

Part D - 1 required

Hour Ring
DO NOT glue this part
to anything as it must
be free to rotate.

Part H - 1 required
DO NOT glue Part H
to Part D.

DO NOT
glue Part H
to Part D.

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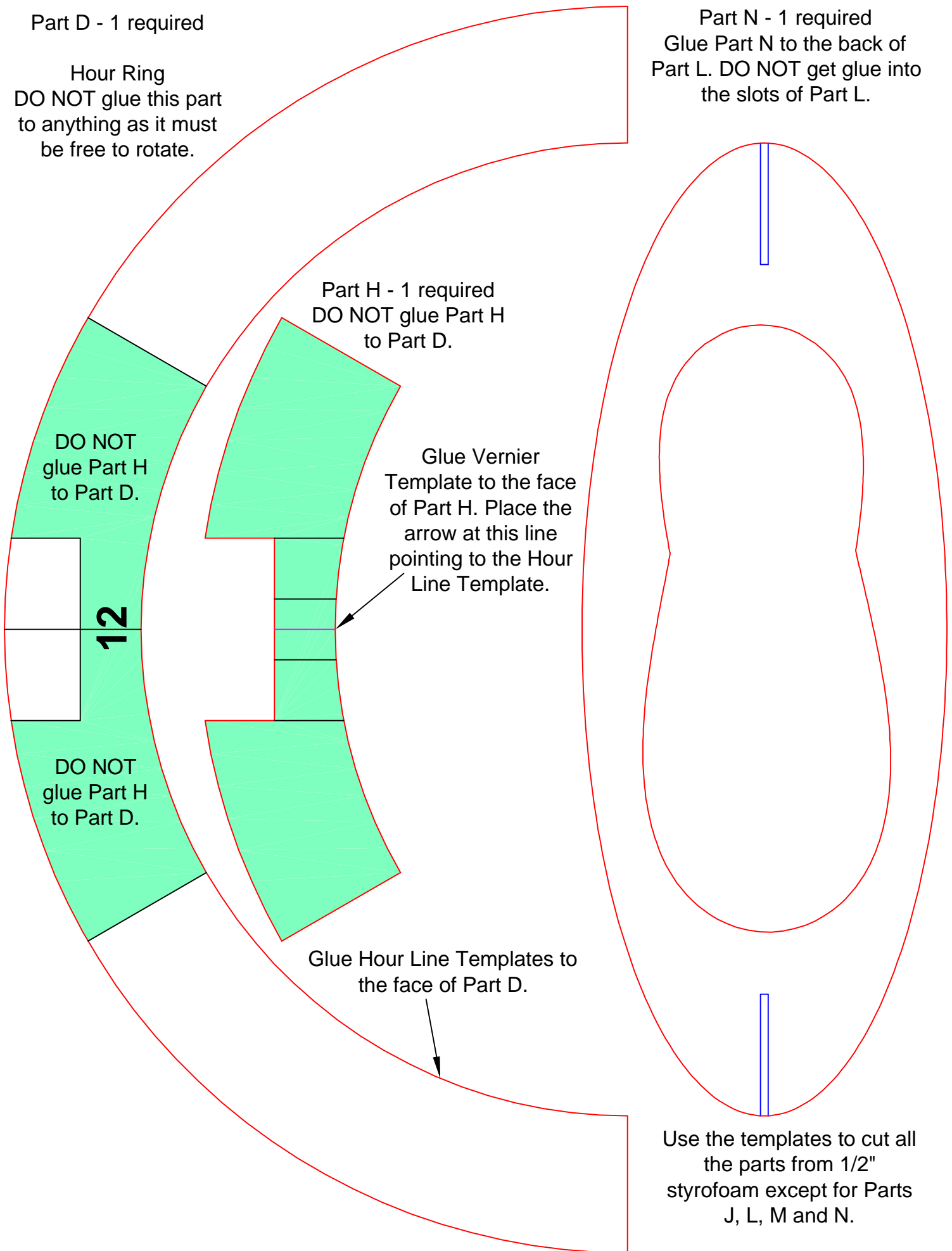
DO NOT
glue Part H
to Part D.

Glue Vernier
Template to the face
of Part H. Place the
arrow at this line
pointing to the Hour
Line Template.

Glue Hour Line Templates to
the face of Part D.

Part N - 1 required
Glue Part N to the back of
Part L. DO NOT get glue into
the slots of Part L.

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.

