



Joint Polar Satellite System-1 (JPSS-1)

1/22 Scale Detailed Model



Hurricanes, tornadoes, blizzards, heat waves!

Extreme weather events have pummeled the United States the past few years. We rely on satellites orbiting Earth to predict and track these events, as well as monitor Earth's global climate.

Using its five instruments, the JPSS-1 spacecraft gathers vital images and data for weather forecasting and climate modelling. Ball Aerospace designed and built OMPS, the instrument that measures stratospheric ozone. Ball also designed and built the spacecraft bus, the main structure that powers the instruments and transmits data to and from Earth.

In 2017, JPSS-1 was launched from Vandenberg Air Force Base in California. The spacecraft travels about 16,600 mph, in a polar orbit 512 miles above Earth.

Build your own JPSS-1 with this realistic model kit. It requires some patience, but it's actually fairly easy to build.



Learn more at:
www.jpss.noaa.gov
www.ball.com/aerospace

GO BEYOND.®

General Instructions

Number/Color Code

- Parts are numbered in sequence of assembly.
- **Black** denotes the part.
- **Blue** indicates where to glue one part to another.

Line Code

Cut here (part outlines)

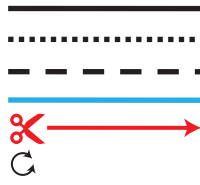
Score and **Mountain Fold** (bend down) - 

Score and **Valley Fold** (bend up) - 

Location of an attaching part

Cut **into** part here

Roll or curve part



Tools You'll Need

- Small scissors (for cutting all curved lines)
- A hobby knife with a new blade (required for cylinders)
- A scribe, ball-point pen, small knitting needle or large smooth sewing needle (for scoring folds)
- A metal-edged ruler
- A cutting board, if using a hobby knife (tagboard or cardboard is OK)
- Dowel or round pencil; table edge is OK (for forming curved parts)
- Rubber or foam pad (for forming curved parts)
- Tweezers (for holding and bending small parts)
- White glue
- Toothpicks (for glue applications)

Procedure

1. **Score** each part before cutting out.
2. **Cut out** and assemble in numerical sequence.
Caution: Hobby knives are extremely sharp!
3. **Fold** parts as instructed by line code.
4. **Checkfit** each part before gluing, matching alignment as indicated.
5. **Assemble** using minimal glue; wipe off excess.

Forming the Parts

Scoring

Always score a part before you cut it out! Scoring slightly weakens the paper so you can make perfect folds. To score, line up a metal-edged ruler with a score line. Then use a scribe or other round-tipped tool to firmly draw along the ruler.

