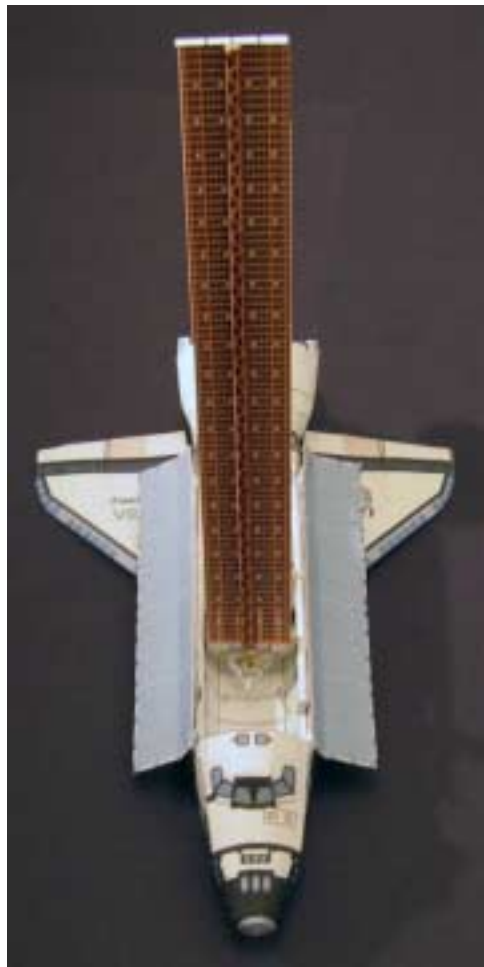


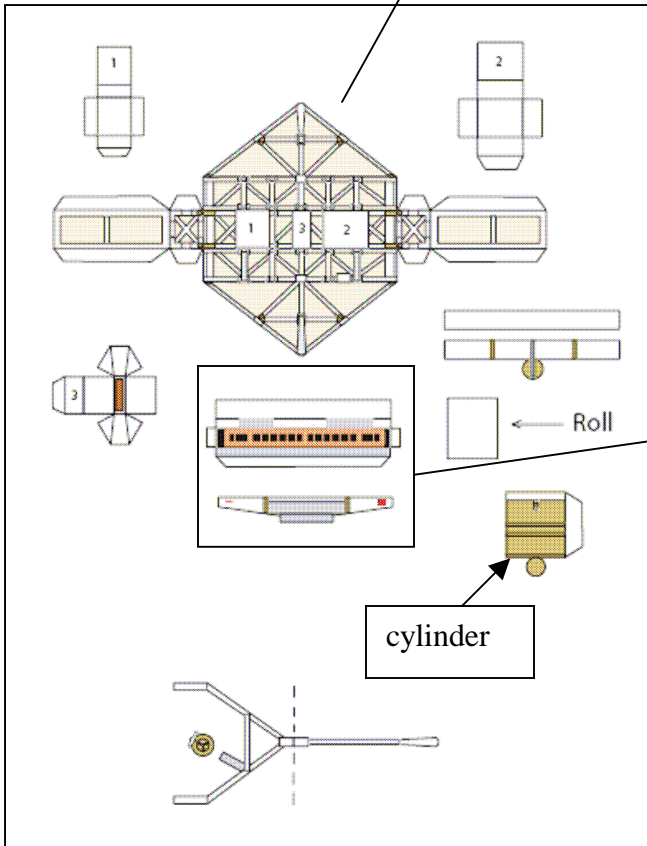
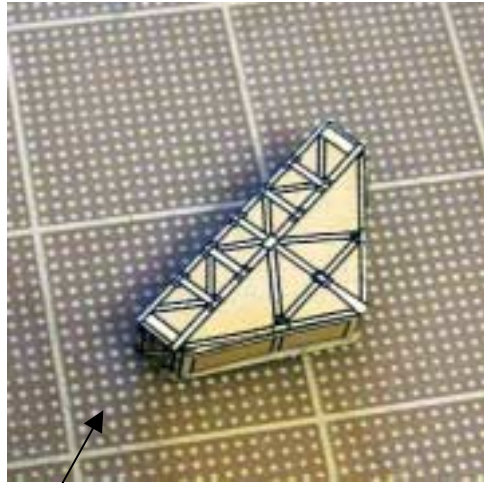


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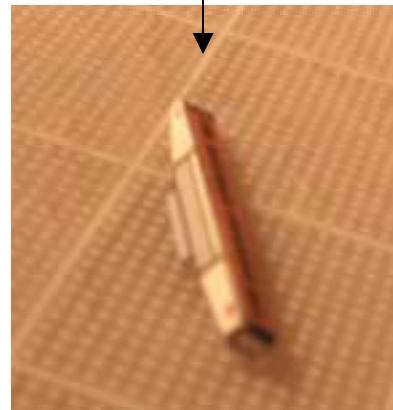
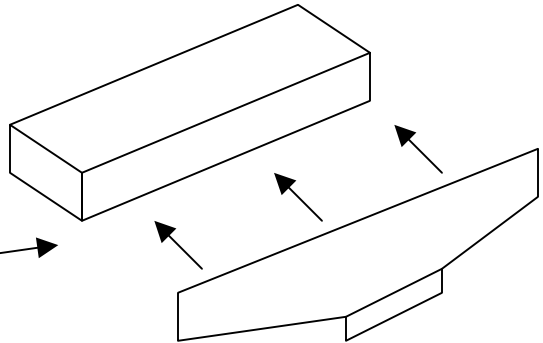
## Assembly Instructions for **STS-41D** payload (Discovery's Maiden Flight)



