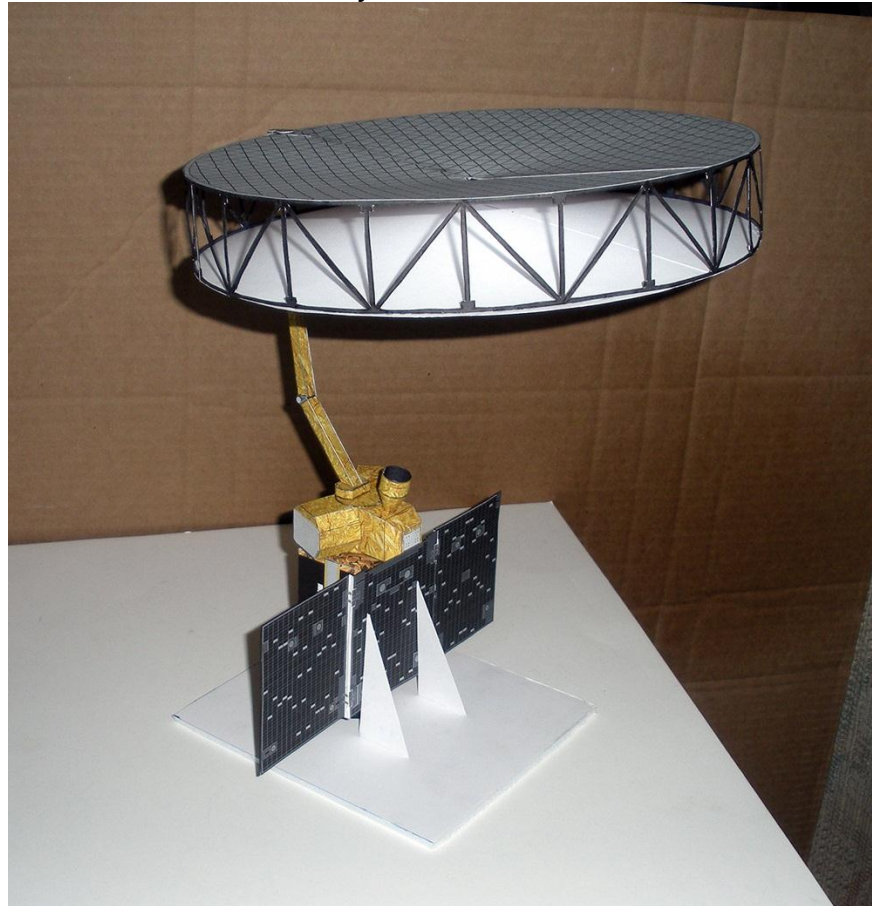
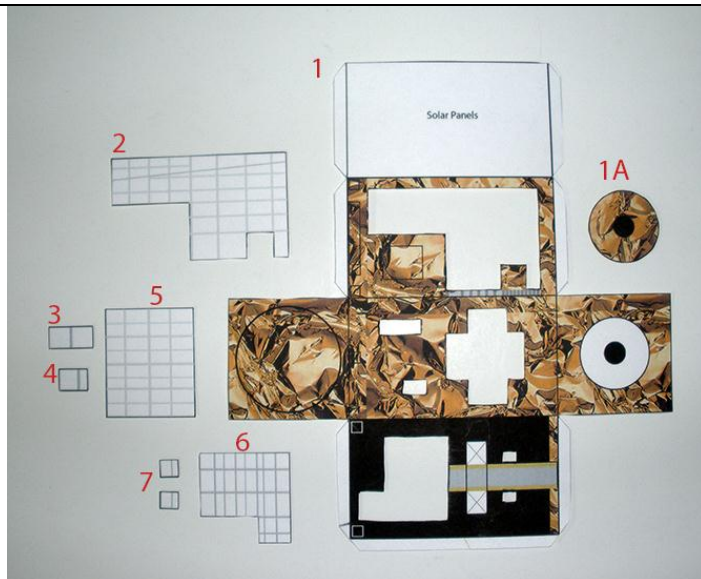


SMAP – Soil Moisture Active/Passive

1/24 scale Paper Model Instructions

By Glenn Alvord





This model requires some good sturdy support for its large reflector on top.

Cut out the light blue areas from the main body, glue the matching graphics in its place from inside the main body for a realistic look.

Reinforce the main body by glueing another layer of cardstock on the inside (Add about 2 layers of card to the TOP (black circle) in the inside as well.

IF DESIRE A ROTATING TOP (Like that of the real satellite), Glue 1A to thick cardstock (2mm), Cut out the black circle .