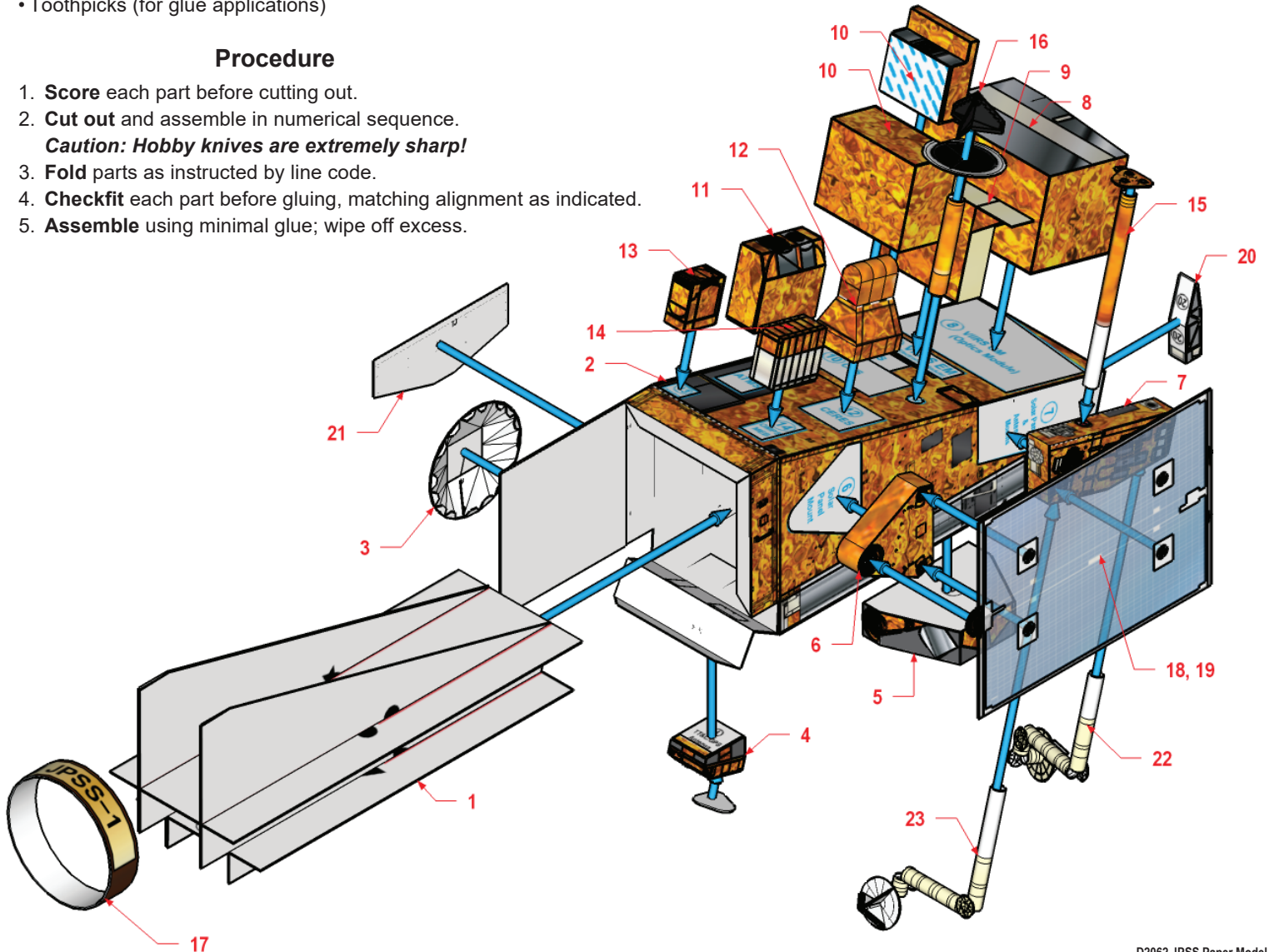
Making Cylinders

Glue tabs or strips should remain attached during forming. To form a cylinder, tightly roll the part around a slender dowel, skewer, or knitting needle. Before gluing, check the holes and tubes for a good fit.

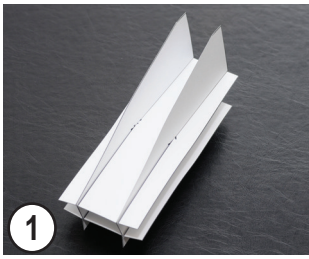
Drinking straws cut to size will also work.

Gluing

It is best to use glue very sparingly; too much results in warping and excessive drying times. Use a toothpick with a small puddle of glue on scrap paper. Do not try to glue too much at a time on any part. Glue only 4 or 5 tabs at a time, and let them dry before moving on.



Finished JPSS-1 Model Parts



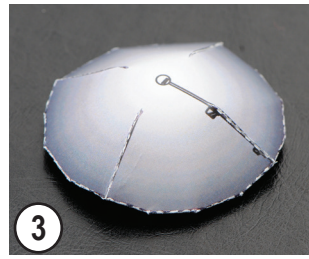
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Internal Support Structure



2

Bus



3

Propulsion Tank



4

TT&C/GPS Antenna



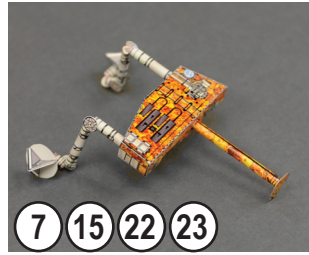
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Star Trackers



6

Solar Panel Mount



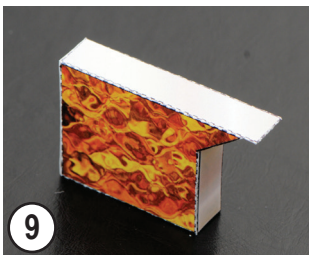
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Solar Panel & Antenna Mounts, and Antennas



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VIIRS Optics Module



9

VIIRS Electronics Module



10

CrIS



11

ATMS



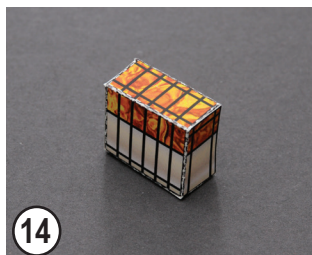
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CERES



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OMPS



14

OMPS Main Electronics Box



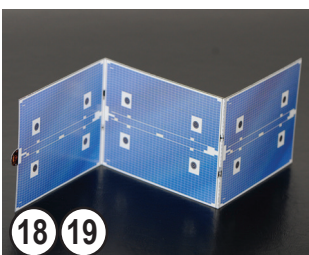
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HRD Antenna



17

Model Stand



18 19

Solar Array



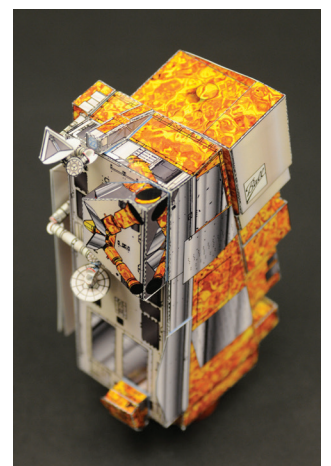
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Ka Antenna 2 Mount