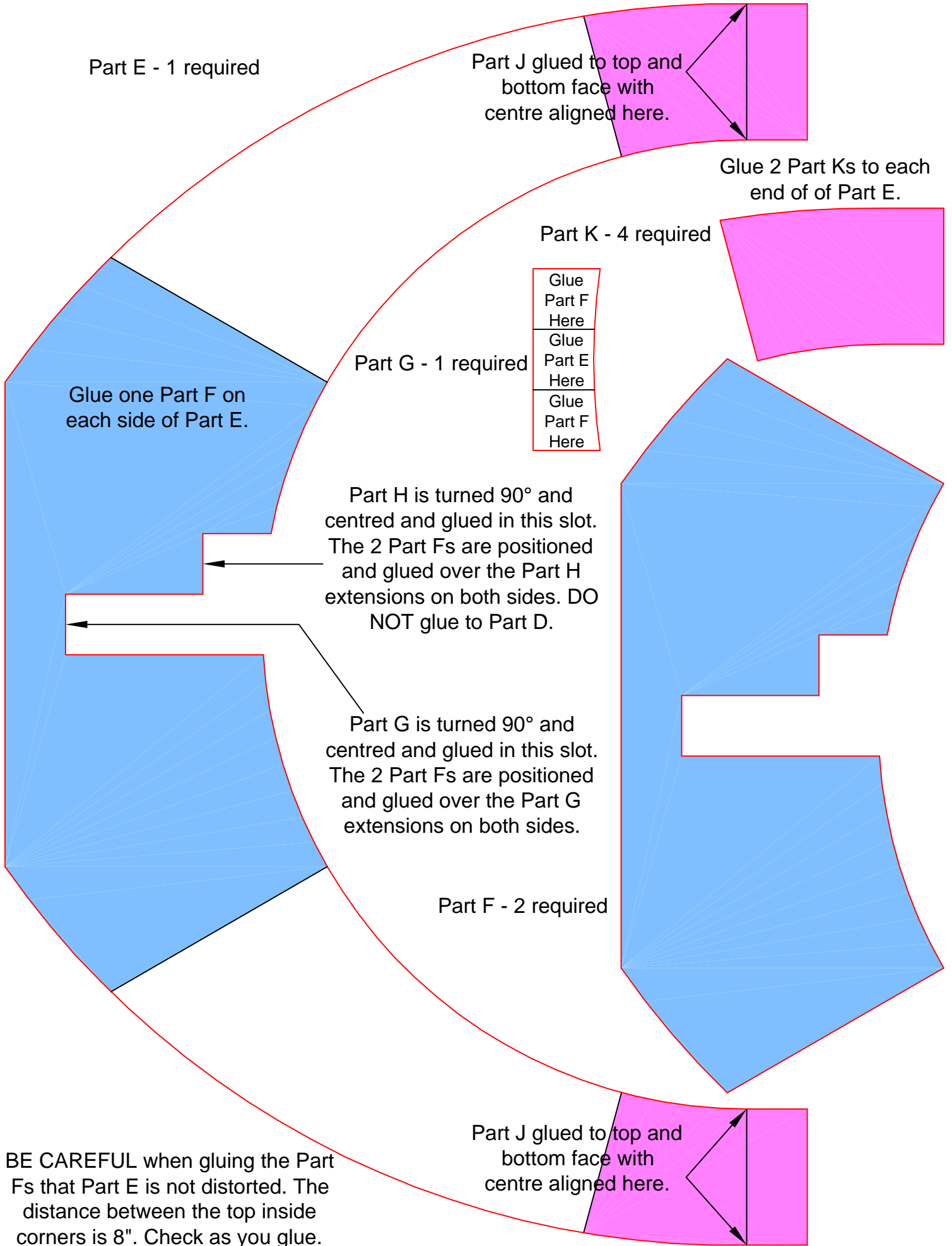
Part H is turned 90° and centred and glued in this slot. The 2 Part Fs are positioned and glued over the Part H extensions on both sides. DO NOT glue to Part D.

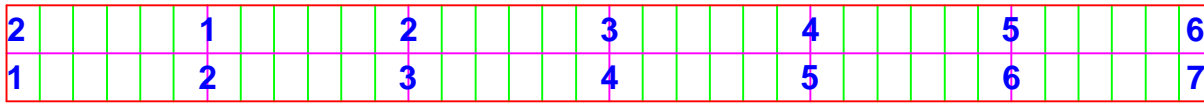
Part G is turned 90° and centred and glued in this slot. The 2 Part Fs are positioned and glued over the Part G extensions on both sides.

Part F - 2 required

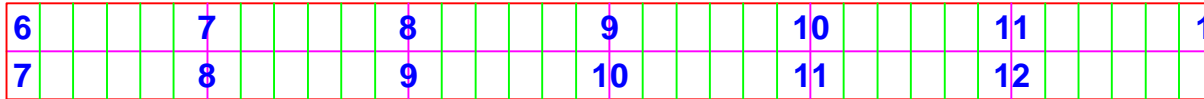
Part J glued to top and bottom face with centre aligned here.

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.

