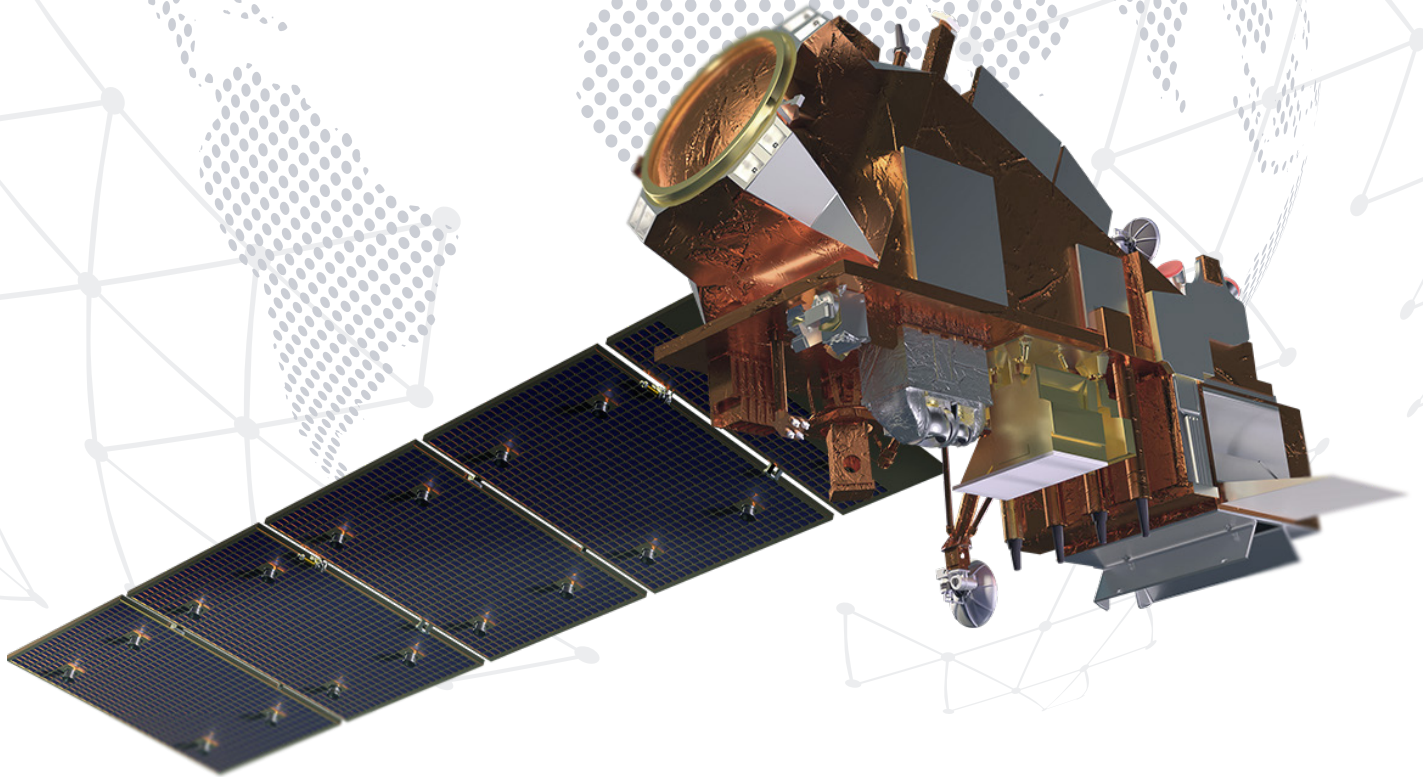


JPSS-2

JOINT POLAR SATELLITE SYSTEM



Construct a 3D Paper Model

The Joint Polar Satellite System (JPSS) is a series of polar-orbiting environmental satellites. JPSS satellites circle Earth from pole to pole and cross the equator 14 times daily—providing full global coverage twice a day. The next satellite in the constellation, JPSS-2, will continue to provide critical climate information that informs models for weather forecasting, tracks smoke from forest fires, predicts severe weather, monitors air quality and droughts, alerts scientists to harmful algal blooms in the ocean, and contributes to food security worldwide.

JPSS-2 carries four instruments that collect information: the Advanced Technology Microwave Sounder (ATMS), the Cross-track Infrared Sounder (CrIS), the Visible Infrared Imaging Radiometer Suite (VIIRS), and the Ozone Mapping and Profiler Suite (OMPS).

This activity will allow you to fold and assemble your own JPSS-2 model using simple household supplies.

Materials Needed

- Tape or craft glue
- (Optional) a metal ruler or straight edge for creating crisp folds.

