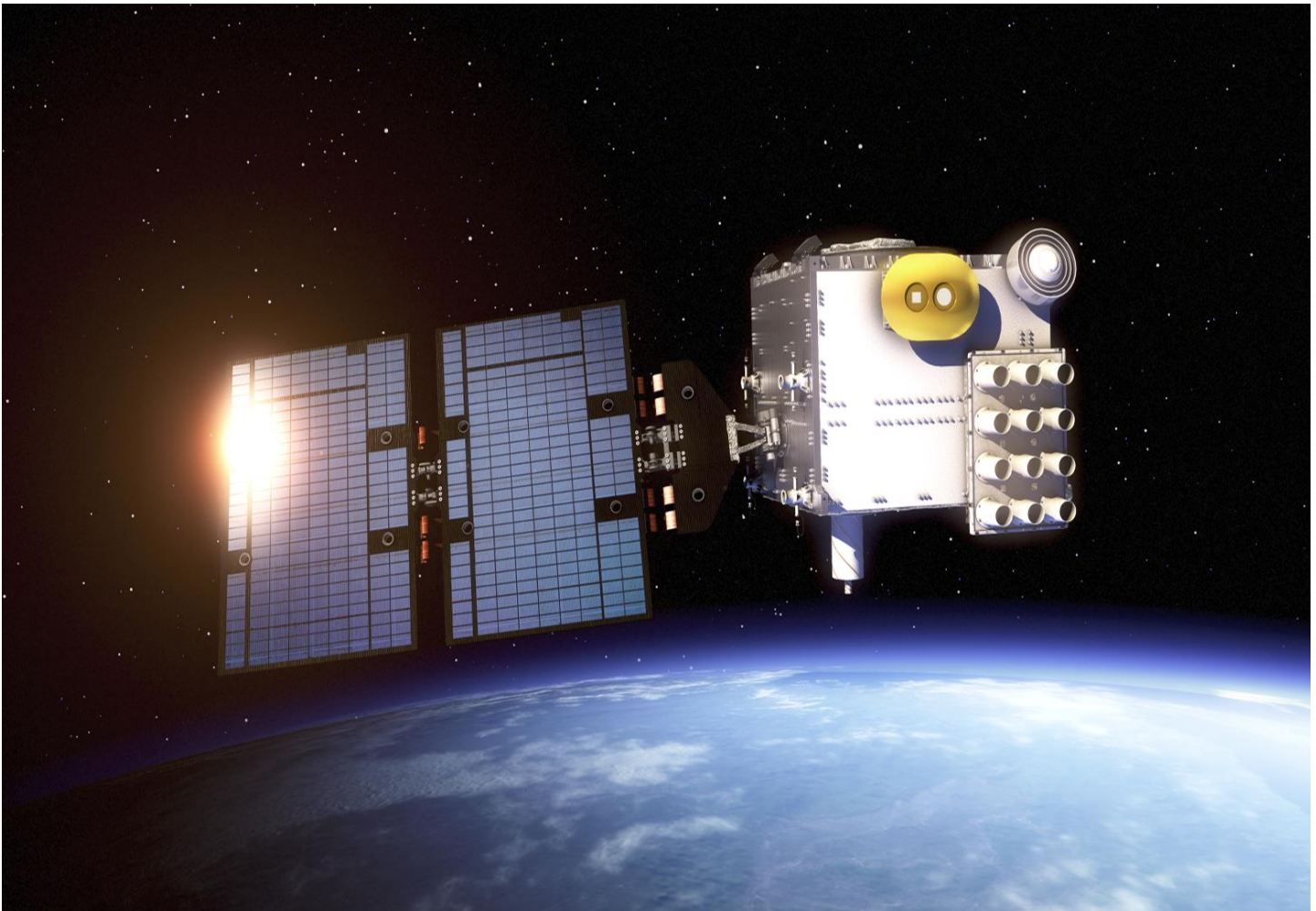
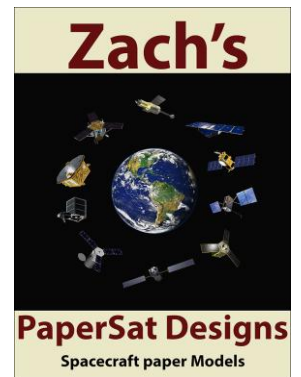


