

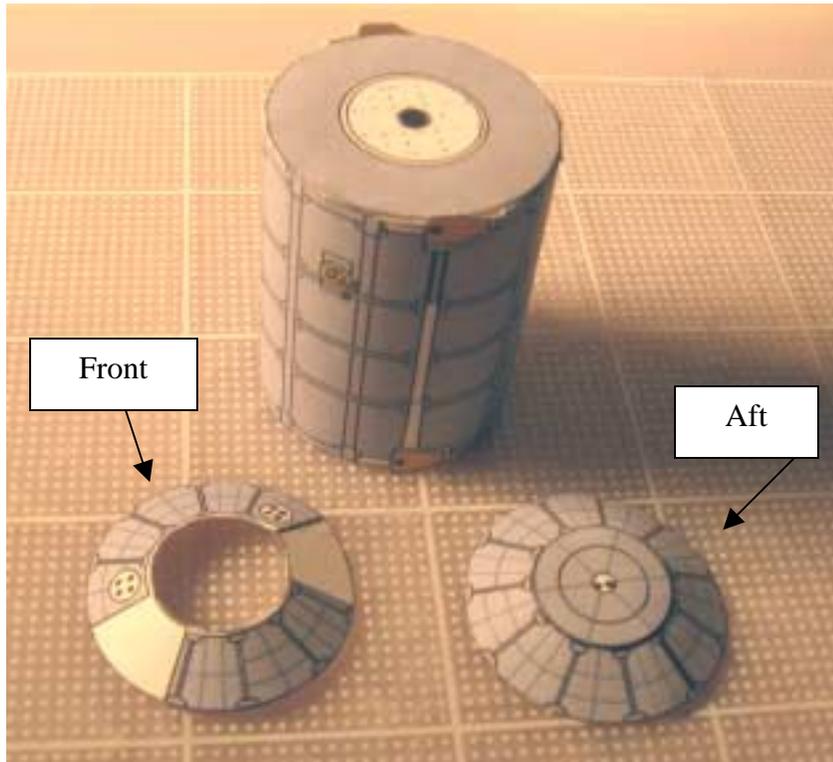


Revised
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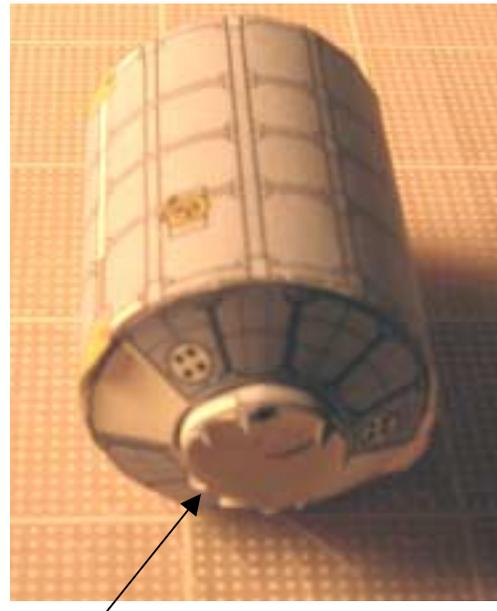
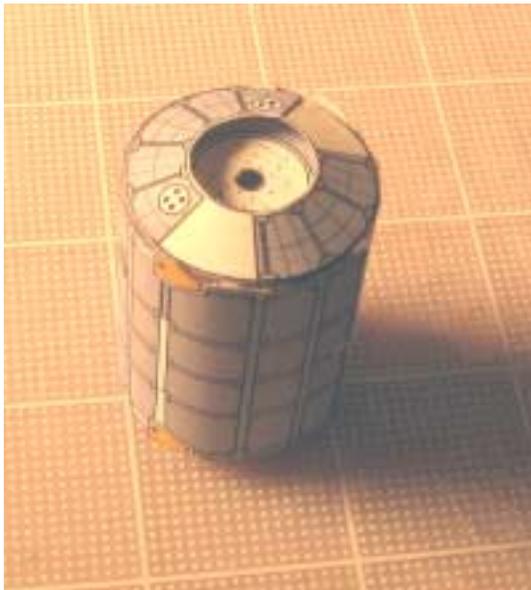
Assembly Instructions for STS-121 payload (Discovery's Return to Flight-1)