Guidelines

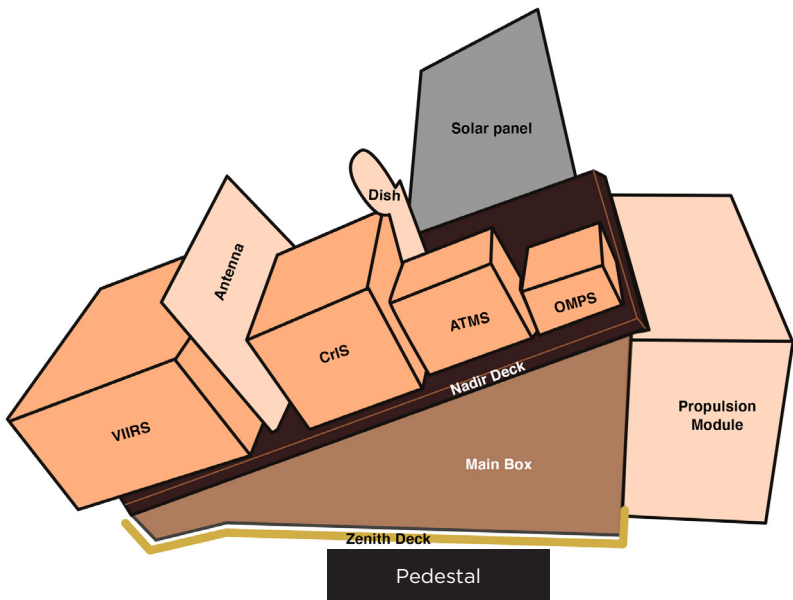
Yellow lines indicate fold lines, where the model should be folded. White areas are tabs. Pieces are labeled with component’s names.

Tips

Pieces are directional. Make sure the pieces are facing the correct direction—match up the blue triangles—before applying glue or tape. Don’t use glue sticks. While using glue will lend for a polished model with cleaner seams, double-sided tape can be efficient and make for a stronger model.

Overview

1. Gather your materials.
2. Look over the model and general placement of components.
3. Carefully pop-out all of the pieces.
4. Fold along all of the yellow lines before assembling.
5. Assemble each component with glue or tape. See instructions for details.
6. As you attach the components to each other, refer to the blue triangles for positional alignment.
7. Build the pedestal for your JPSS-2 model to rest upon.



THE COMPONENTS

- Solar Panel
- Zenith Deck
- Nadir Deck
- Main Box
- Antenna
- Dish
- Propulsion Module
- Pedestal

INSTRUMENTS

- VIIRS
- CrIS
- ATMS
- OMPS

Instructions

1. Pop out the pieces.

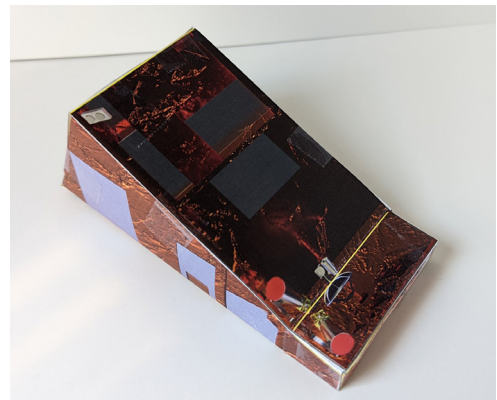
Begin folding and assembling the **Propulsion Module** and all of the instruments using tape to create the shapes. Make folds along all of the yellow lines. It can be helpful to crease all of the folds before attempting to form the shape. If there are double lines, fold along both of them.

2. Assemble the **Main Box**.



3. Attach the **Zenith Deck** to the bottom of the **Main Box**.

Wrap the Zenith Deck piece along the bottom contour of the Main Body. Tuck the Zenith Deck Back tab under the Propulsion panel. Tape both ends to secure.



4. Insert the **Dish** and **Antenna** into the pre-cut slits on the **Nadir Deck**.

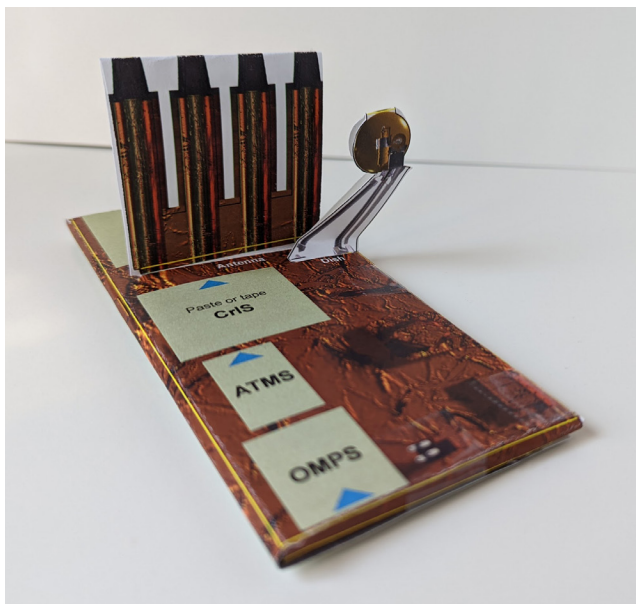
Flip the Nadir Deck over.

Secure the Antenna and Dish by taping the tabs flat onto the Nadir Deck.



5. Finish assembling the **Nadir Deck**.

Fold in the tabs, and finally seal the large tan flap, labeled, "Nadir Deck" to complete the component. The Nadir Deck should be a thin box when it is folded correctly.