COSMIC-2

1/20 Scale Paper model Instructions



2 is glued on this side

1

9
Solar Panel
Side

Glue 7 and 9 to
cardstock to match
the real spacecraft.

7

Top

Small tab

Glue 9 on the side marked "9 solar panel side"
Then glue 7 as shown, bottom of 7 is equal to
bottom of the body, small tab hangs below it.

10

8

Glue 10 on the 2 tabs hanging from the sides.
Glow 8 onto the inner backsides.

Glue 3 TOP to
cardstock, glue on the
TOP, matching the two
black markers.

3a

Glue 3a to the underside
of 3 TOP.

20

Backside of 21

31

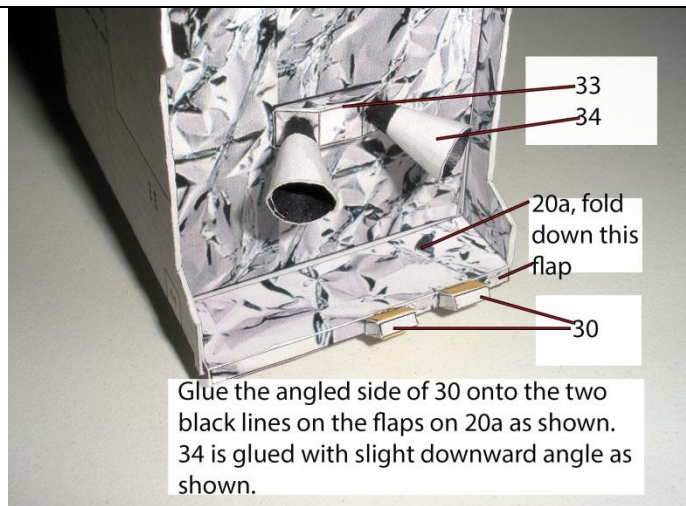
32

Optional Detail
Parts (25 - 27)

Optional Detail Parts 25-27:

Cut out the areas with the "X" from Part 21.
Cut 24 & 25 in half. Form on "X" on the open areas as
shown. This mimics the actual spacecraft underside.
Parts 31, 32 are internal supports.

Fold the 4 narrow sides down on 21 and glue it on the
colored side of Part 20 to form a skinny rectangle box.
Glue this to the bottom of the spacecraft, "X" area towards
the back end (foil side).



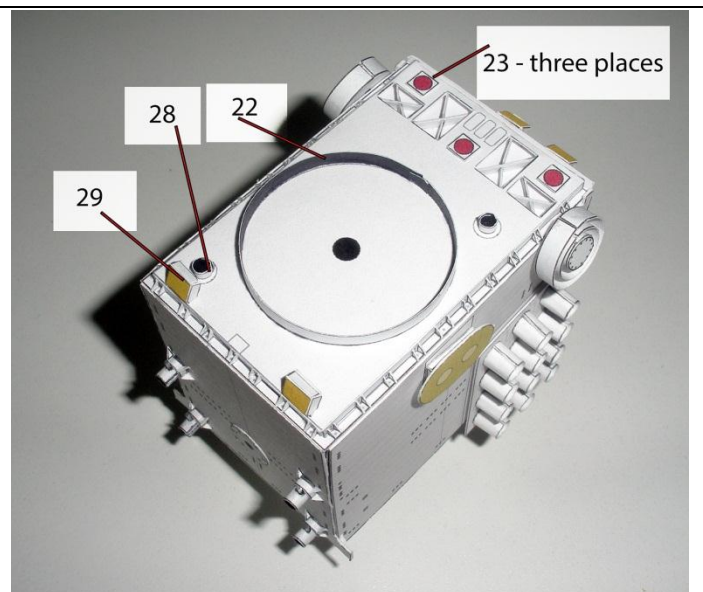
Score and fold the flap down on Part **20a**. Glue to bottom on the backside of the spacecraft.