Building “Leonardo” Multipurpose Logistic Module

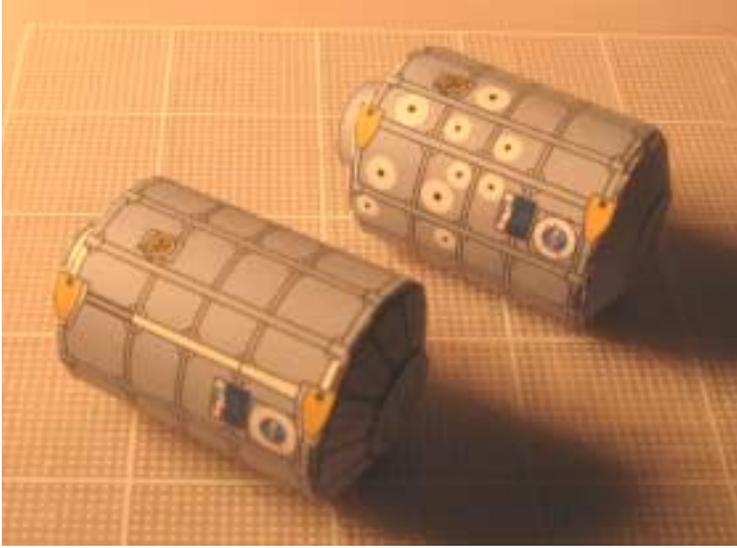


Make a cylinder as photo shows and glue both conical parts on both ends.



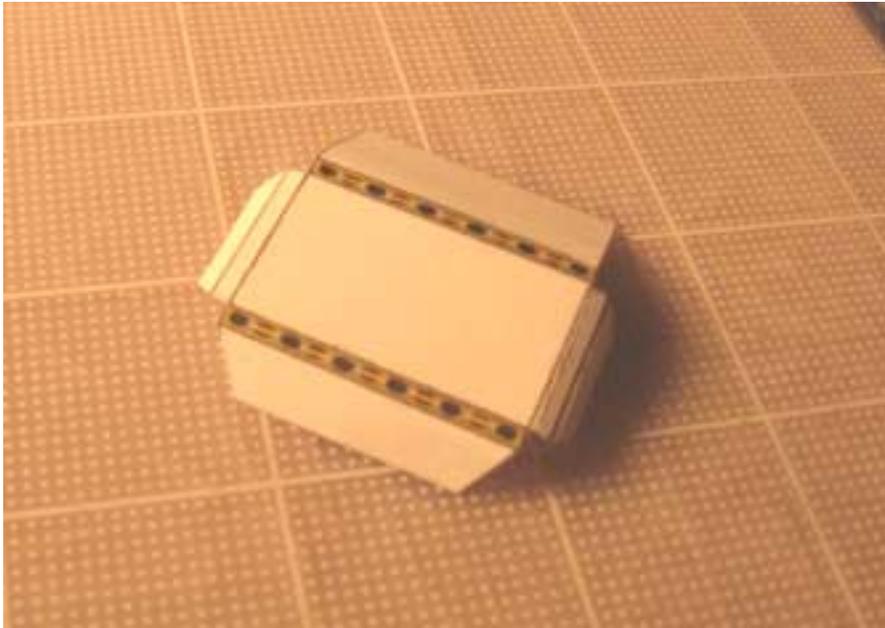
Attached the Docking system

See photos for reference when building this module.

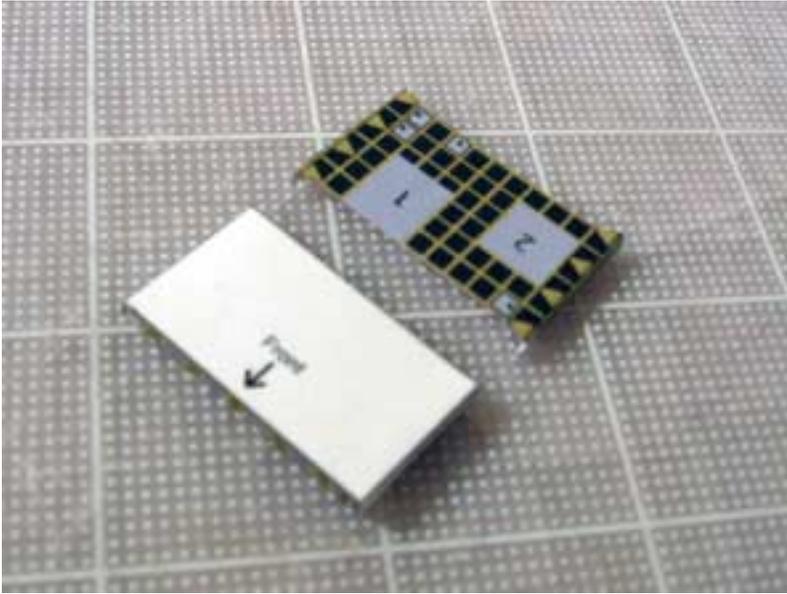


Note that the circular white patches are not present for this mission. These Visual Targets first appeared during the first missions for Leonardo and Raffaello. (STS-102, STS-100, STS-105, STS-108, and STS-111)