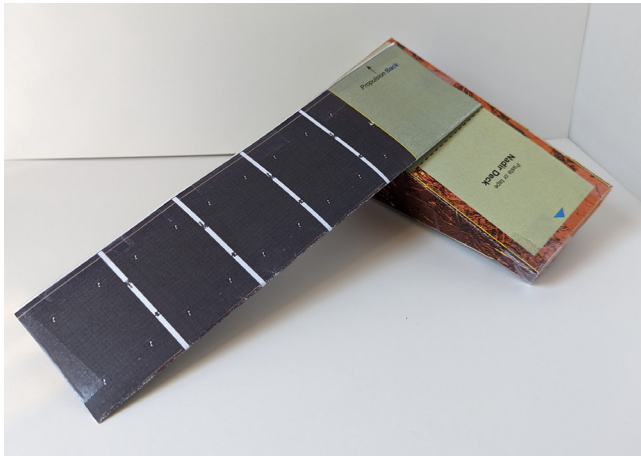


6. Attach the **Solar Panel** to the footprint for the **Nadir Deck**.

Fold your solar panel and then seal the edge of your solar panel closed.

Attach the solar panel to the indicated footprint on the Nadir Deck.

Make sure to align the blue triangles before attaching. The solar panel will hang off the side.

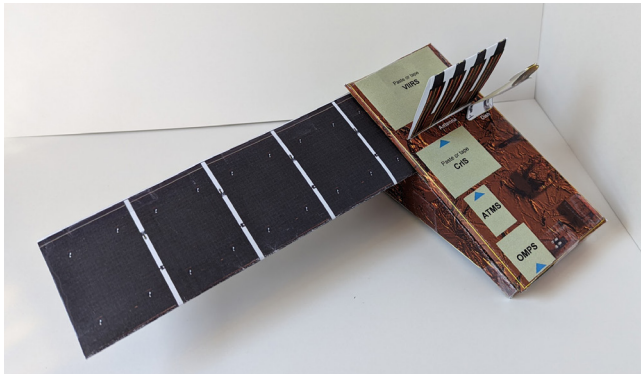


7. Attach the finished **Nadir Deck** on top of the **Main Box**.

Attach the bottom of the Nadir Deck (tan area) to the Nadir Deck footprint.

Align both panels' blue triangles before attaching.

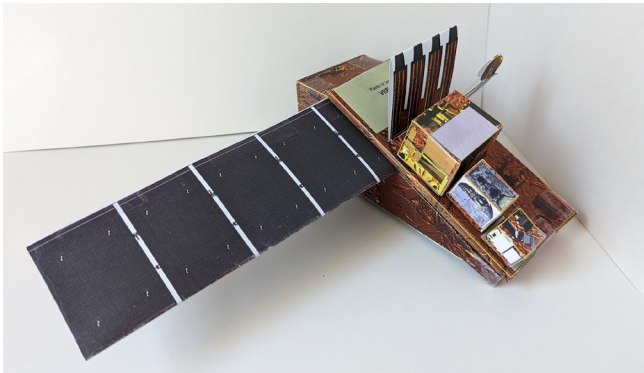
The solar panel is now “sandwiched” between the Nadir Deck and the Main Box.



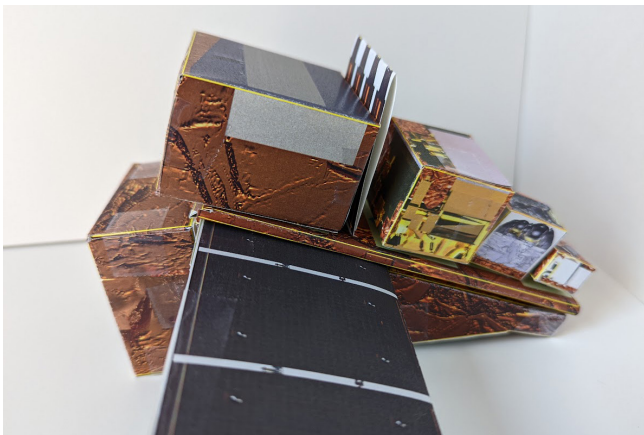
8. Attach the **Propulsion Module** to the back of the **Main Box**.



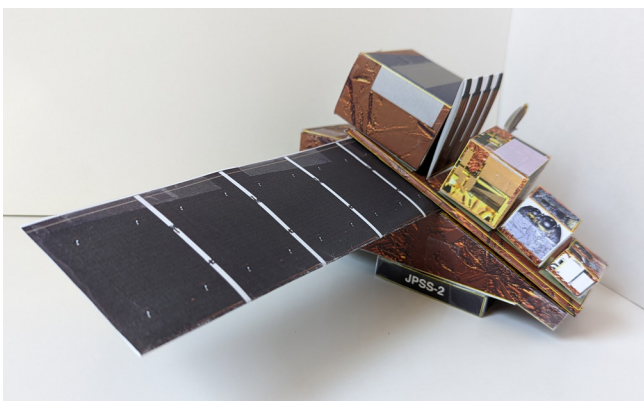
9. Attach the **ATMS**, **CrIS**, and **OMPS** to the labeled footprints indicated on the **Nadir Deck**.
Don't forget to align the blue triangles before attaching.

