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 our global climate.

Using its five instruments, the JPSS-1 spacecraft will gather vital data for weather forecasting and climate modeling. Ball Aerospace designed and built OMPS, the instrument that measures atmospheric ozone. Ball also designed and built the spacecraft bus, the main structure that supports and powers the instruments.

In 2017, JPSS-1 will be launched from Vandenberg Air Force Base in California. The spacecraft will travel 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.

To learn more about JPSS-1, visit:
www.jpss.noaa.gov
www.ball.com/aerospace
http://npp.gsfc.nasa.gov/jpss.html

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 scriber, 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

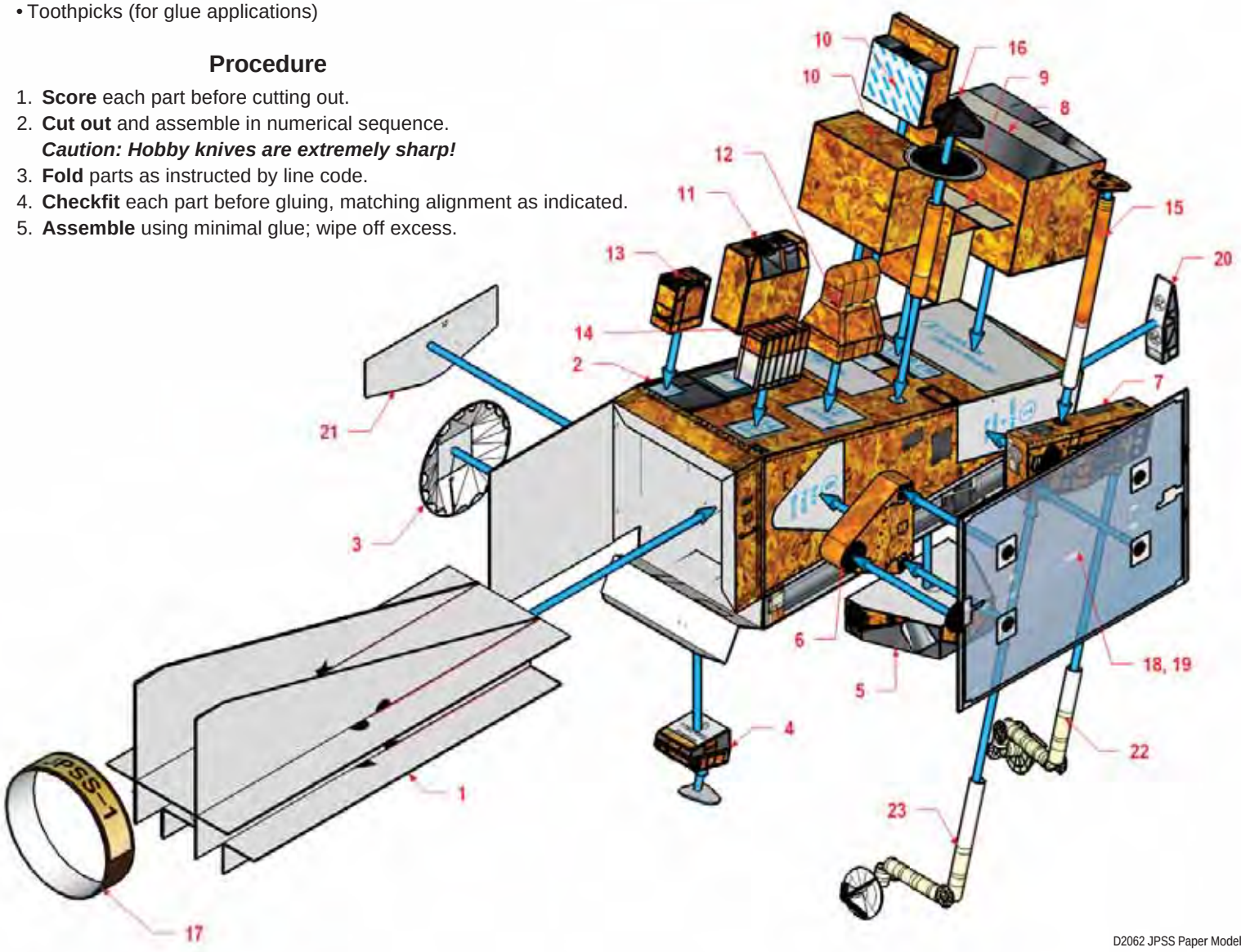
Always score a part before you cut it out! Scoring slightly weakens the paper so you can make perfect folds. To score, line up a metal-edged ruler with a score line. Then use a scriber or other round-tipped tool to firmly draw along the ruler.