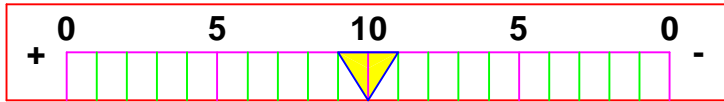




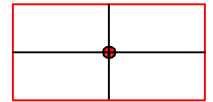
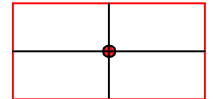
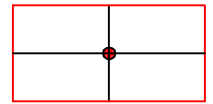
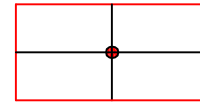
Hour Line Templates



Vernier Template



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

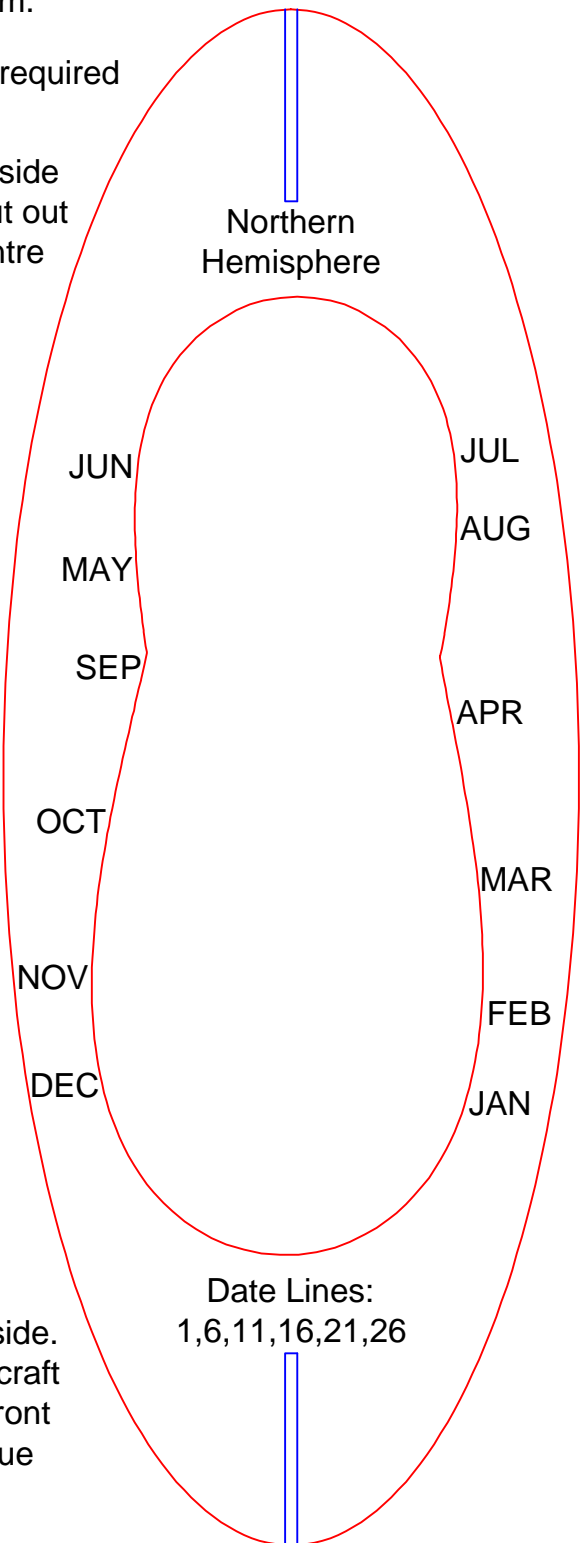
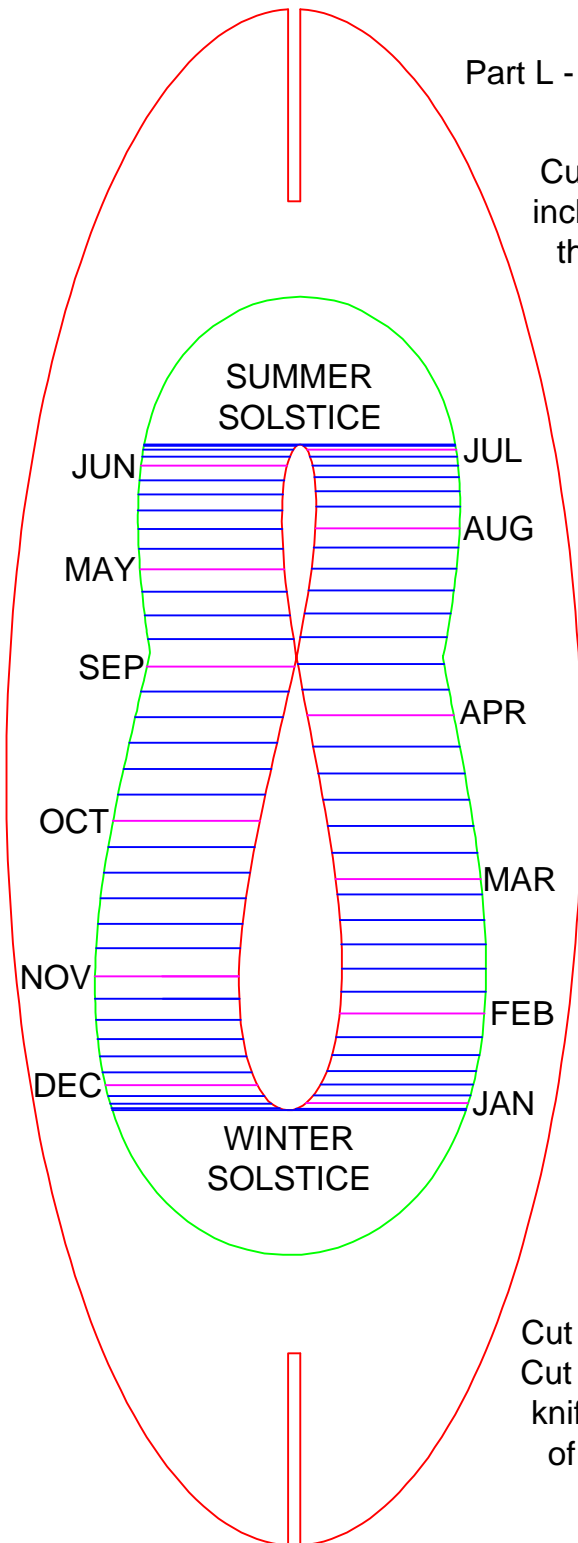