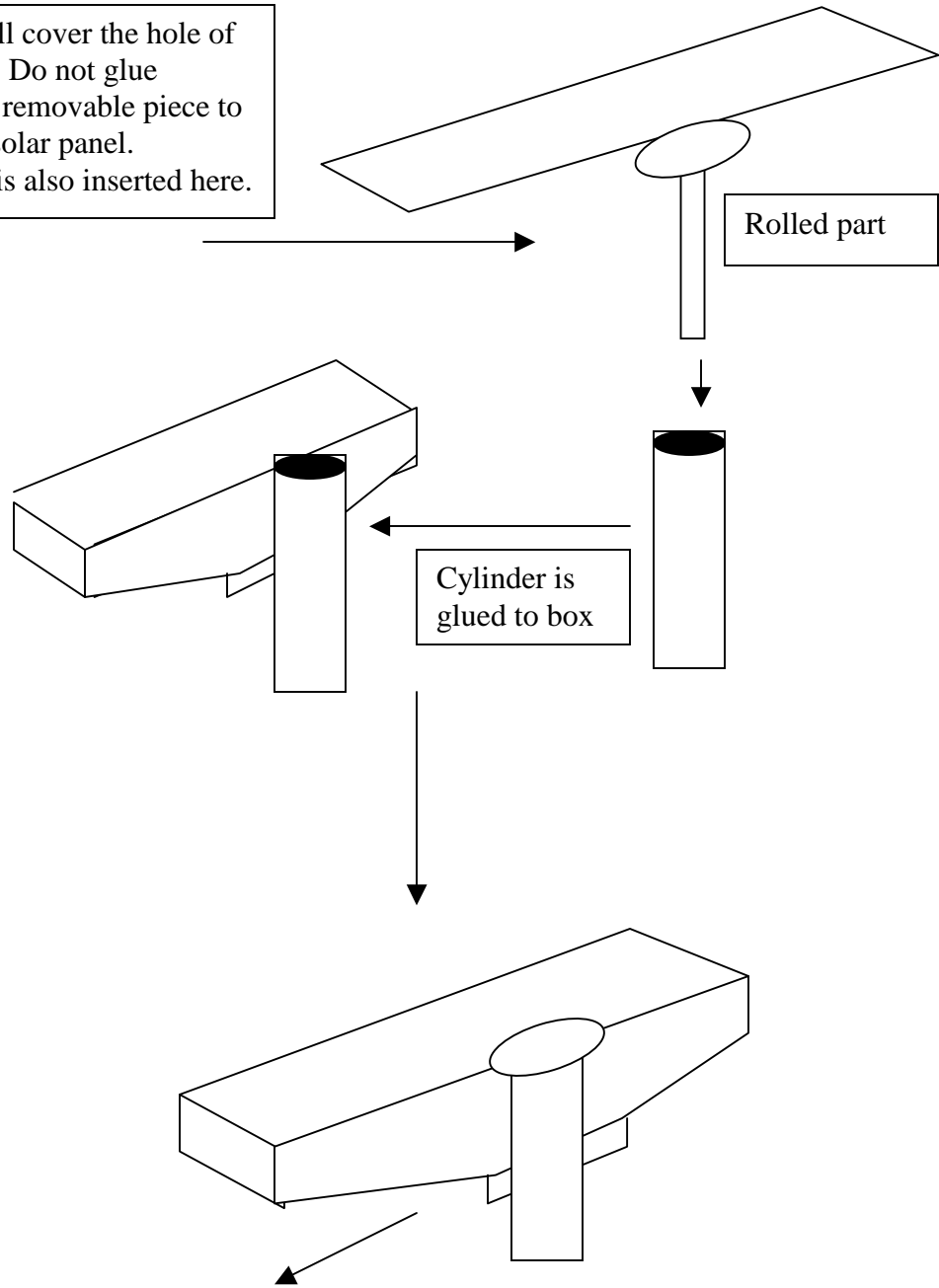
# Building OAST-1 payload

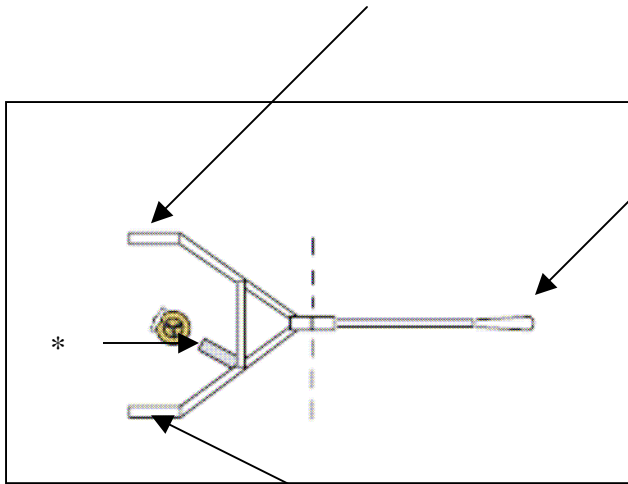


First build the main structure, the triangular structure with the numbered areas. Boxes 1, 2 and 3 go in their respective places.



