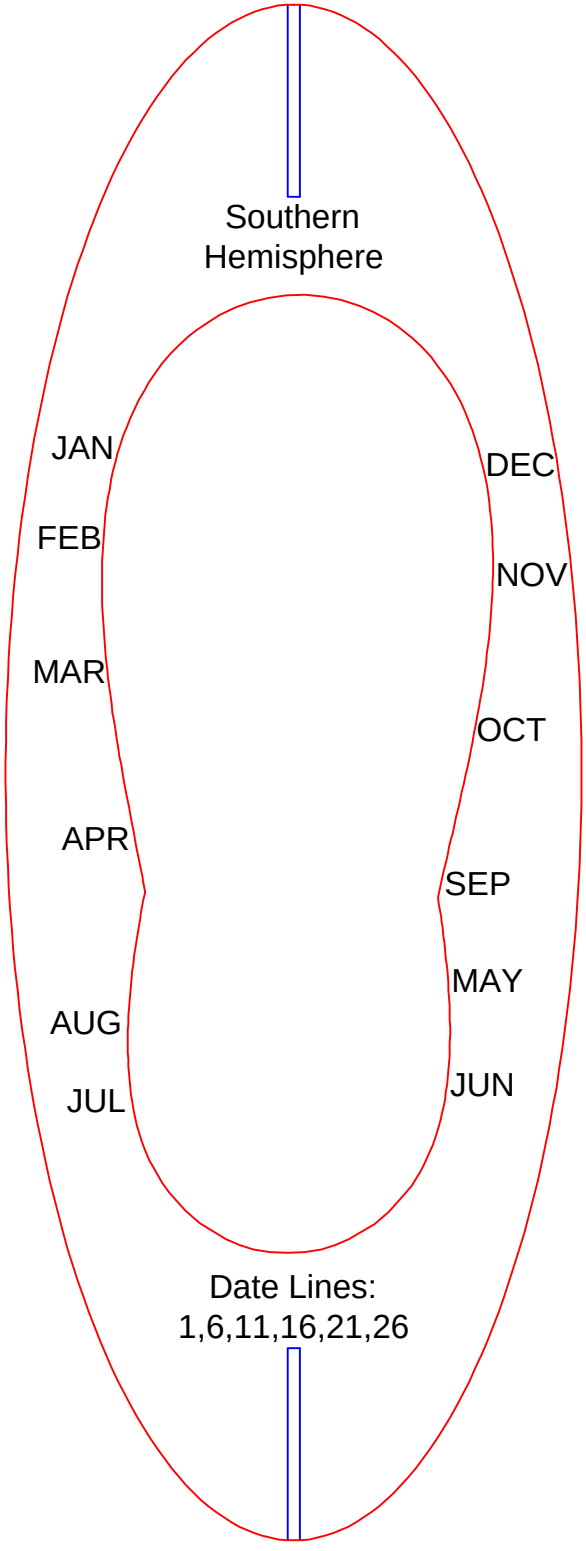


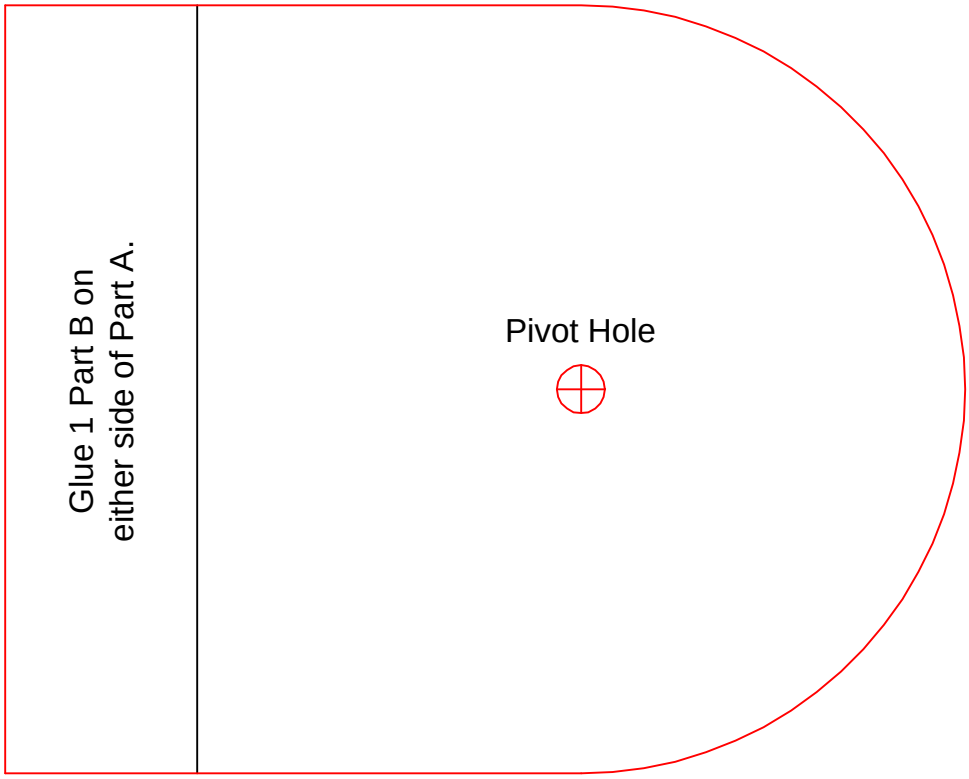
Print this page if you are making both types of analemmic gnomons.