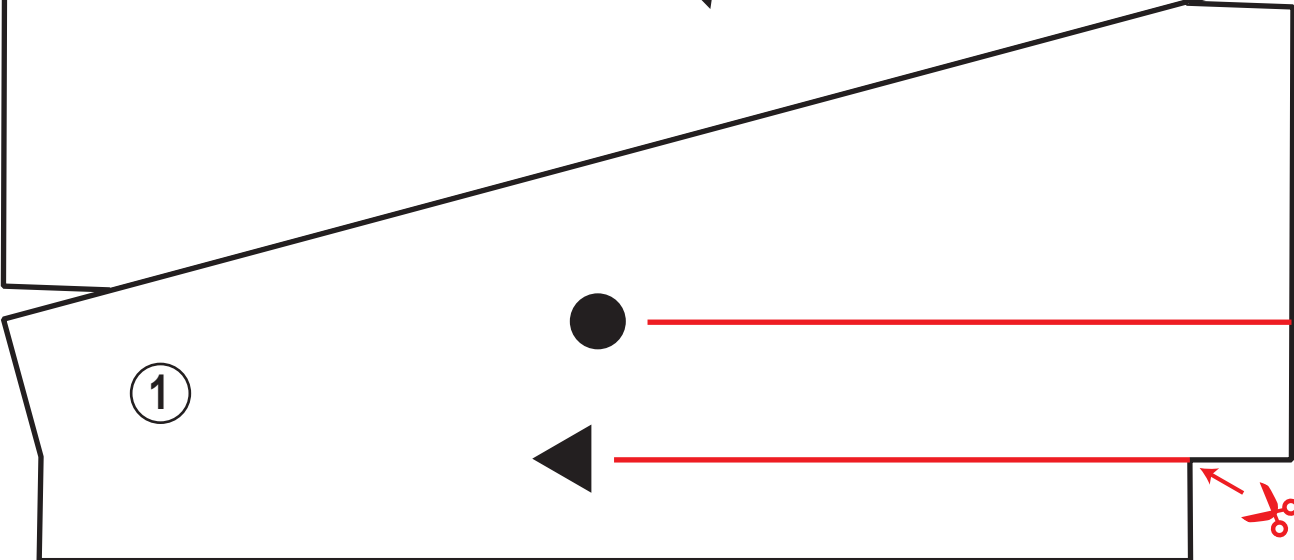
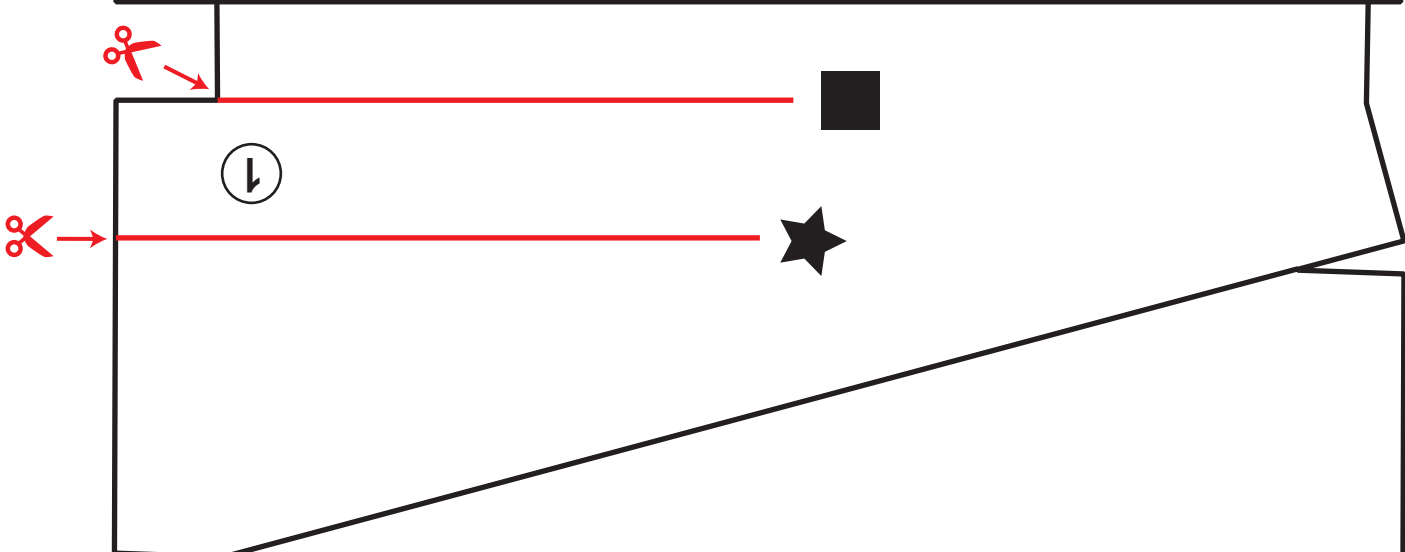
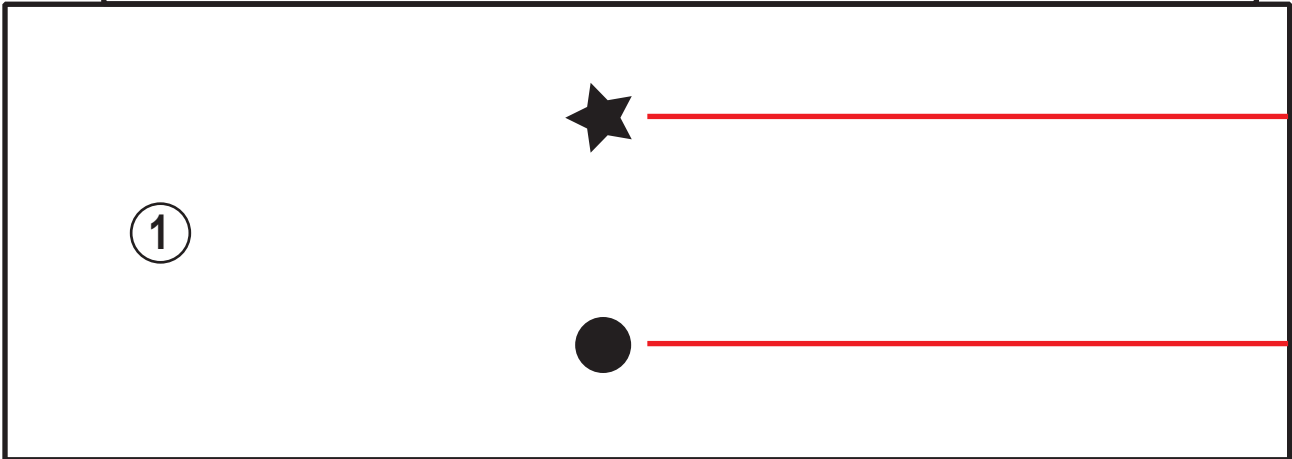
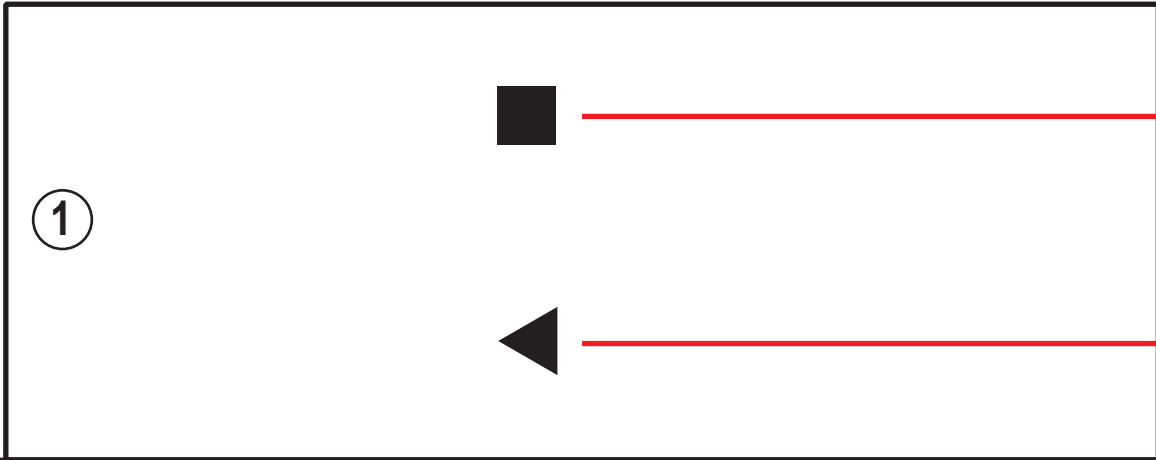
