



MAVEN is a space probe designed to study the Martian atmosphere while orbiting Mars. Mission goals include determining how the atmosphere of Mars and water, presumed to have once been substantial, were lost over time.

MAVEN was successfully launched aboard an Atlas V launch vehicle at the beginning of the first launch window on November 18, 2013. On September 22, 2014, MAVEN reached Mars and was inserted into an areocentric elliptic orbit 6,200 km (3,900 mi) by 150 km (93 mi) above the planet's surface.

The goal of MAVEN is to determine the history of the loss of atmospheric gases to space, providing answers about Martian climate evolution. By measuring the rate with which the atmosphere is currently escaping to space and gathering enough information about the relevant processes, scientists will be able to infer how the planet's atmosphere evolved over time.

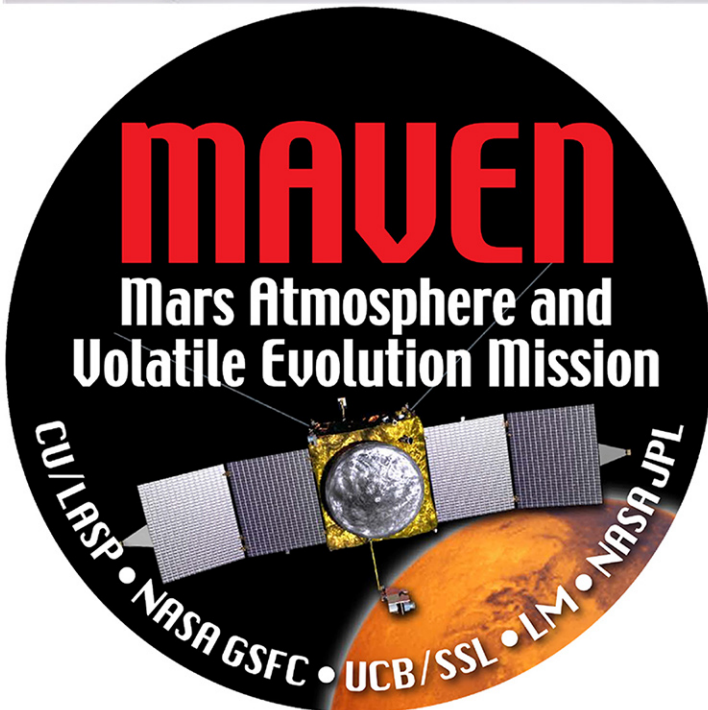
Scientists will use MAVEN data to determine the role that loss of volatiles from the Mars atmosphere to space has played through time, giving insight into the history of Mars' atmosphere and climate, liquid water, and planetary habitability.

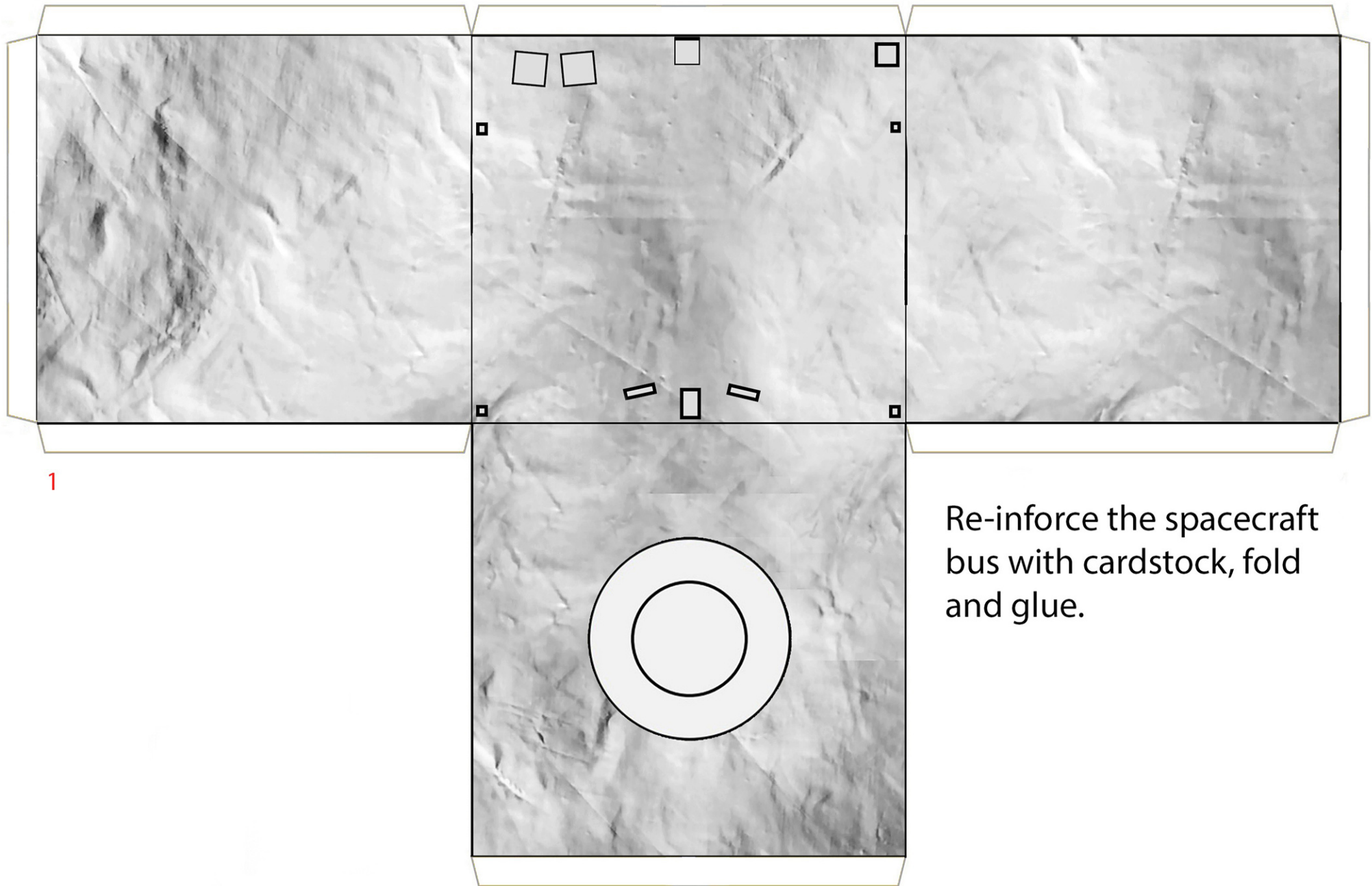
The orbiter has a cubical shape of about 2.3 meters $\times$ 2.3 meters $\times$ 2 meters high, with two solar arrays that hold the magnetometers on both ends. The total length is 11.4 meters (37.5 feet). MAVEN has observed two unexpected phenomena in the Martian atmosphere: an unexplained high-altitude dust cloud and aurora that reaches deep into the Martian atmosphere.