DO NOT cut out any of the slots drawn with blue lines. They are provided to help guide the rods.

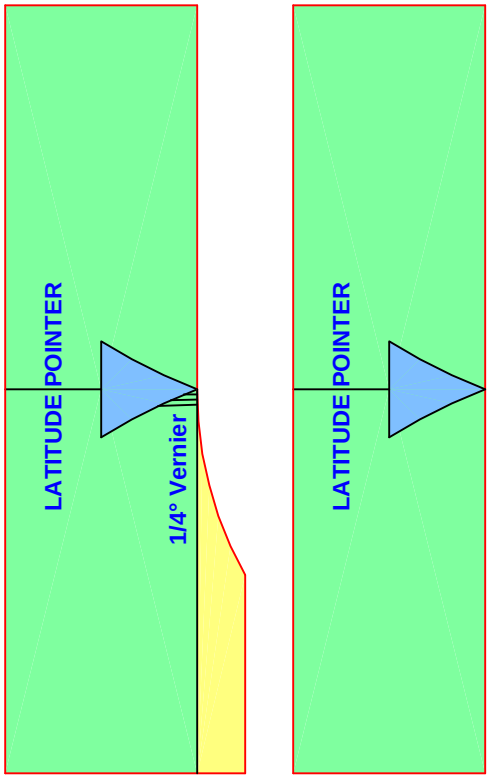
When inserting the rods the first time start with something that has a small diameter. A paper clip will work well. This will make opening up the slot easier.