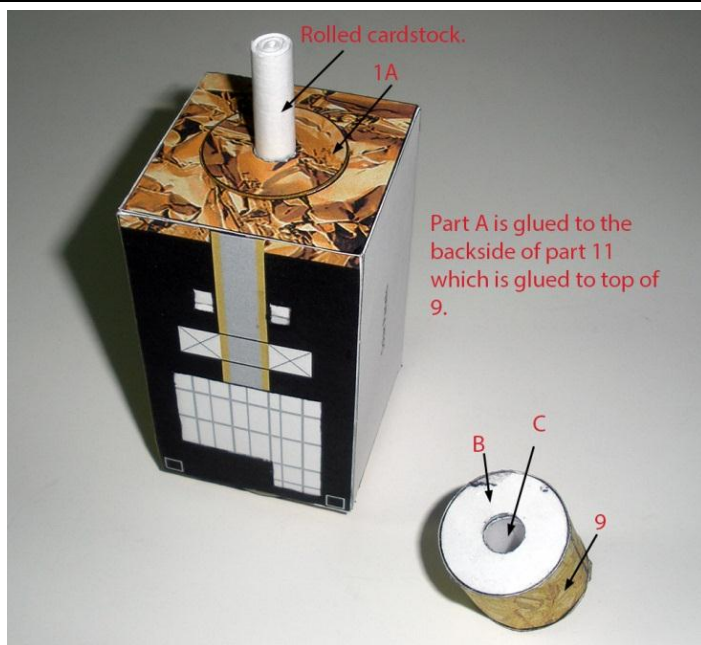
Assemble the above parts.

Glue 12 to backside of 13 keeping the two black corner marks on top.

Cut out the black square from 13.

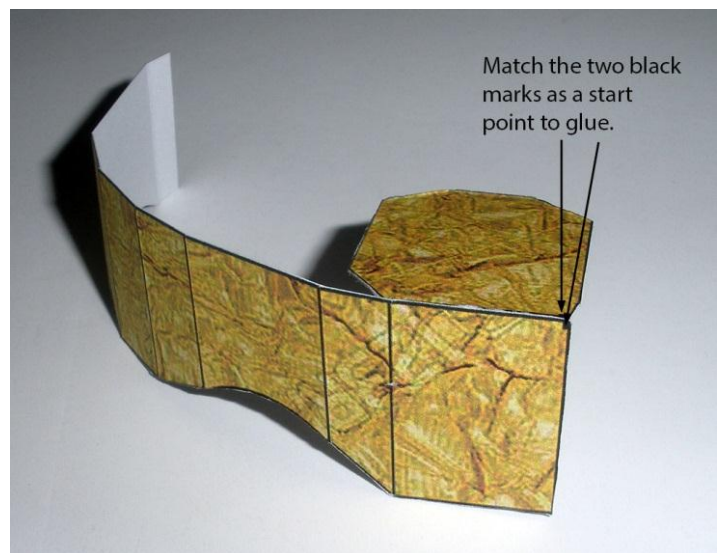
Roll and glue 14 around the outer edges of 12-13.

The black mark at corner of 14 is the starting point to glue. Match it with the upper right black mark on 13.

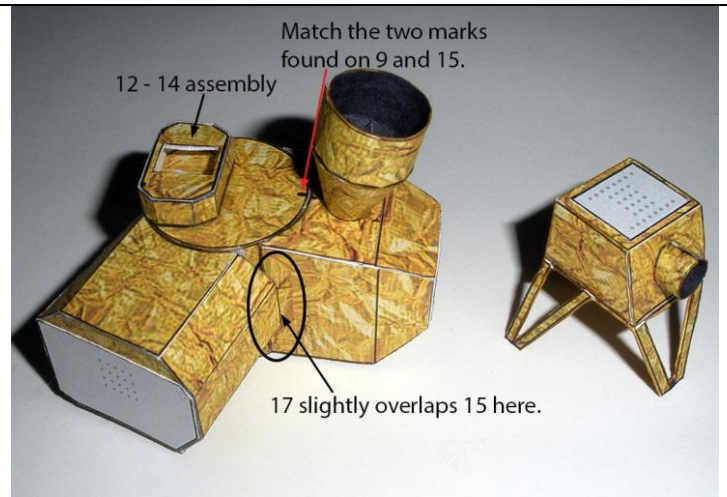
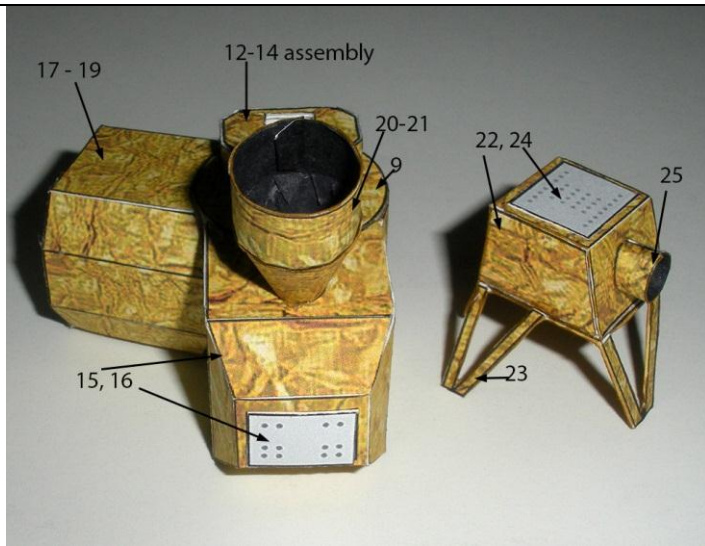


ROTATING TOP.