Building the Integrated Cargo Carrier

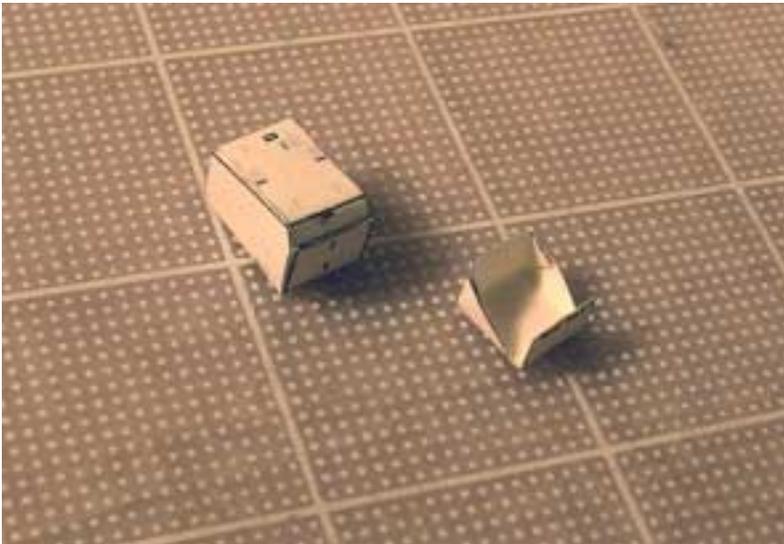


First build the main part of this platform as photo shows. This photo shows the prototype.



Glue the upper portion of the platform on top of the main part as photo shows.

Then the bottom portion is glued.



These are the main elements that will be glued on top of the platform. Match the numbers.

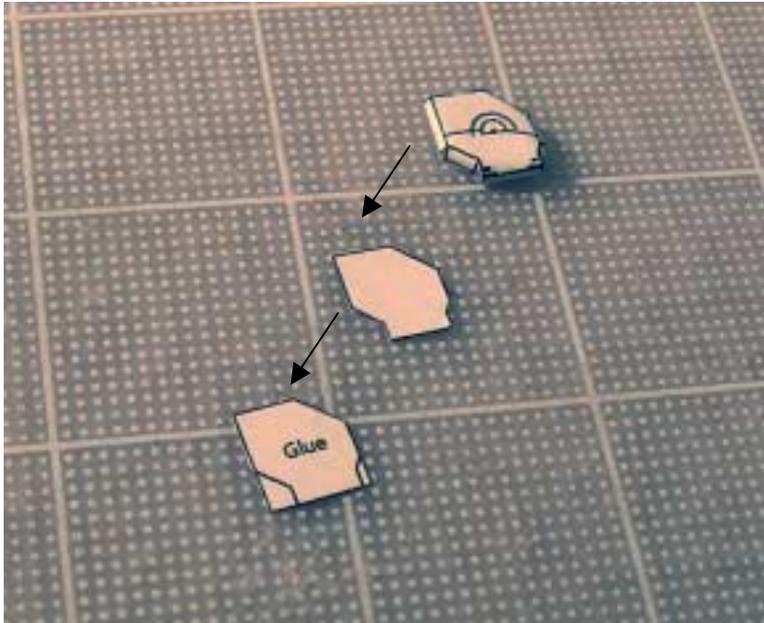
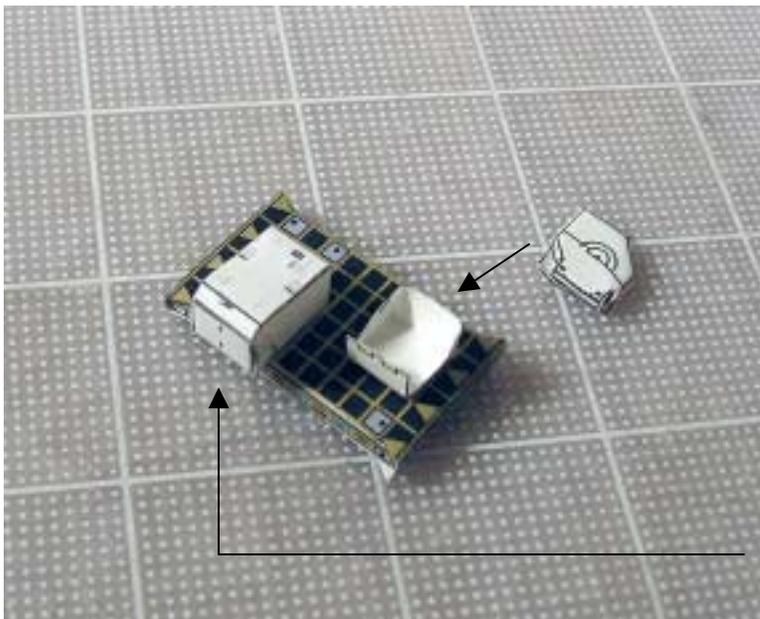