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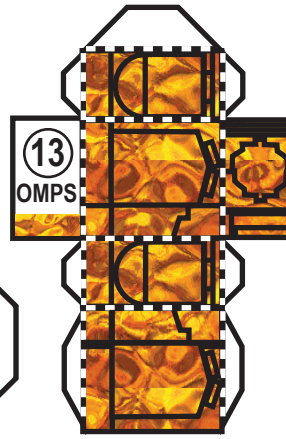
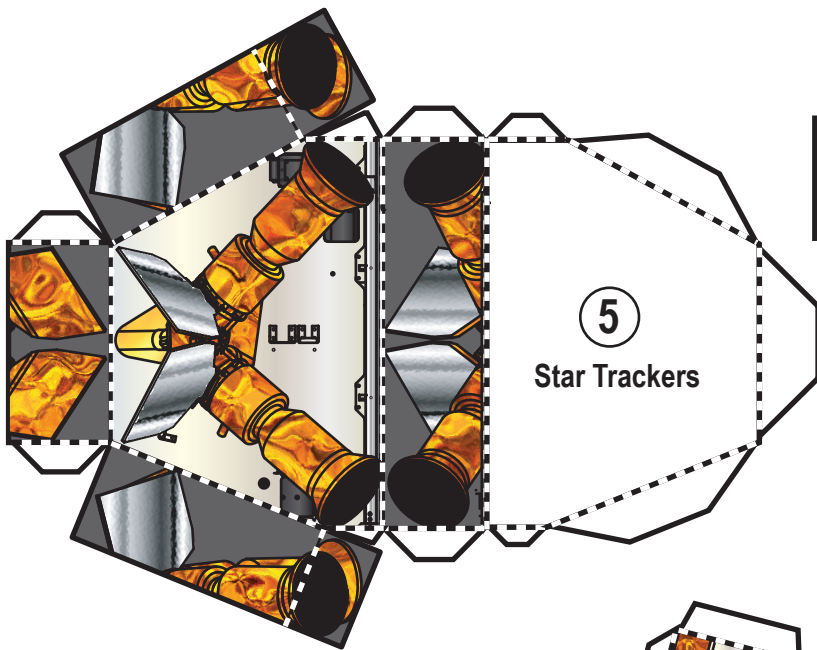
Thermal Radiator