Making Cylinders

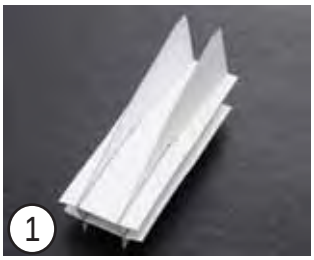
Glue tabs or strips should remain attached during forming. To form a cylinder, tightly roll the part around a slender dowel, skewer, or knitting needle. Before gluing, check the holes and tubes for a good fit.
Drinking straws cut to size will also work.

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



Internal Support Structure

Bus

Propulsion Tank

TT&C/GPS Antenna

Star Trackers

Solar Panel Mount

Solar Panel & Antenna Mounts, and Antennas

VIIRS Optics Module

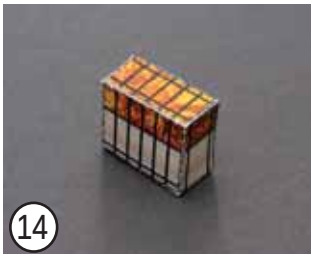
VIIRS Electronics Module

CrIS

ATMS

CERES

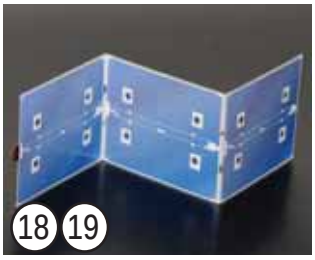
OMPS



OMPS Main Electronics Box

HRD Antenna

Model Stand



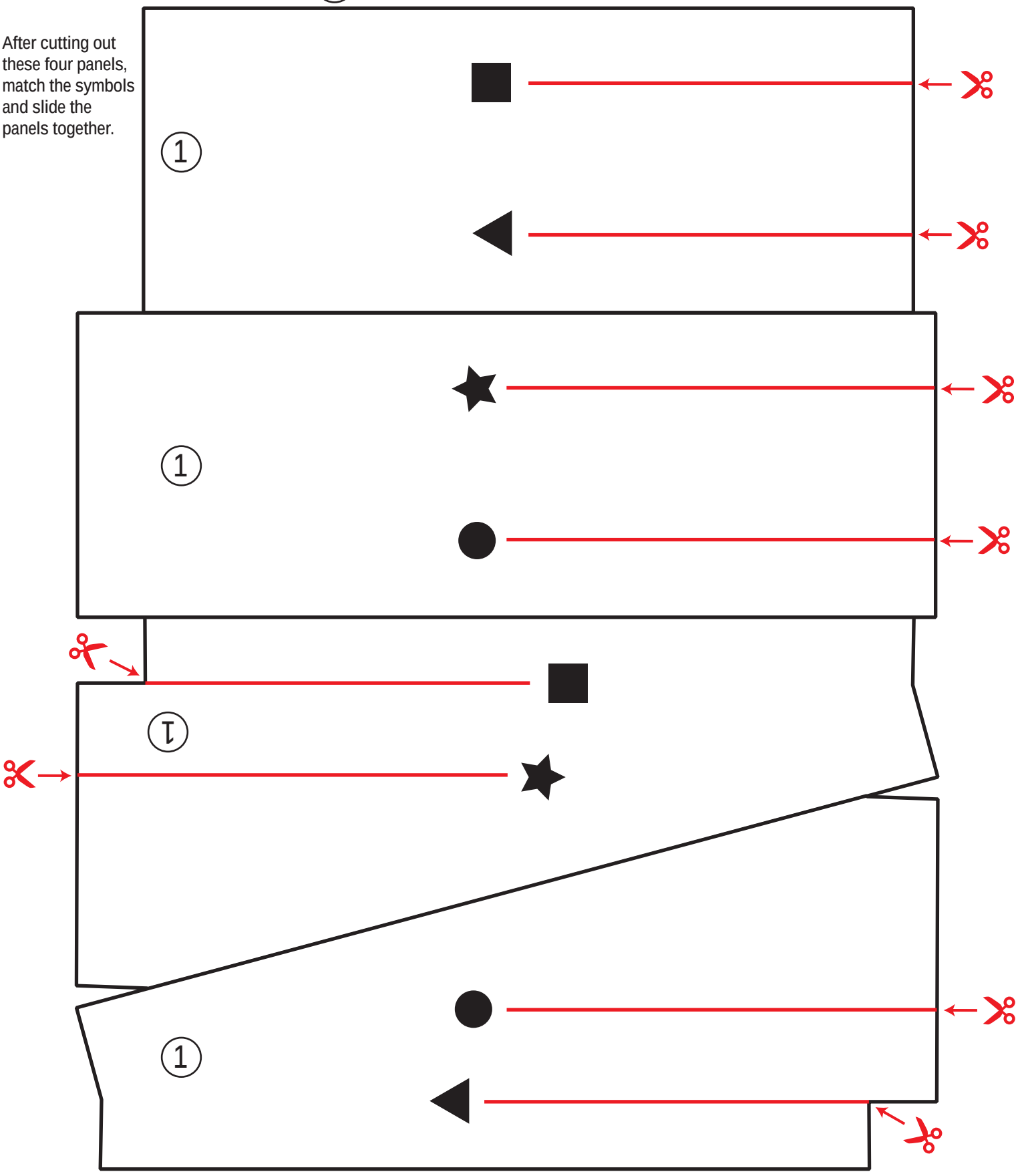
Solar Array

Ka Antenna 2 Mount

Thermal Radiator

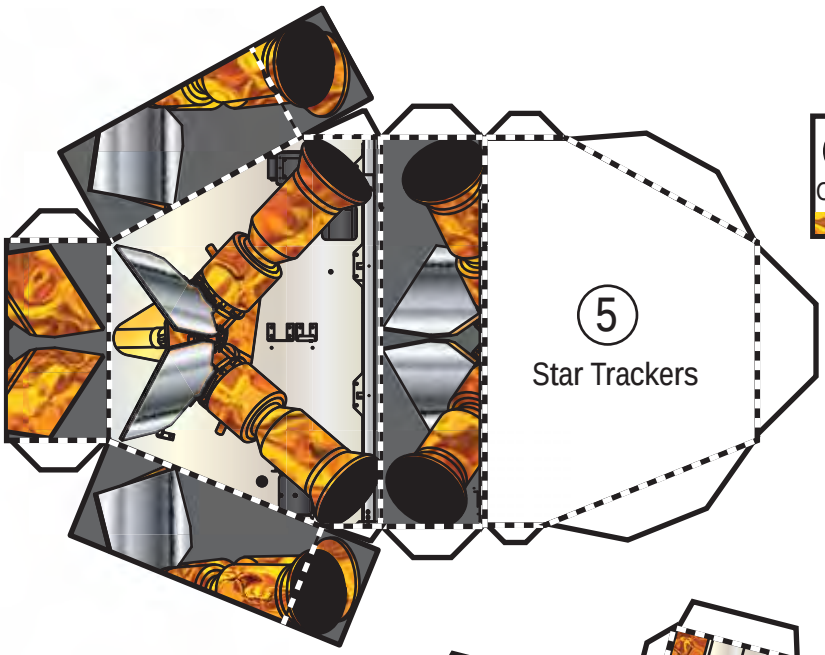
① Internal Support Structure

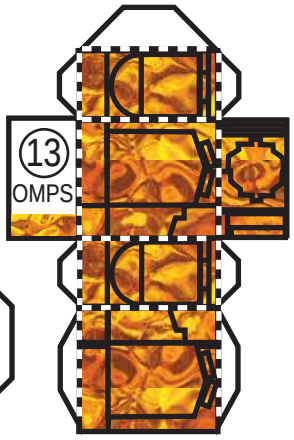
After cutting out these four panels, match the symbols and slide the panels together.