Part L - 1 required Part M - 1 required

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.

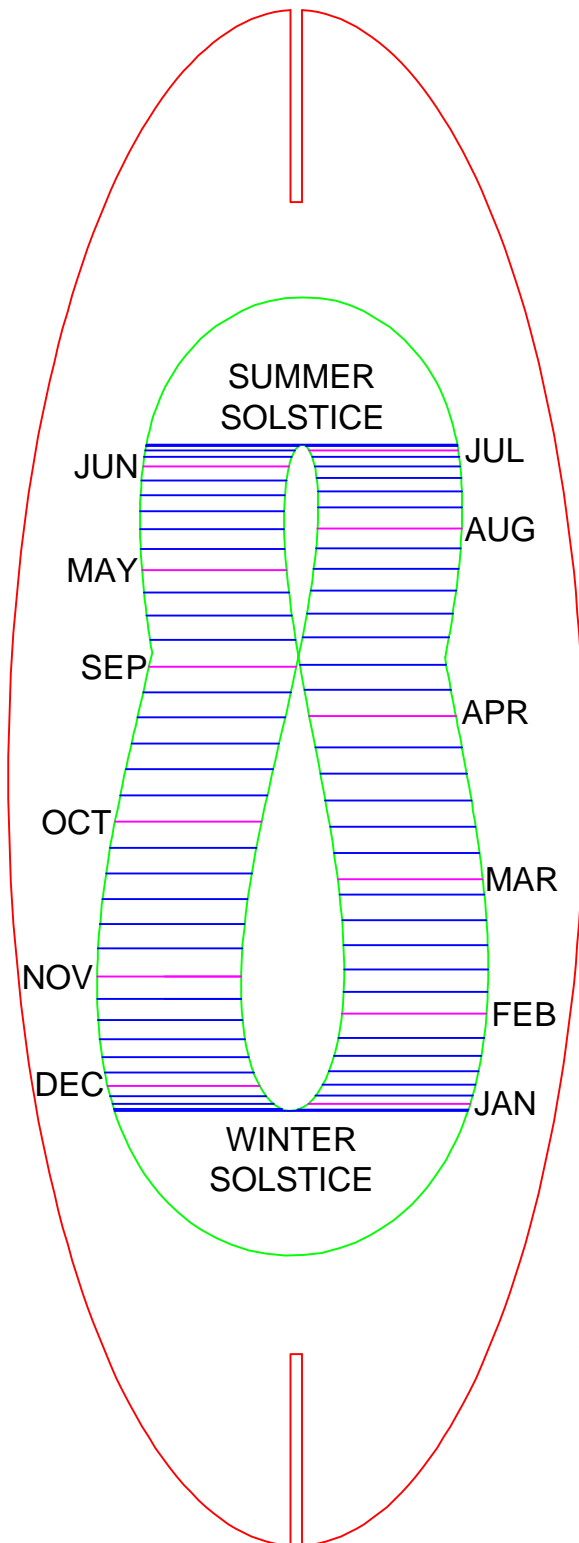
Cut Part M around the outside.
 Cut out the centre using a craft
 knife. Glue Part M to the front
 of Part L. DO NOT get glue
 into the slots of Part L.