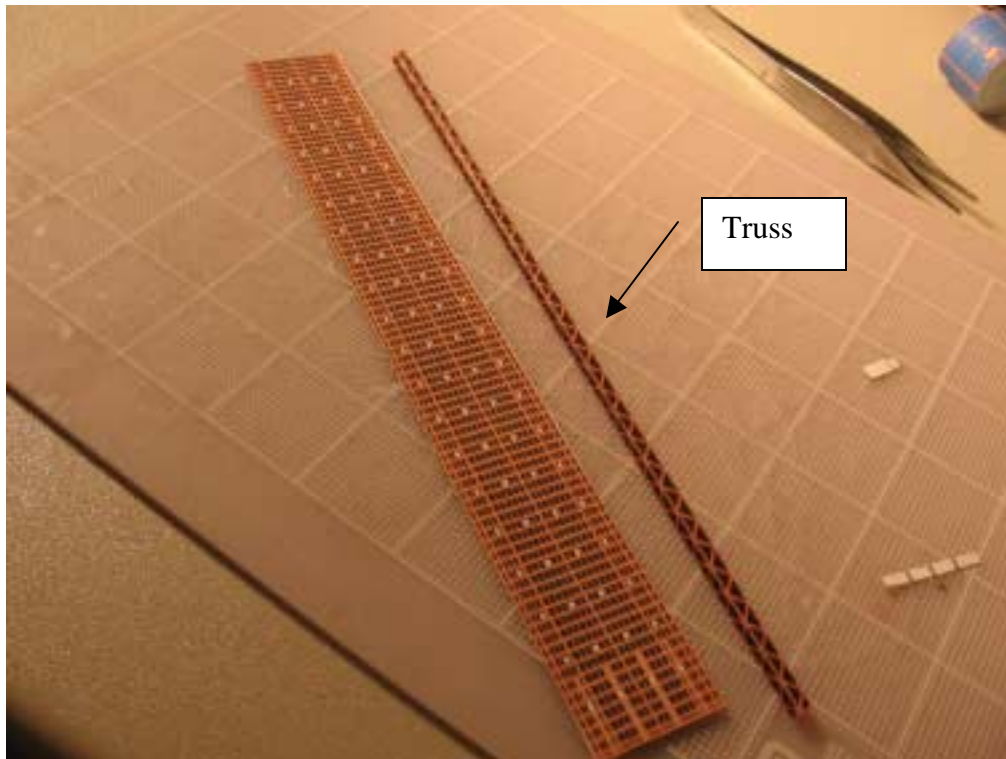
This part will cover the hole of the cylinder. Do not glue because is a removable piece to replace the solar panel. Solar panel is also inserted here.



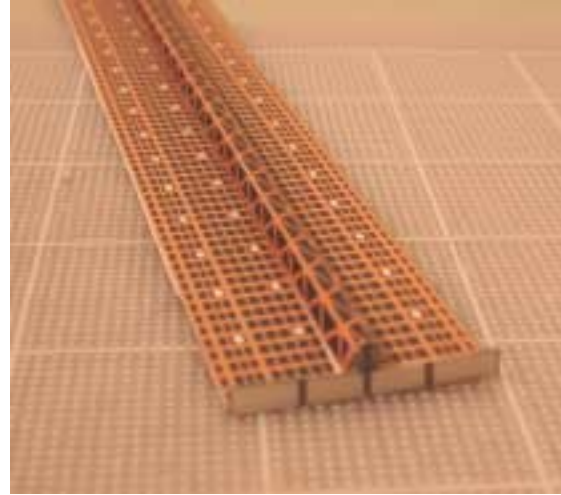
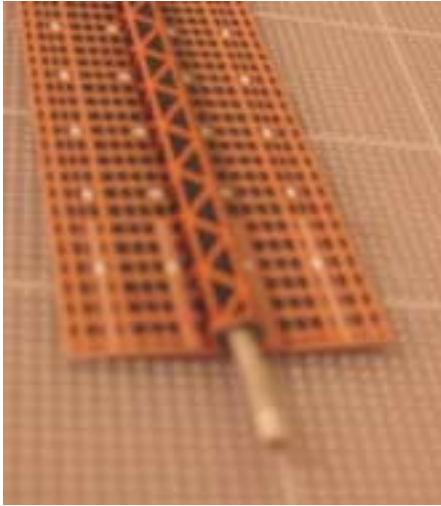


The parts indicated are glued to the gray areas in the main triangular box. For better results glue this whole part to extra cardboard to make it sturdier. The circular element which is the grapple fixture is glued to the gray little bar. \*

### Building the Solar Array

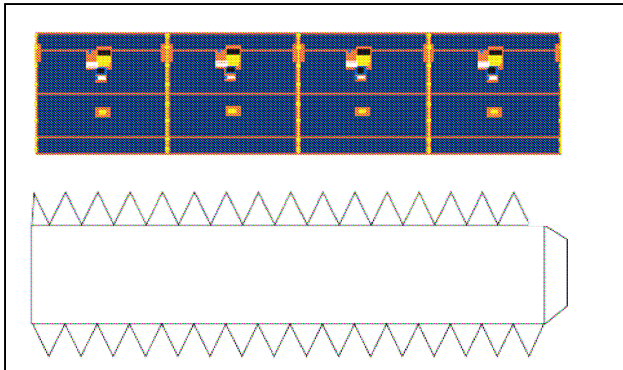


The Solar Array has 3 elements, 2 are the solar array faces and the third element is the truss that is glued in the middle of one face. The truss is the tall and thin element in the photo above.

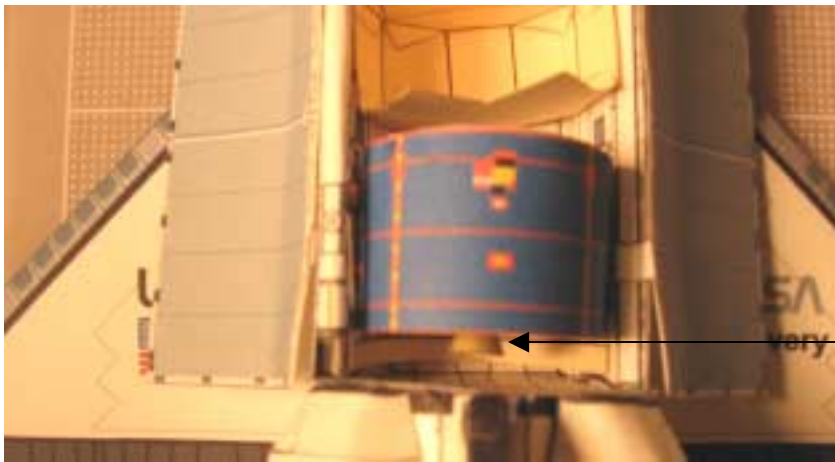


These are both ends of the Solar Array. The left end shows the “rolled” piece of cardboard that will fit inside the cylinder. Note the other end.

