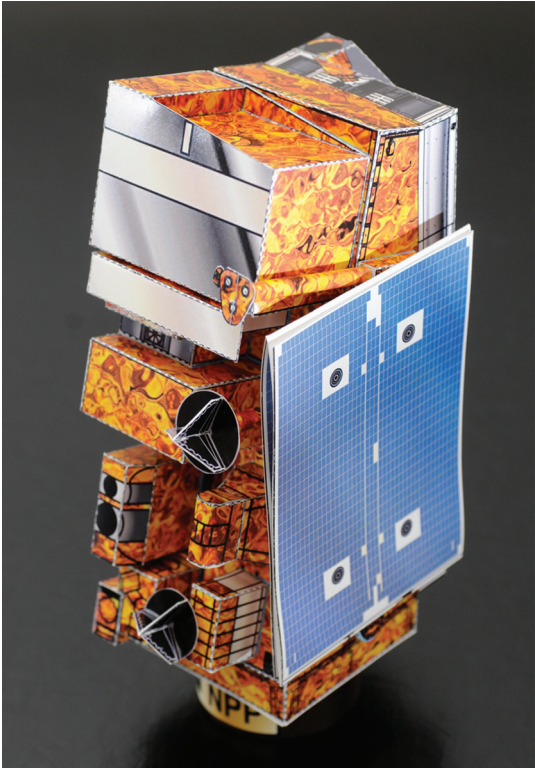




SUOMI NPP



1/22 Scale Detailed Model

Hurricanes, tornadoes, blizzards, heat waves!

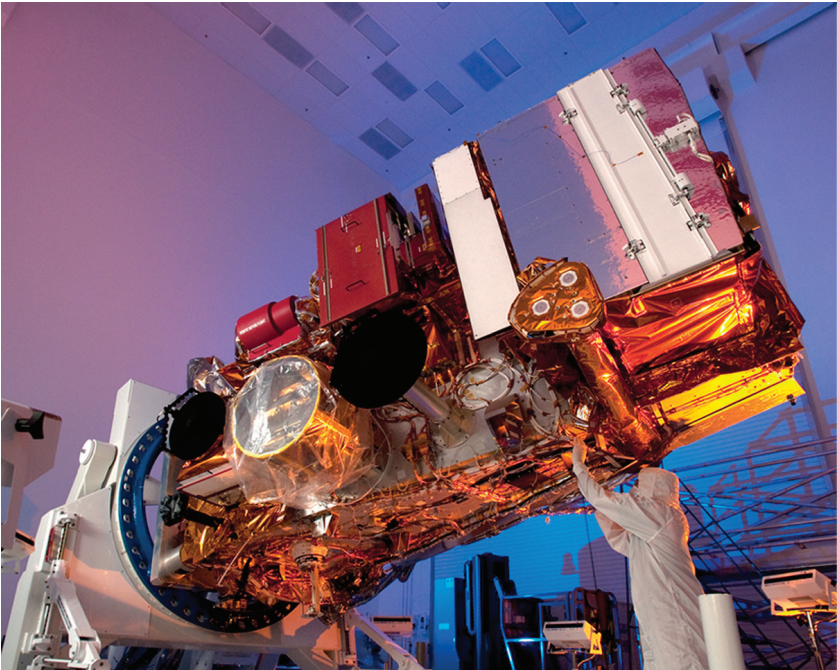
Extreme weather events have pummeled the United States the past few years. We rely on satellites orbiting Earth to predict and track these events and to monitor our global climate.

Using its five instruments, the Suomi NPP spacecraft gathers vital data for weather forecasting and climate modeling. Ball Aerospace built OMPS, the instrument that measures atmospheric ozone. Ball also built the spacecraft's bus, the main structure that carries and enables the instruments.

In October 2011, Suomi NPP was launched from Vandenberg Air Force Base in California. The spacecraft travels in a polar orbit about 500 miles above Earth.

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

Learn more at:
www.nasa.gov/npp
www.ball.com/aerospace



A Ball technician works on Suomi NPP inside a cleanroom.

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

Part outlines (cut lines)

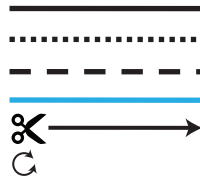
Score and **Mountain Fold** (bend down) - 

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

Location of an attaching part

Cut here

Roll or curve part



Tools You'll Need

- Small scissors (for cutting all curved lines)
- A hobby knife with a new blade (but scissors are OK)
- A scribe, ball-point pen, small knitting needle or large smooth sewing needle (for scoring folds)
- A metal-edged ruler
- Dowel or round pencil; table edge is OK (for forming curved parts)
- A cutting board, if using a hobby knife (tagboard or cardboard is OK)
- 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