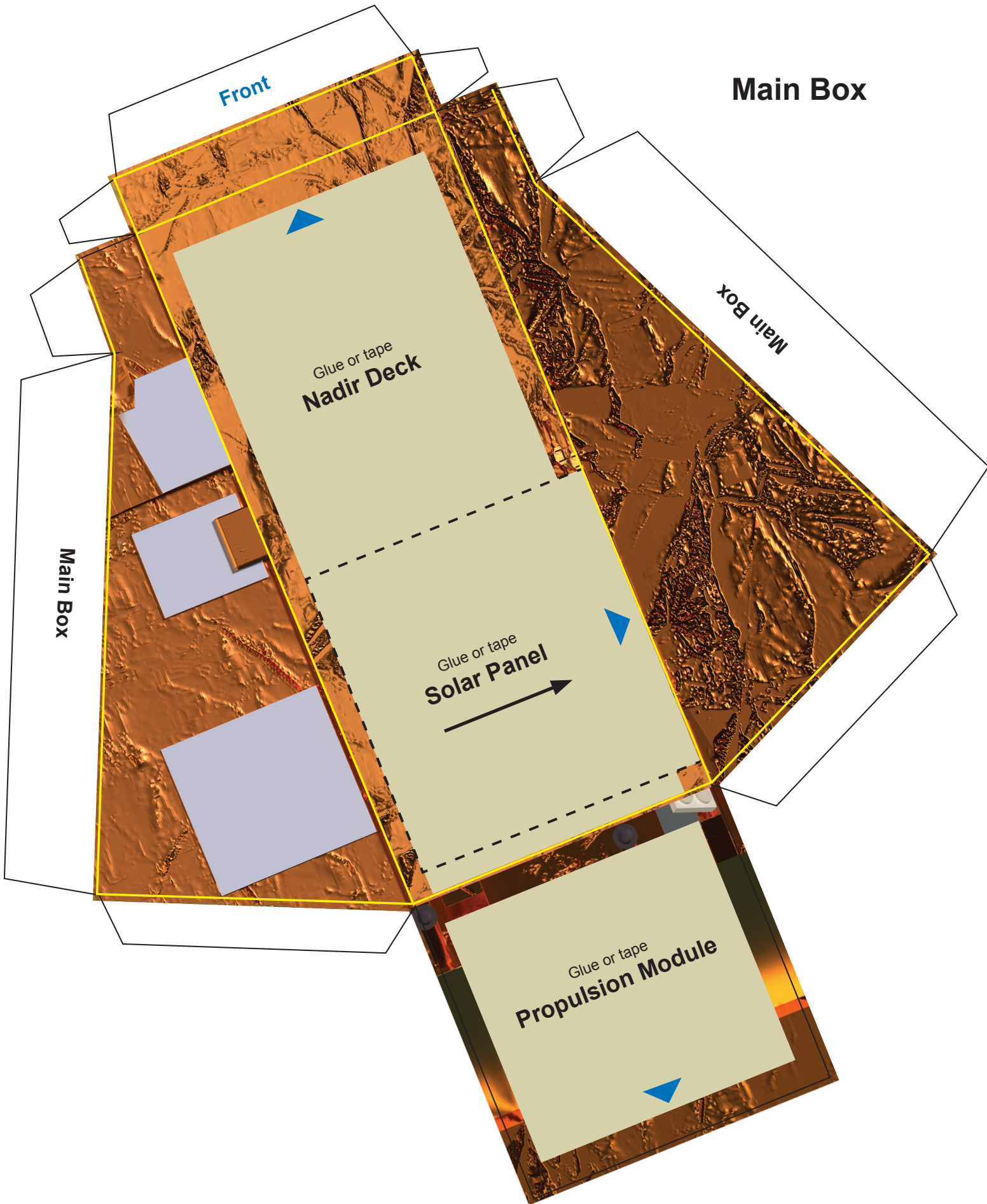


10. Attach **VIIRS** so that a portion of the cube is attached to the **Nadir Deck** where indicated and the other part of it is floating.