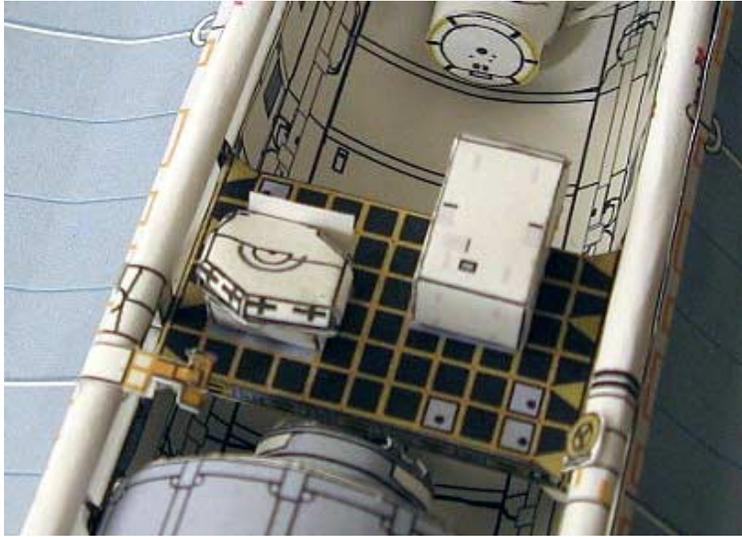
Photo shows the TUS-RA (Trailing Umbilical System-Reel Assembly). Arrows indicate the sequence how these parts are glued one on top of each other.



The whole TUS-RA object is then placed on top of the small opened cradle in a diagonal position.

Pump Module

See photos below for reference.