The presence of the dust at orbital altitudes from about 93 miles (150 kilometers) to 190 miles (300 kilometers) above the surface was not predicted. Although the source and composition of the dust are unknown, there is no hazard to MAVEN and other spacecraft orbiting Mars.

"If the dust originates from the atmosphere, this suggests we are missing some fundamental process in the Martian atmosphere," said Laila Andersson of the University of Colorado's Laboratory for Atmospherics and Space Physics (CU LASP), Boulder, Colorado.

MAVEN's Imaging Ultraviolet Spectrograph (IUVS) observed what scientists have named "Christmas lights." For five days just before Dec. 25, MAVEN saw a bright ultraviolet auroral glow spanning Mars' northern hemisphere. Aurora, known on Earth as northern or southern lights, are caused by energetic particles like electrons crashing down into the atmosphere and causing the gas to glow.

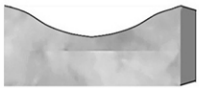
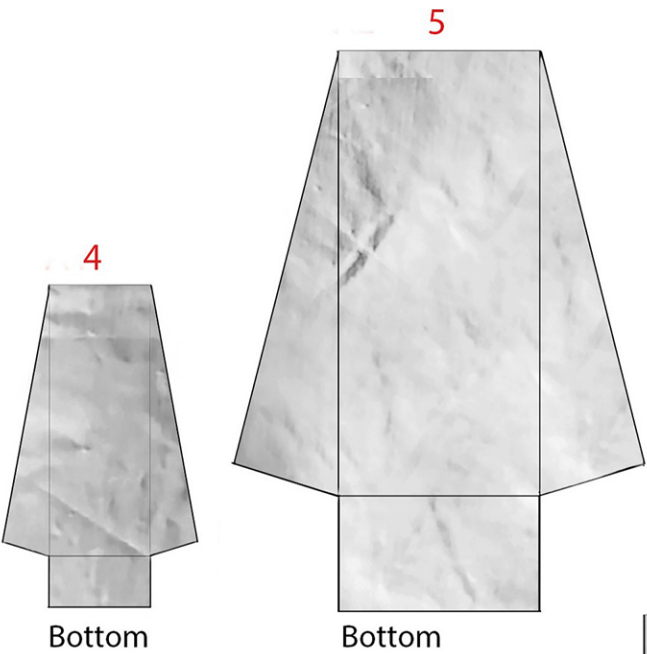
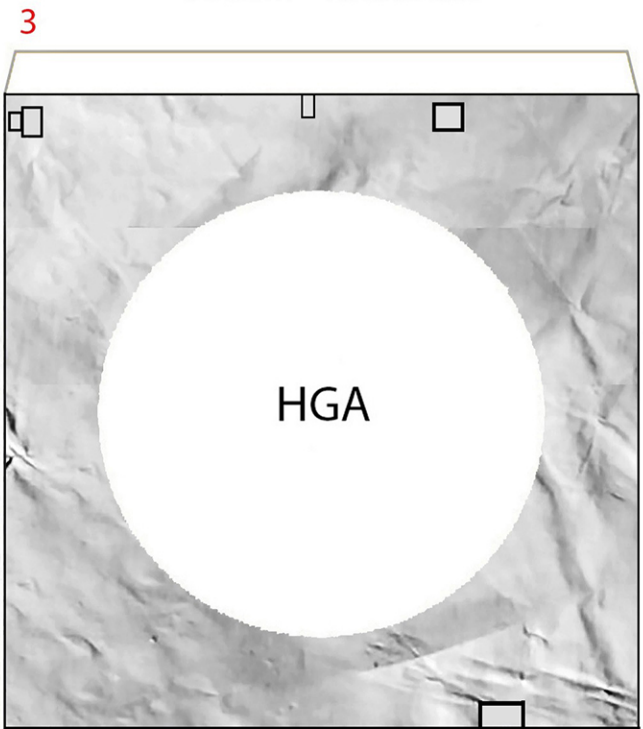
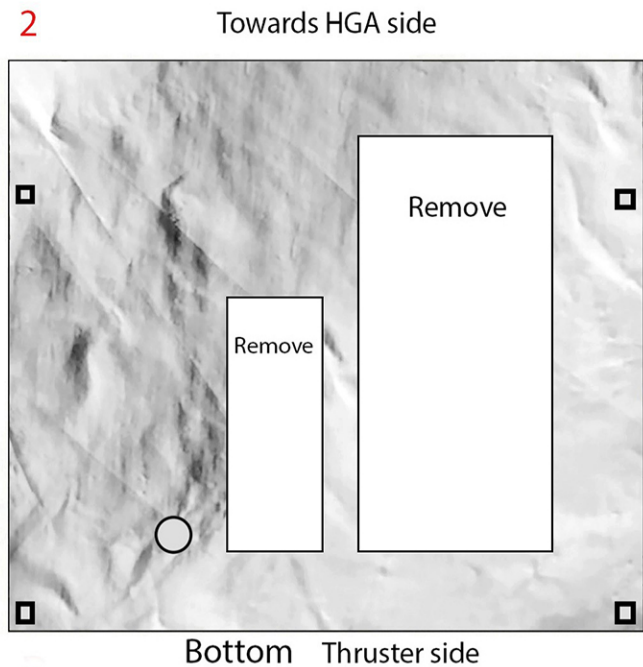