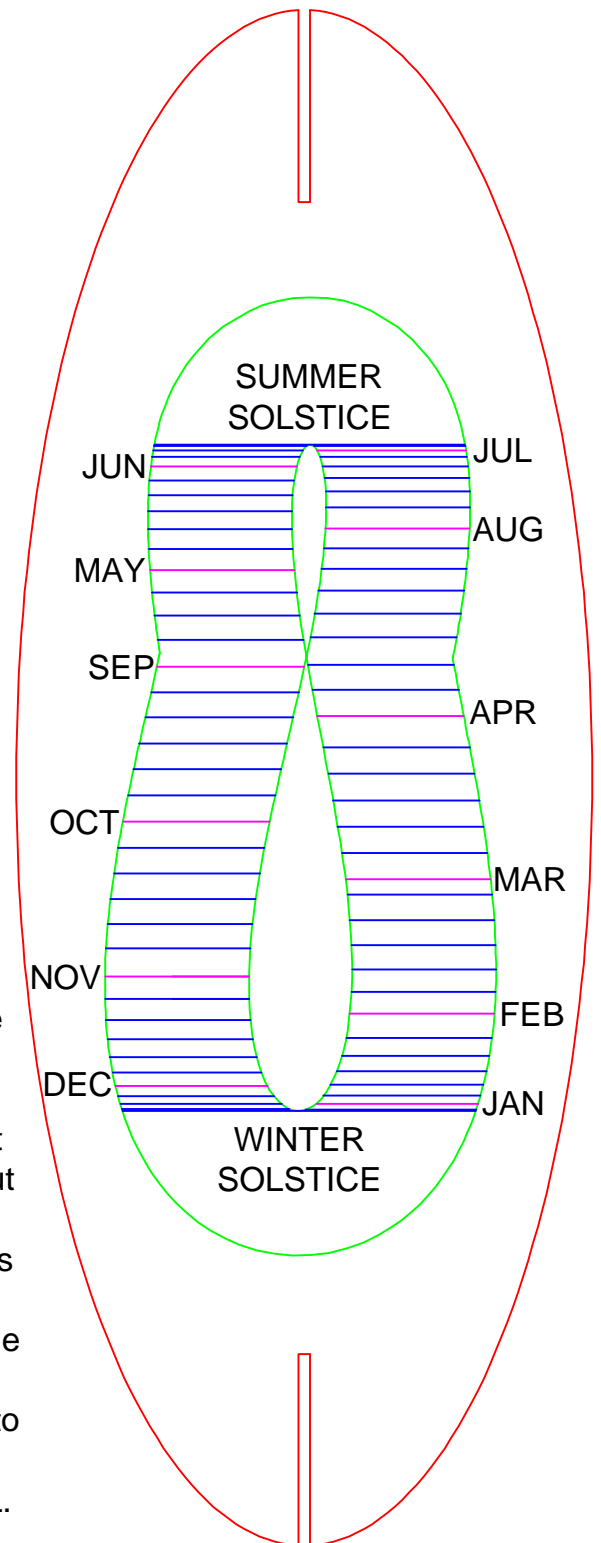
Date Lines:
 1,6,11,16,21,26

There are 3 different gnomons that can be made for this sundial. To position the gnomon use a small pointed rod to make a hole 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 push 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 gnomon is now in place and can be rotated.