Building the Tile and RCC Repair box

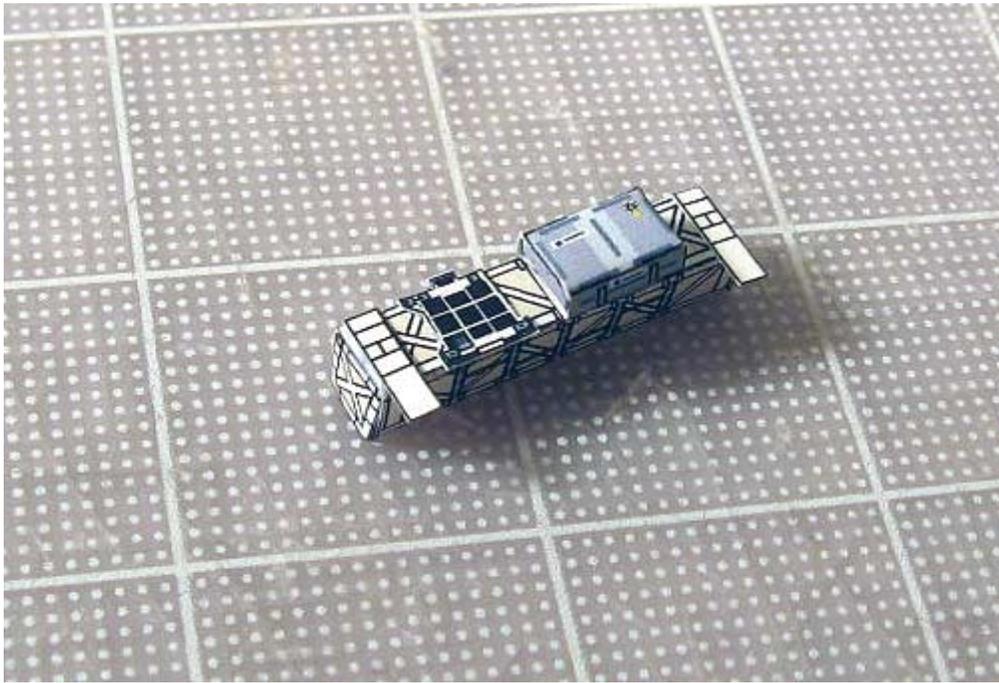
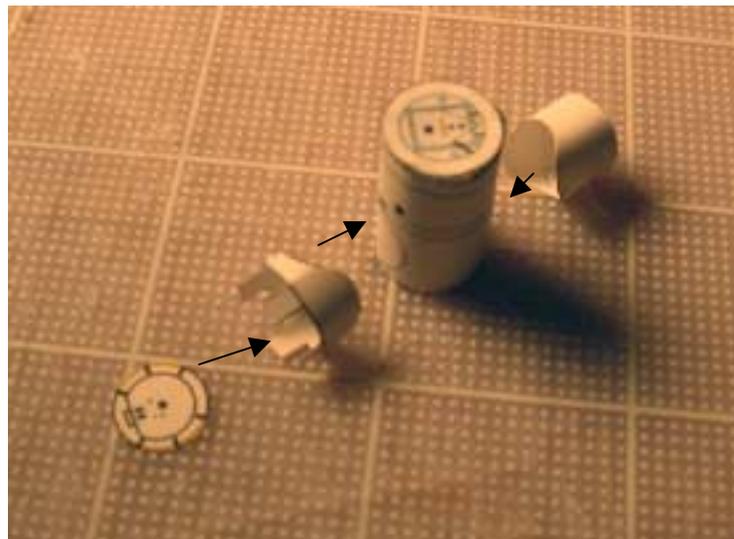
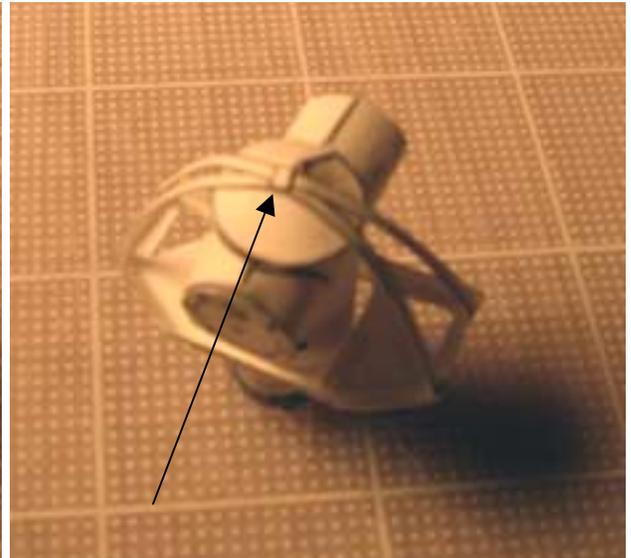
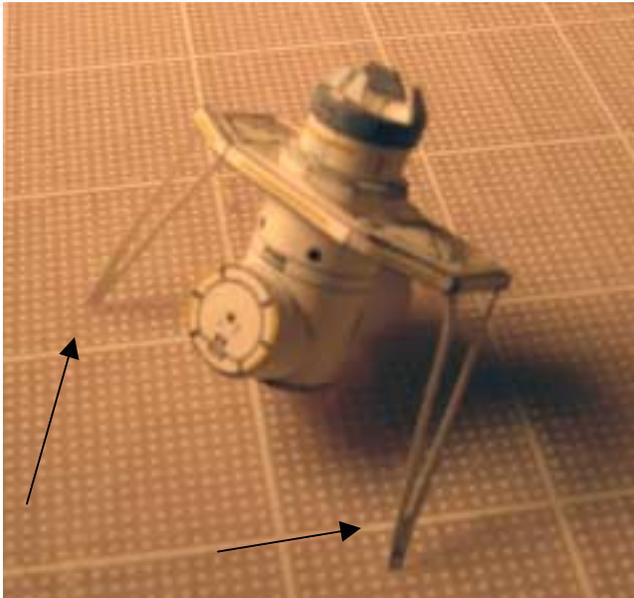


Photo shows the long rectangular block with the 2 elements glued on top of it. To the left is a panel structure and to the right is the Tile and RCC repair box.