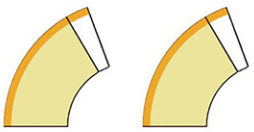
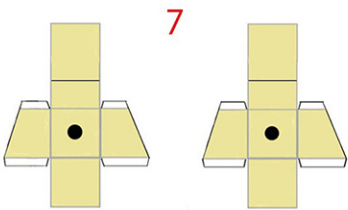
1

Re-inforce the spacecraft bus with cardstock, fold and glue.

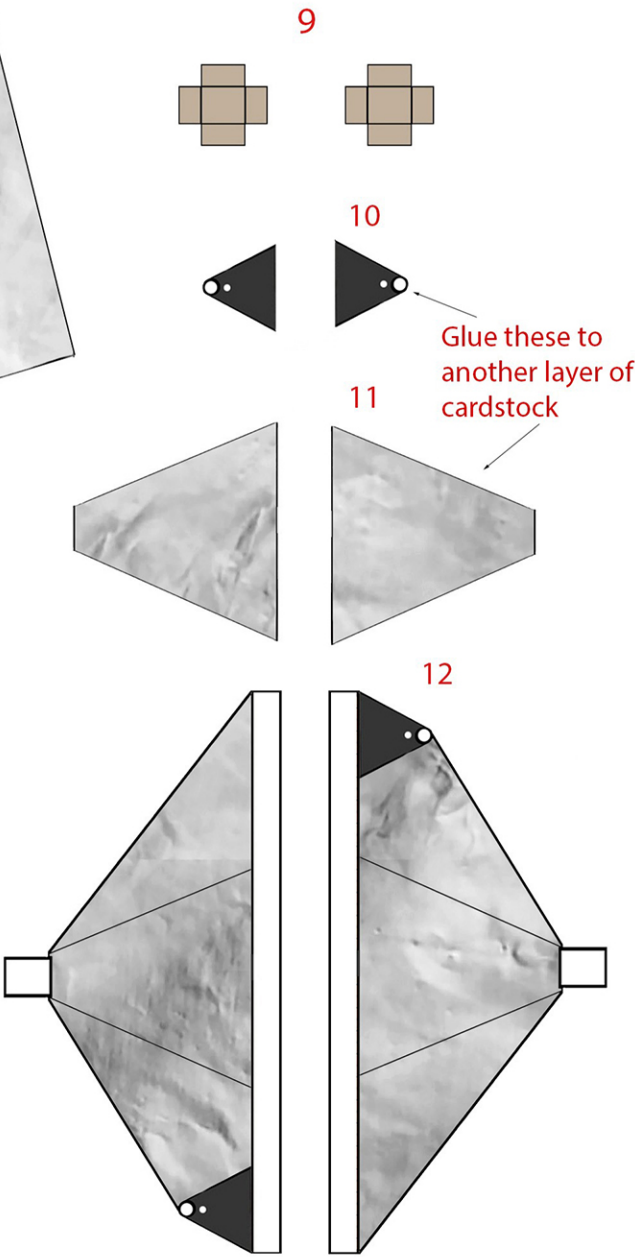
SPACECRAFT BUS

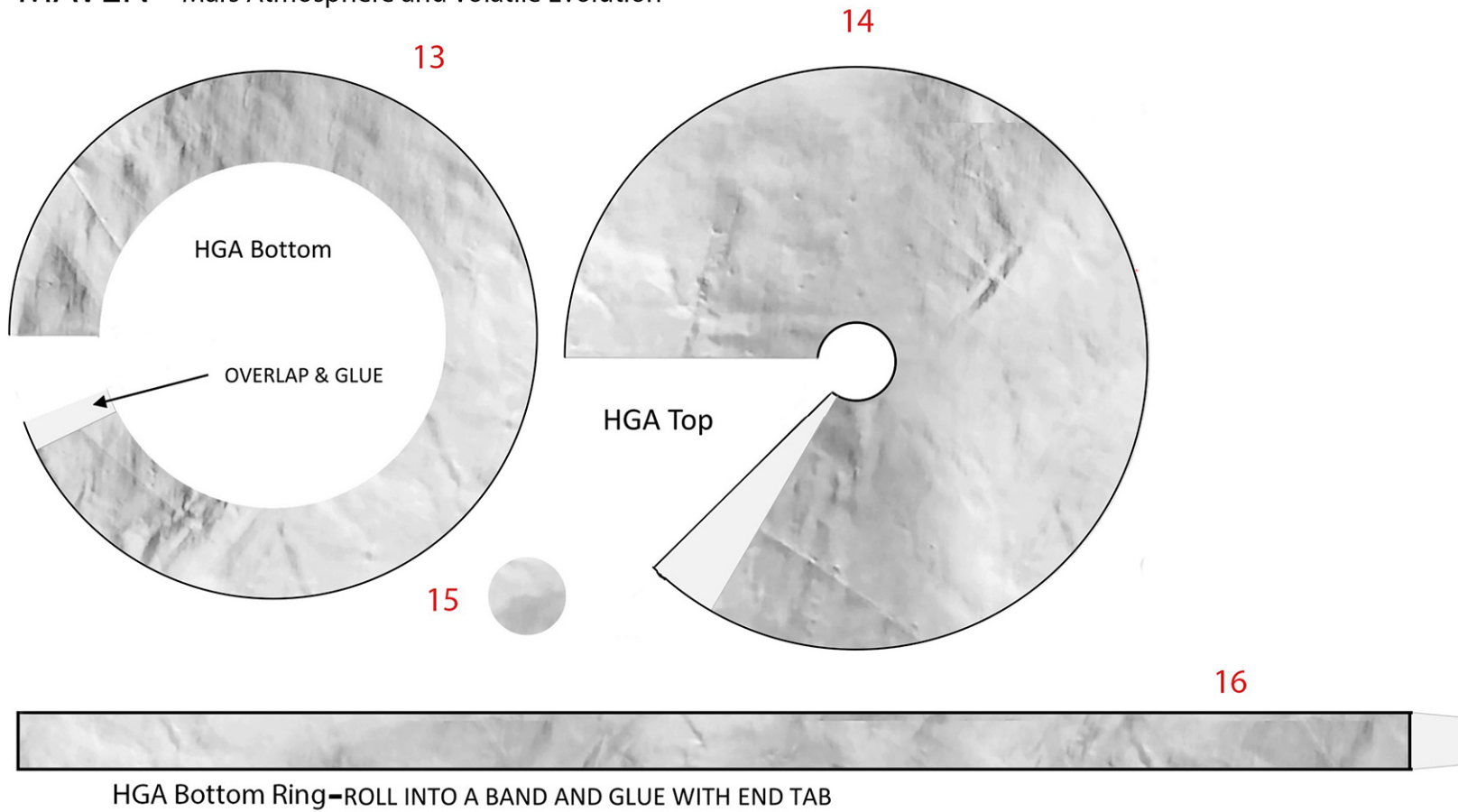


6
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