Directions are on page 4 on parts sheet. The rolled cardstock should have a tight snug fit into the bottom of the tube (part9) apply glue to hold C onto C-10 assembly on the bottom and hold C to the top .



Roll-glue 17 around 18 matching the two black marks as the starting point.



Glue 12-14 onto the graphic on 9.
 Glue 15-16 assembly to opposite site of 12-14, matching the two small marks found on each on them.
 Glue 17, the right side slightly overlaps 15 (See picture).
 20-21 is glued on the black circle on top of 15

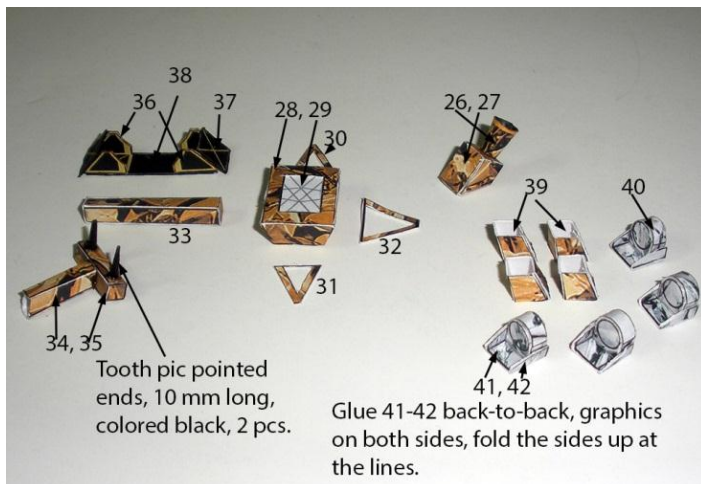


Glue 22-15 assembly shown above.



Slide the top part onto the bottom part of the satellite, should be a tight snug fit and able to rotate the top.

If you don't want a rotating top, just glue in place in any orientation desired.



Glue each parts shown above. Need two tooth pic pointed ends (10 mm) long, colored black. Glue them on the two black dots on 35.

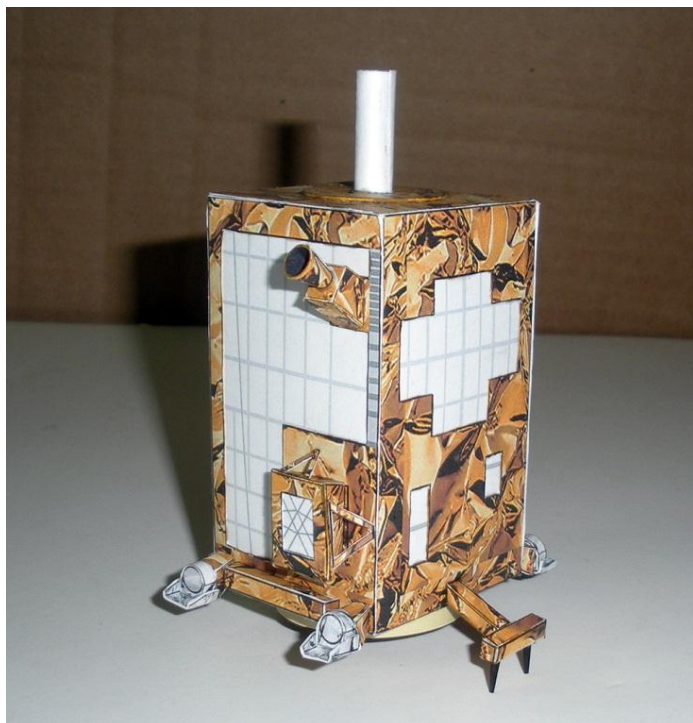
Cut out the light blue area from 28, glue 29 on the INSIDE of 28, fold to an angled box.

41-42 are glued back-to-back with graphics on both sides. Fold the two sides up at the lines, glue 40 inside shown above.

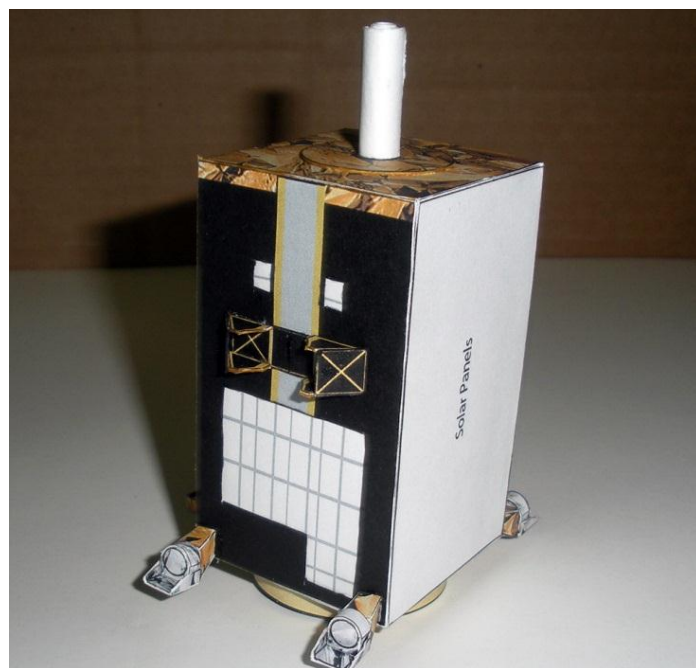
Glue the larger open end of 39 to the back of 40-42 assembly. Angle should be downward.