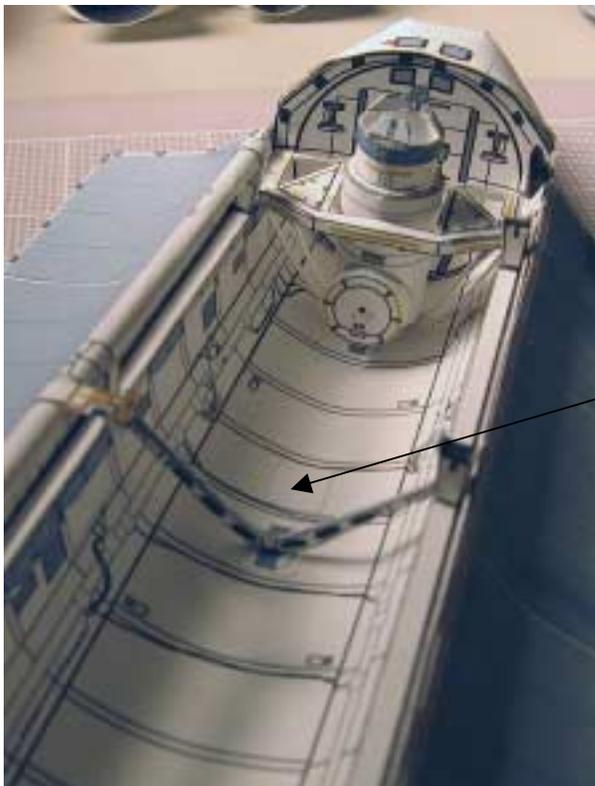
Building the Orbiter Docking System



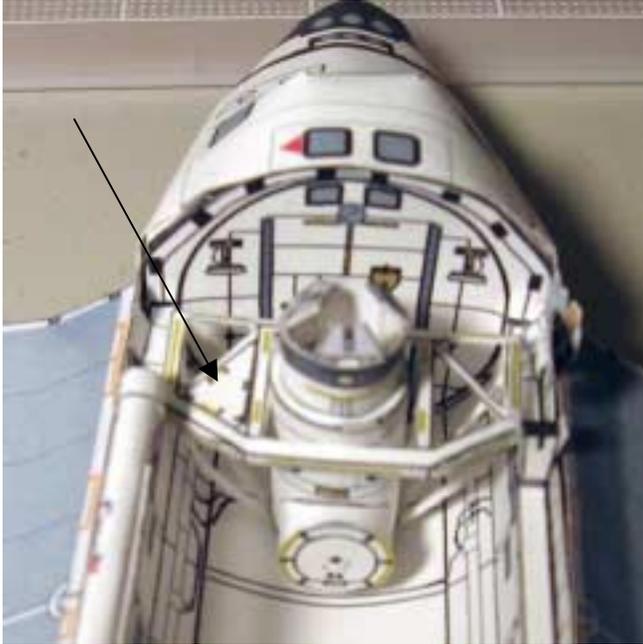
Make a cylinder and glue the elements indicated on this photo.



Photos show the position of the other elements when building this Docking System. Note how the side thin parts are glued at the bottom of the Docking System.



This photo shows final position for the Docking System at the front payload bay area. Also note location of the Support beam that is located underneath the Integrated Cargo Carrier.

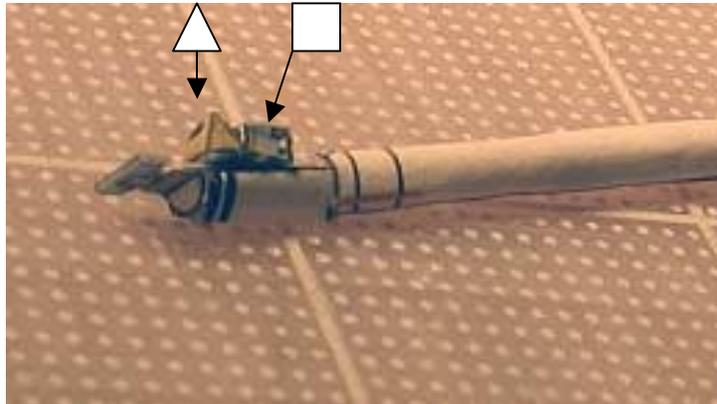
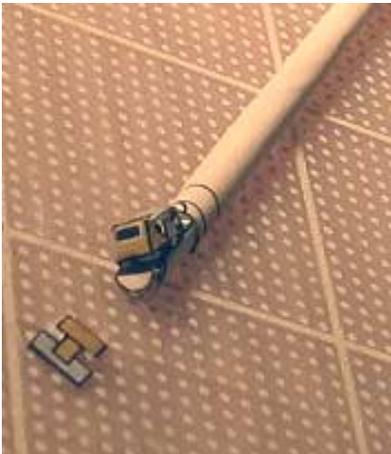


For STS-121, the Orbiter Docking System had only 1 toolbox shown here in this photo.

Mission STS-114 had 2 toolboxes, one on each side.

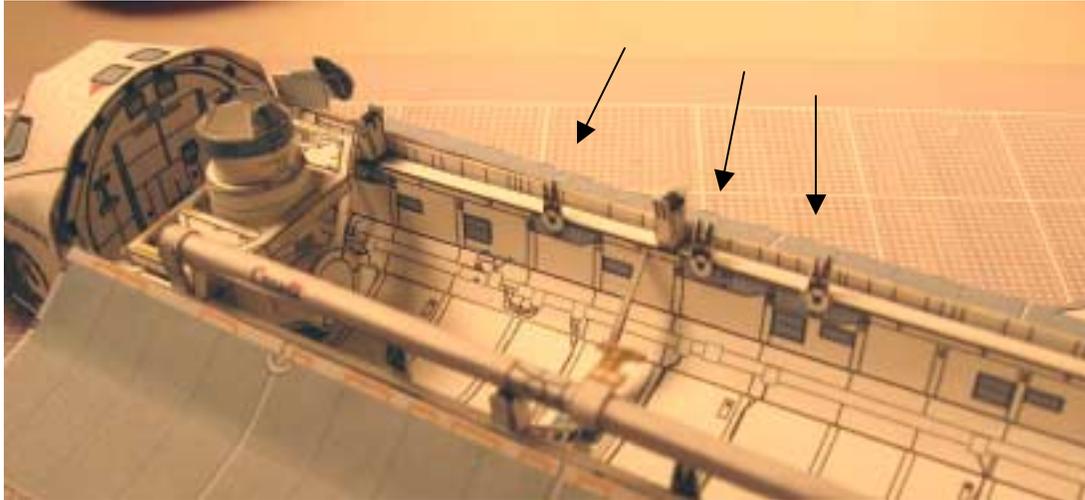
Building the Orbiter Boom Sensor System (OBSS)

Build as if you are building the Robotic Arm. The only difference is the bottom end. Photo shows elements on this end. It has a small box, a triangular box and the TV camera on the tip.