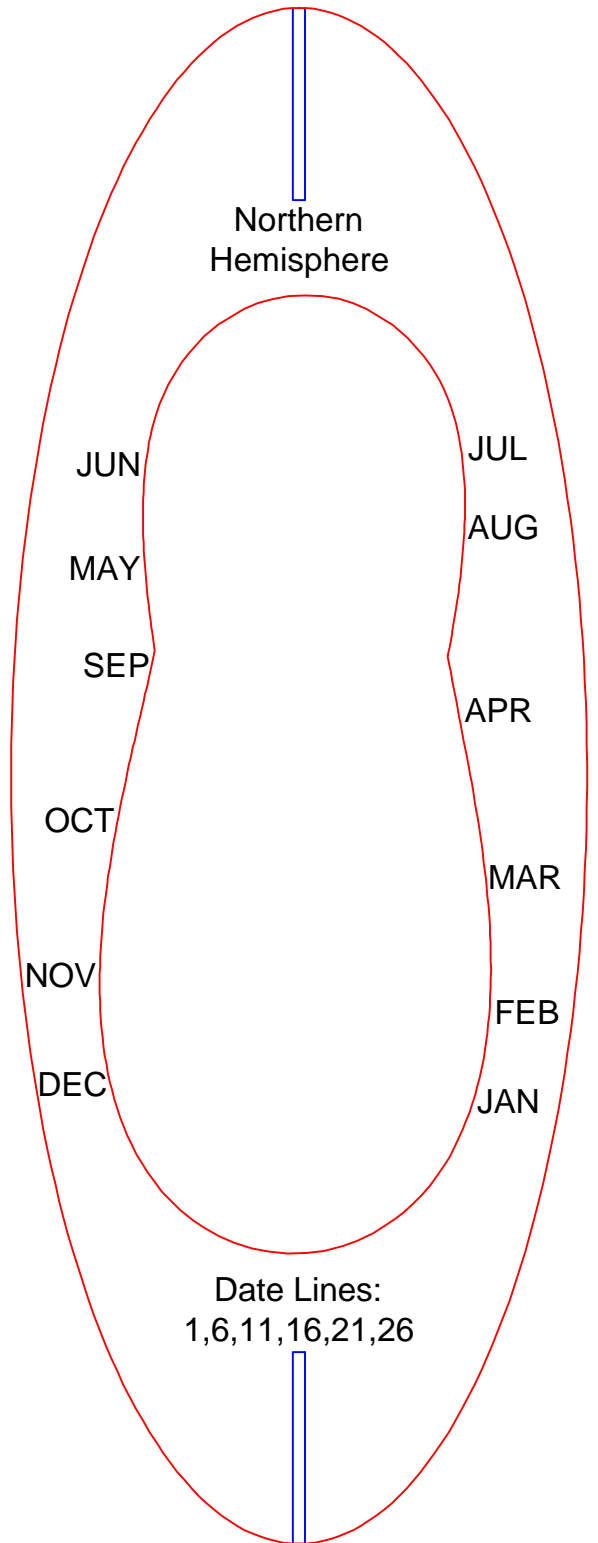
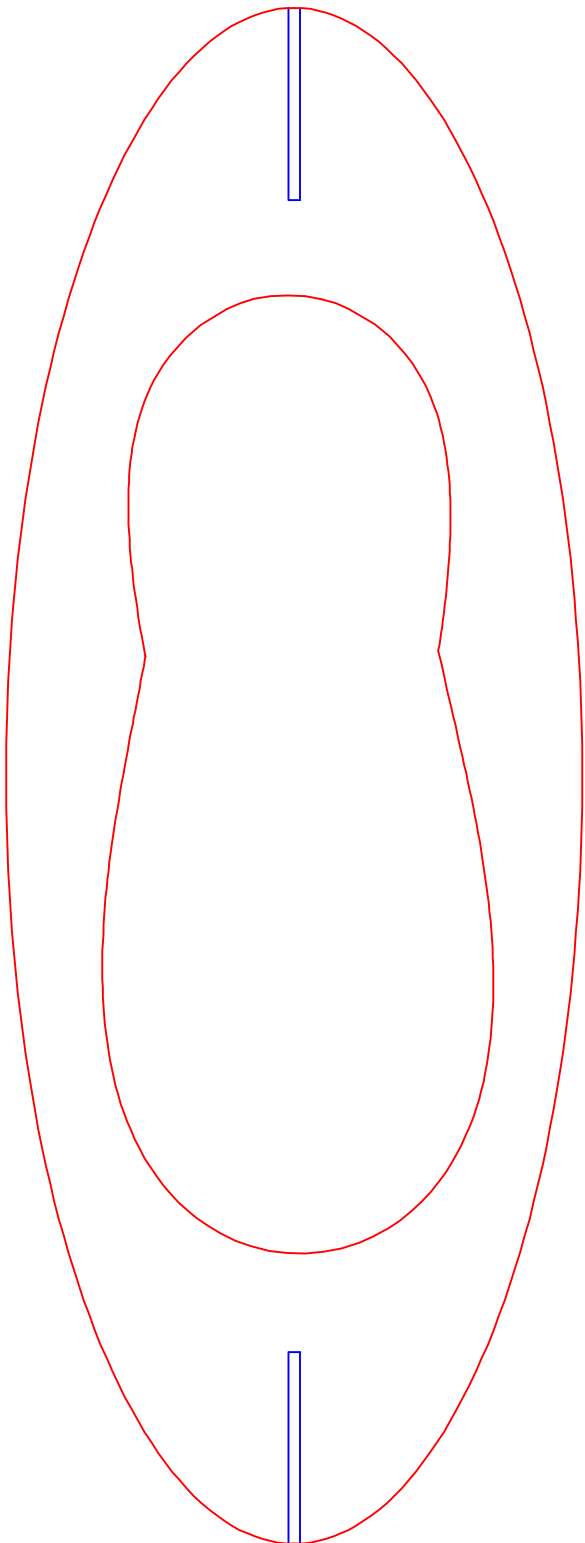
If you are making the transparent gnomon print this sheet on transparency and cut out Part L. DONOT cut out the analemma in the centre. Only one is required but the second one is available if needed. Glue the paper Parts M and N to the front and back of the transparent Part L.