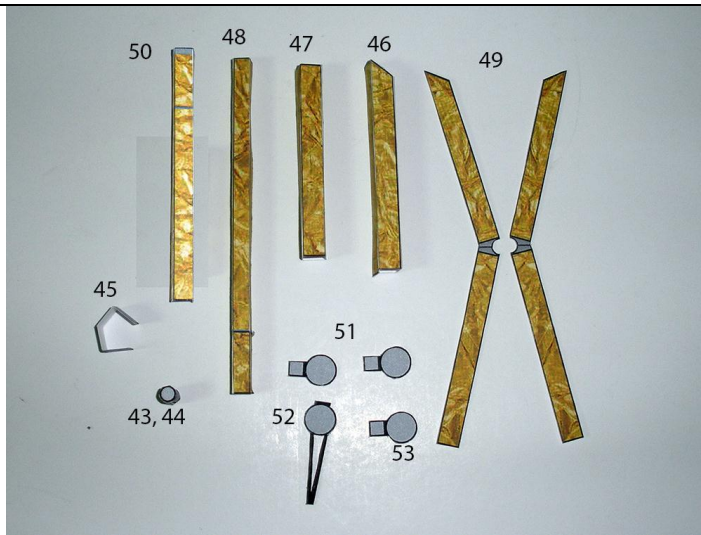
See next picture of what this should look like.

Need 4 of these.

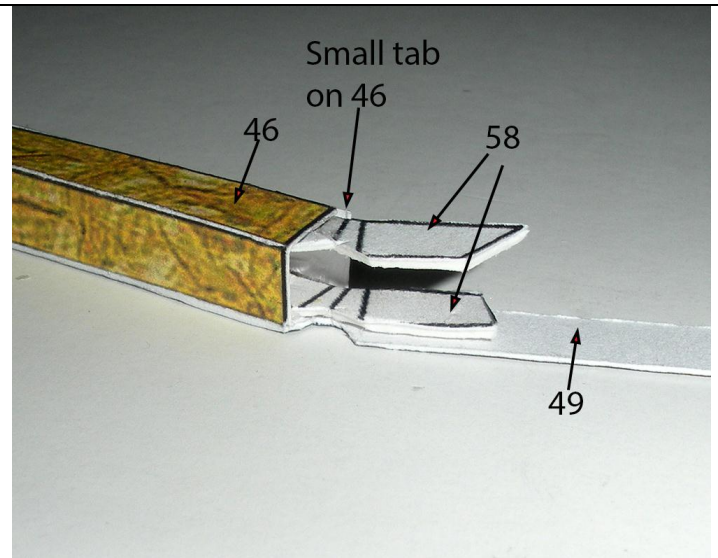


Glue these over the graphics on the body.

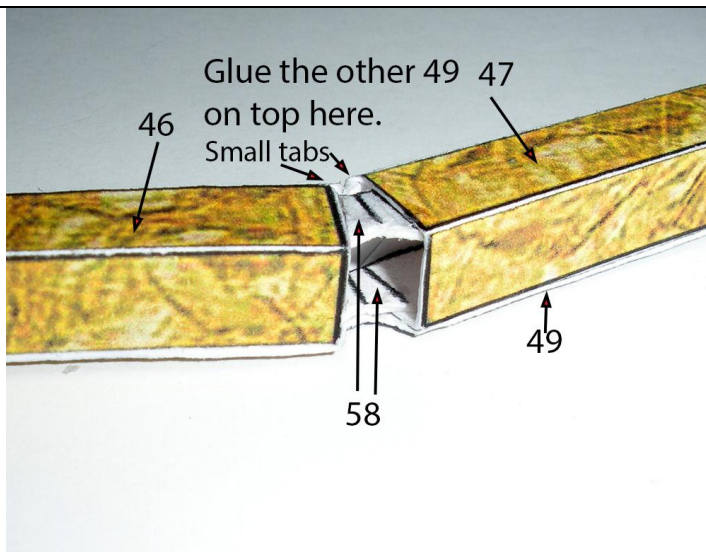




46-50 are folded into long boxes.
51 are glued back-to-back
52, 53 area glued back-to-back.