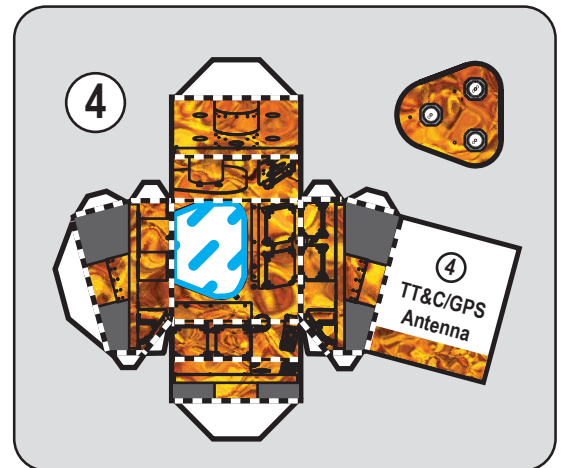
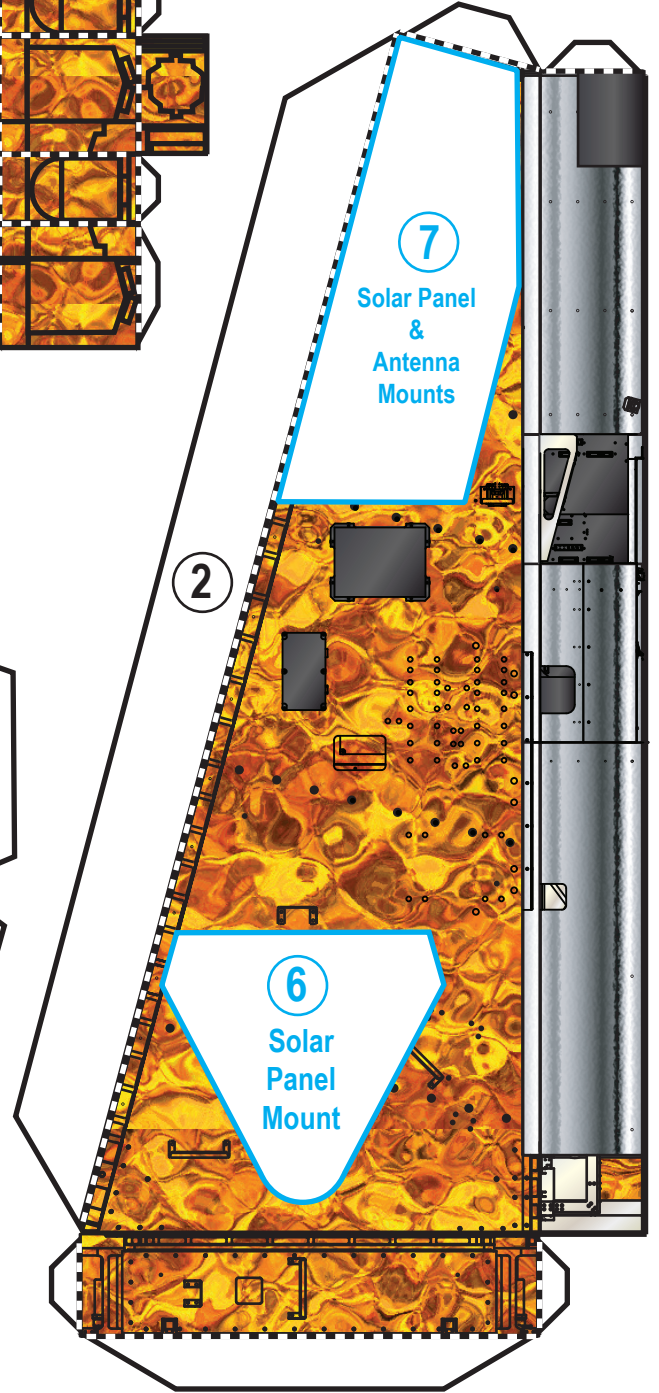
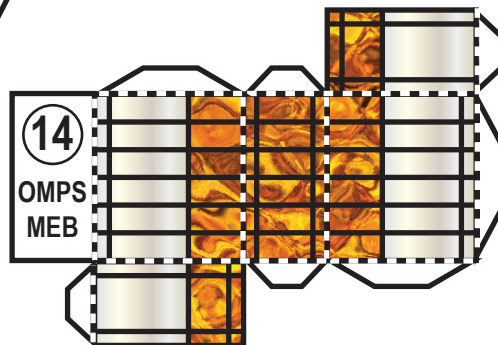
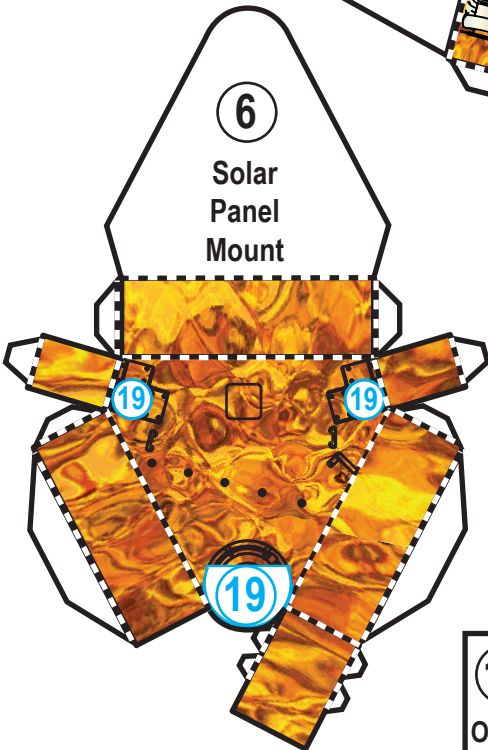
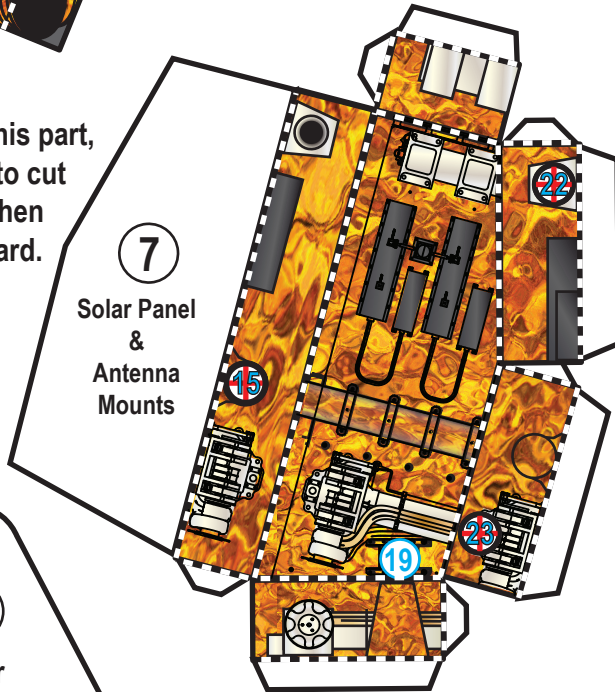
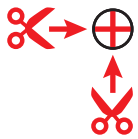
① Internal Support Structure