### Building the Syncom-IV satellite



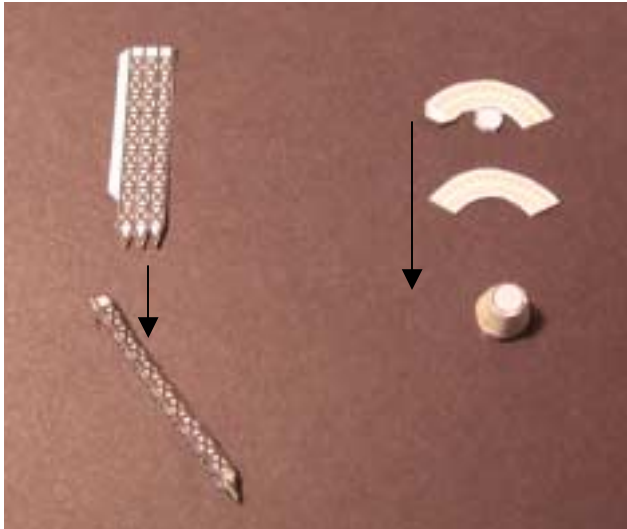
This step is simple and very straightforward. Make a cylinder with these 2 parts and use the circular covers in sheet 2 to make the satellite.



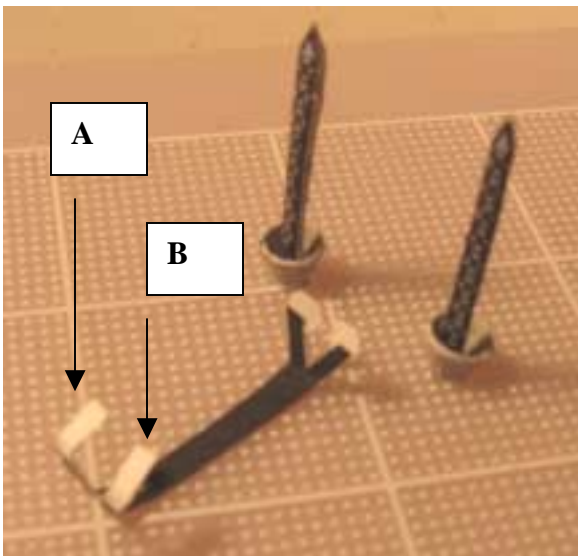
Add the engine nozzle to the bottom.



This is the underside of the satellite. Note the nozzle and also the black strip added to cover the edge.



These are the elements to make the antennas that are sitting on top of the satellite. Left photo shows the base for the antennas. Right photo shows all the elements to make one antenna.



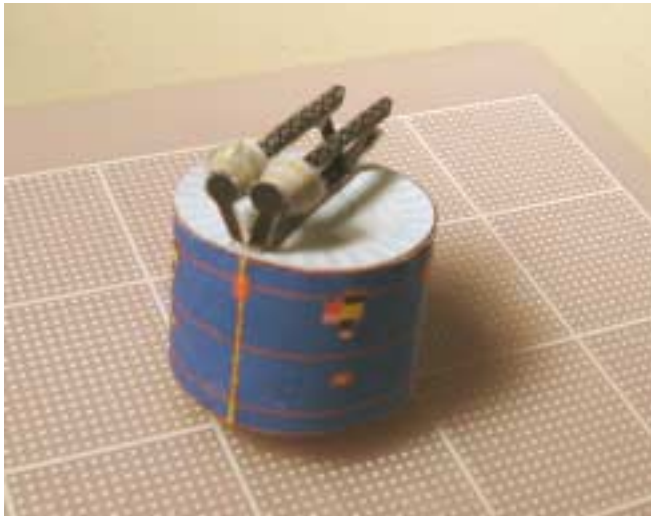
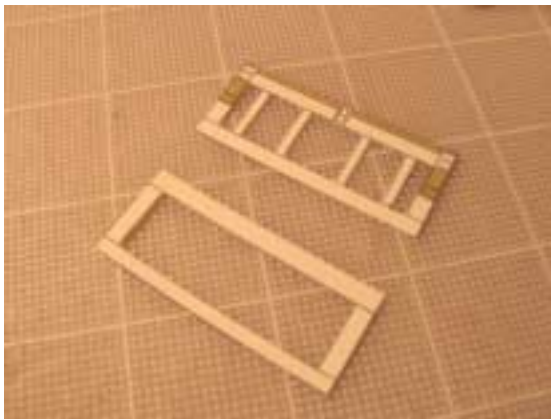


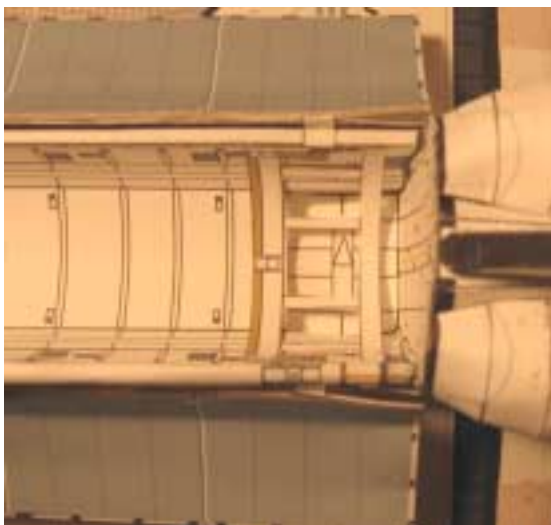
Photo shows detail of how the antennas are placed on top of the satellite.