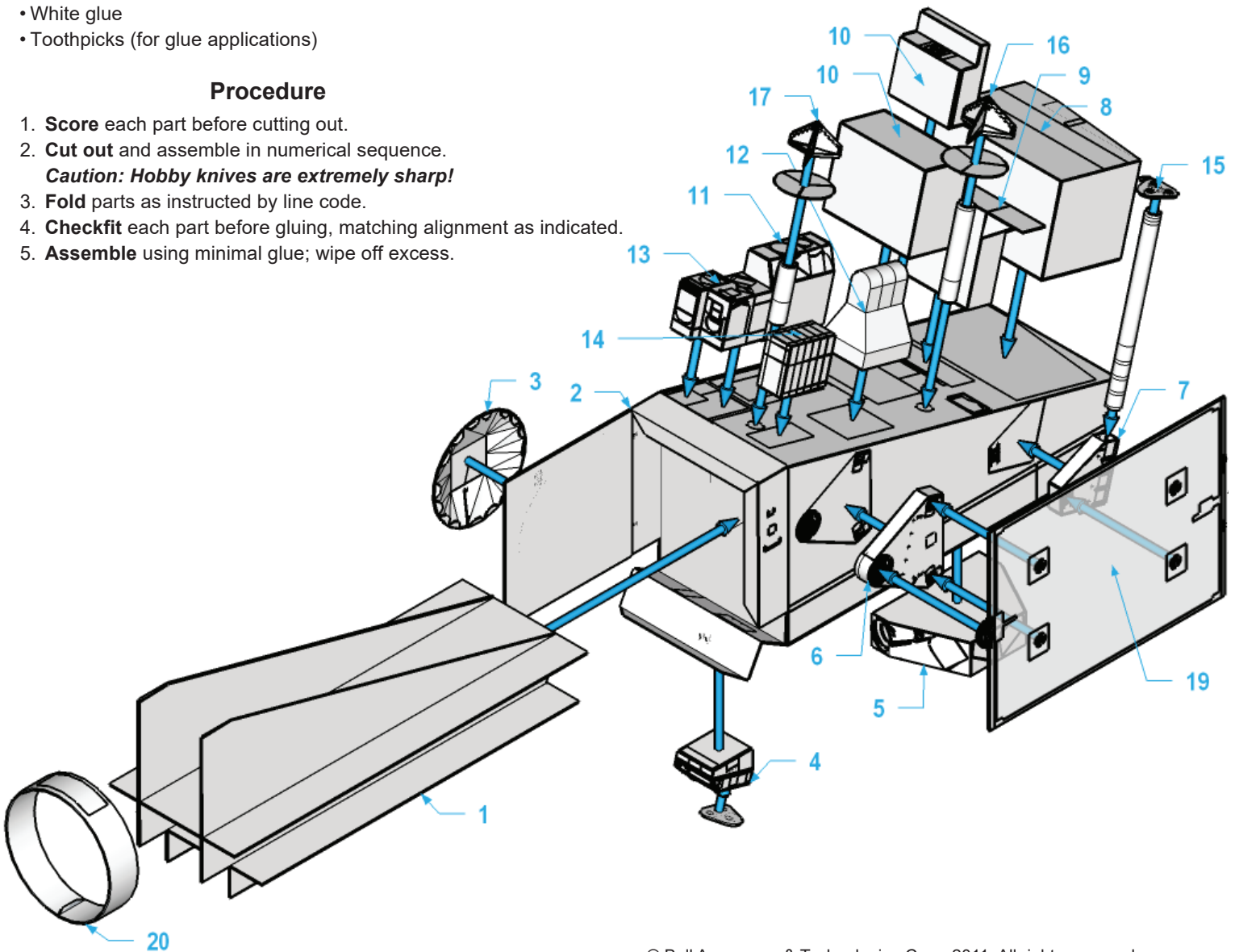
Always score a part before you cut it out! Scoring slightly weakens the paper so you can make perfect folds. To score, line up a metal-edged ruler with a score line. Then use a scribe or other round-tipped tool, and firmly draw along the ruler.

Making Cylinders

Glue tabs or strips should remain attached during forming. To form a cylinder, slide a dowel or round pencil over the part, using a rubber or foam pad underneath. Face part up or down as required. Part will curve up at the ends, becoming cylindrical. Repeat forming process until desired shape is attained.
Drinking straws cut to size will also work.