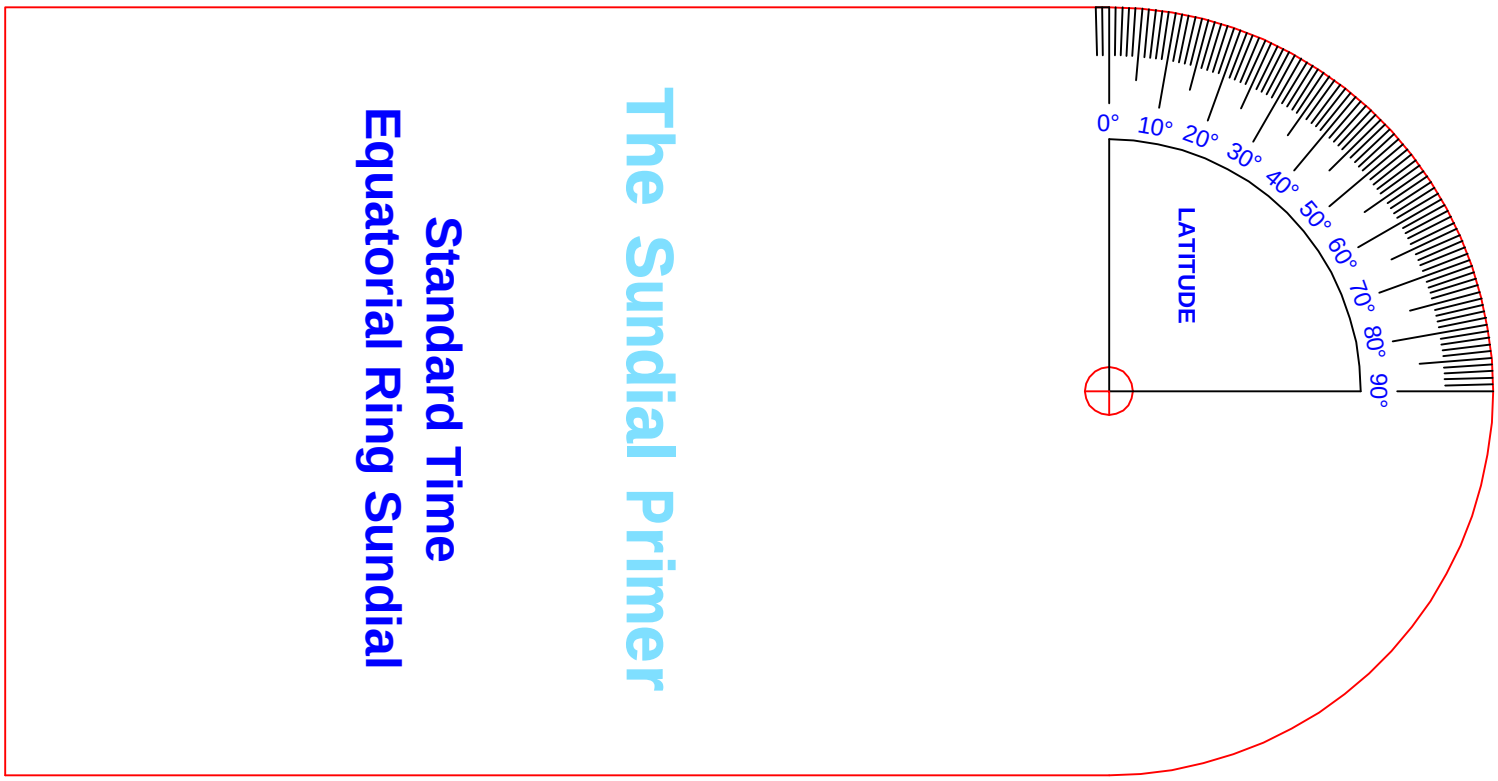


Part A - 1 required



Part B - 2 parts using the right template are required. Choose 1 template & glue as shown in figure. The left template will allow the latitude to be set to 1/4° using the vernier instead of estimating.

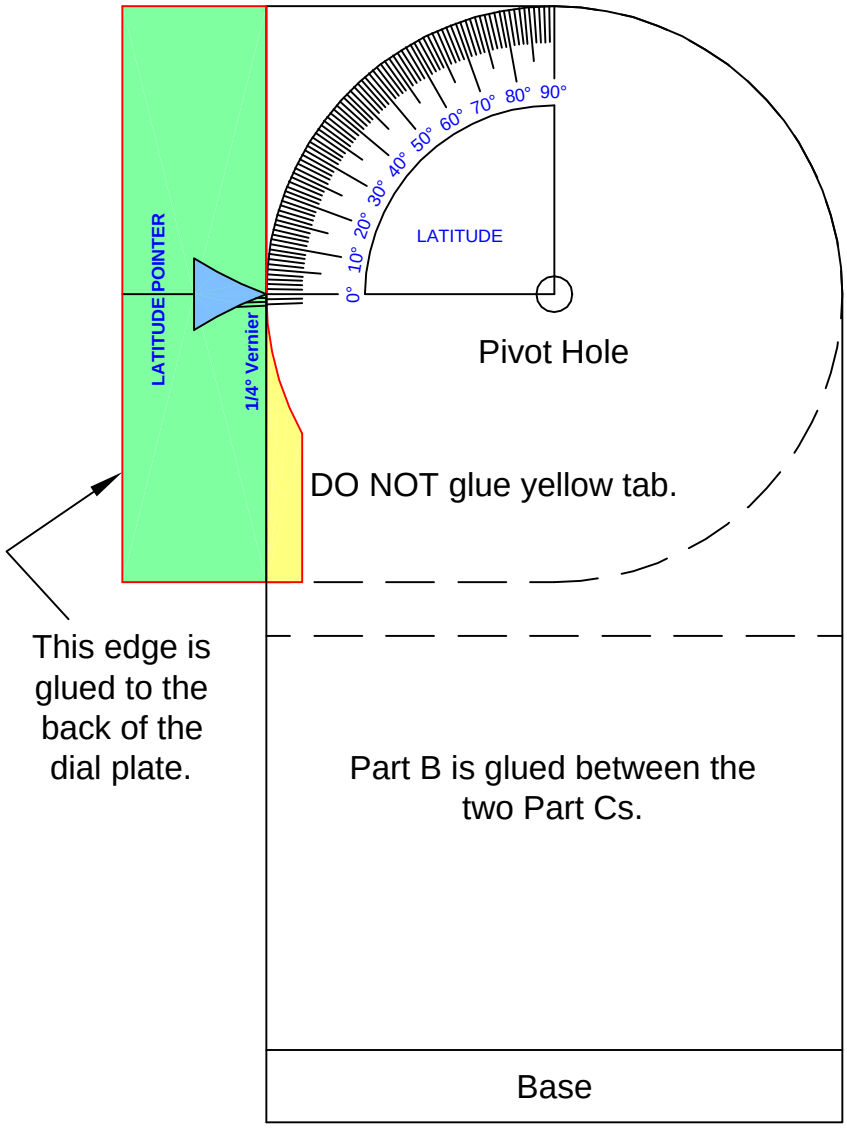
Part C - 2 required
Save template & glue as shown in figure.



Part D - 1 required
Glued between & at the bottom of the 2 Part Cs.

Part E - 2 required
Used to widen the base.

Position Part A & Part Bs low enough on the back of the dial plate so the plate will clear the base.



The pivot hole passes through Part A and the 2 Part Cs. Use a small bolt, washers and wing nut to create the pivot.

Glue the back plate on to a flat and rigid surface, for example styrofoam or wood. Drill the 1/2" hole located in the small shield. Insert a section of 1/2" wood dowel so it extends 1/4" above the top surface. The top plate will rotate around the dowel. Drill a perpendicular hole in the centre of the dowel the same diameter as the gnomon. The wire from a clothes hanger is quite stiff and will make a good gnomon.

Add weight to the base if it is unstable.