Fold-glue **33**. Glue to the white area marked "**33**" on the backside of the spacecraft.

Color backside of **34** (Star Tracker) black.

Cut at slight angle on the small end of **34** and glue onto **33** with slightly downward angle while facing outward.

Angled side of **30** is glued on the black lines as shown, yellow side up.



Color backside of **22** and **28** black, roll to small rings. Glue **23** to cardstock.

Angled sides of **29** is glued to the black lines on the bottom

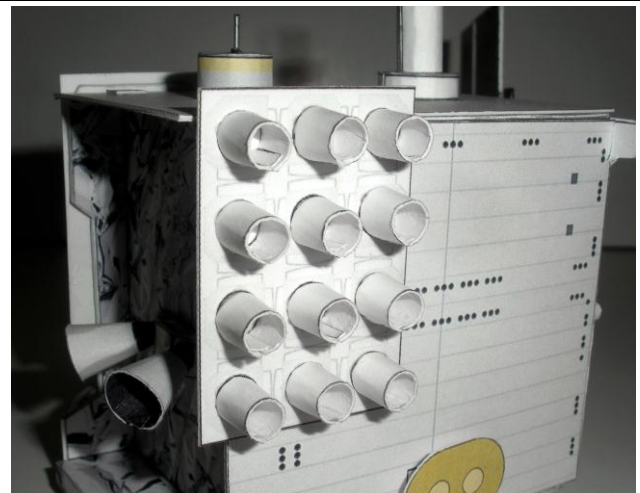
29 is the Sun Sensors (x2). 28 is the Umbilical Breakaway Connector (x2), 22 is the Separation Sys Passive Ring.

23 is the RX Antenna (x2), 23 (center) is the Low Rate TX Antenna.



BOTTOM Optional Detail Parts:

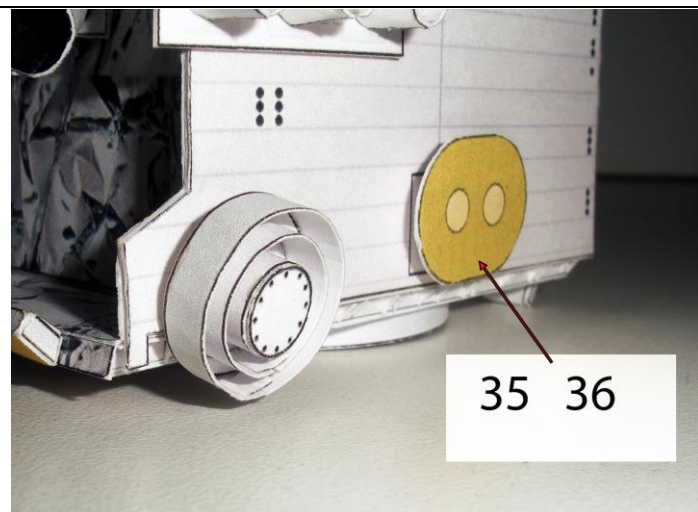
To add a nice detail look to your model, cut and glue 54 of these on the lines on the bottom ledge as shown. This mimics the actual spacecraft underside.



Glue Part **4** to thick cardstock, glue Part **5** to cardstock. Glue 4 to center backside of 5. Acts as a spacer which matches the real spacecraft.