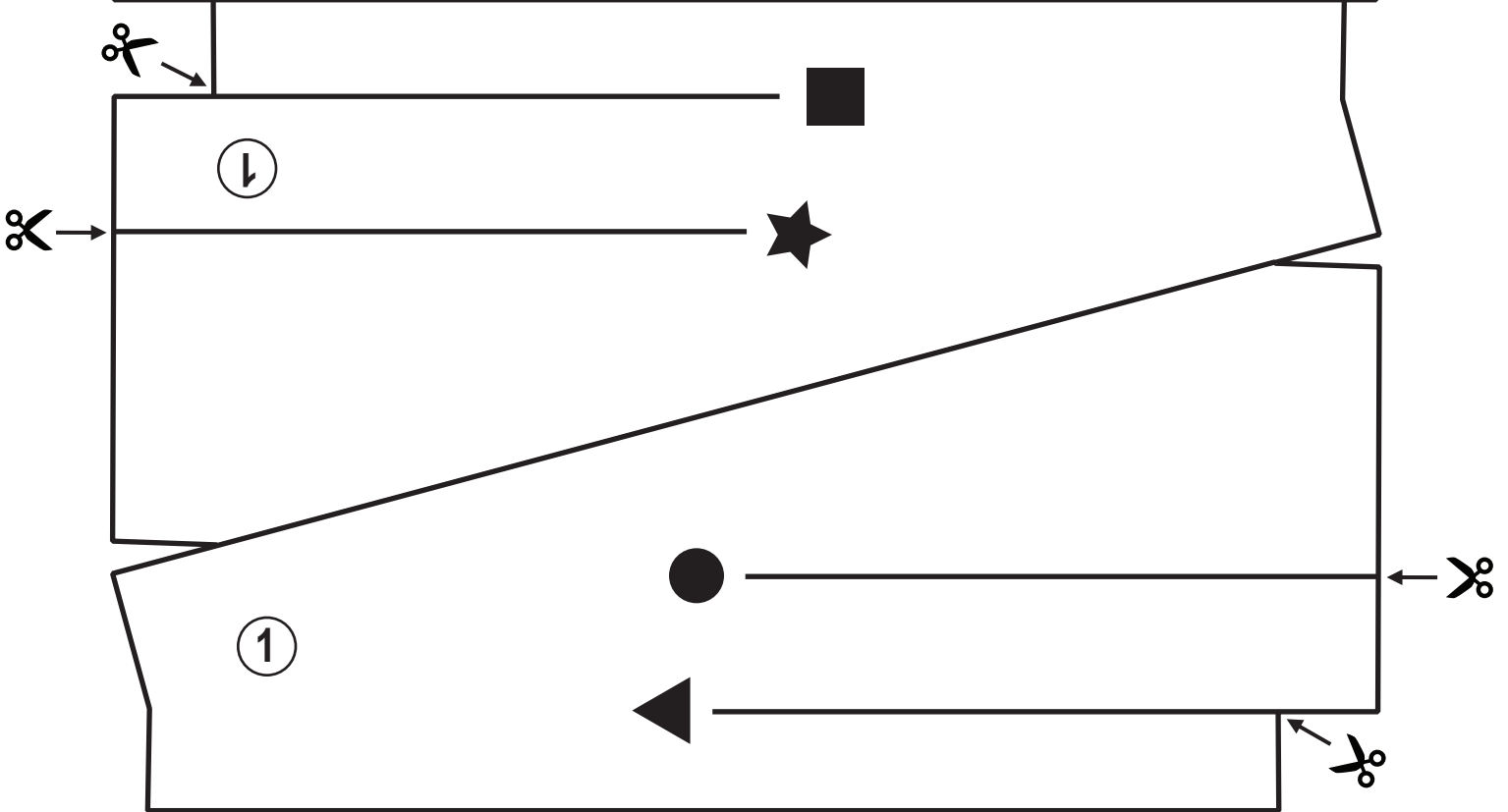
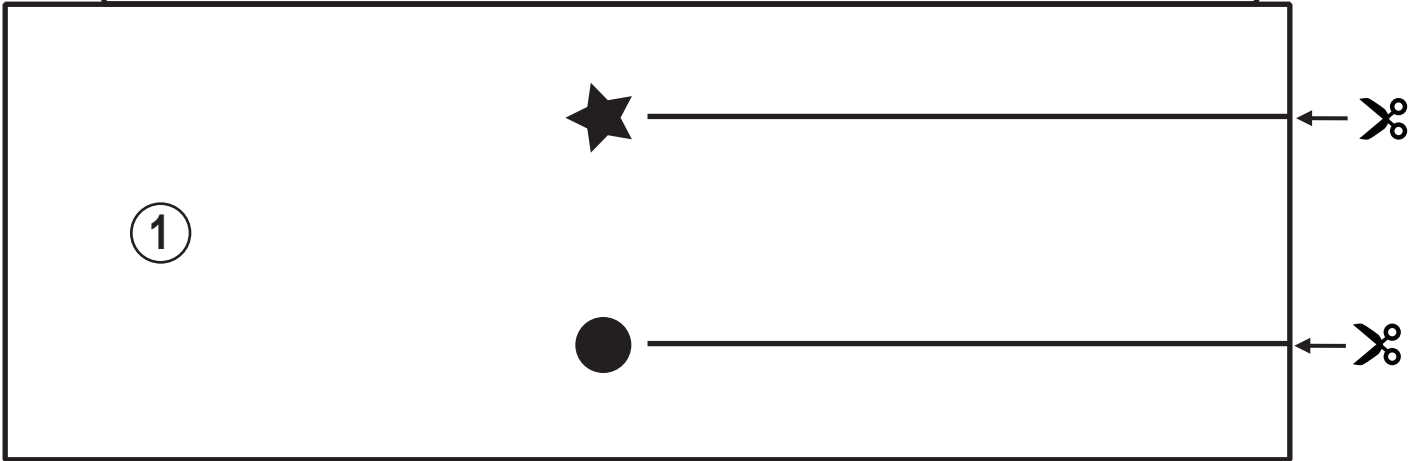
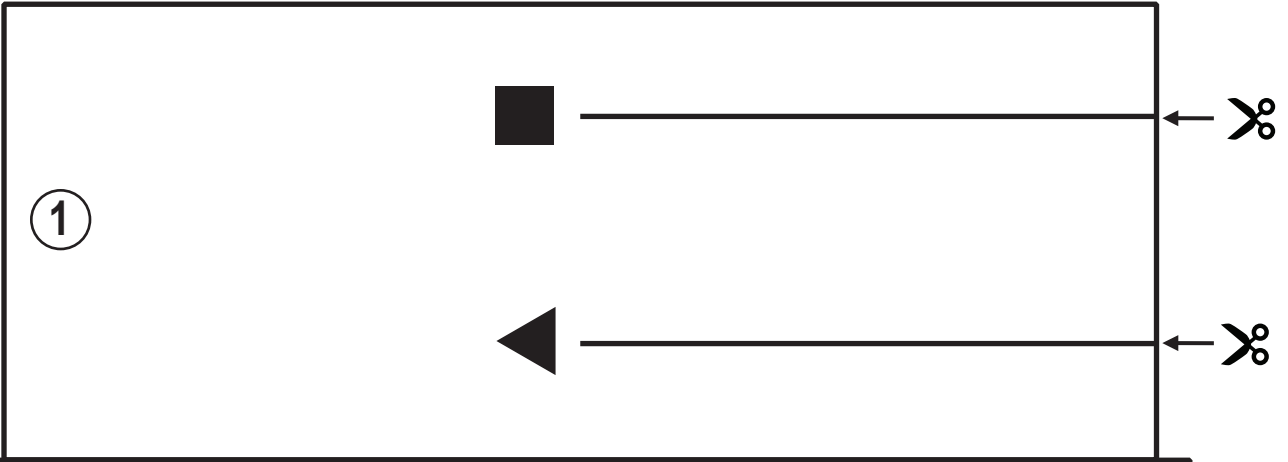
Gluing

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.