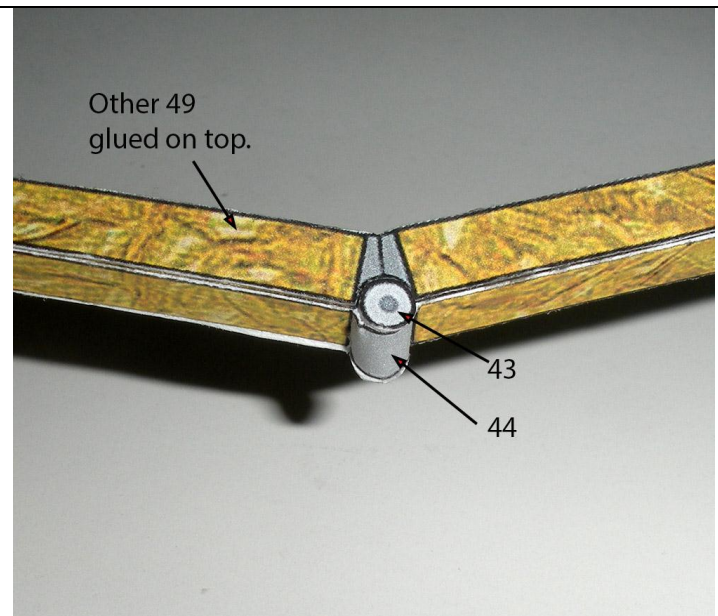
Glue 46 on 49 as shown, matching angle cuts. The angle side of 49 is shorter than the angle side of 46.
Glue 58 to top and bottom inside of 46 as shown, (DON'T GLUE THE OTHER END OF 58 TO 49).



Apply glue to inside of 47 to glue 58 in place as shown above. Glue 47 to other end of 49.

58 gives more holding strength for the large reflector.

Glue the other 49 on top of the assembly.



Roll 44 to a tube and glue 43 on each end to form a drum.
Glue in place shown above.

Glue 50 down to the blue line into 47.

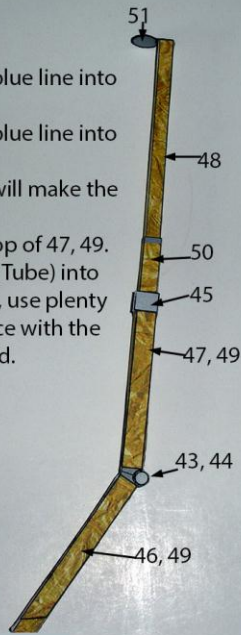
Glue 48 down to the blue line into 50.

Extra material inside will make the boom more rigid.

wrap 45 around the top of 47, 49.

Glue 43-44 assembly (Tube) into the open notch on 49, use plenty of glue to hold in place with the large reflector installed.

Glue 51 on top.



Glue 50 down to the blue line into 47. Glue 48 down to the blue line into 50. Extra material inside will make the boom more rigid. wrap 45 around the top of 47, 49.

Wrap extra cardstock into a tight rod about 130 mm long.

Put glue down into part 48 (Top part of the boom arm).

Slide the rod into the boom assembly from the top, should have a snug fit. Let the glue dry for a while.

This makes the boom arm more rigid.



Glue 51 on top.

Do the same thing but the paper rod should be about 50 mm long, slide into the boom from the bottom (Part 46 or the Angled end) and glue.

This will make the boom assembly quite rigid to support the large reflector.



TEST FIT THE BOOM ARM.

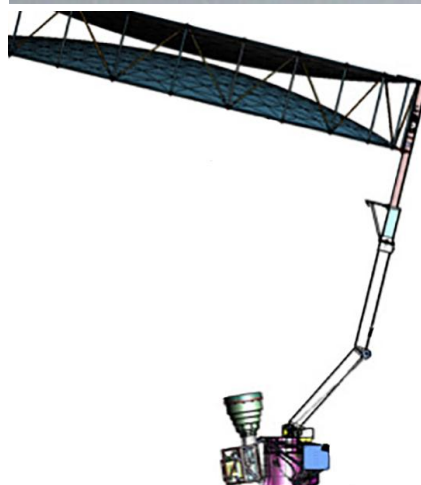
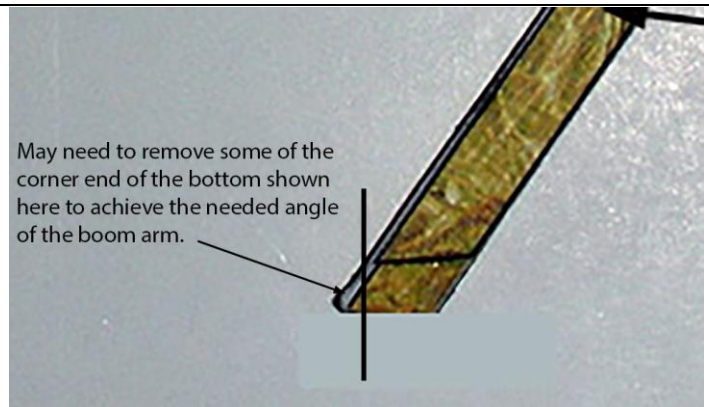
Make sure you can achieve the needed lean back angle shown on the next picture.