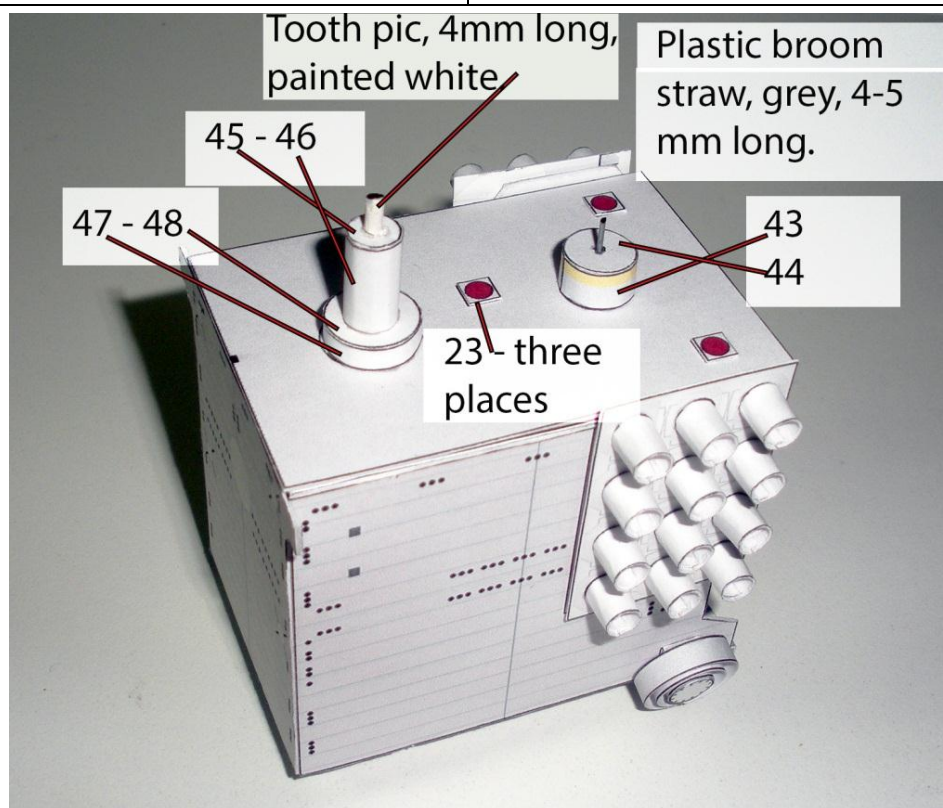
Roll **6** to cones and glue as shown. Make two of these. Glue onto the spaces marked "**4-5**" on both sides of the spacecraft as shown.

This is the RO or Radio Occultation receiver.



This is the POD (Precise Orbit Determination Antenna)

This is the IVM.



45-48 assembly is the RF Beacon Antenna. 43-44 is the High Rate Transmitter. 23 is the patch Antenna.

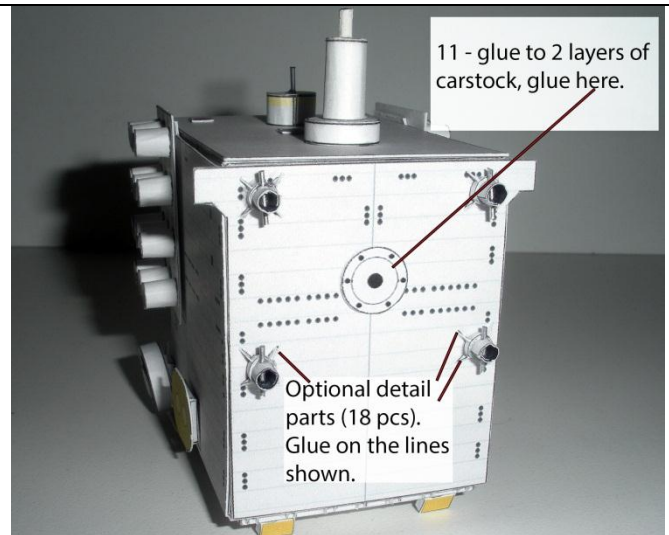


Color backside of **16** black.