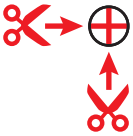
b JPSS-1

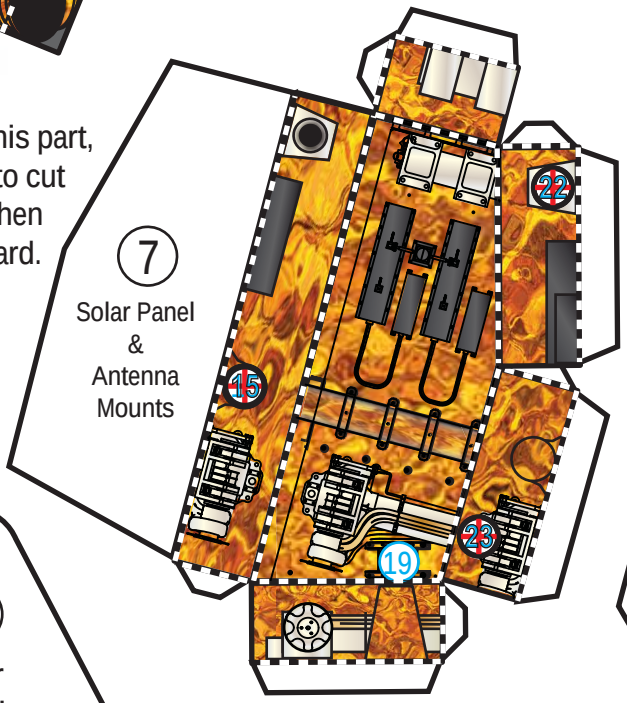
17 Model Stand

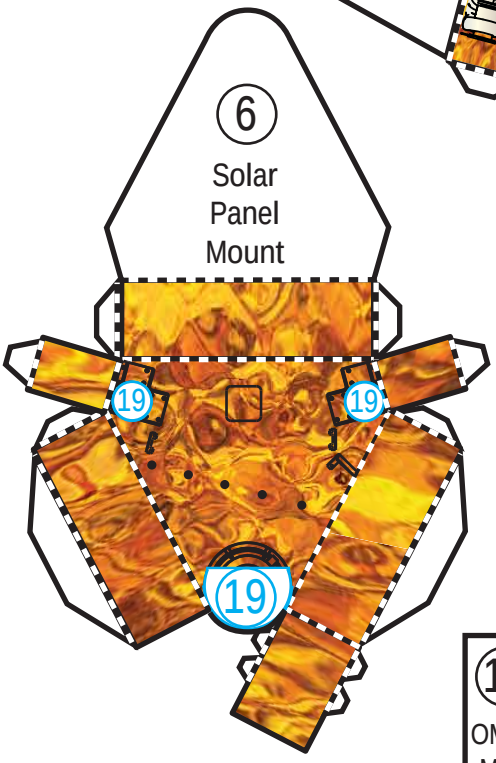


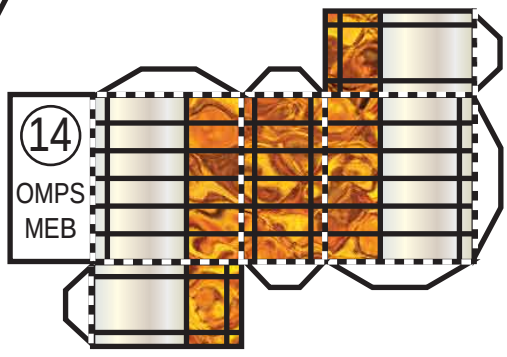


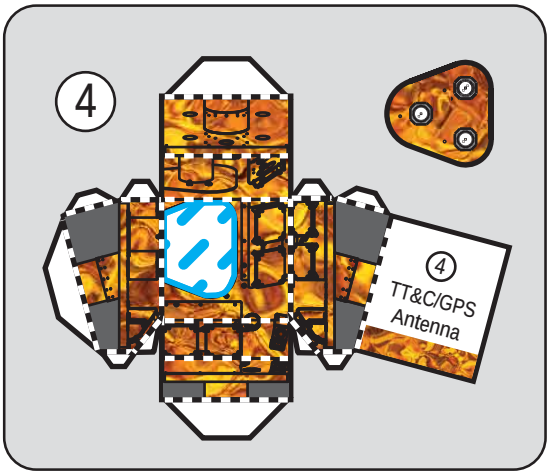
To make holes in this part, use a hobby knife to cut on the RED lines, then push the flaps inward.