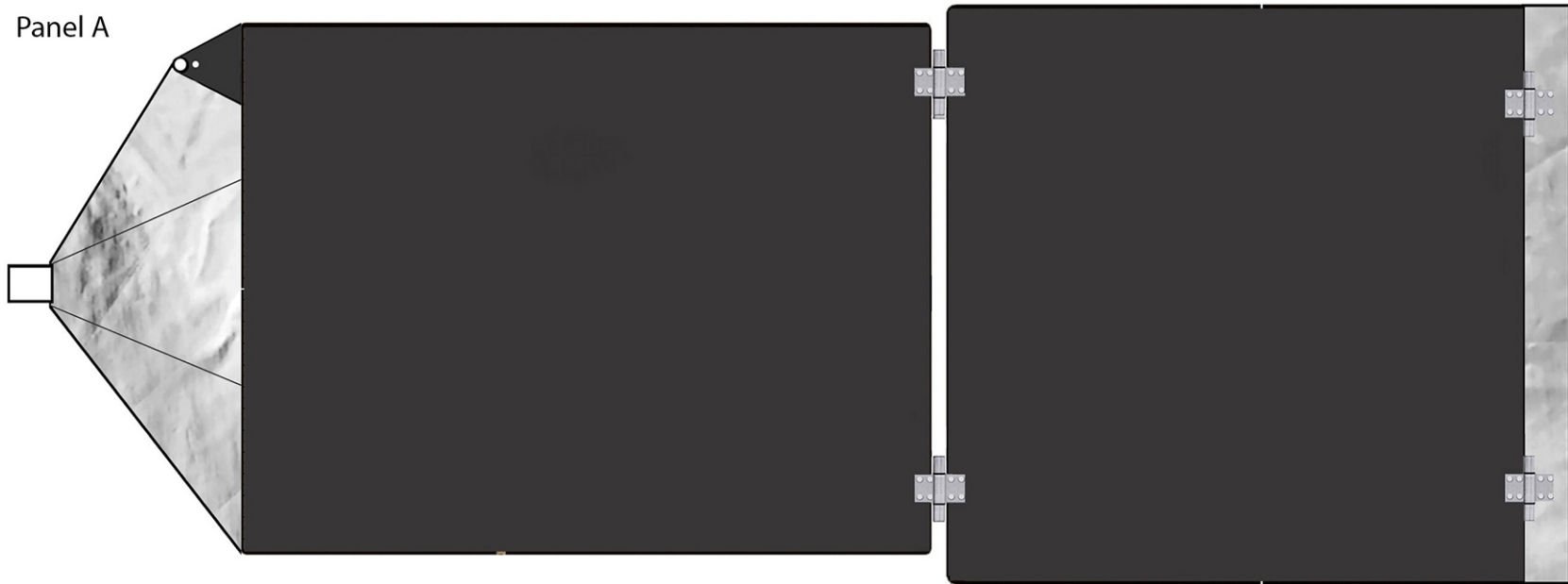
8
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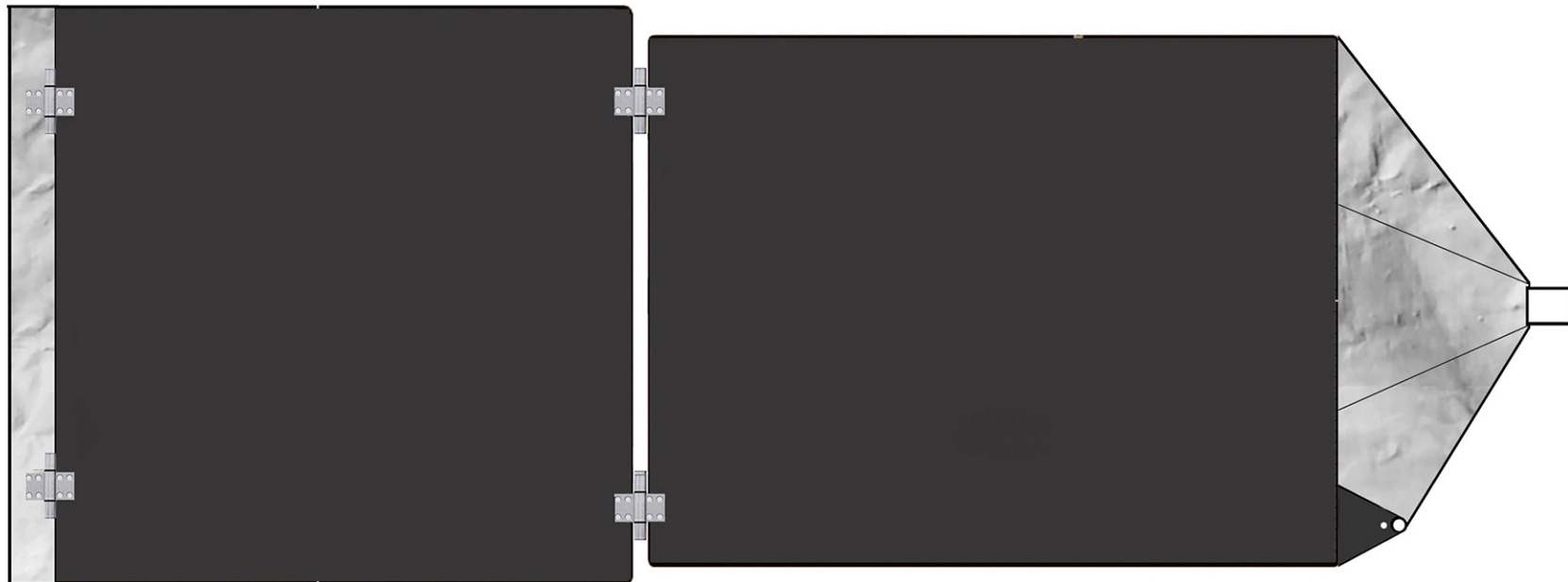