Drill small holes on the black dots before cutting rolling 16 to a tube. Wrap **17** around the bottom of **16**.

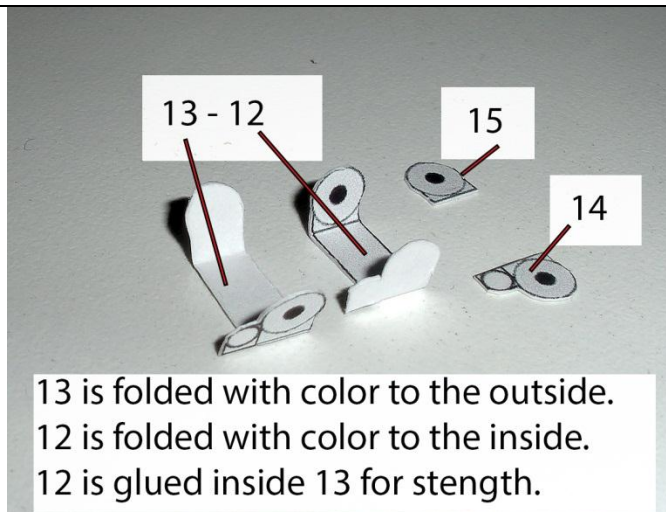
Cut a plastic broom straw the same length of the line on the parts sheet painted silver or grey. Slide through the holes as shown. Make 4 of these.

These are the Hold Down Releases on the spacecraft.



Glue the Hold Down Releases onto the white circles on the solar panel side as shown with the plastic broom straw part at the vertical (Up-down) position.

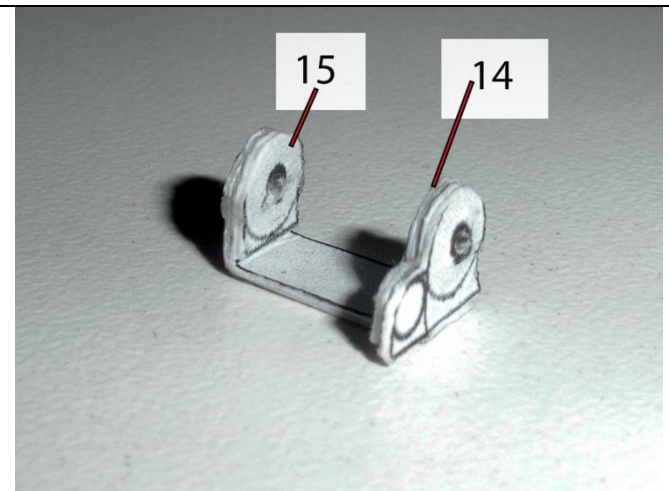
Glue **11** to **2 layers of cardstock**, glue as shown. Add the Optional detail parts on the lines around each release if desired.



Solar Array Drive Mechanism:

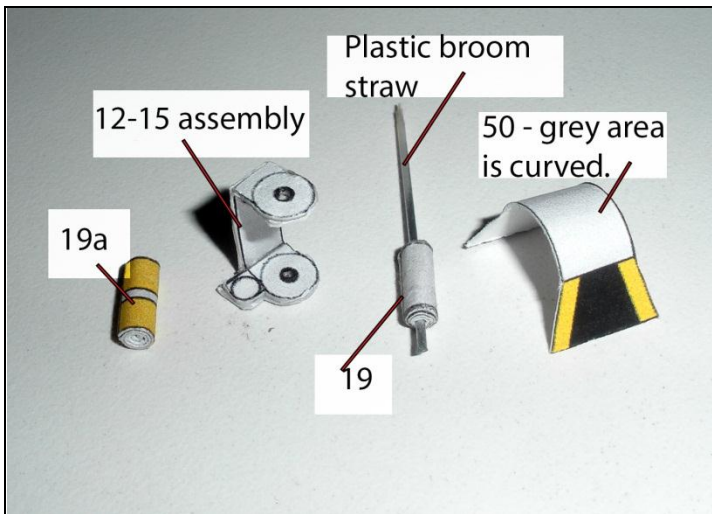
Optional, If you want the solar arrays to pivot, Drill small holes into the black dots on all the parts above before cutting, folding and gluing.