For STS-121, the pointed structures shown here in this photo are only present for the Leonardo attached points. There are only 4 for this mission.

This photo belongs to STS-114 to show the difference. The ESP-2 had these attachment points because it was a removable structure in real life. The ICC on mission STS-121 was not removable therefore the pointed structures were not necessary.

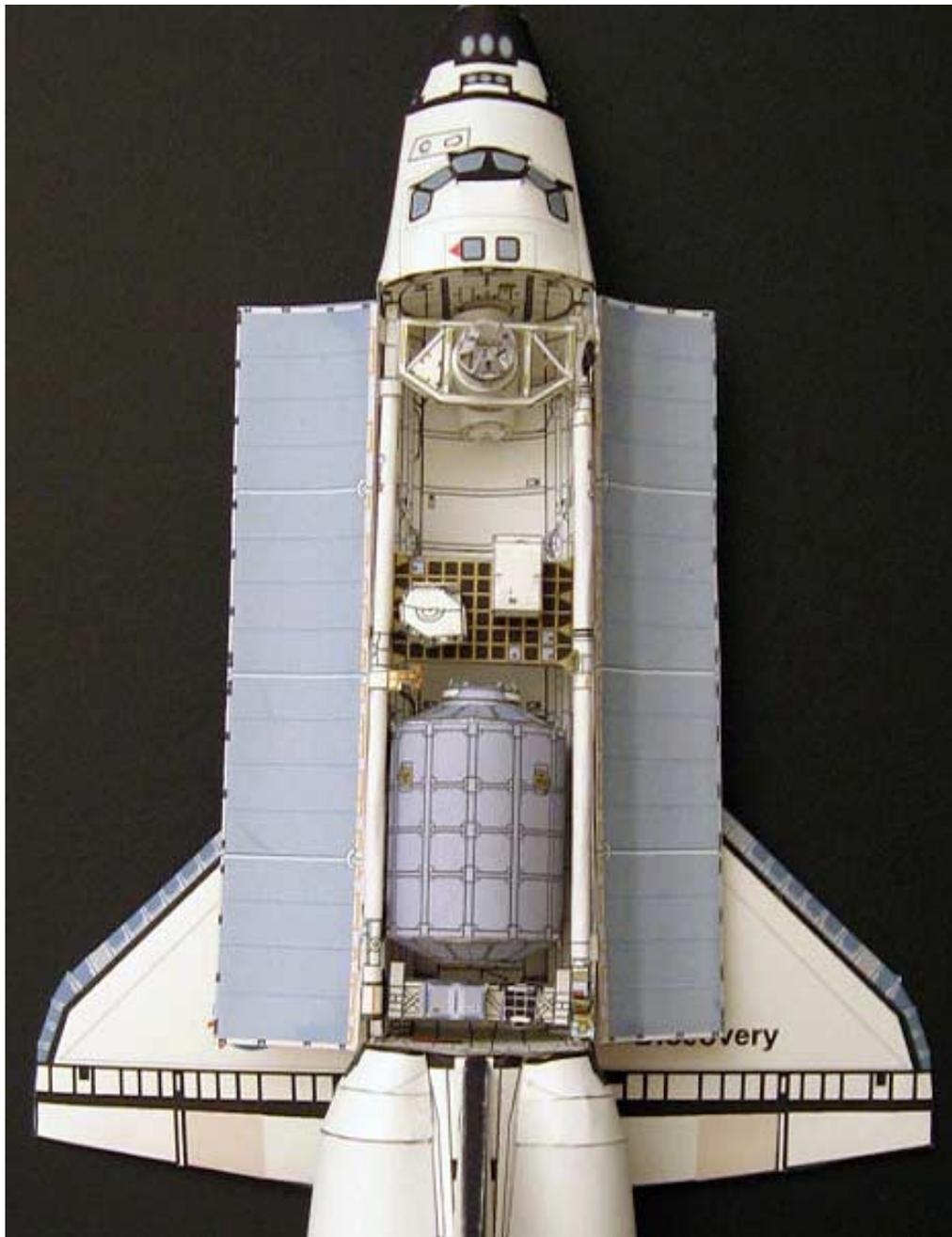


Note location of KU-band antenna that is glued on the tab from the right payload bay door.