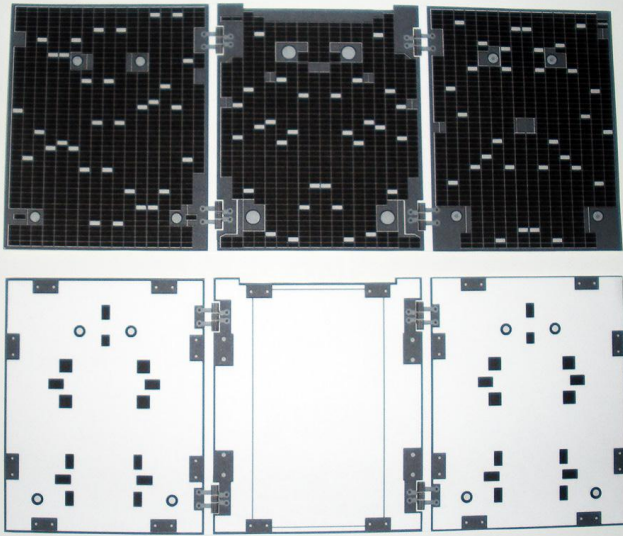
If need to, cut off the pointed end of the angled end at bottom of the boom assembly (See next picture) to achieve this.

Apply glue (I used super glue for this) into the opening on the top part of the spacecraft and around the edges of the opening.

Insert the angle end of the boom assembly into the opening. Hold in place until a good hold is achieved.

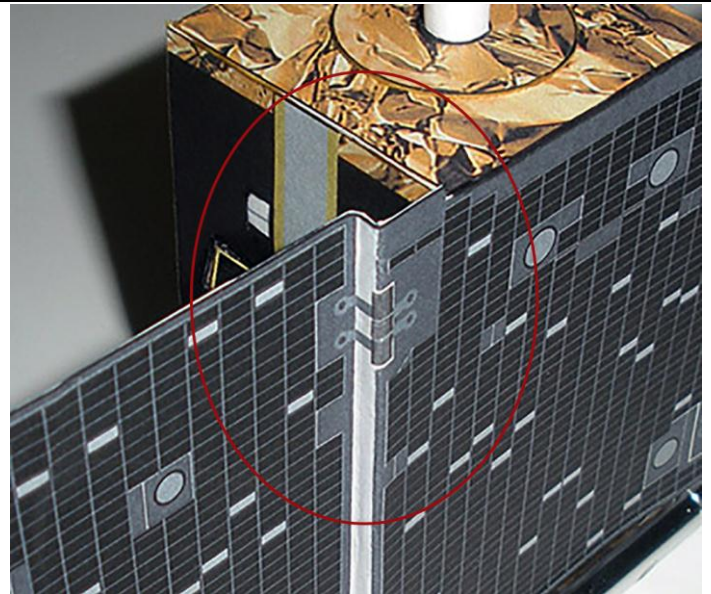
All other angles should be squared with the spacecraft.



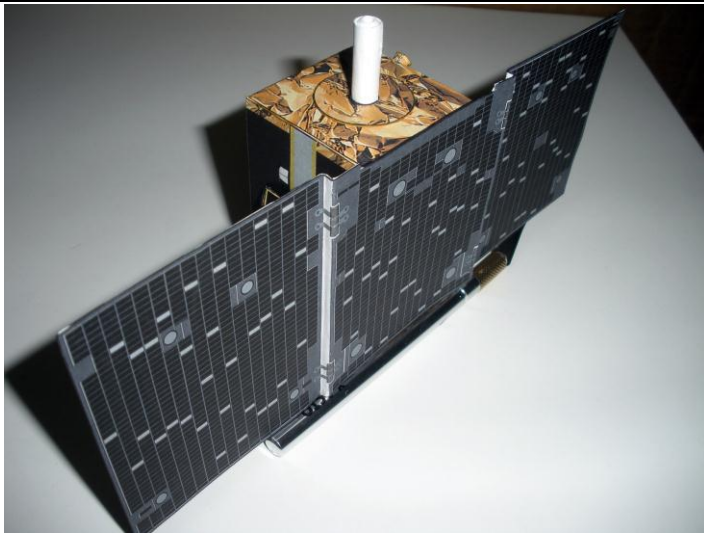


SOLAR PANELS

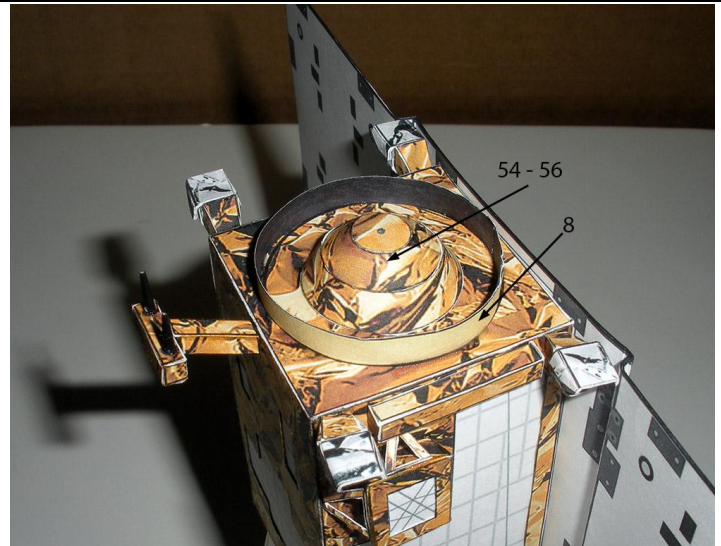
Cut out and glue both panels back-to-back.