12 is glued on the **INSIDE** of **13** for graphics on the both sides and strength.



Glue **14-15** to cardstock, then glue them on the **INSIDE** as shown, this mimics the thickness of the drive on the spacecraft.

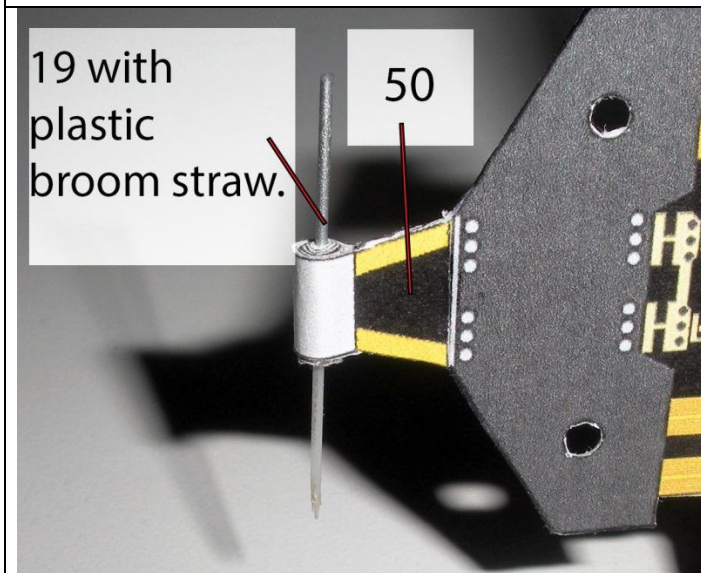
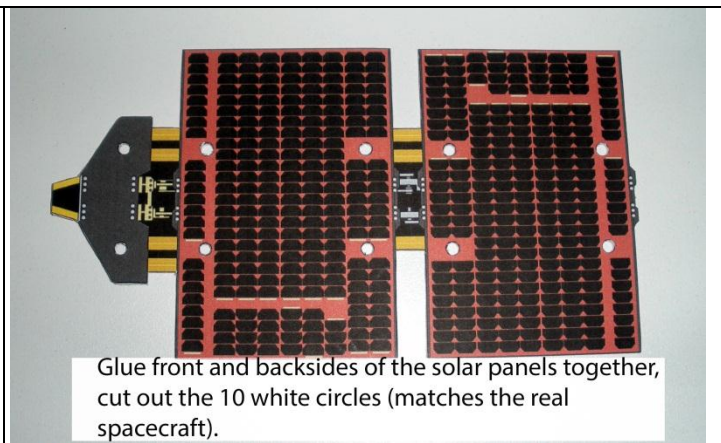
If desiring a pivoting solar array, re-drill the holes to remove any glue and to make sure you can place a shaft through them.



Wrap **19a** to a solid rod.

If going for a pivoting solar array, wrap **19** tightly around a plastic broom straw (or similar material) until you can just move the shaft up and down without much wiggle room.

Grey area on **50** is curved.