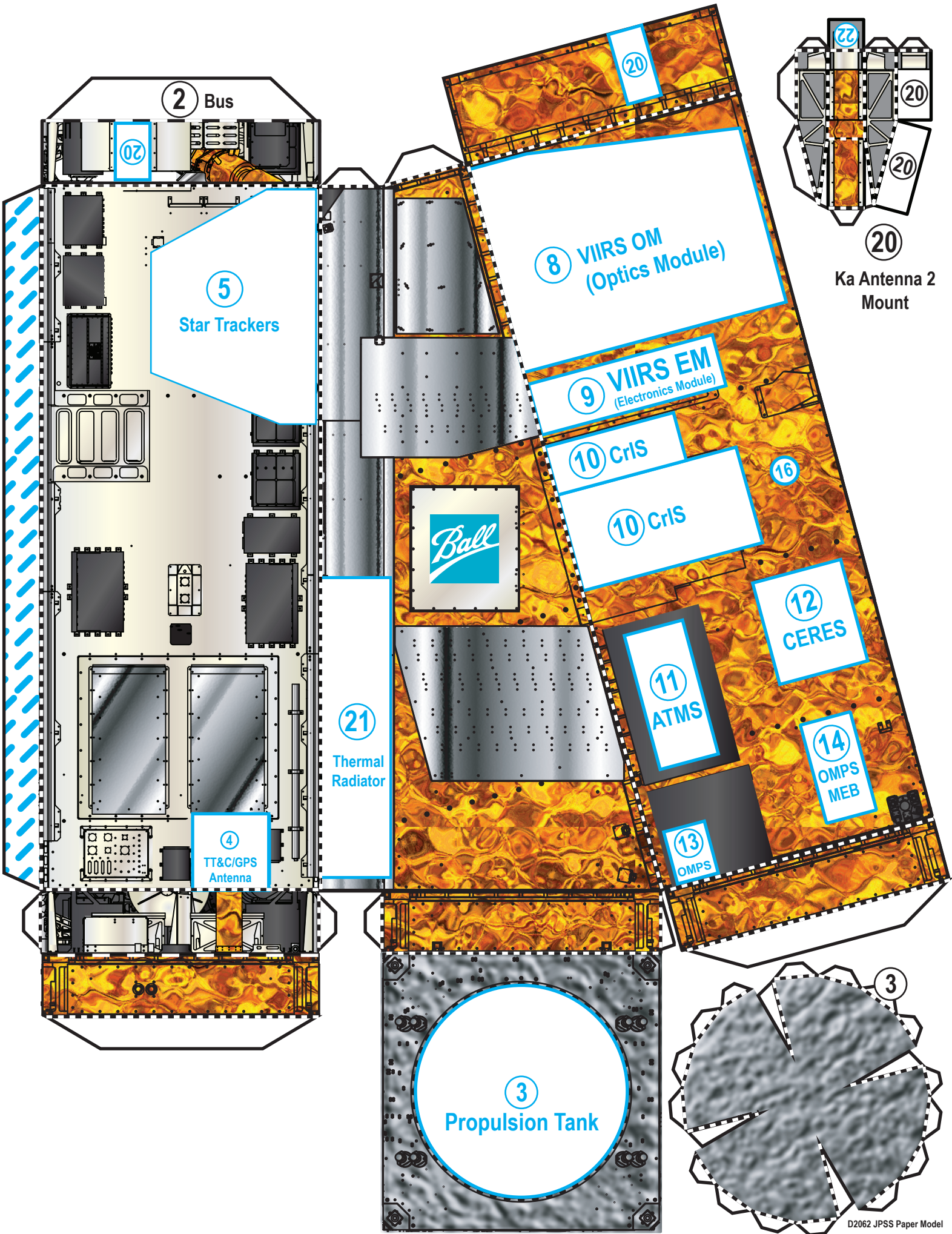
After cutting out these four panels, match the symbols and slide the panels together.