Bend the two side panels back like this above.

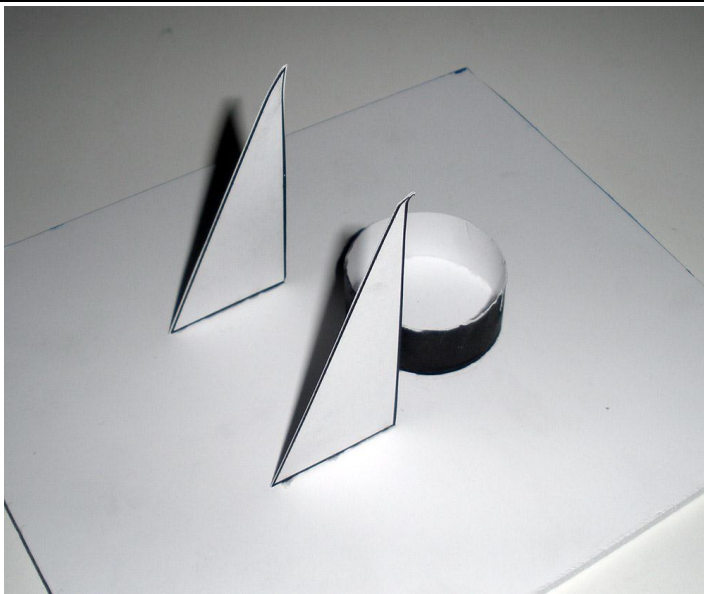


Install the solar panels over the rectangle graphic on the rear side of the middle panel.

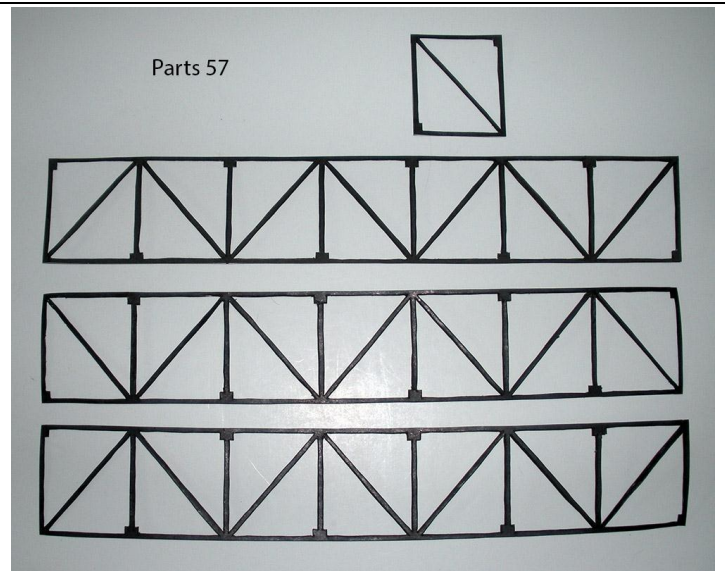


Roll 8 into a ring and glue on the graphics at the bottom of the satellite.

Glue 54-56 together and glue in the middle of the ring shown above.

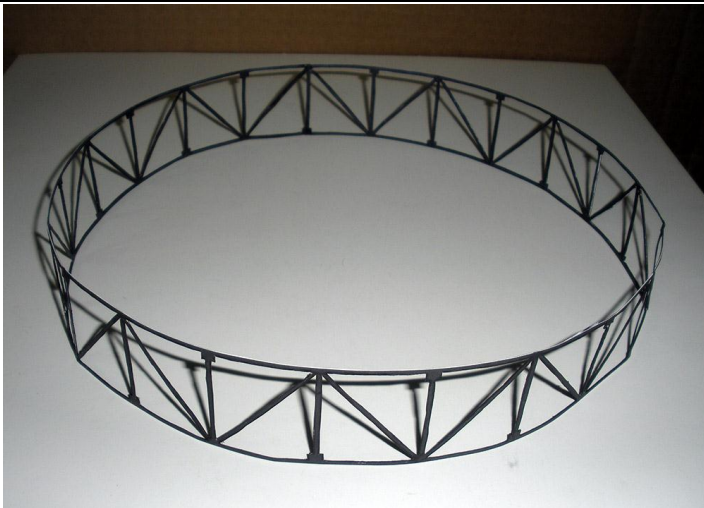


Had to do a quick design and build of a model stand.
Parts are included in the parts file.
You can design one if you like.
You can see how it will hold the model up on the first page of these directions.