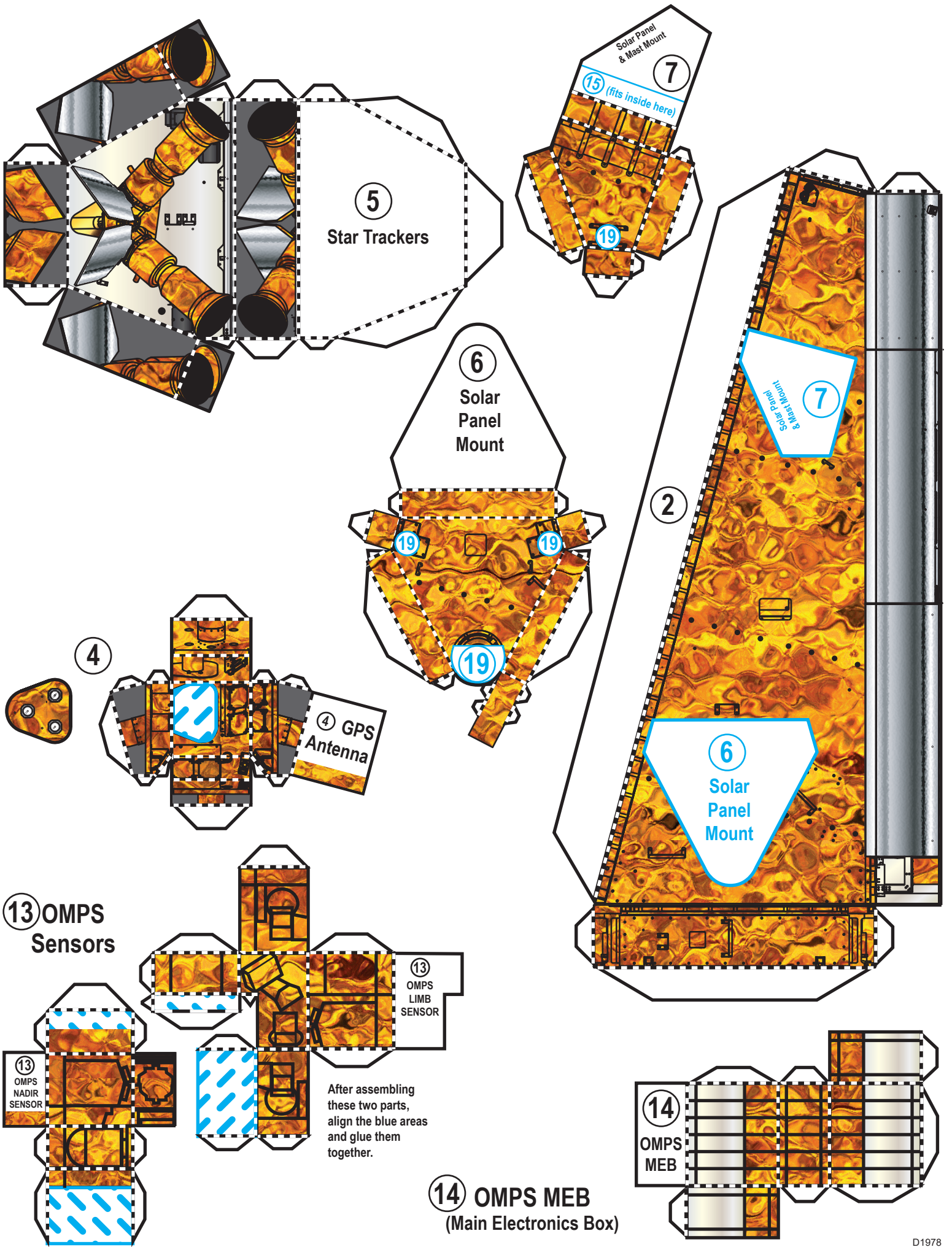


1 Internal Support Structure

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



1



5
Star Trackers

7
Solar Panel & Mast Mount
15 (fits inside here)
19

6
Solar Panel Mount

19 **19** **19**

4
4 GPS Antenna

2

7
Solar Panel & Mast Mount

6
Solar Panel Mount

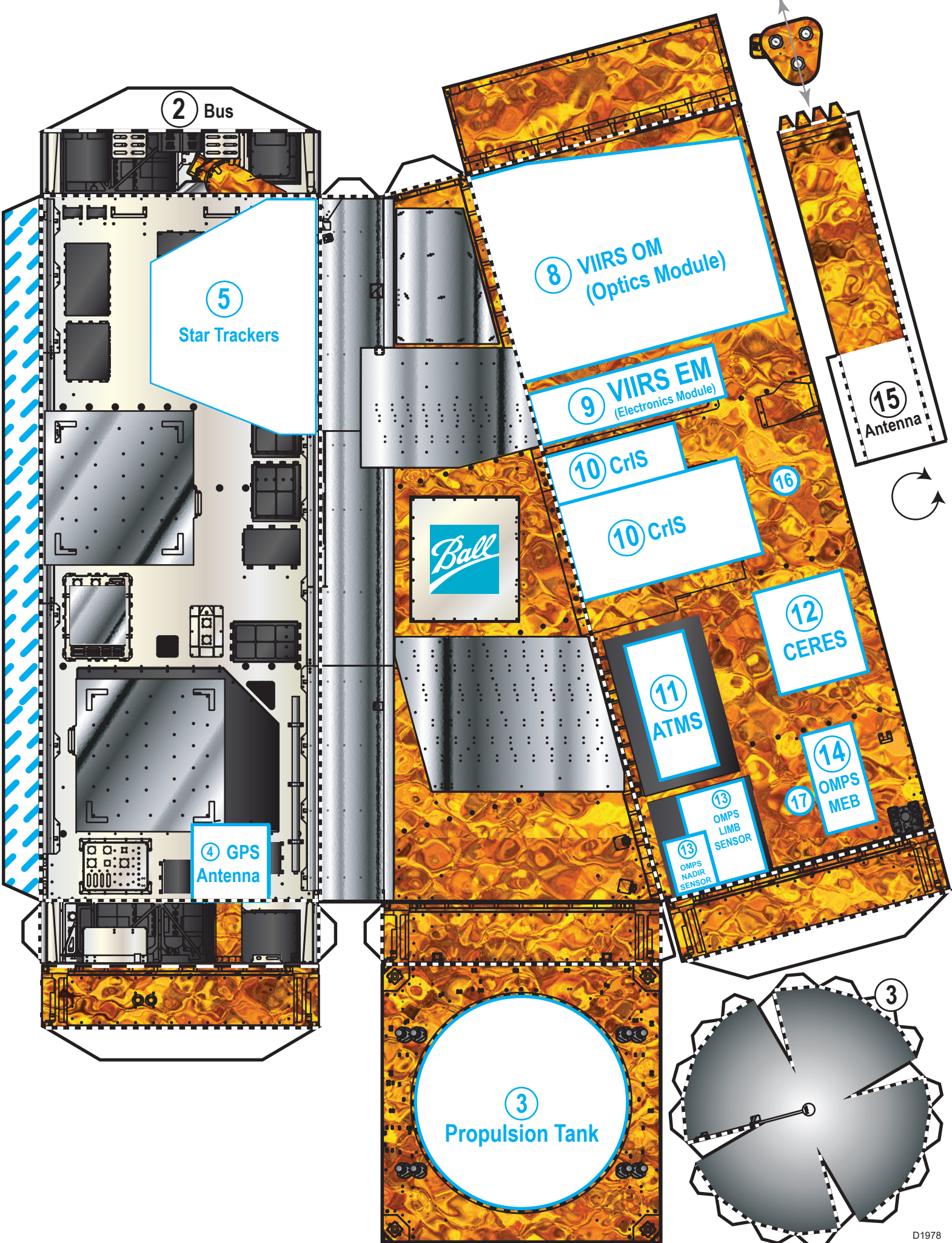
13 OMPS Sensors

13 OMPS NADIR SENSOR
13 OMPS LIMB SENSOR

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