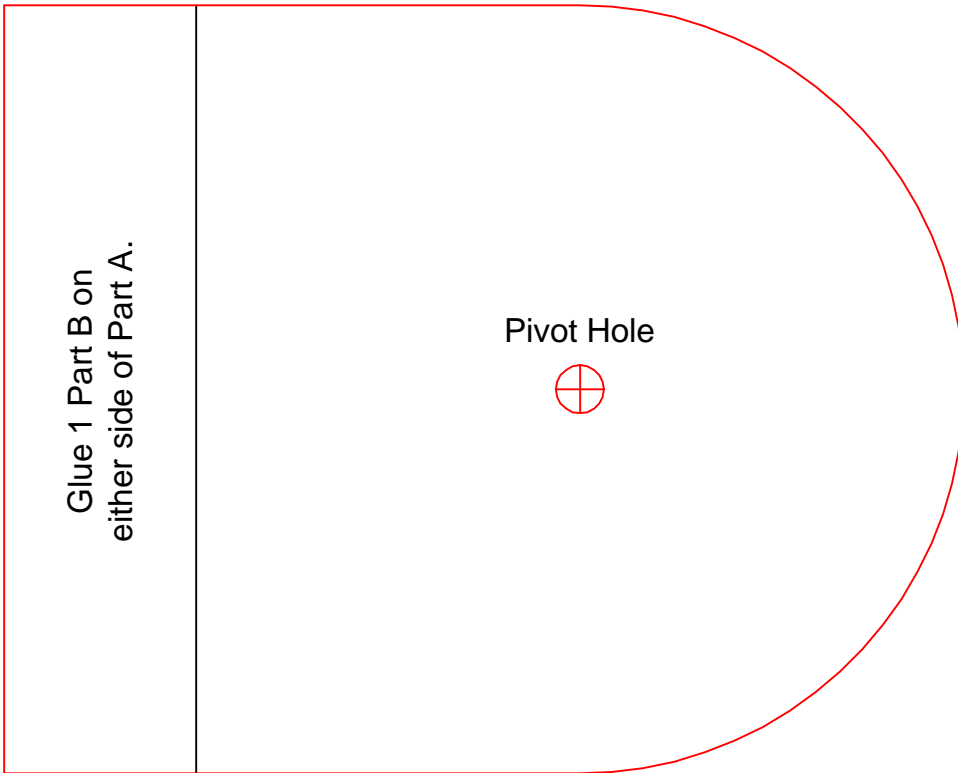


Print this page if you are making both types of analemmic gnomons.

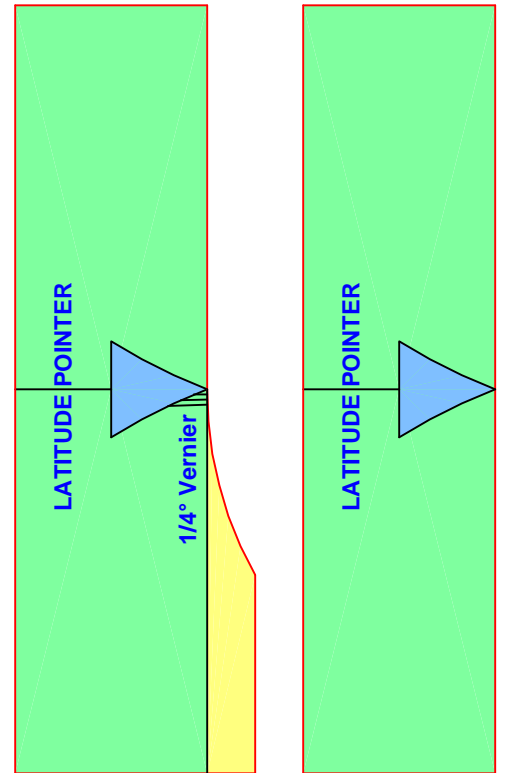
DO NOT cut out any of the slots drawn with blue lines. They are provided to help guide the rods.

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.