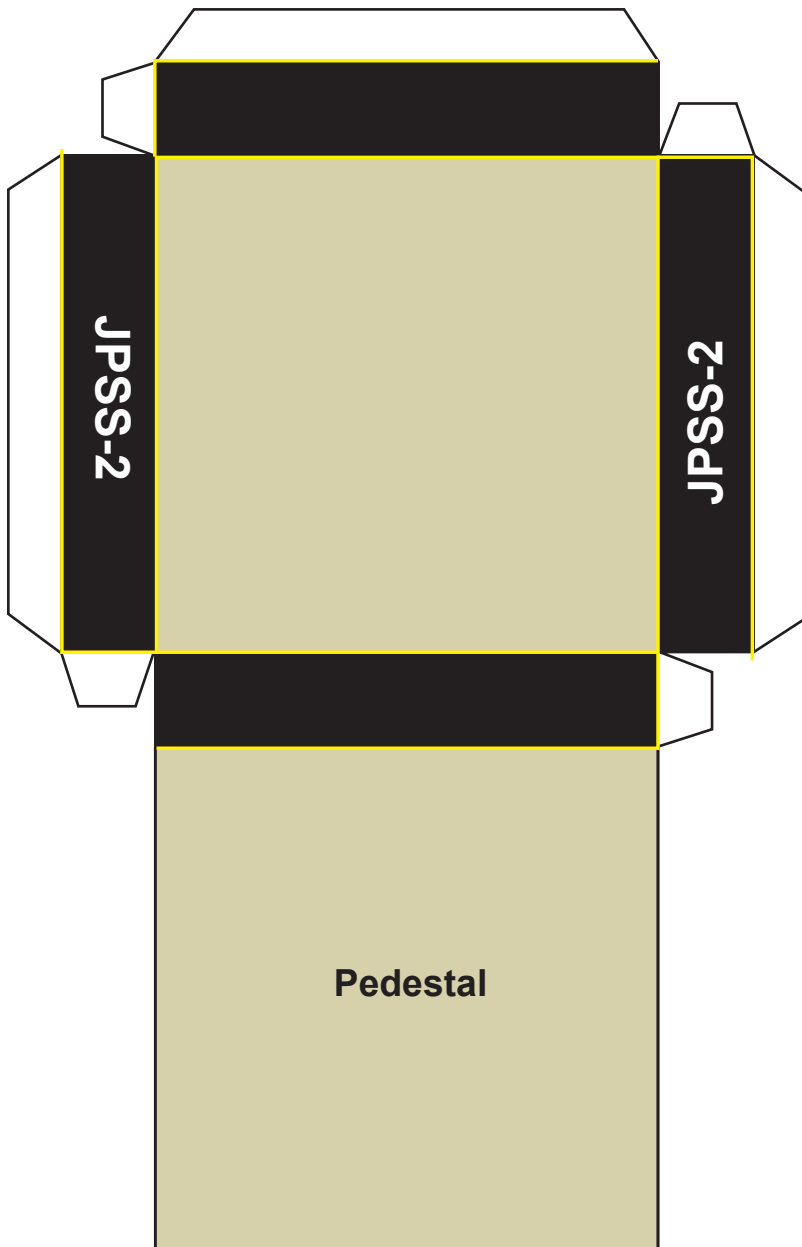


11. Assemble the **Pedestal** and set your completed spacecraft on the stand.





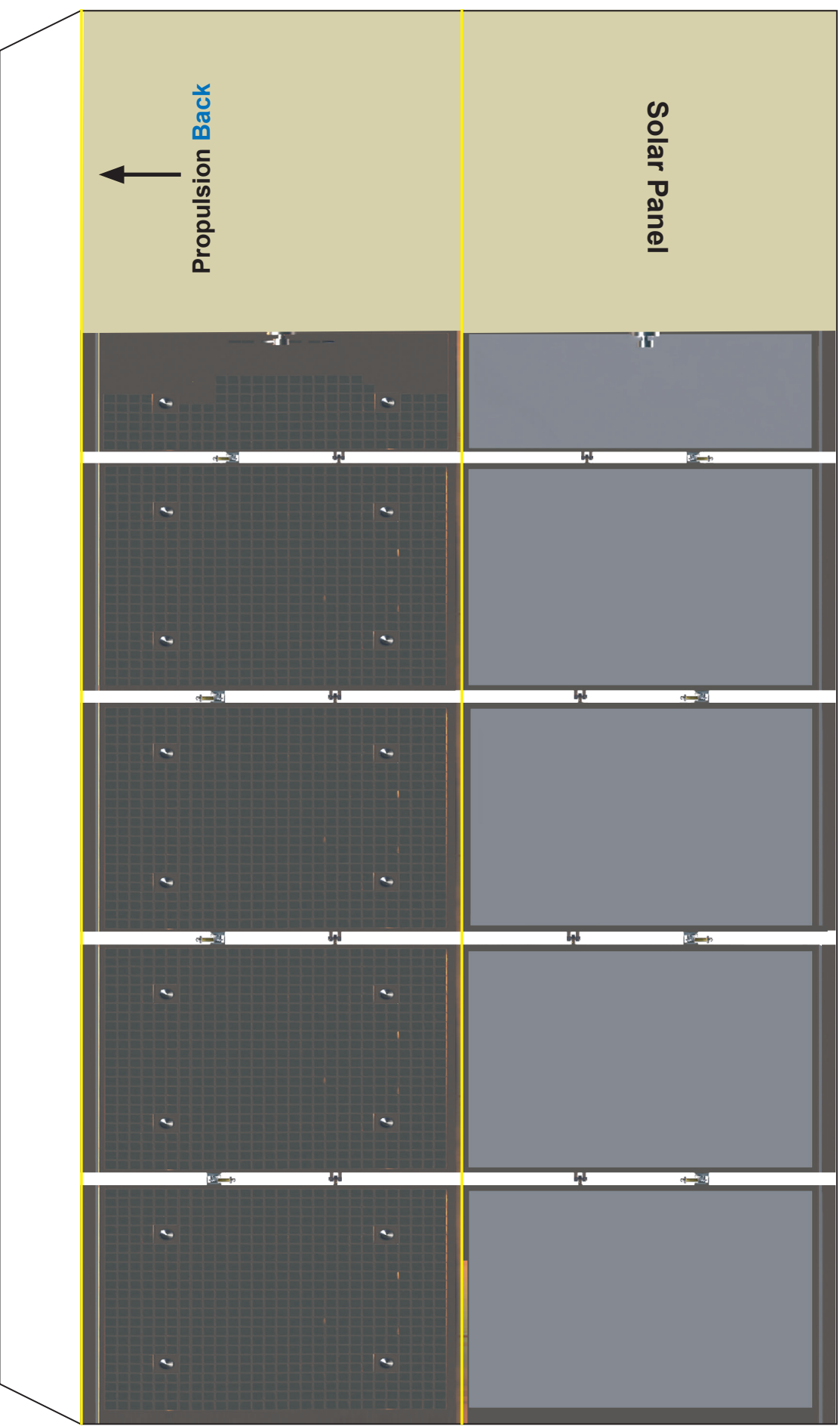
Pedestal



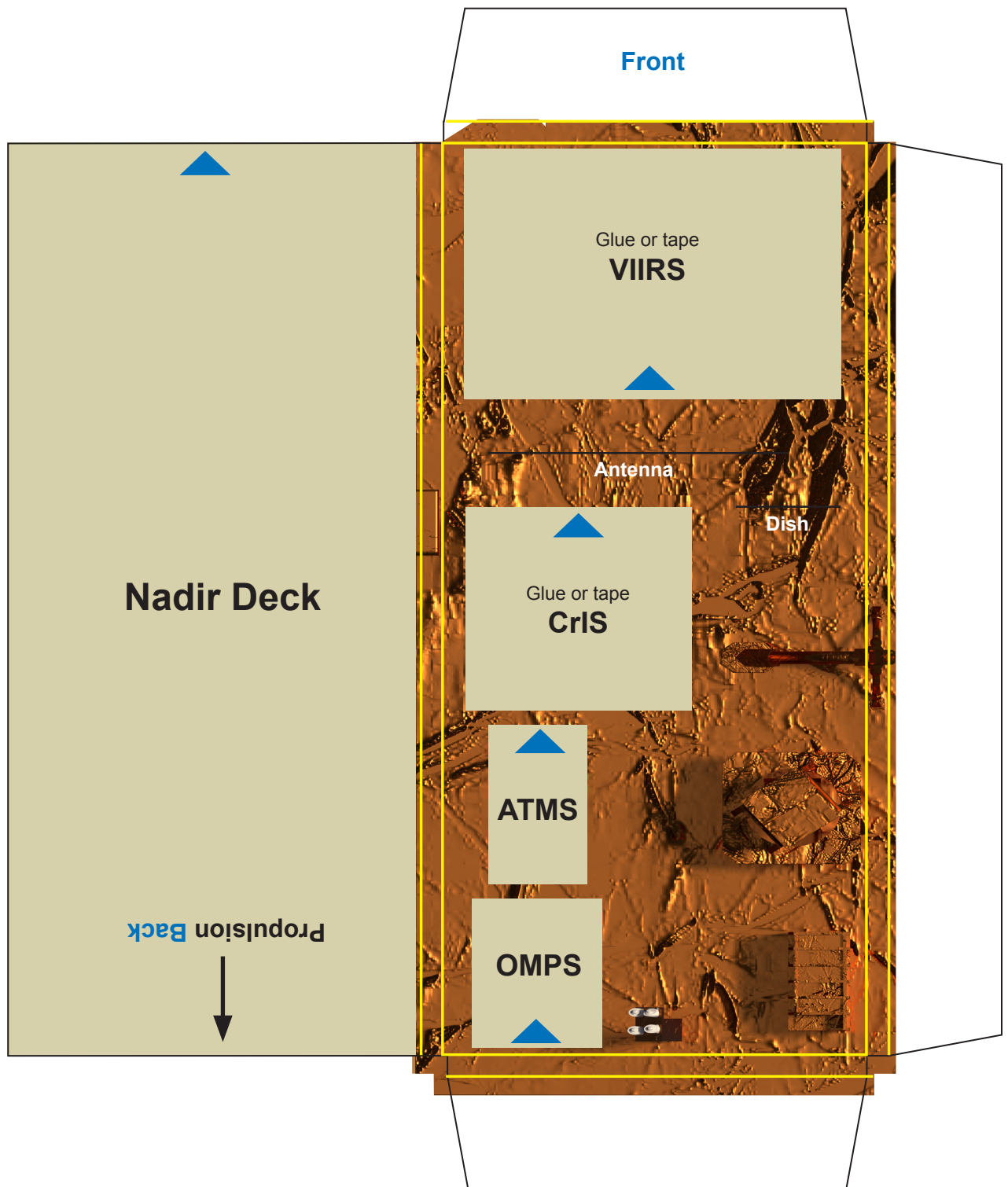
Zenith Deck