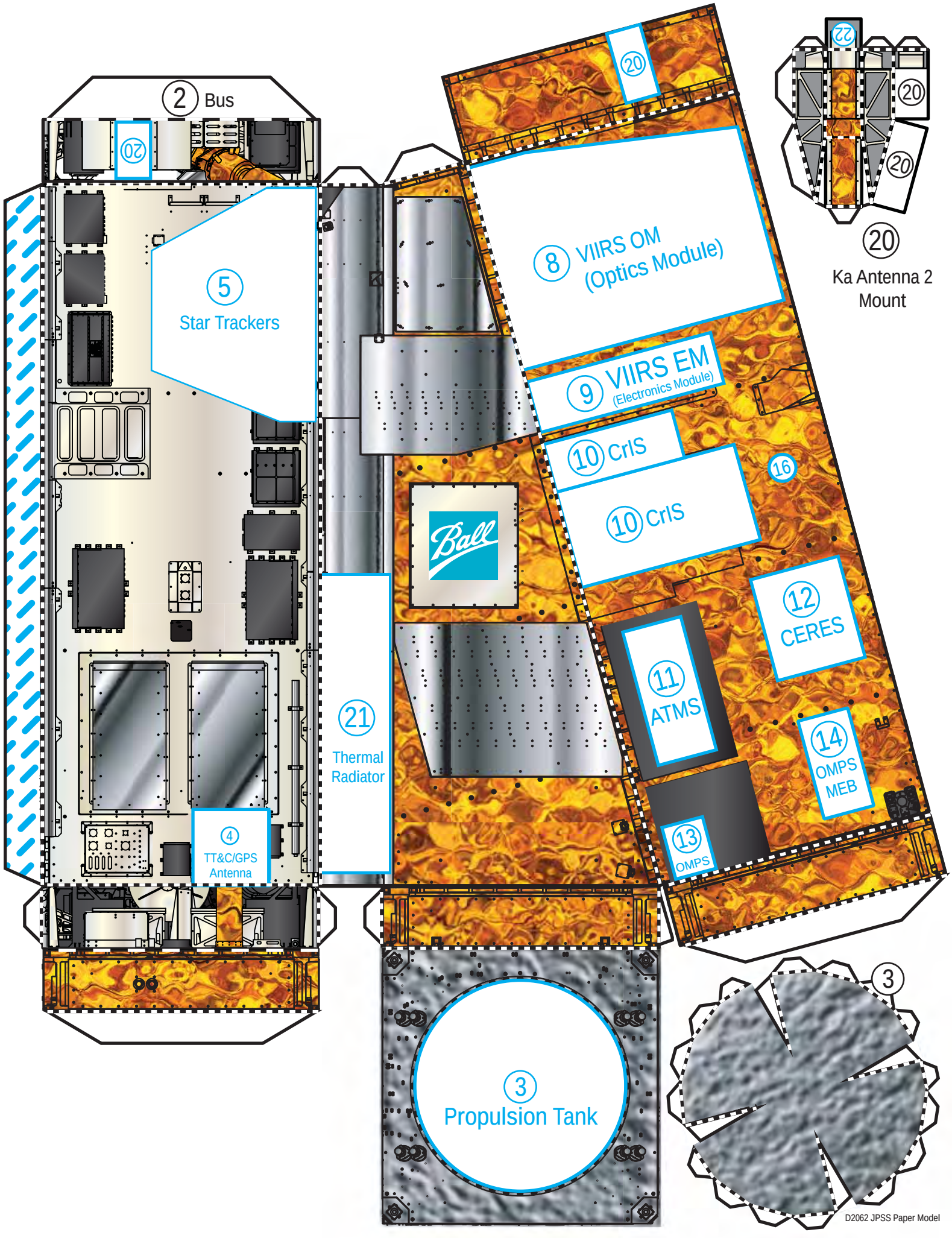


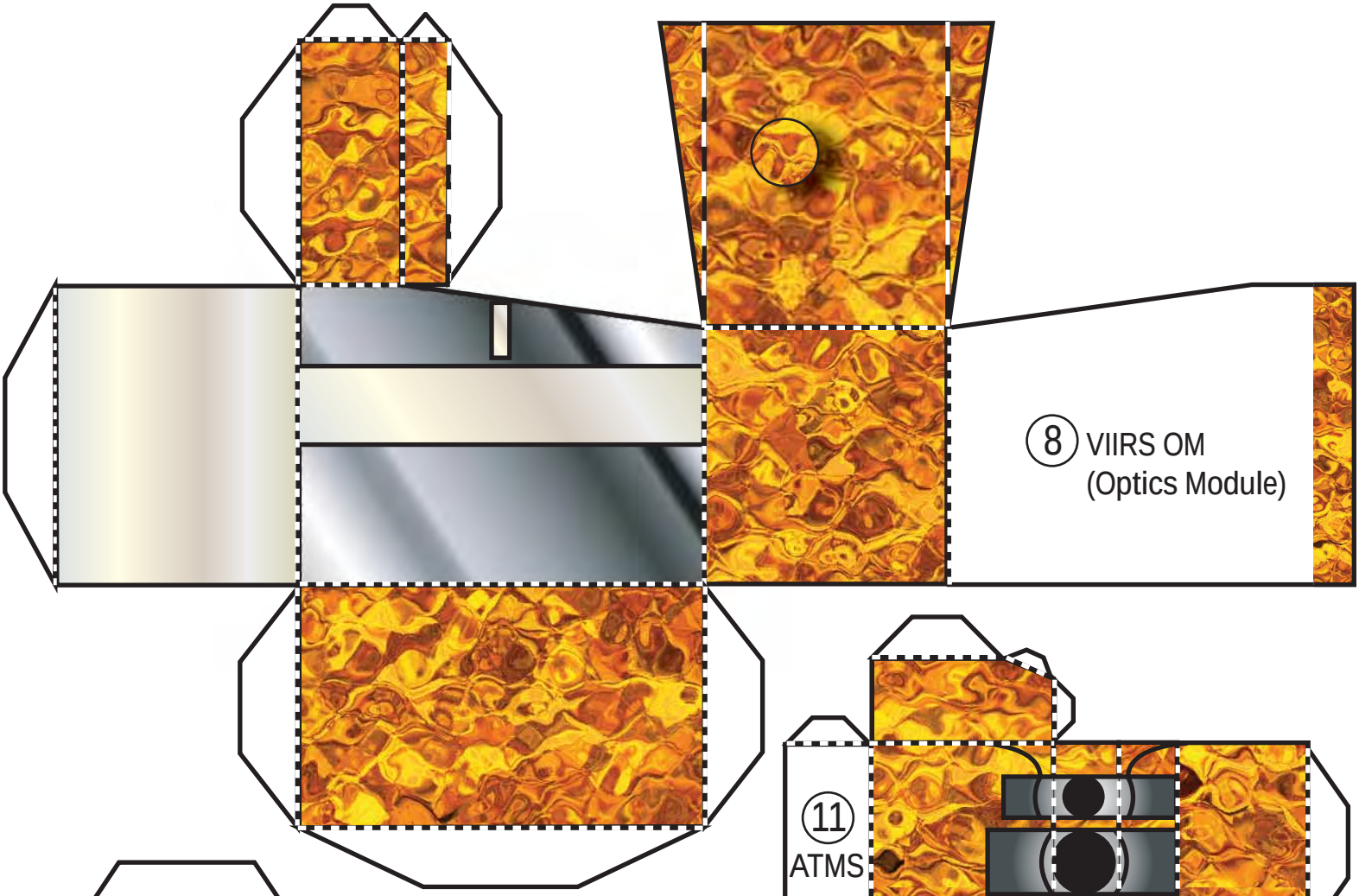


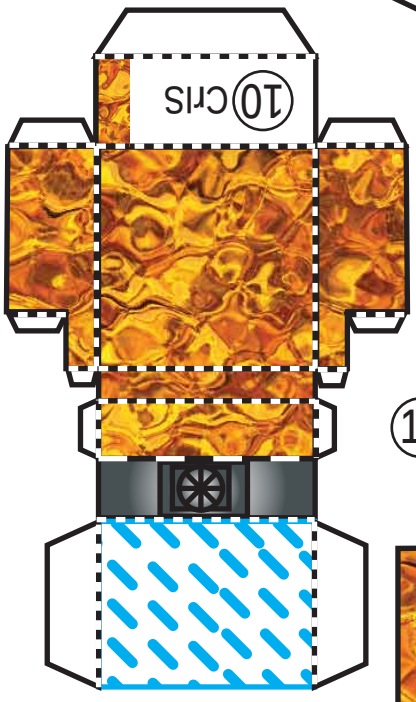


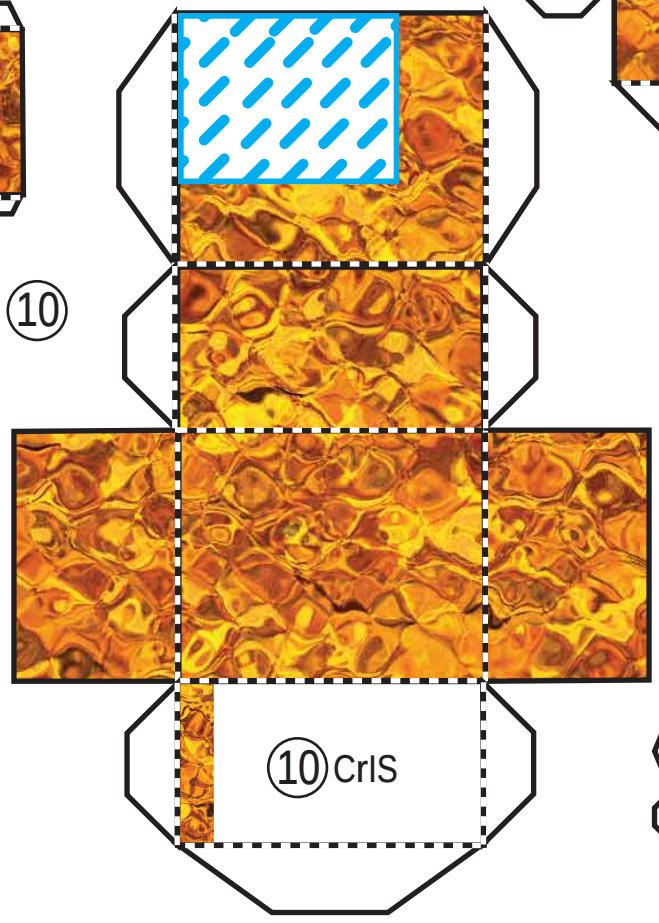


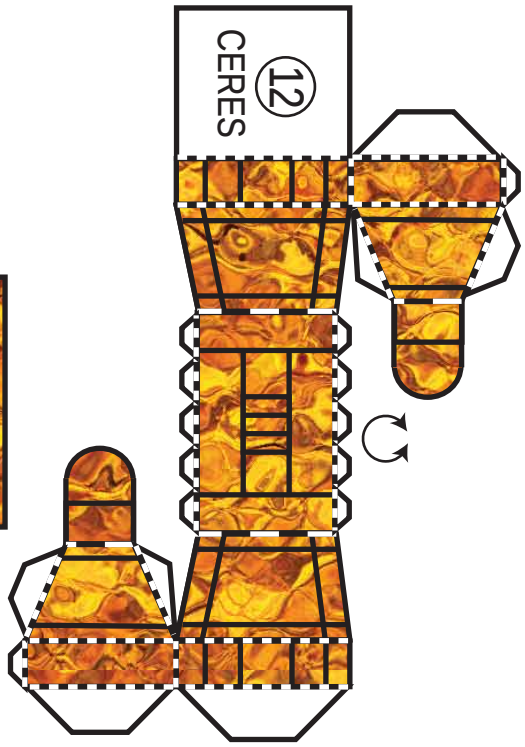



2 Bus
20
5
Star Trackers
20
8 VIIRS OM
(Optics Module)
9 VIIRS EM
(Electronics Module)
10 CrIS
10 CrIS
16
Ball
12
CERES
11
ATMS
14
OMPS
MEB
13
OMPS
21
Thermal
Radiator
4
TT&C/GPS
Antenna
3
Propulsion Tank
22
20
20
20
Ka Antenna 2
Mount
3
D2062 JPSS Paper Model