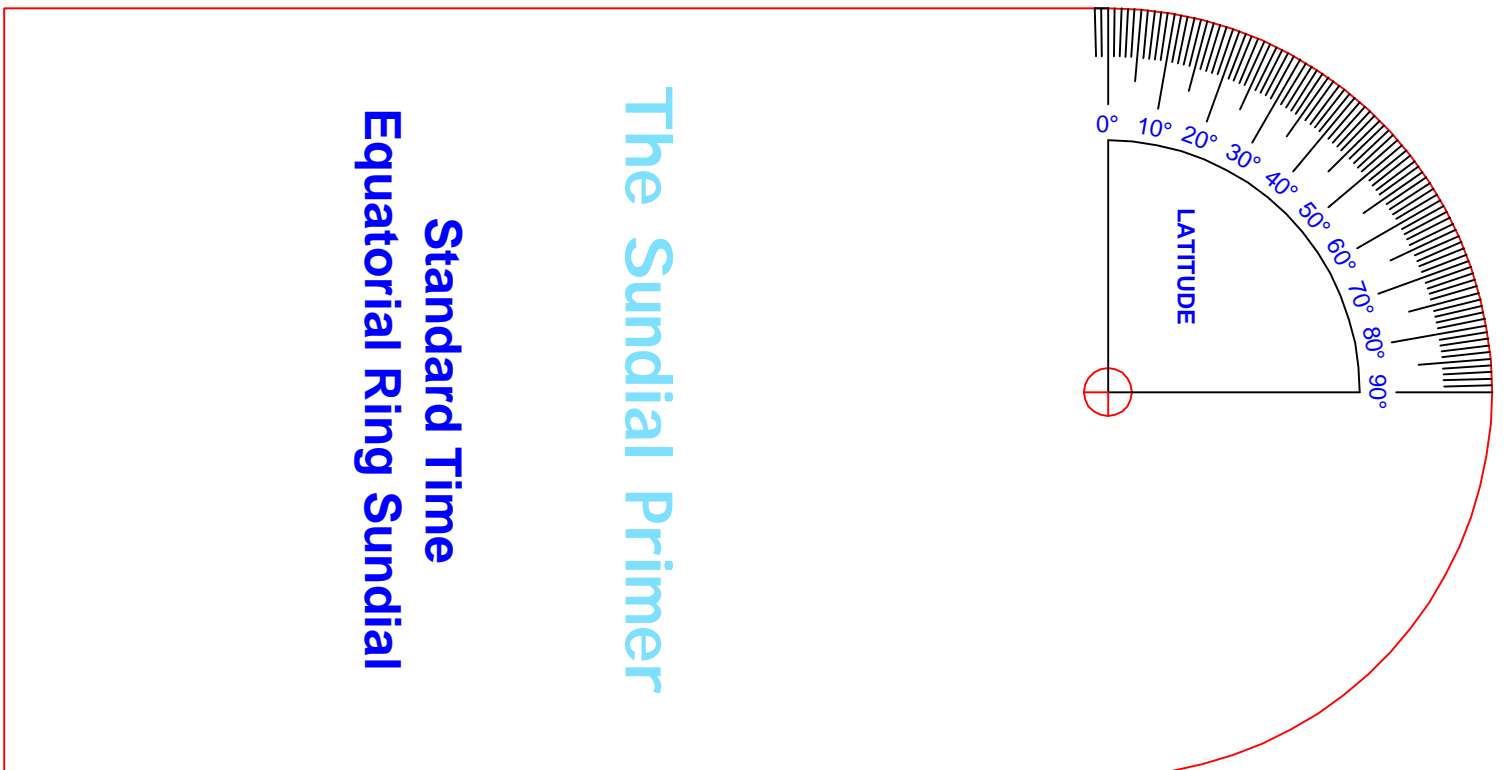


Part A - 1 required



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.

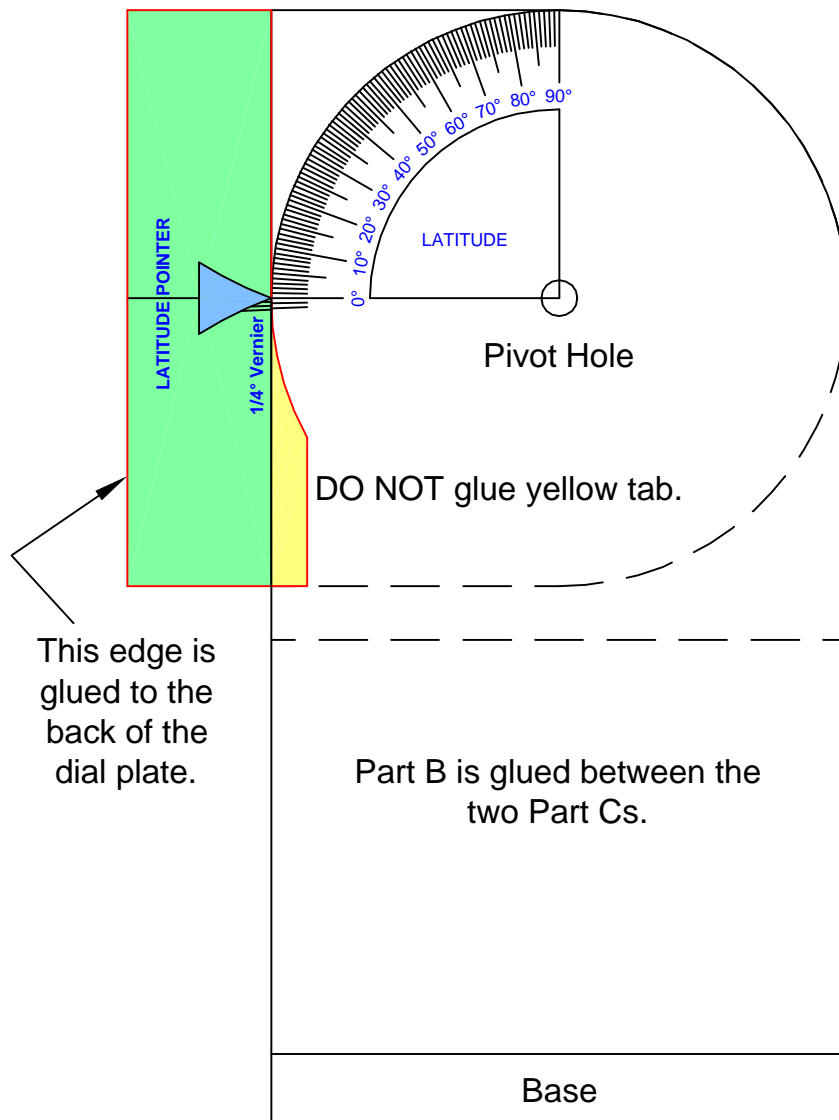
Part C - 2 required
Save template & glue as shown in figure.



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.