Solar Panels

Panel A

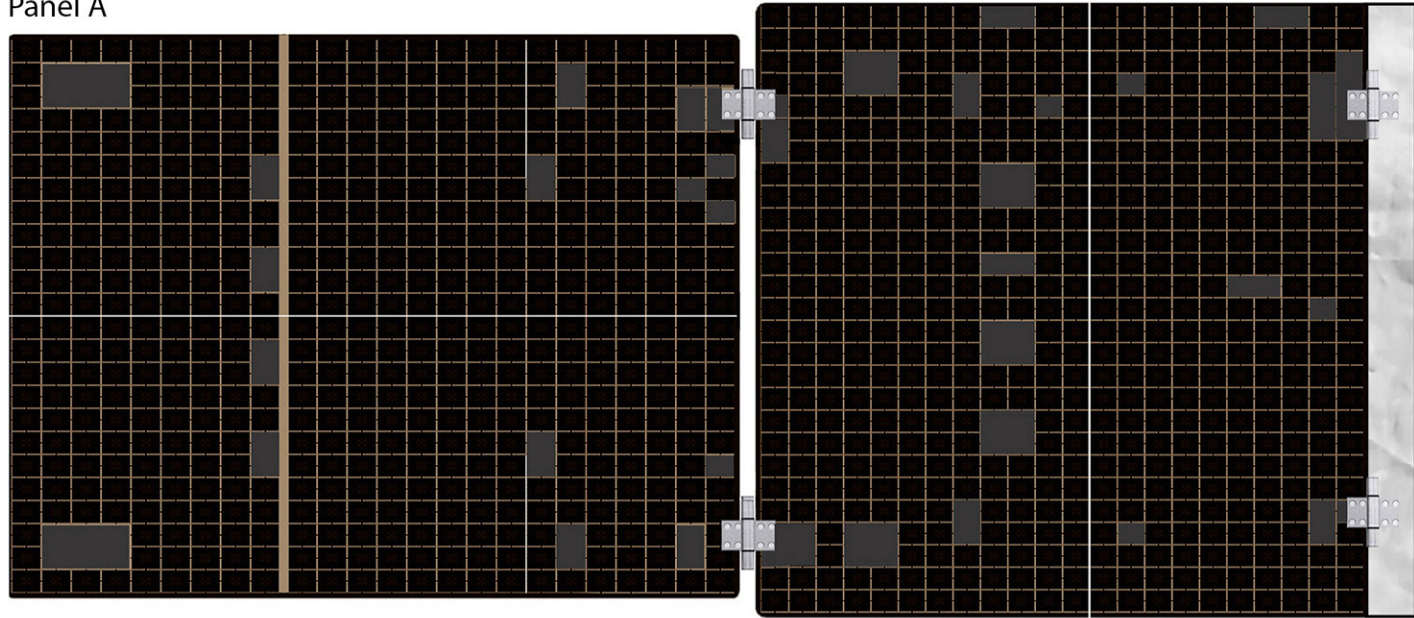


Panel B

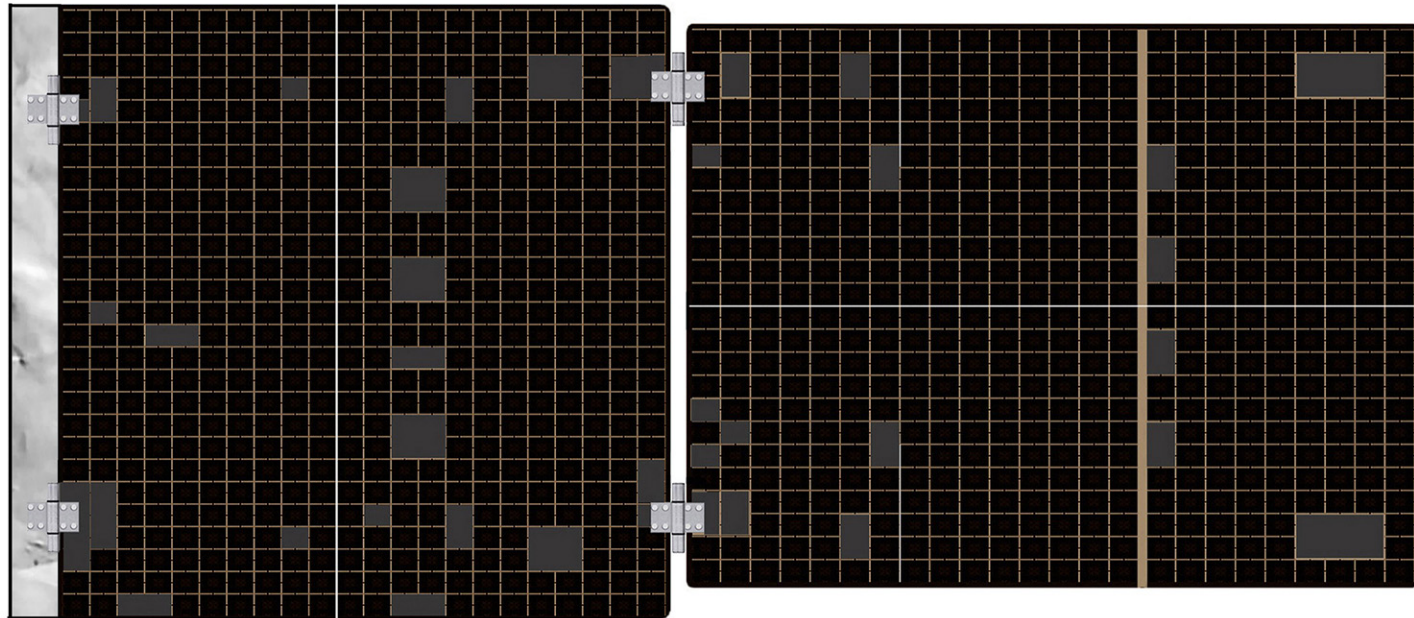


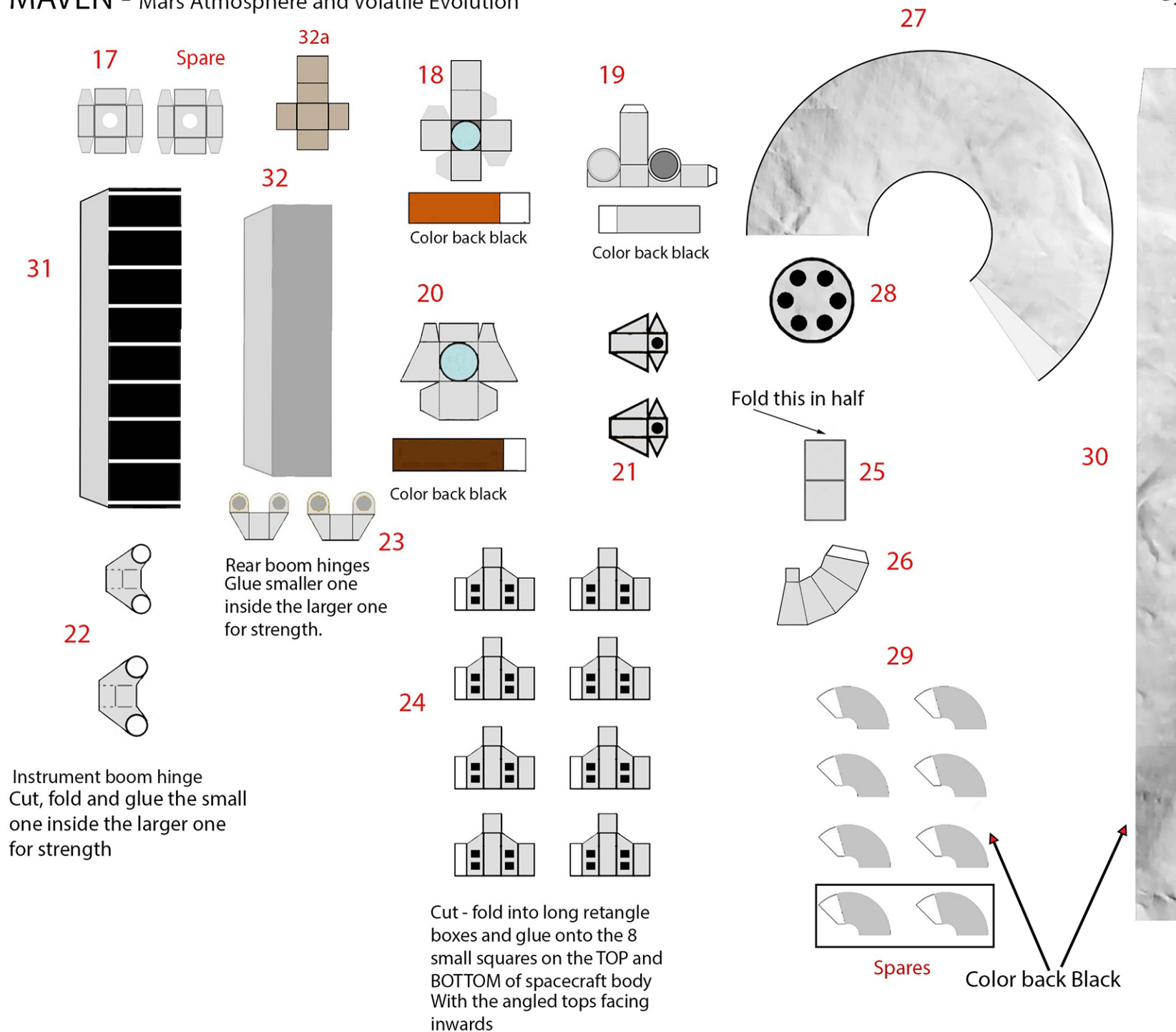
Solar Panels