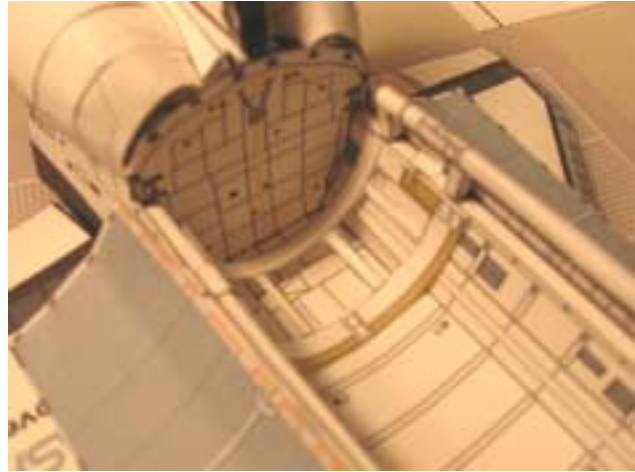
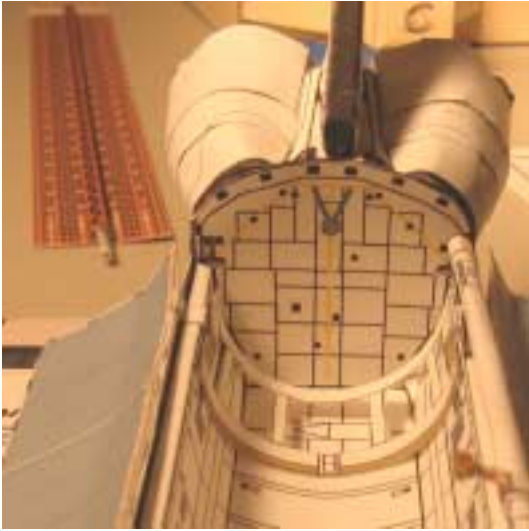
**A** and **B** indicate that these are flaps where the antennas are glued in order to sit horizontal.

### Building the cradle for Syncom-IV



These parts are glued one to the other for reinforcement. Once is dry then is curved to fit the shape of the payload bay. Glue this part to the shaded gray areas in the payload bay liner.



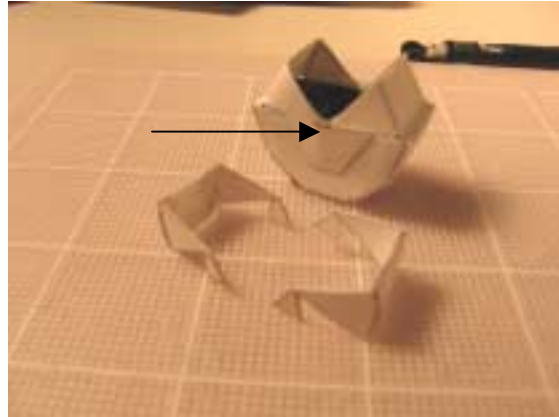
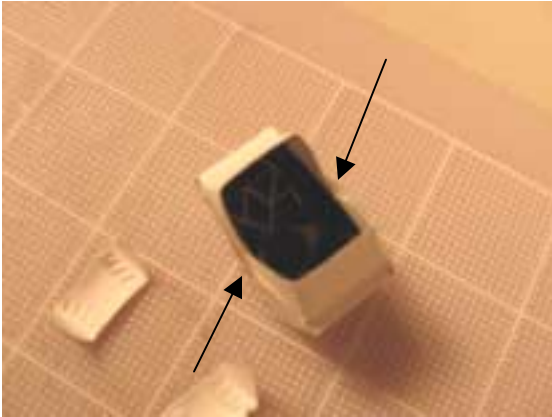
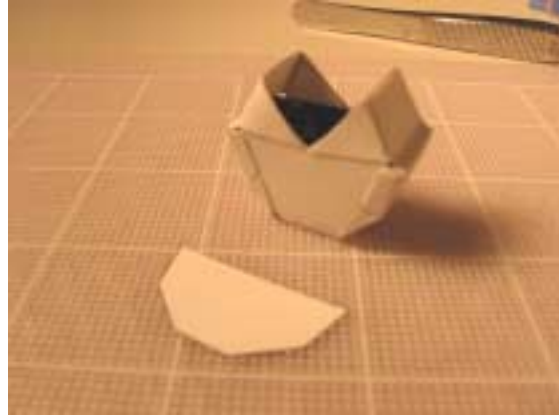
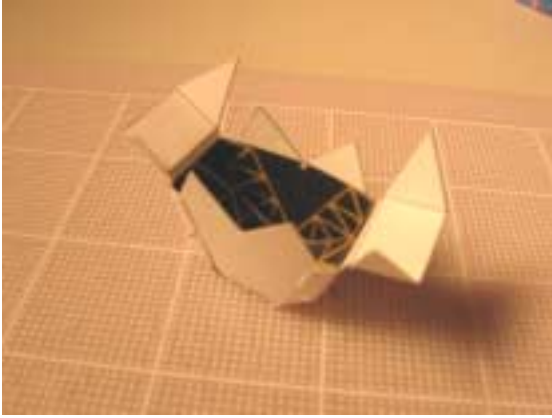


Do not glue this satellite to the payload bay.