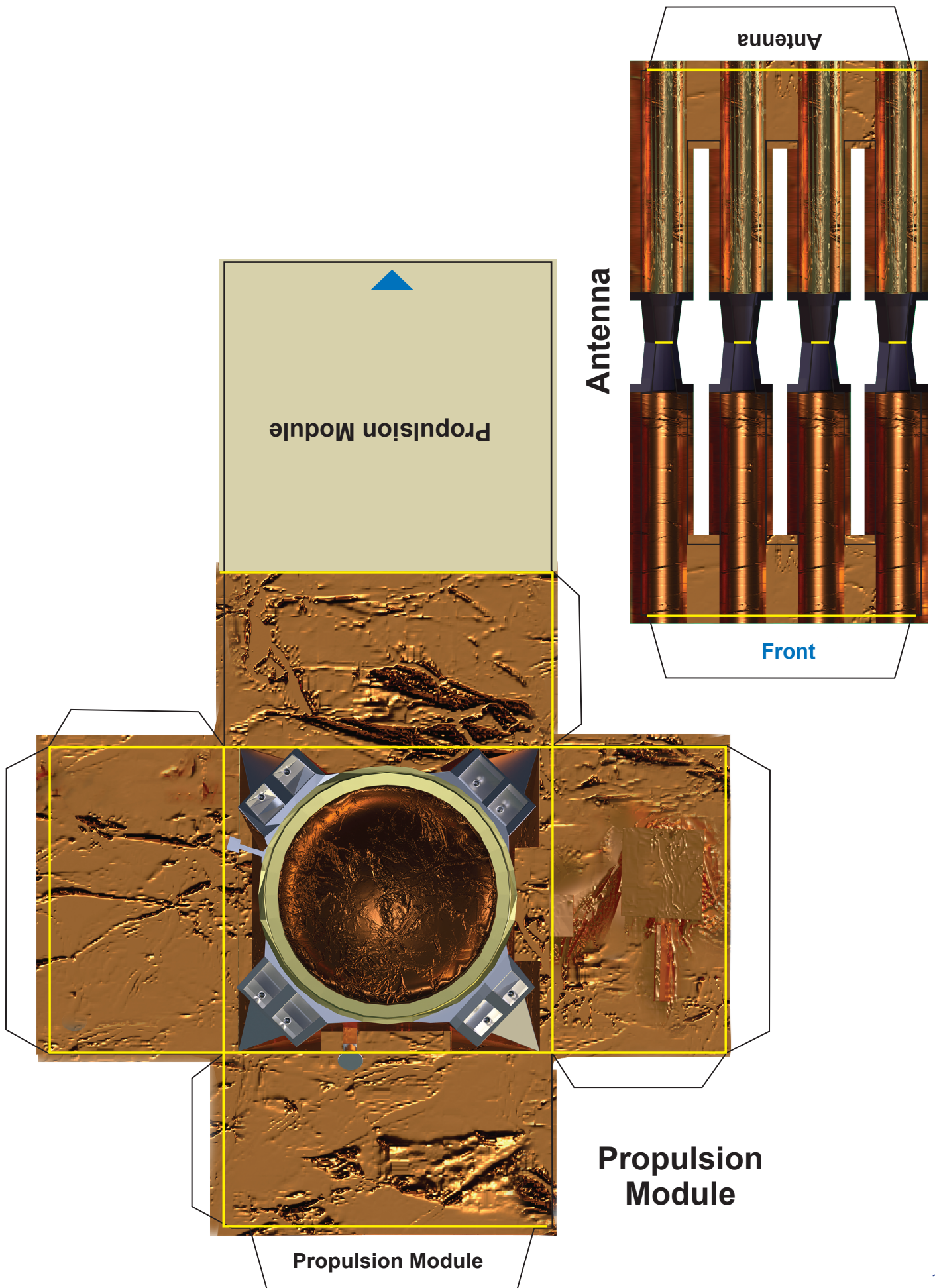


Solar Panel

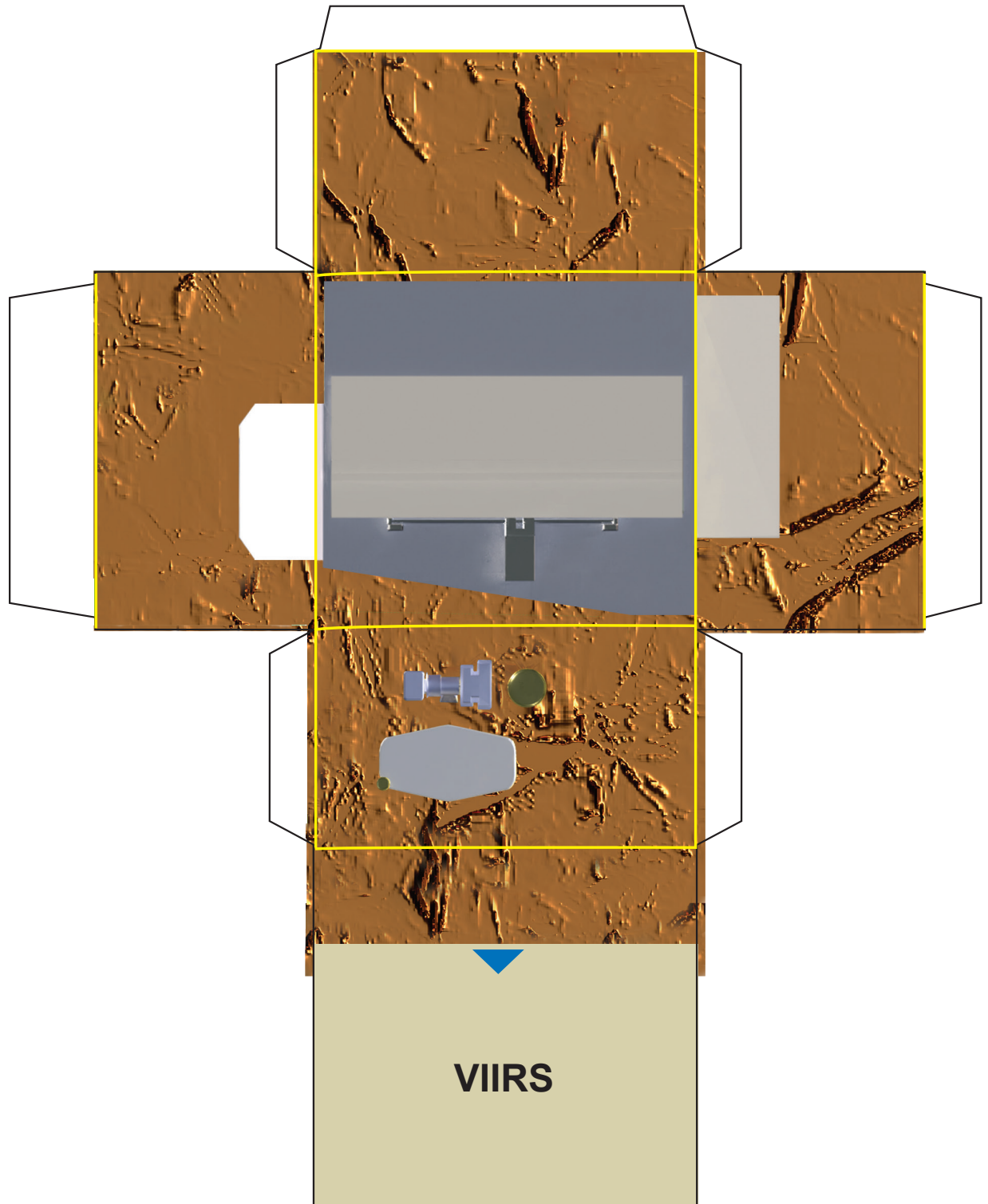


Nadir Deck

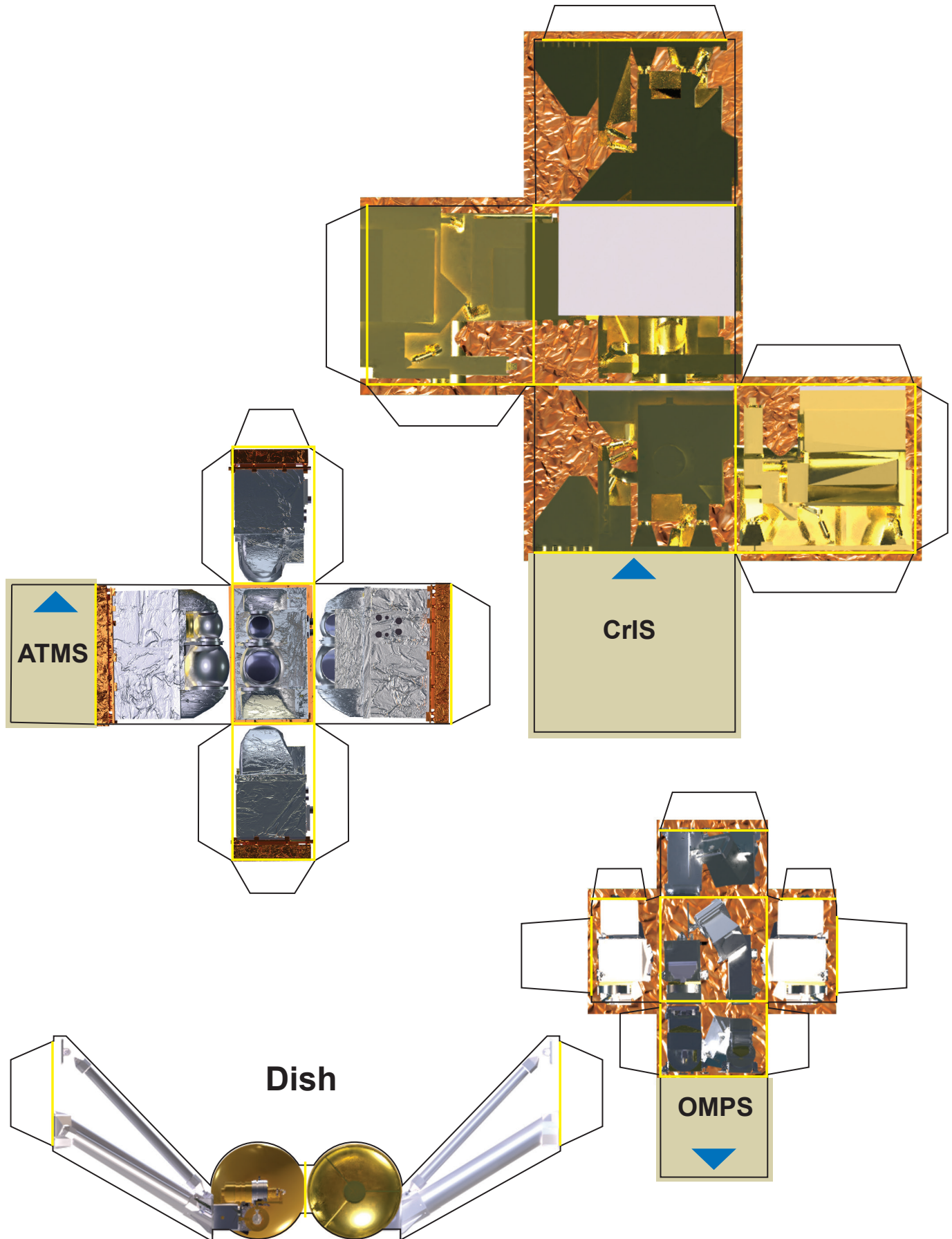




JPSS-2 Instruments



JPSS-2 Instruments





For more information on the JPSS mission:
www.nesdis.noaa.gov/jpss

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The Joint Polar Satellite System (JPSS) is the Nation's advanced series of polar-orbiting environmental satellites. JPSS represents significant technological and scientific advancements in observations used for severe weather prediction and environmental monitoring. These data are critical to the timeliness and accuracy of forecasts three to seven days in advance of a severe weather event. JPSS is a collaborative effort between NOAA and NASA.