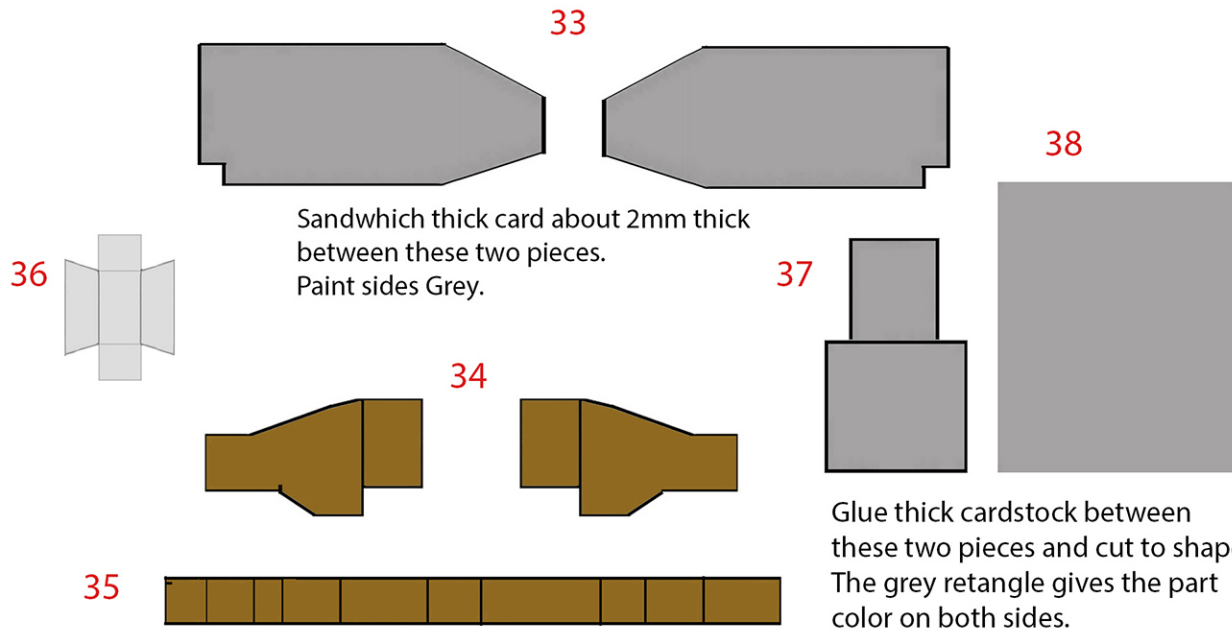
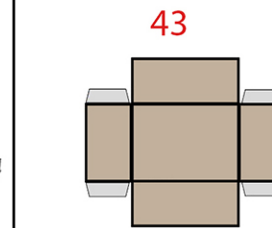
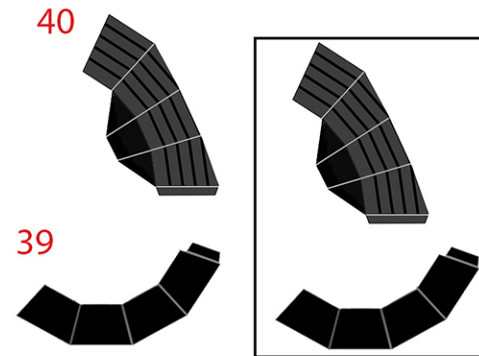
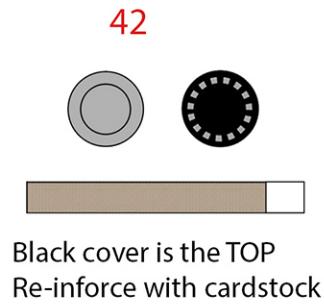
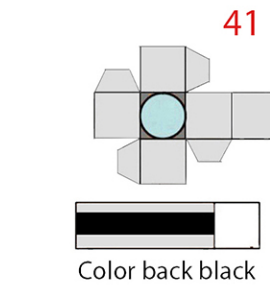