### Building the PAM-D cradles

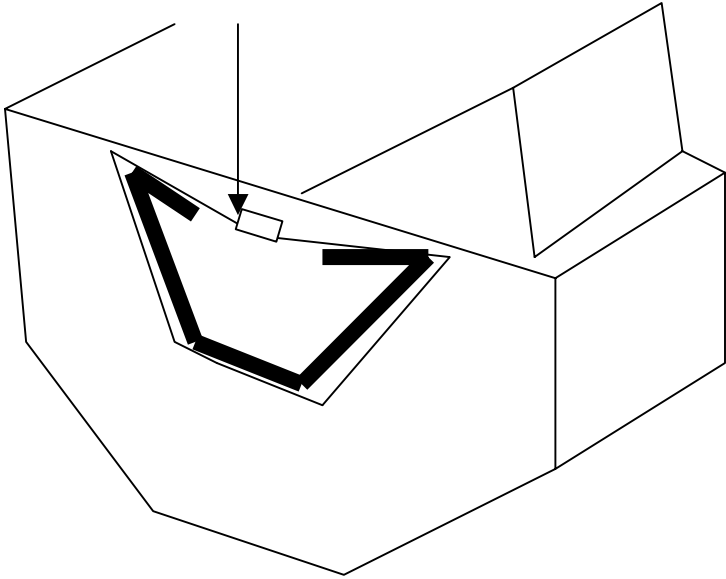


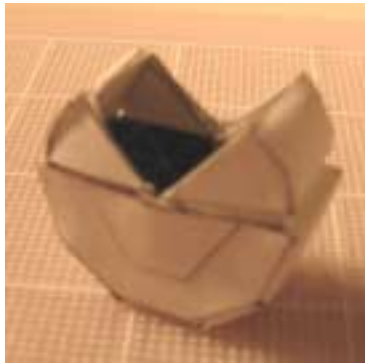
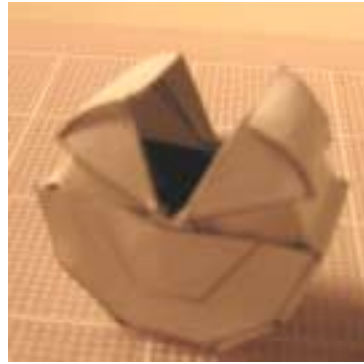
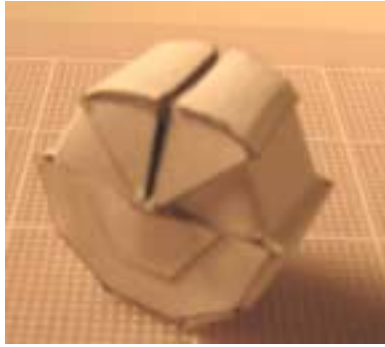
Make all the corresponding scores and fold nicely leaving the black area inside.



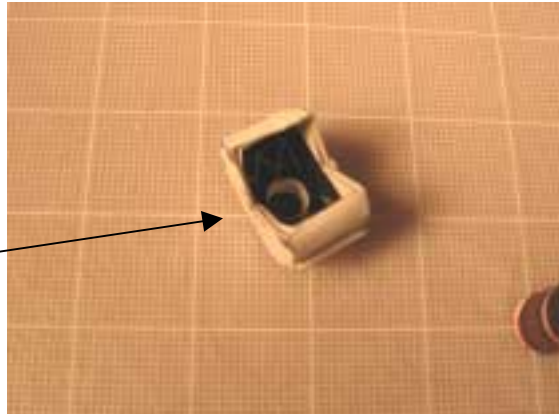
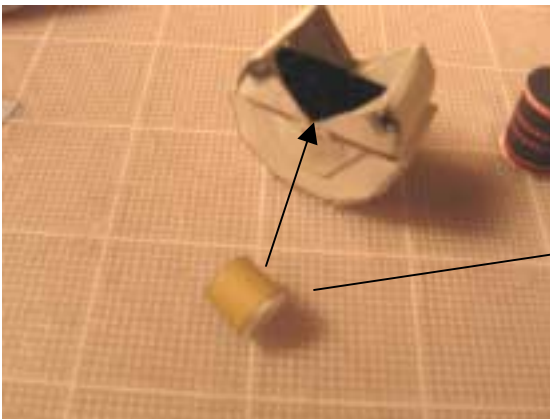
Arrows shows the “pockets” that need to be made so the doors can fit inside of each pocket.

The dark thick lines indicate where to put the glue leaving the “pocket” top free from glue.