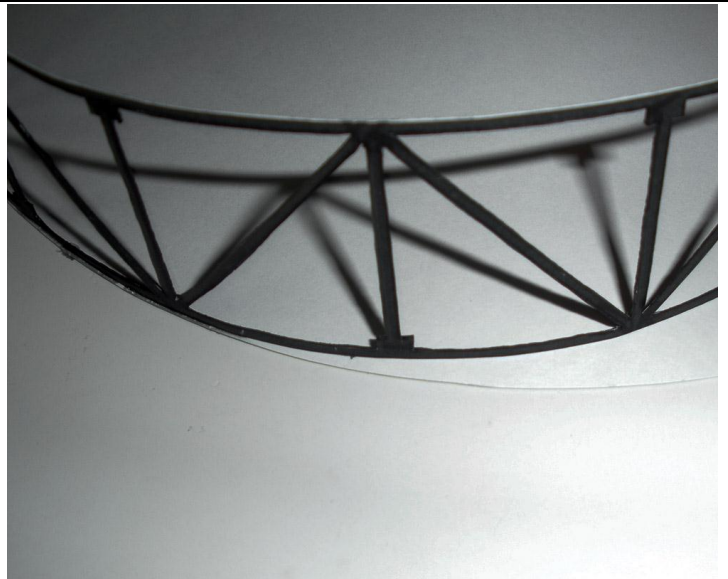


PARTS 57

To make your model really stand out, remove the white areas from the reflector frame. It will also remove some of the weight of the reflector.
Glue these to another layer of cardstock, BUT, not the ends of each of these. They will be connected together to form a large ring (About 9 ¾ inches in diameter).

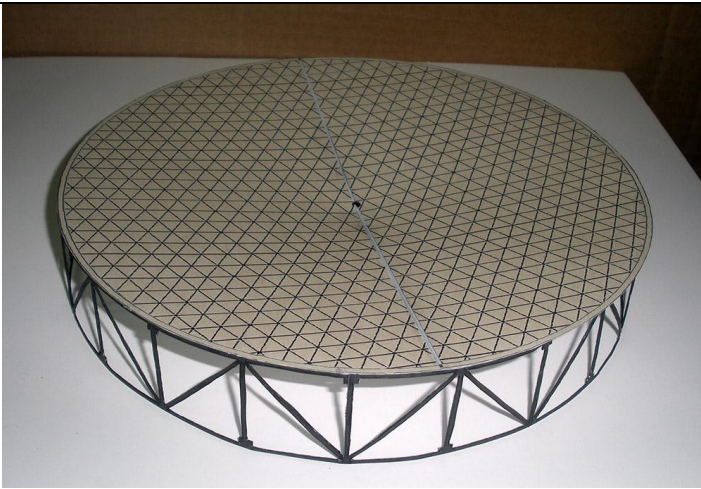


Glue the ends together and gently form a ring.

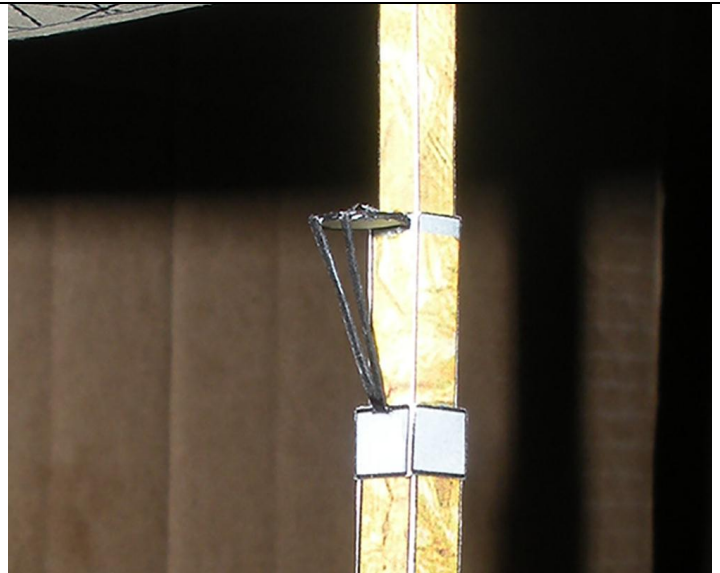


Glue both large shallow cones with the mesh graphics on them together.

I start with the bottom (Gold mesh), apply glue about 1 ½ inch long onto the edge of the backside of the cone.
Press the ring onto the glue and hold. I do this about 1 ½ inches at a time around the entire ring.
You can do this any way you desire.



One side complete.
Do the same for the other cone, you'll end up with a "drum"
When done.



Glue 52-53 assembly shown above.



Now the nerve racking part...
Test fit or practice gluing the reflector onto the arm for
straightness, etc.

If you elect the rotating top, remove the top part that
contains the boom arm from the satellite.
Glue the reflector as shown above.
Apply glue to the top (Underside of Part 51),
The upper and lower edges of the reflector and glue it to
the boom arm (I use super glue for this).



The Dramatic Ending...
Slide the upper part onto the top of the satellite and it
should hold together as shown.
Congratulations, You did it!

You should be able to rotate the upper assembly with the
reflector just like the real satellite or you can glue it in place.