14 OMPS MEB (Main Electronics Box)

14 OMPS MEB



2 Bus

5 Star Trackers

4 GPS Antenna



3 Propulsion Tank

8 VIIRS OM (Optics Module)

9 VIIRS EM (Electronics Module)

10 CrIS

10 CrIS

11 ATMS

12 CERES

14 OMPS MEB

13 OMPS NADIR SENSOR

13 OMPS LIMB SENSOR

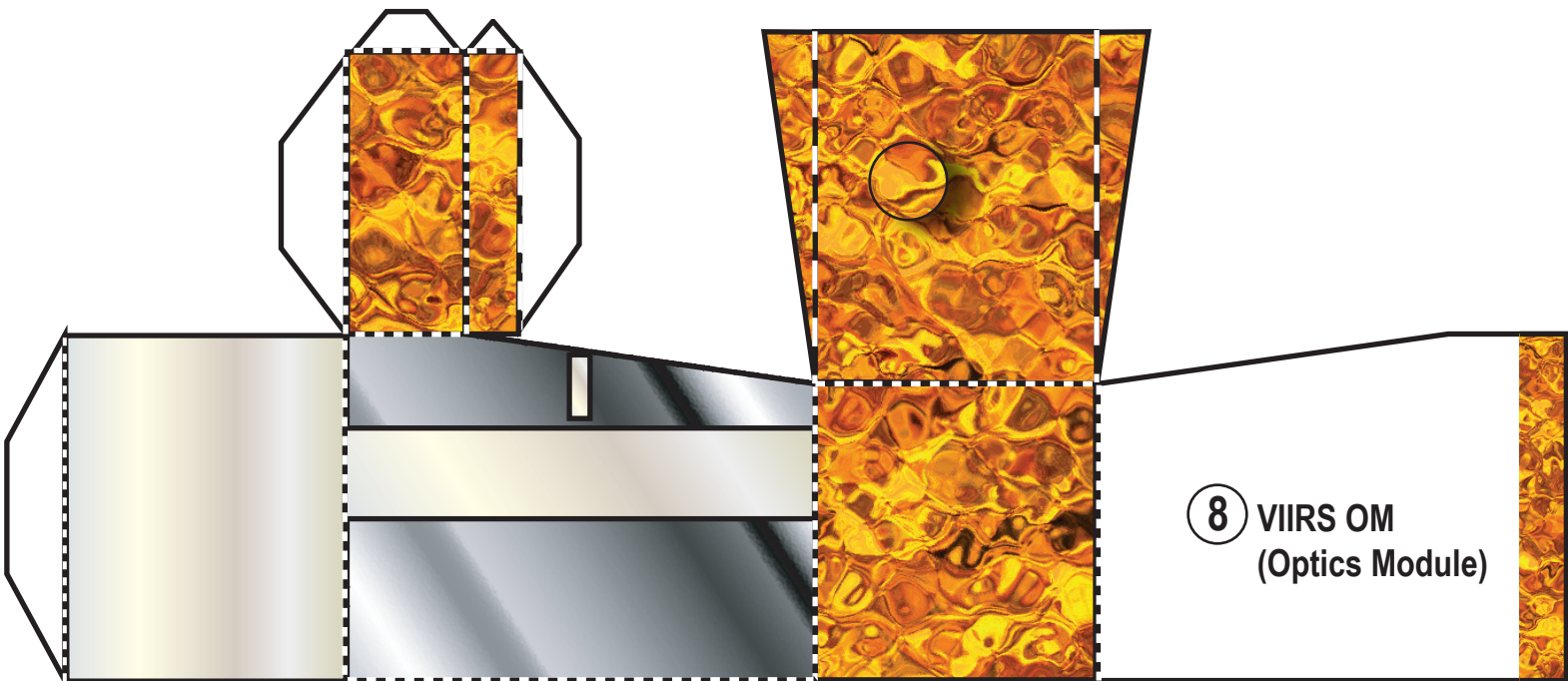
17

15 Antenna

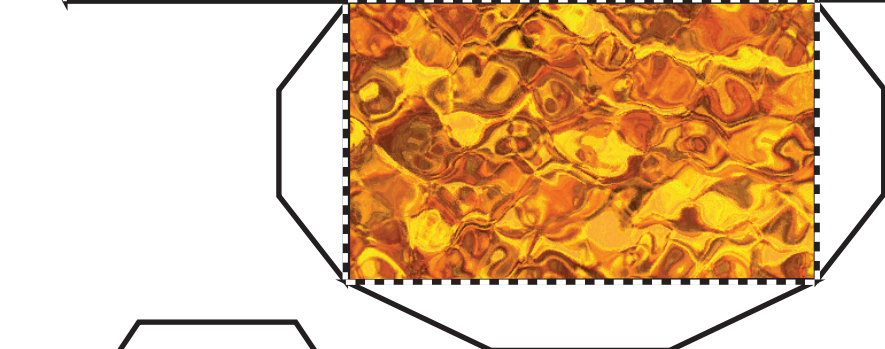
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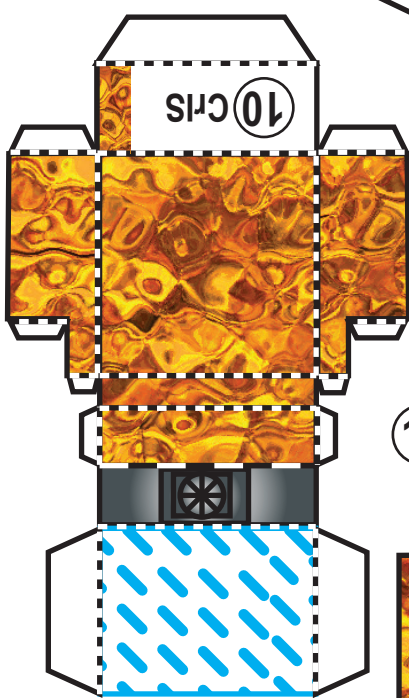
3