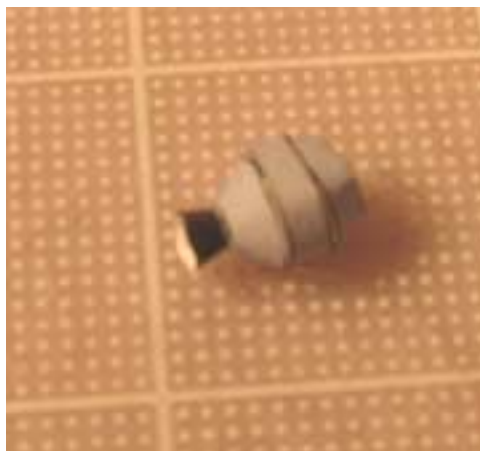
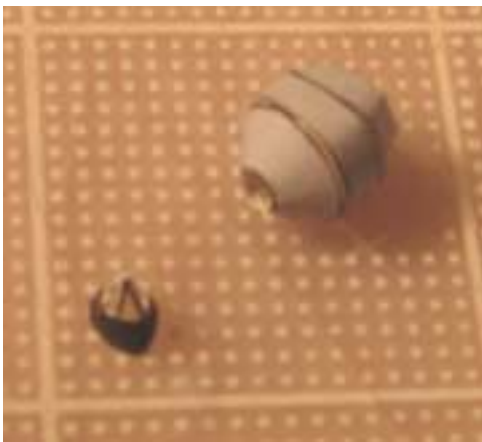
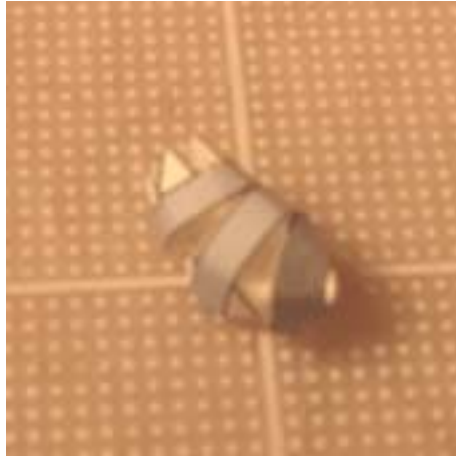
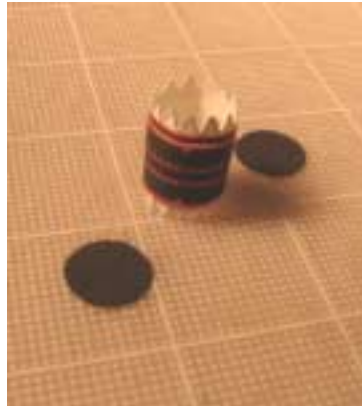
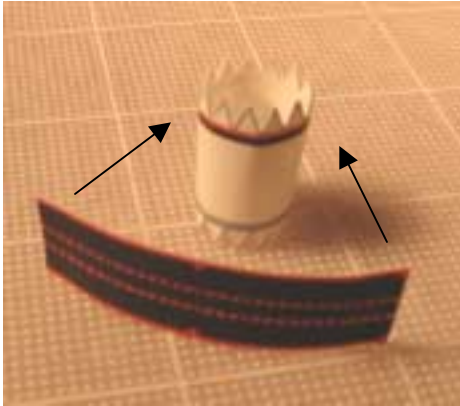
These doors are only positional. They can easily be removed out of the pocket.

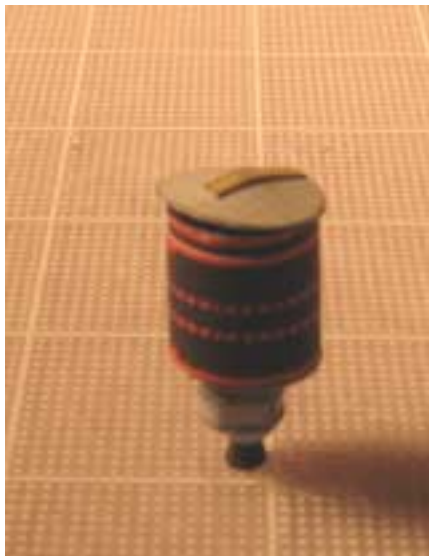
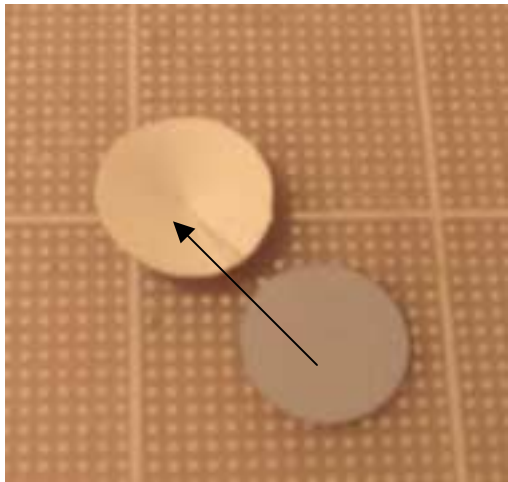
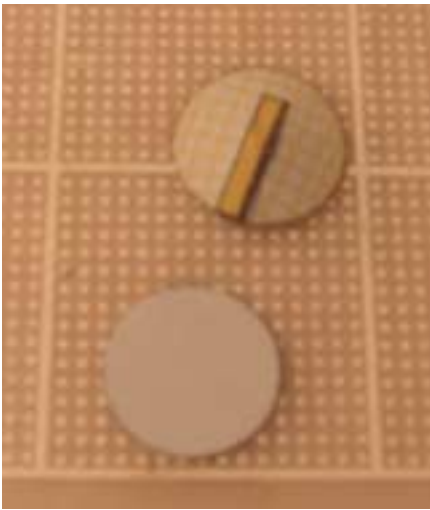
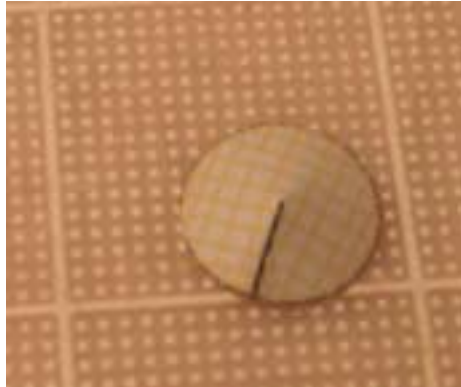
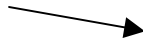
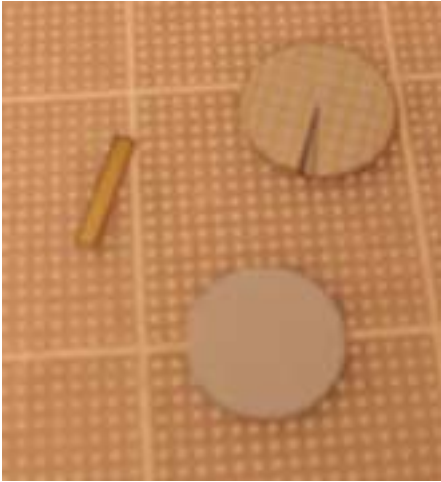


The golden opened cylinder is glued to the floor of the cradle where the small satellites can fit.