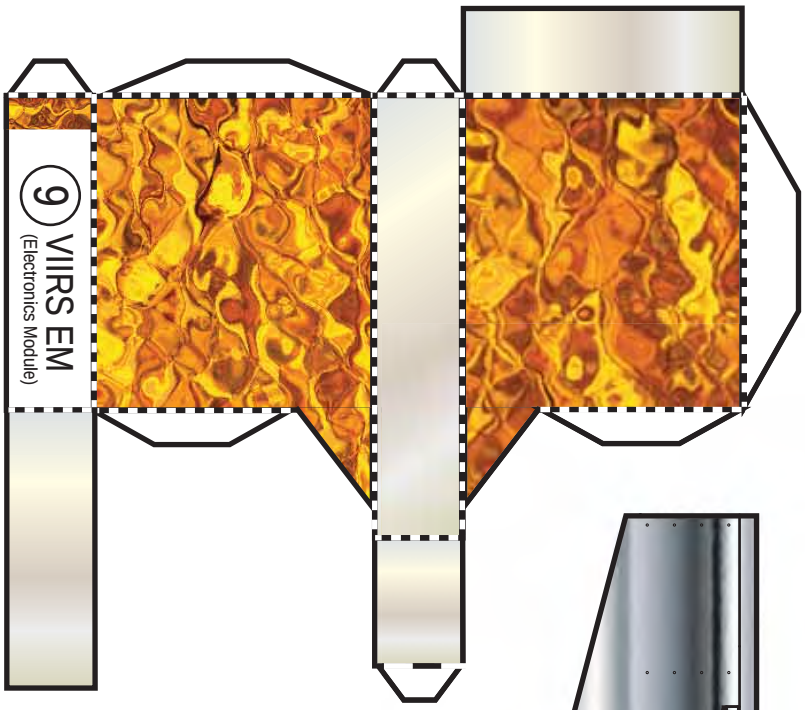






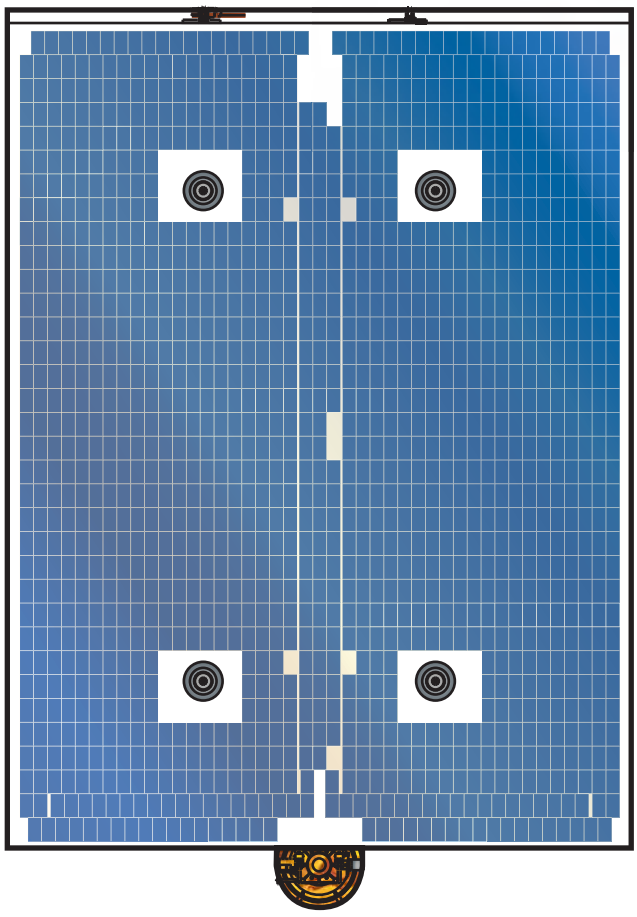


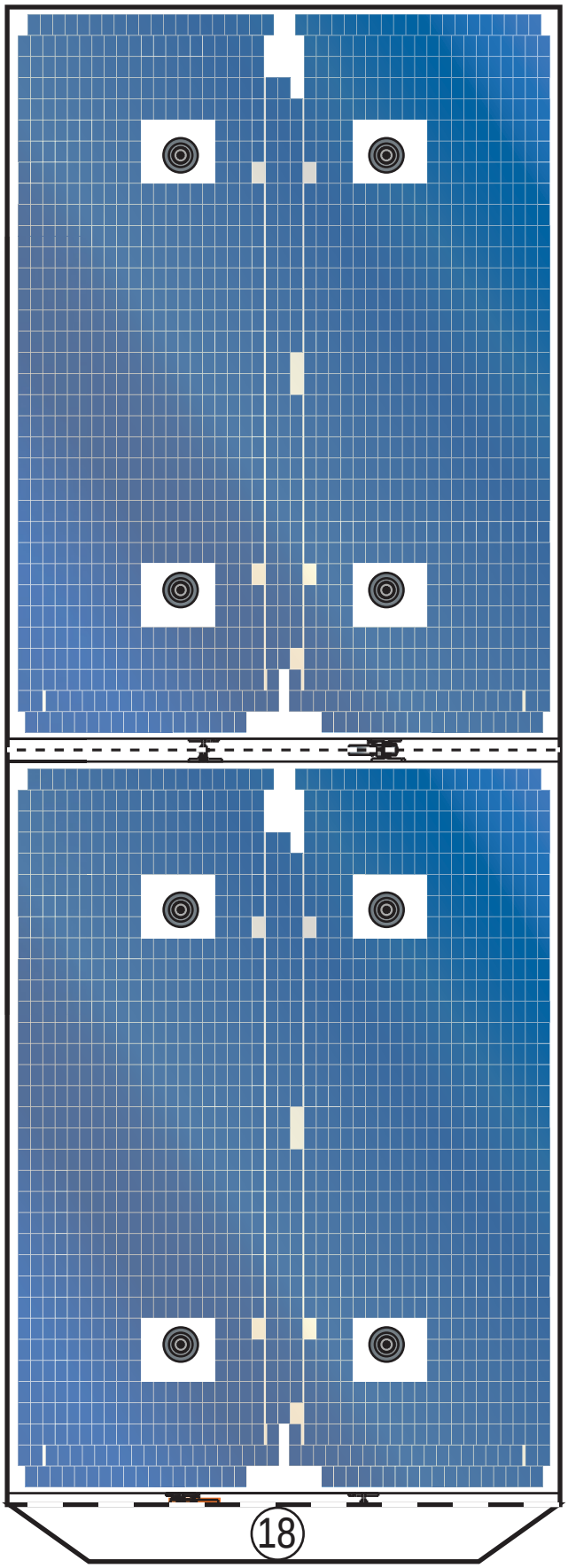
After assembling these two parts, align the blue areas and glue them together.



21
Thermal
Radiator

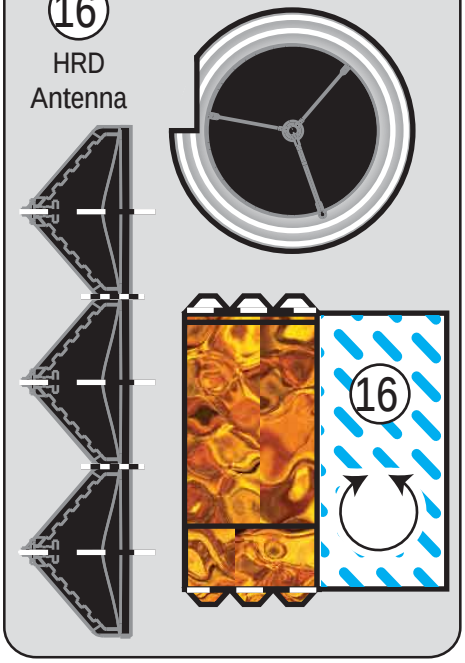
19 Solar Array