8 VIIRS OM
(Optics Module)

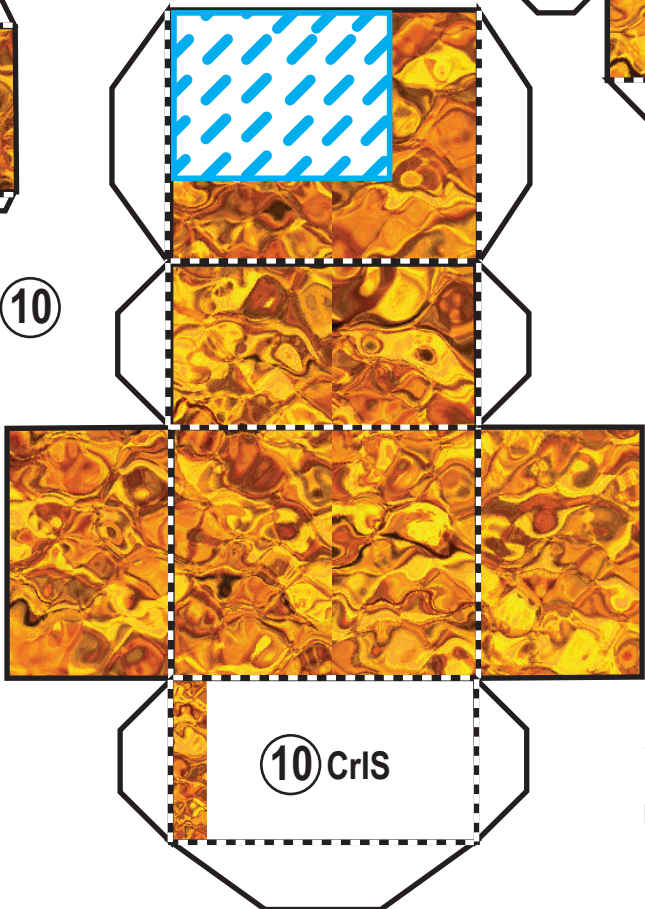


11
ATMS

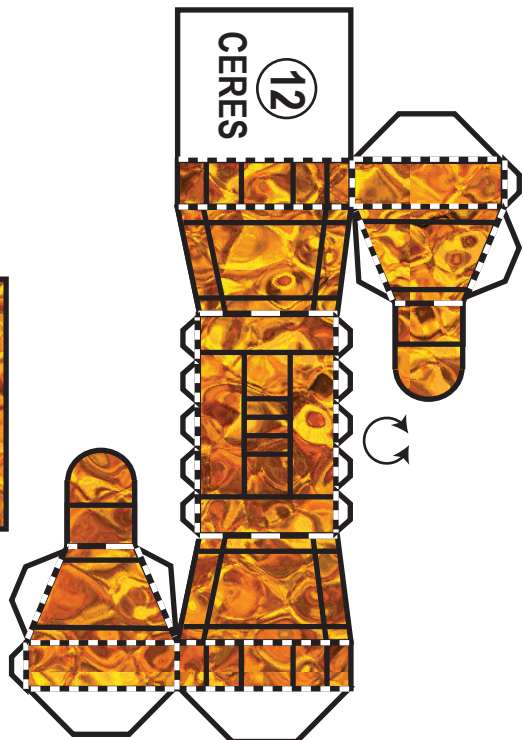


10 CrIS

10

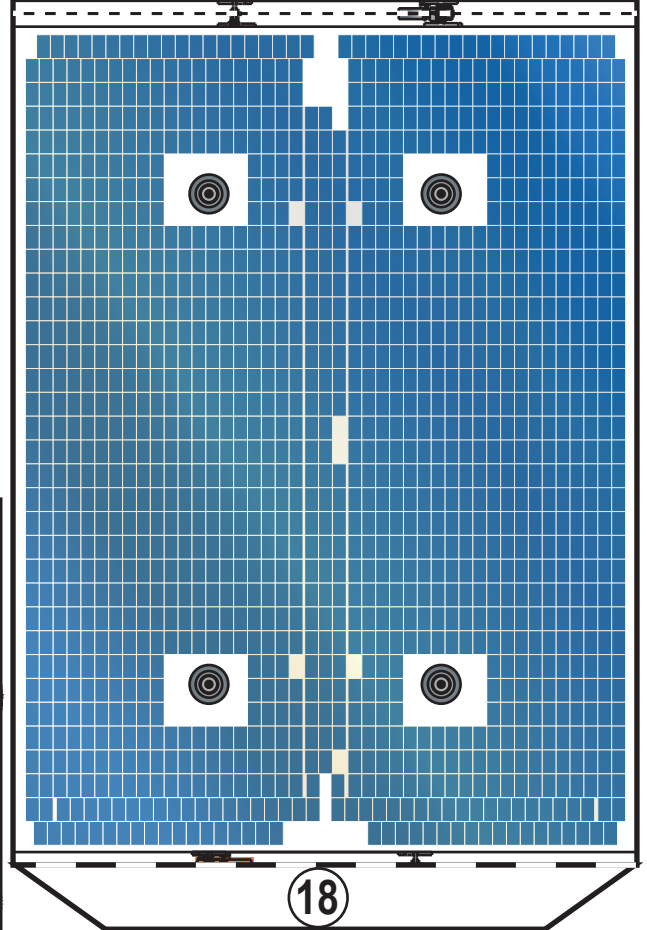