The 2 cradles are glued to the payload bay shaded areas indicated on sheet 1.

## Building the PAM-D Satellites





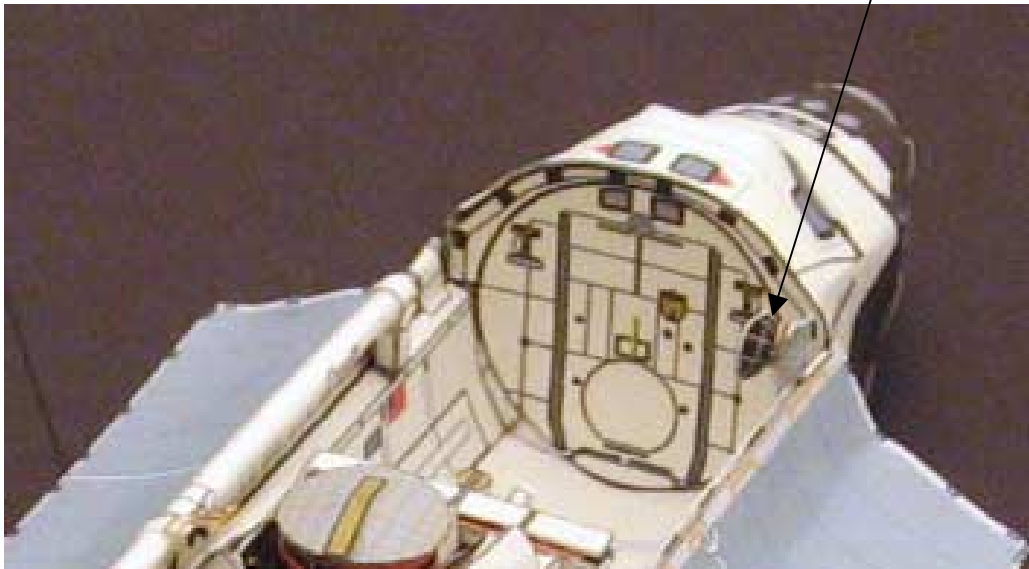
The top cover is glued on an angle as the photo shows.

## Adding the Remote Manipulator Arm and the KU Band Antenna

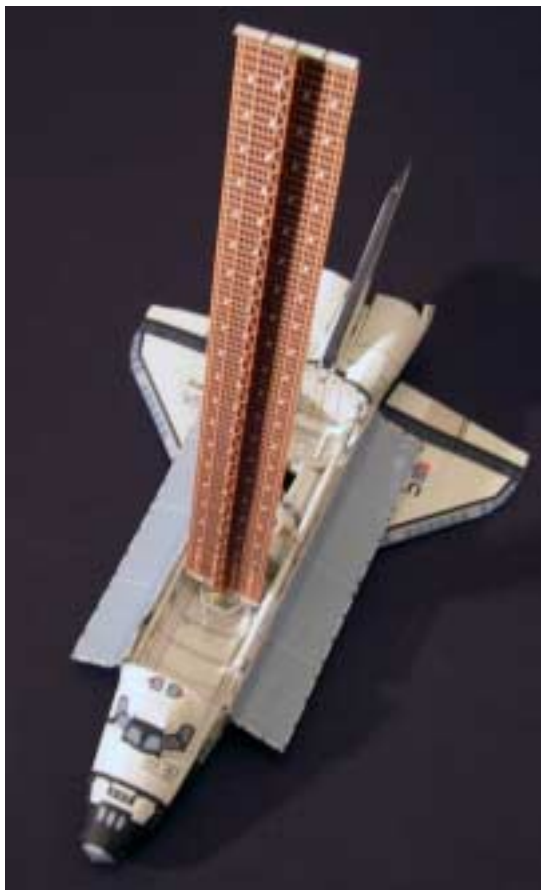
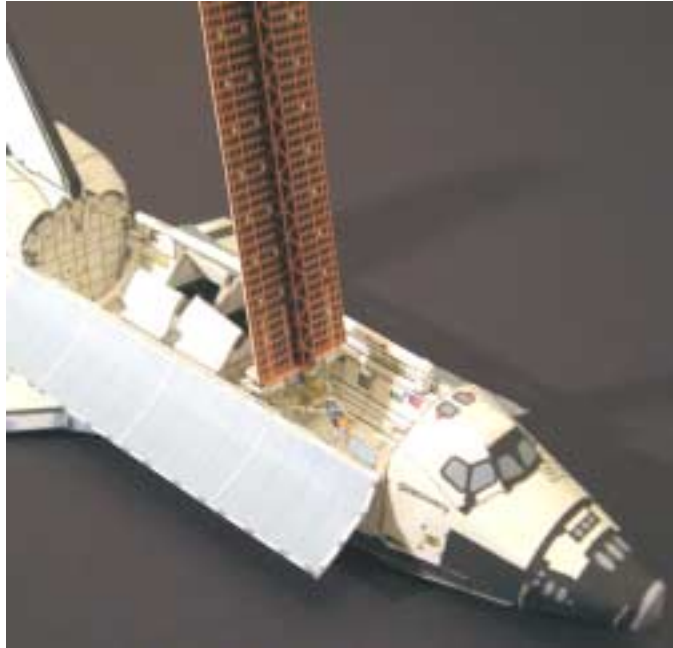


Check for building steps on other Payload manuals available at my website.

KU Band Antenna







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