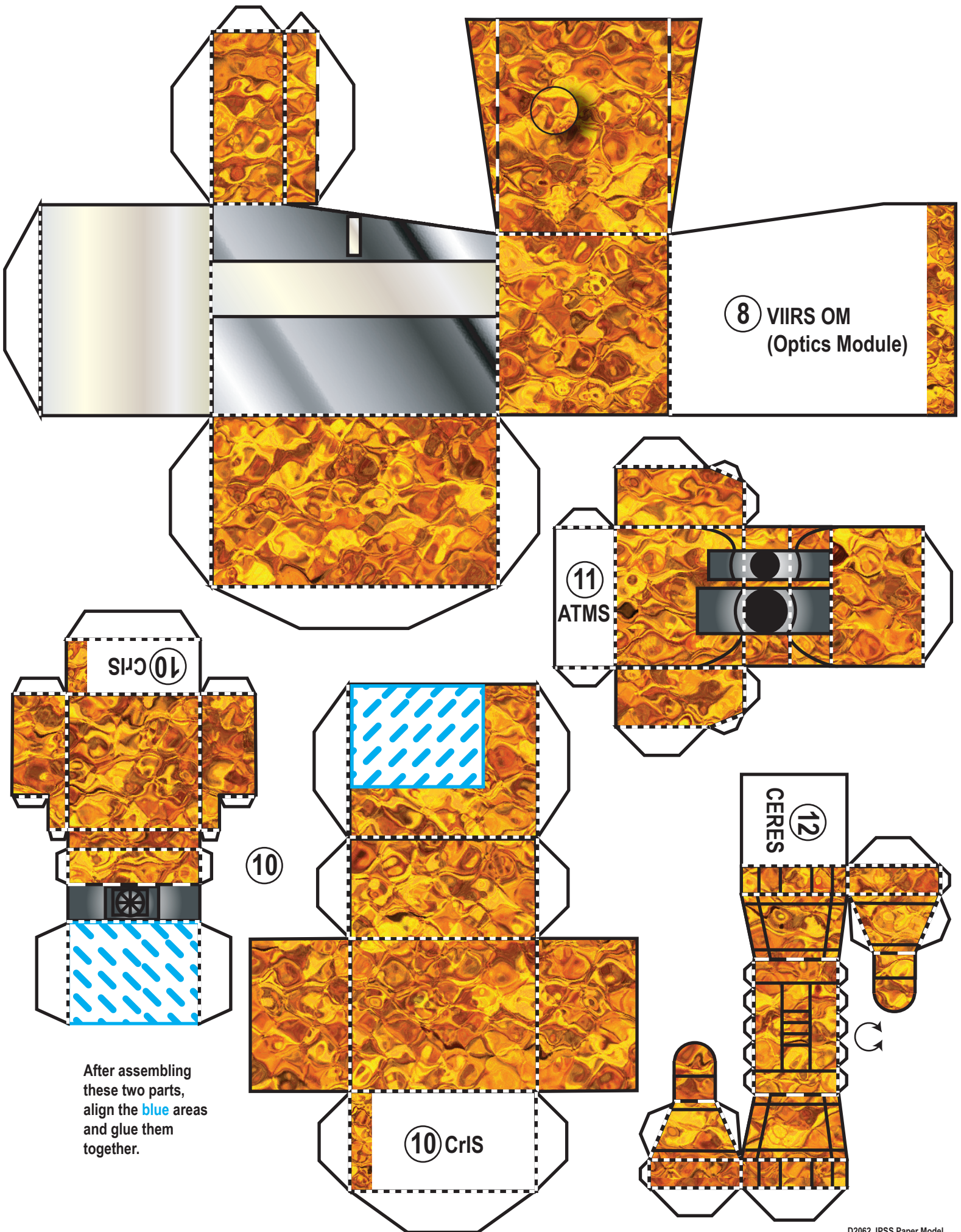




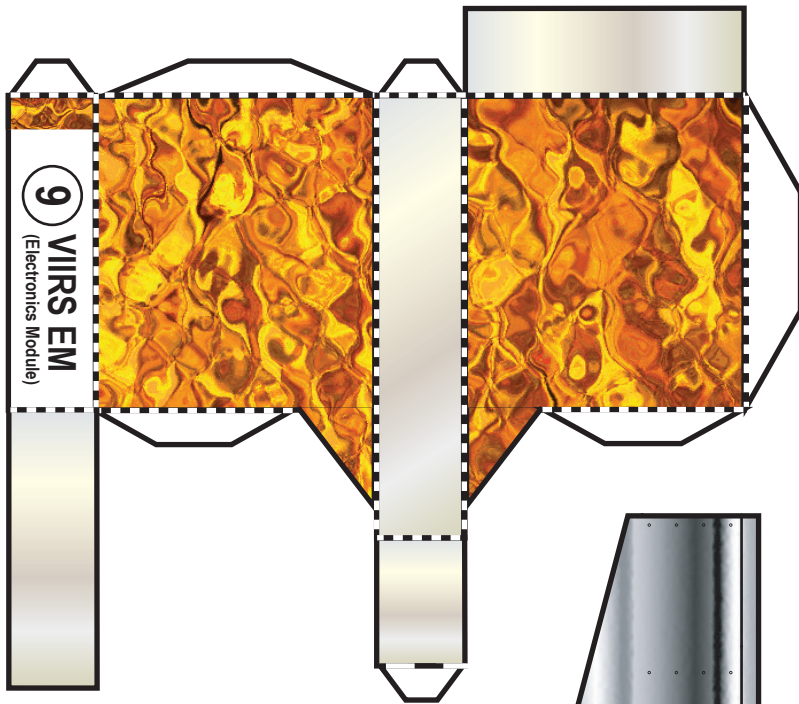
To make holes in this part, use a hobby knife to cut on the **RED** lines, then push the flaps inward.





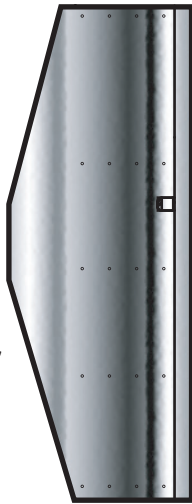


After assembling these two parts, align the blue areas and glue them together.