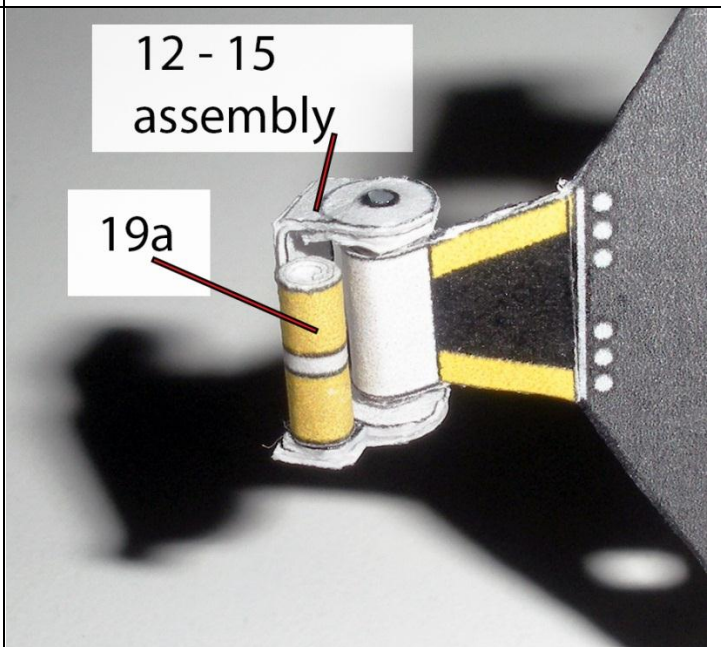


Glue the yellow-black end of **50** to the matching graphics on the solar array as shown.

Apply glue to **19** and wrap the grey area of **50** around it. Then glue the other end to the matching graphics on the backside of the solar array.

If desiring a pivoting solar array...

Remove the shaft so you can install the 12-15 assembly. Insert 19 into the 12-15 assembly, insert the shaft until it goes through and out the other end.



Pull the shaft (Plastic broom straw or similar material) until it flushes with the bottom. Apply glue to hold in place.

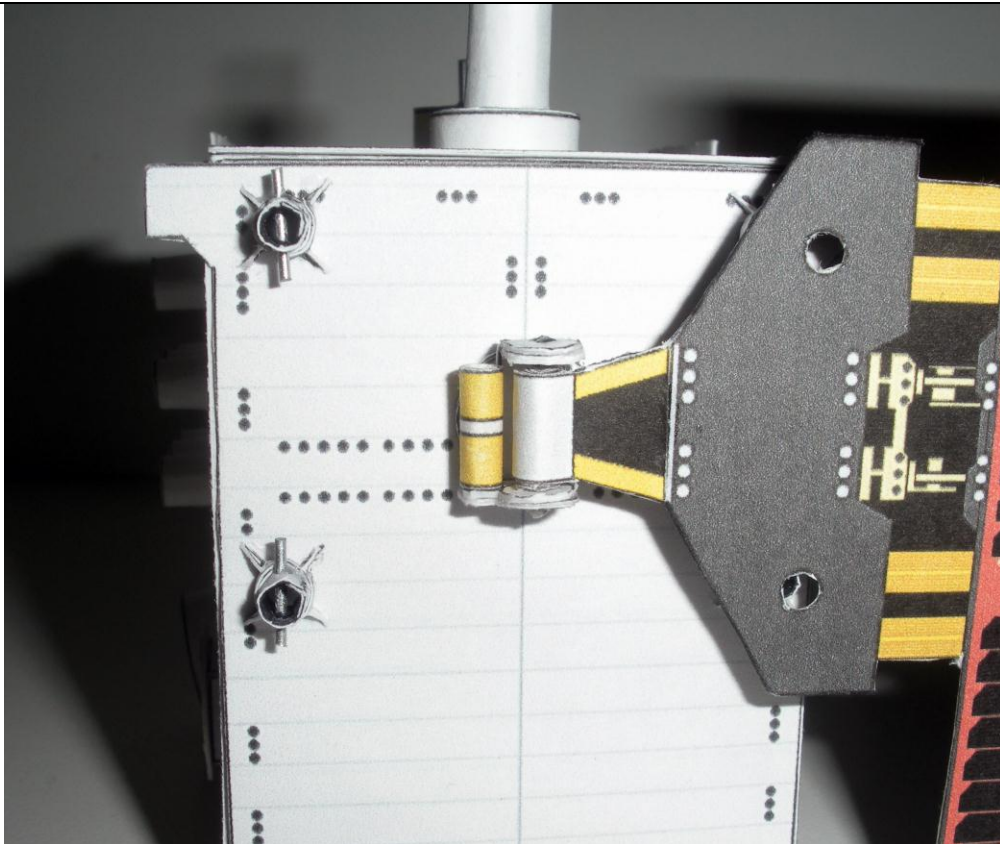
Cut off the remaining shaft from the other end, apply glue to keep the shaft from moving out of the assembly and should hold everything together.