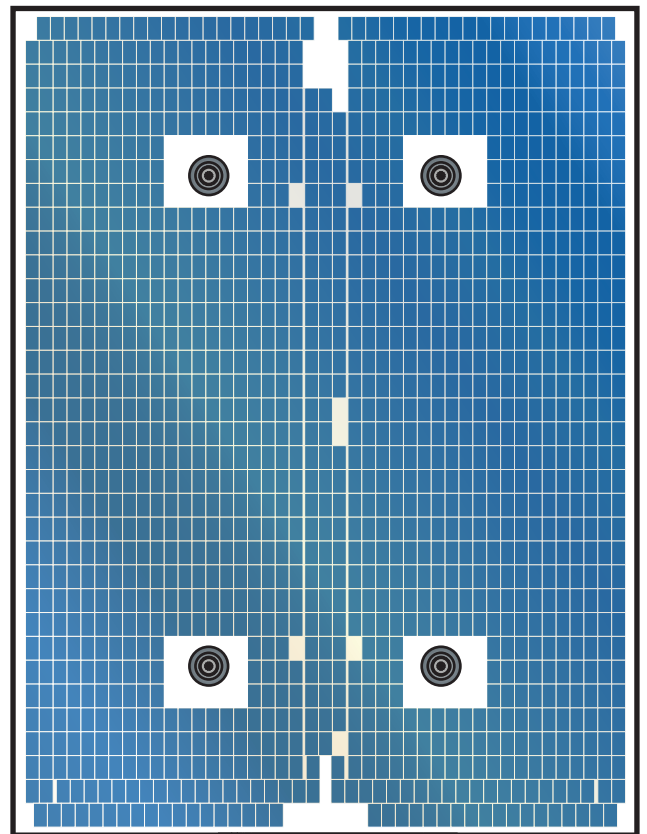
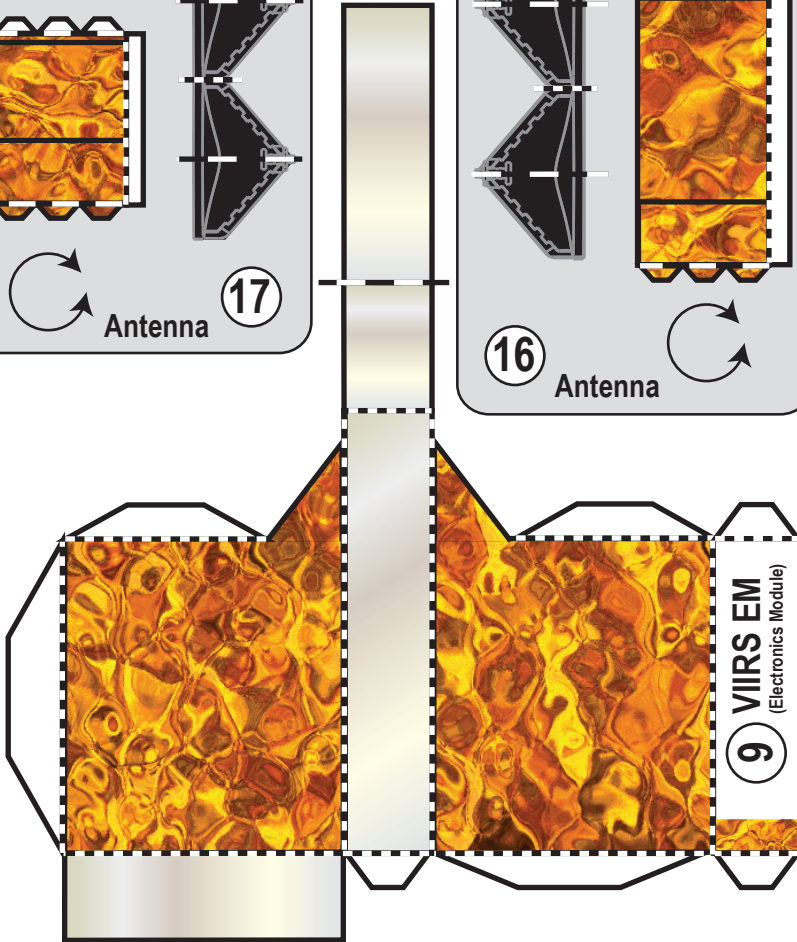
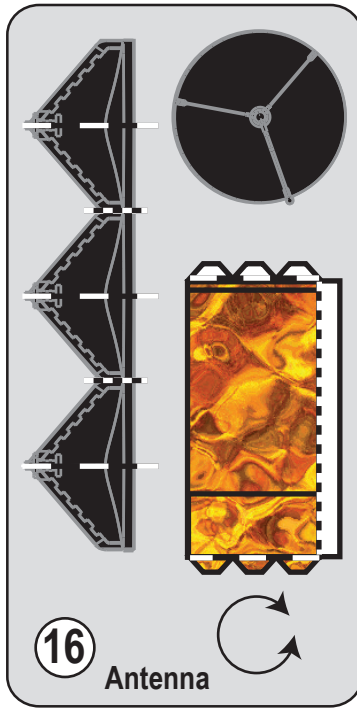
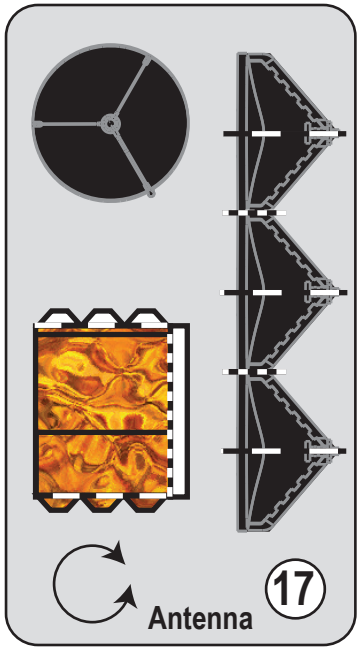