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

16
HRD
Antenna

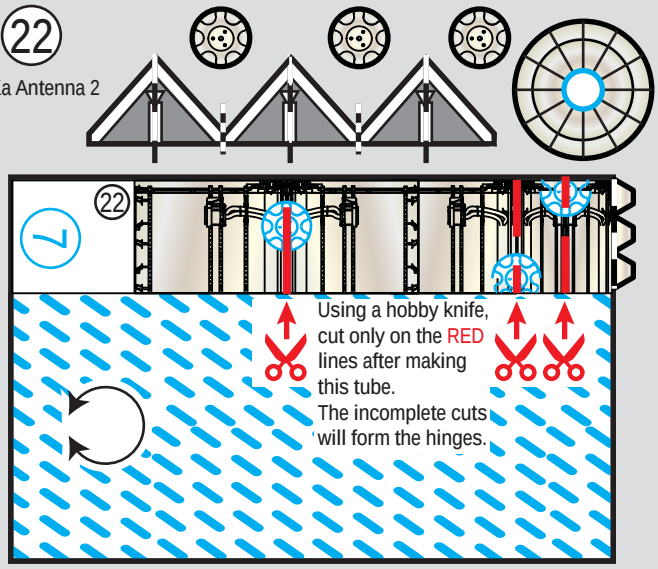


Print this page on regular weight paper to make forming the tubes easier.

Roll all of the tubes the long way.

15
TT&C
Antenna

22
Ka Antenna 2



23
Ka Antenna 1