Glue **19a** to the small circle as shown

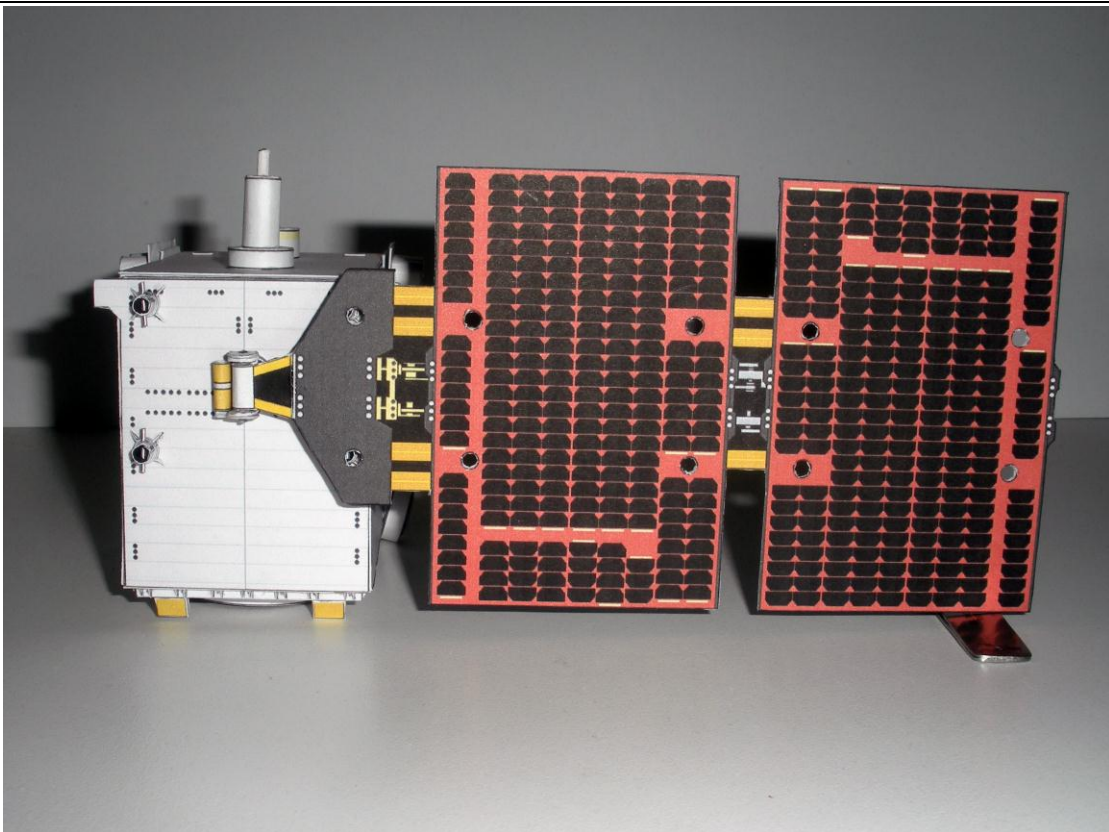
This is the completed Solar Array Drive Mechanism.

If not using a shaft for a pivoting solar array:

Glue the 12-15 assembly the same position as shown below or at any position you desire.



Glue this onto the spacecraft as shown. The solar array should pivot around to the other side Which mimics the real spacecraft.



Congrats, your model is complete.