10 CrIS



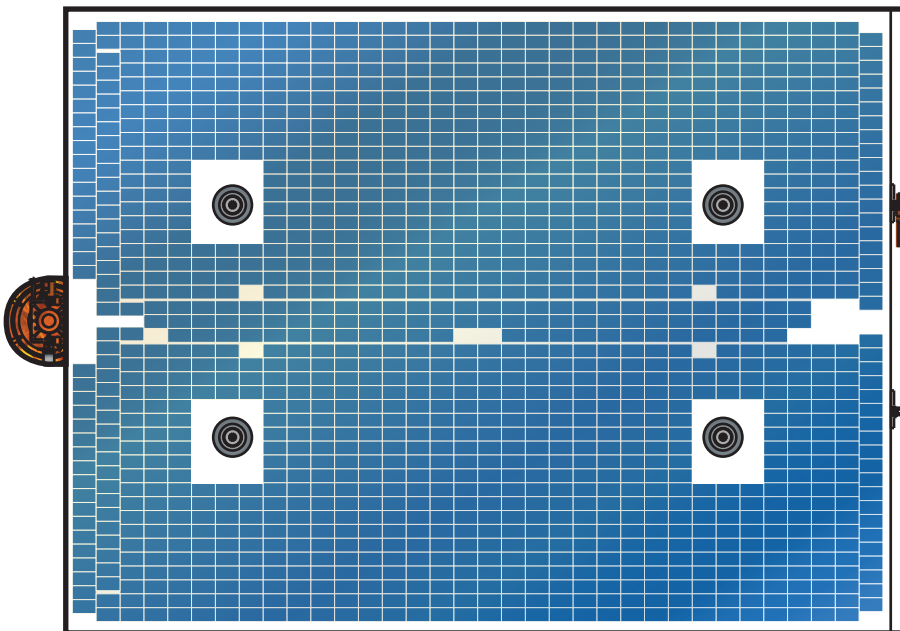
12
CERES

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

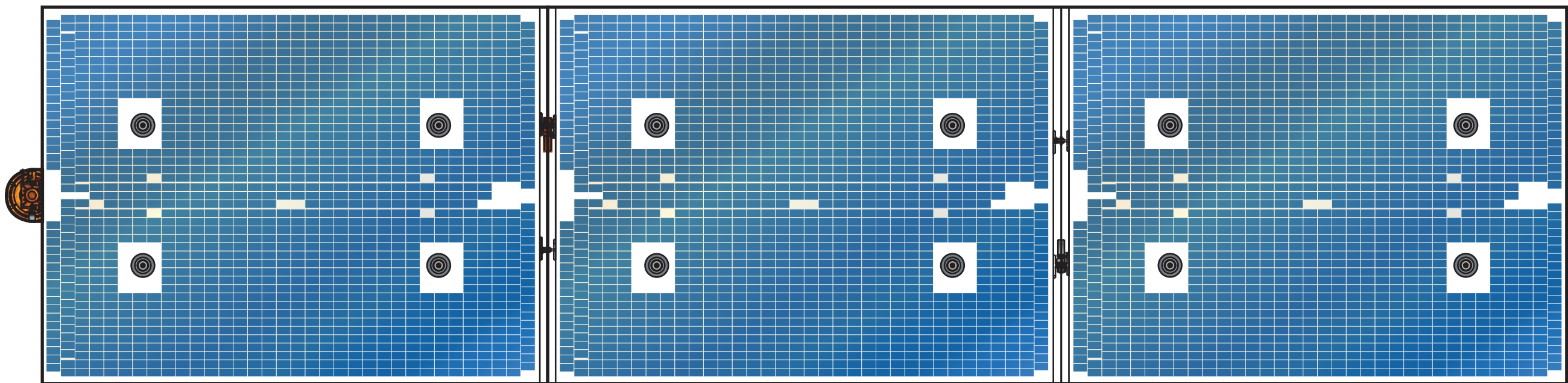


Optional Solar Array Extension

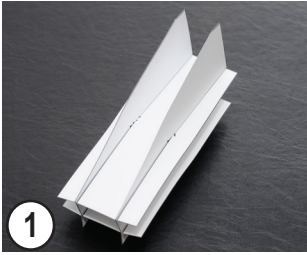
(if using this part, glue to part 19 *before* attaching the complete array to the model.)



19 Solar Array



Finished Suomi NPP Model Parts



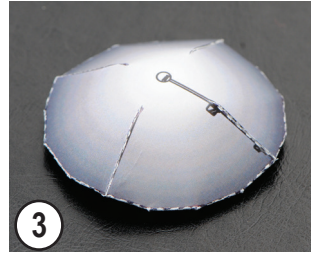
1

Internal Support Structure



2

Bus



3

Propulsion Tank



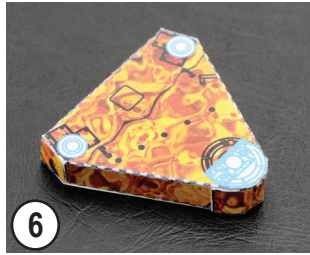
4

GPS Antenna



5

Star Trackers



6

Solar Panel Mount



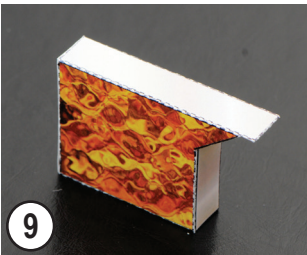
7 15

Solar Panel Mount and Antenna



8

VIIRS Optics Module



9

VIIRS Electronics Module



10

CrIS



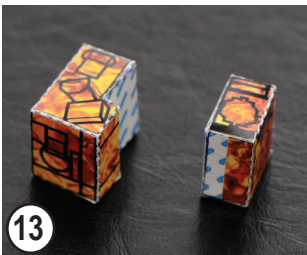
11

ATMS



12

CERES



13

OMPS Sensors



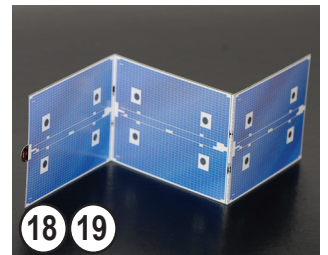
14

OMPS Main Electronics Box



16 17

Antennas



18 19

Solar Array

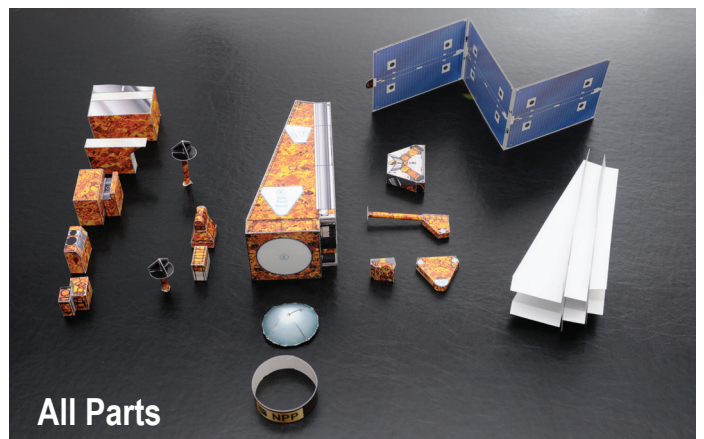


20

Model Stand



Radiator Side View



All Parts