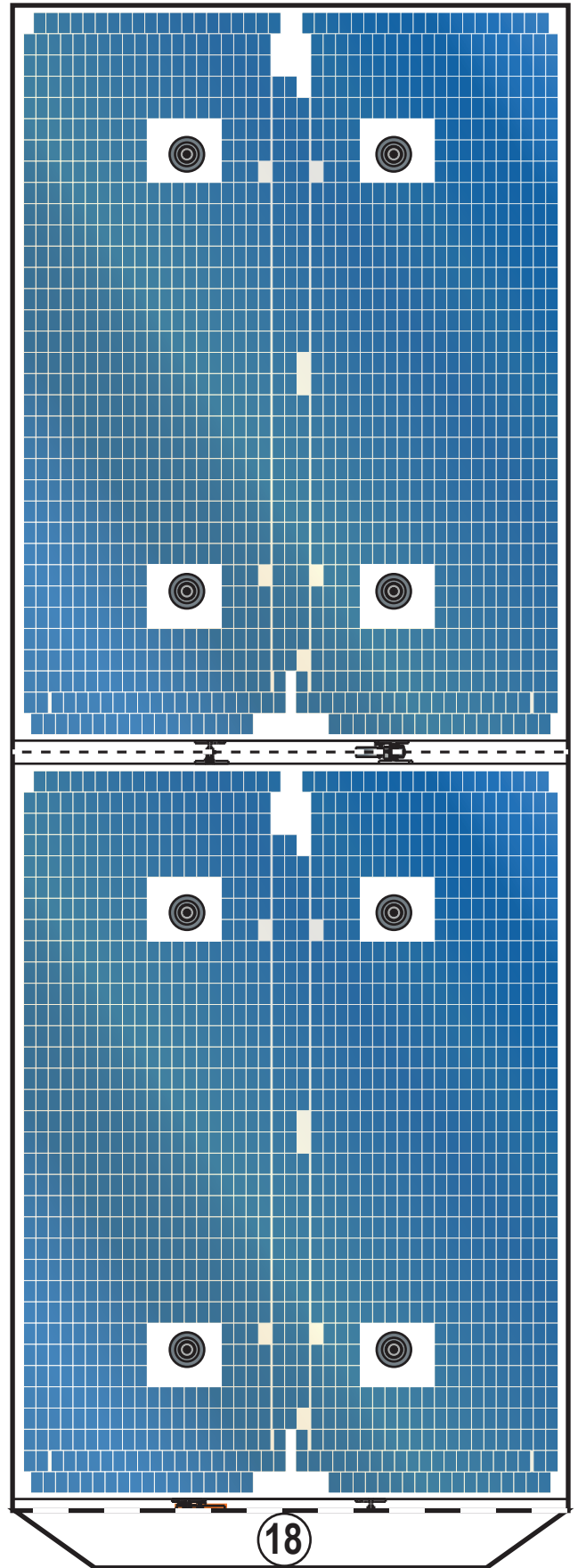
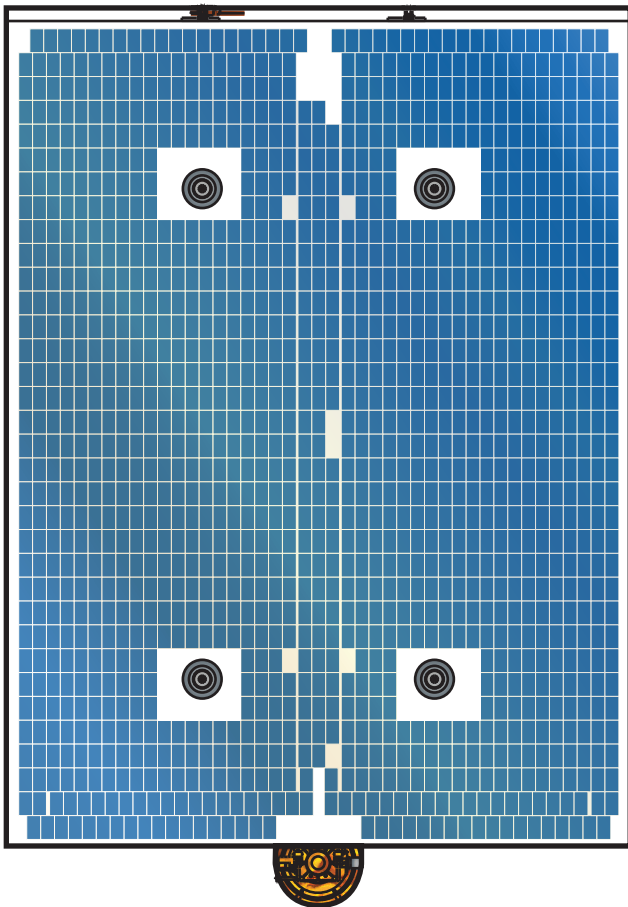


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Thermal Radiator



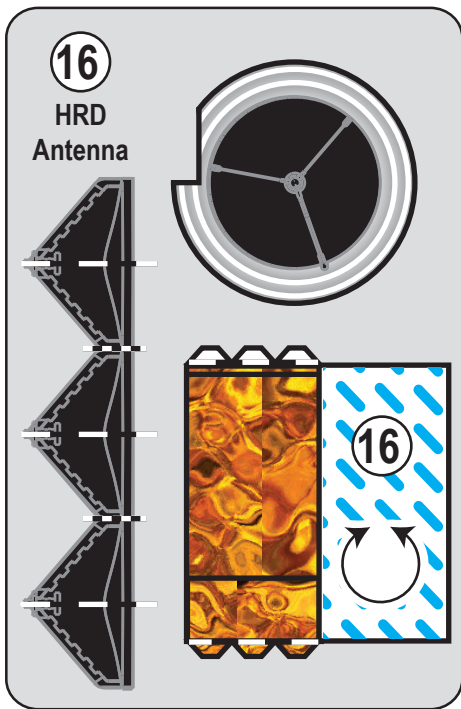
19 Solar Array



18

Optional Solar Array Extension

(If you're using this part, glue it to part 19 *before* attaching the complete array to the model.)



Print this page on
regular weight paper
to make forming the
tubes easier.

Roll all of the tubes
the long way.