More photos for reference:

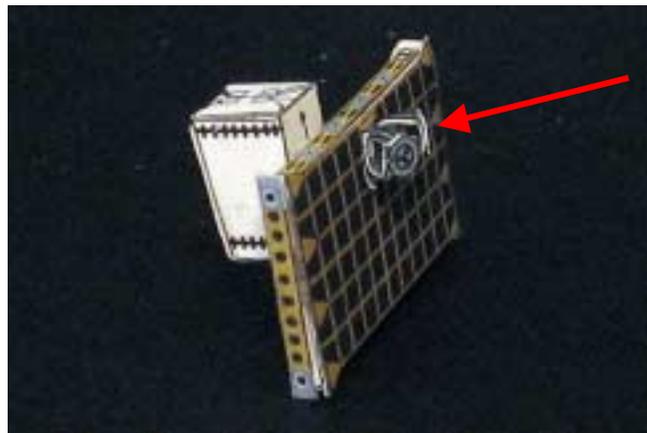
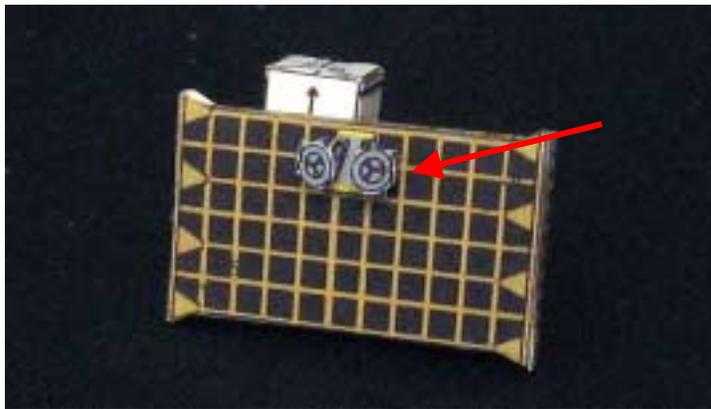
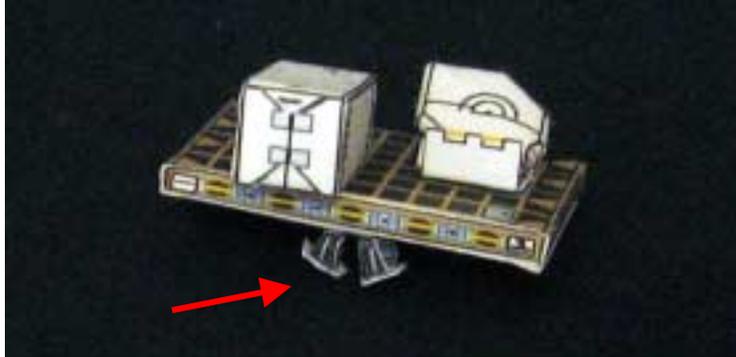






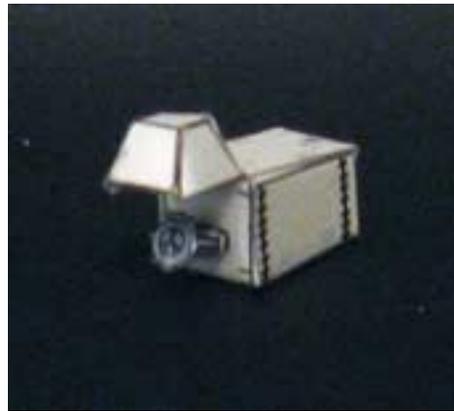
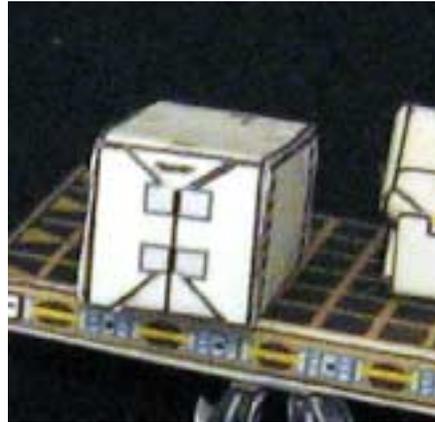
UPDATE

This payload has been revised due to new information. The information helped complete the underside of the Integrated Cargo Carrier, which has a new cargo, the **Fixed Grapple Bar** (arrow)
Also, the Pump Module has been redesigned and made more accurate.



The Pump Module

The Pump Module has 2 versions, the payload bay and space station versions. The one from the payload bay has a flat front side. The one from the space station version has an extension, which is actually a thermal blanket that covers the Fixed Grapple Bar fixed to the front end of the Pump Module.



Enjoy this model!

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