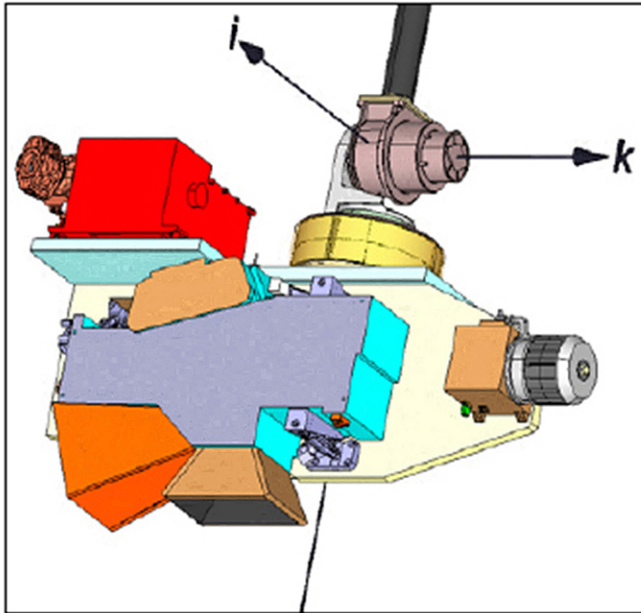
Panel A



Panel B







Glue this to the above parts starting with one side. The two small marks indicates the starting point.