

HISAKI Satellite



Hisaki (ひさき, 'beyond the Sun') also known as SPRINT-A (Spectroscopic Planet Observatory for Recognition of Interaction of Atmosphere), is the world's first space telescope for remote observation of the planets such as Venus, Mars, and Jupiter from the orbit around the earth.

The Japanese ultraviolet astronomy satellite operated by Japan Aerospace Exploration Agency (JAXA). The first mission of the Small Satellite Scientist program, which was launched in September 14, 2013 **on the first Epsilon rocket flight.**

Hisaki's main goal is Jupiter's magnetosphere, the largest 'object' in the solar system after the sun. Hisaki will study how the Jovian auroras and the toroidal plasma belt generated by Io's volcanic activity behave, depending on the solar wind activity. The extreme ultraviolet observation allows the estimation of the ion density distribution and the temperature of the high energy electrons in the internal magnetosphere. The secondary objective is the interaction of the solar wind with Mars and Venus. In particular, Hisaki's results will allow us to unravel the mechanisms that caused the red planet to lose most of its atmosphere in the past, thus complementing the direct observations of NASA's future MAVEN probe.

Hisaki has a mass of 350 kg, a length of 4 meters and a wingspan of 7 meters with solar panels d expanded (which produce 900 W of electrical power). It will be located in an orbit of 950 x 1150 kilometers and 31° of inclination. The primary mission will last for one year. The satellite is divided into two sections, the bus or platform with avionics, communications systems and solar panels (SPRINT bus), and the payload section with the instruments.

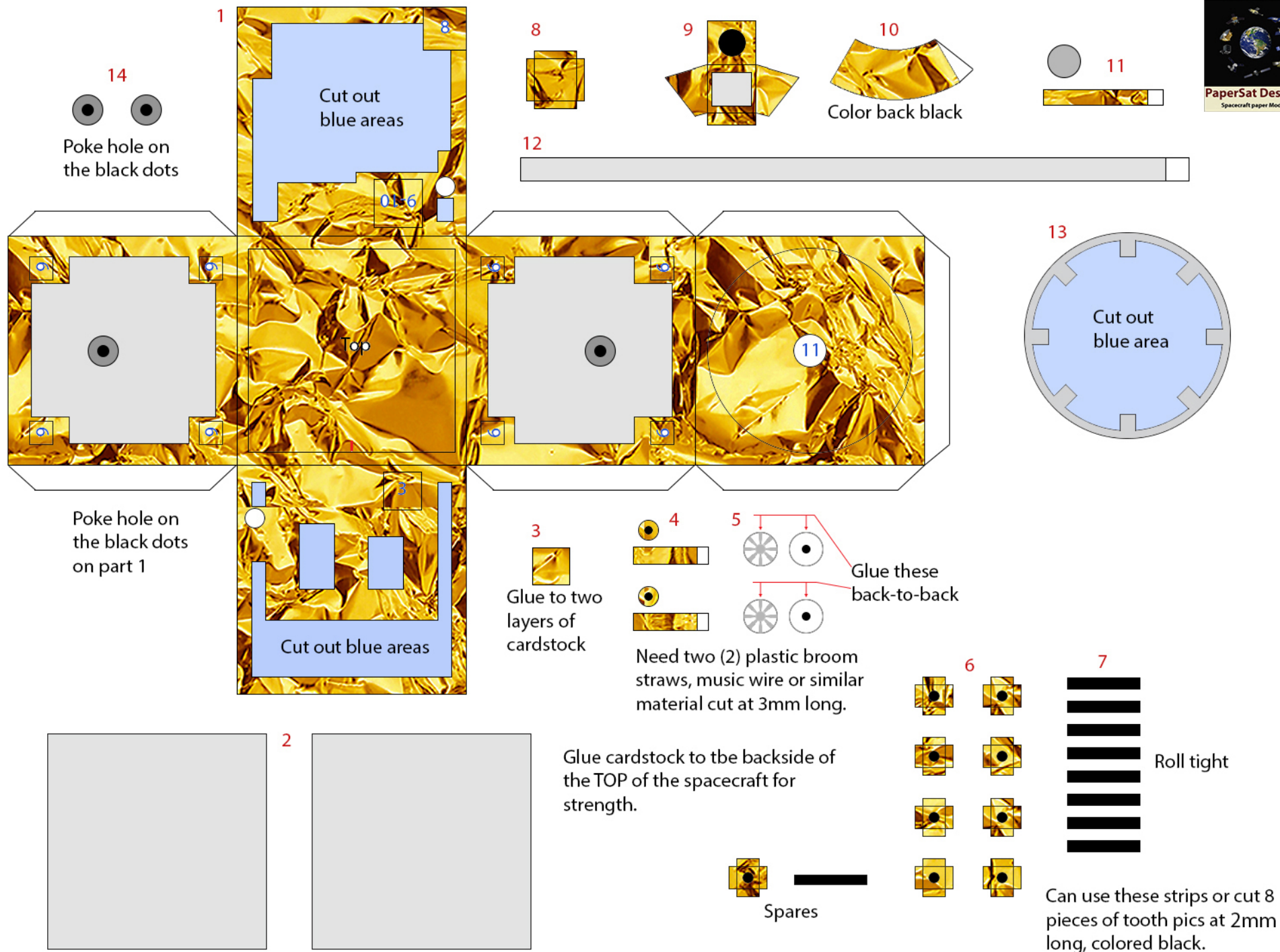
Epsilon rocket (JAXA).

The Epsilon is a new, low-cost launcher for small-sized loads - similar in concept to the European Vega rocket - created to replace the MV rocket, retired in 2006. It has been designed from the MV and H-IIA solid fuel rocket, currently in service. In fact, the first stage of the Epsilon is basically similar to the SRB-A accelerators of the H-II rocket, while the second and third stages are derived from the MV. Japan has a long tradition of using small solid fuel rockets thanks to the Lambda and Mu launchers, developed by the ISAS (Institute of Space and Astronautical Science), currently part of JAXA, which would culminate in the MV (Mu-5), in service between 1997 and 2006.

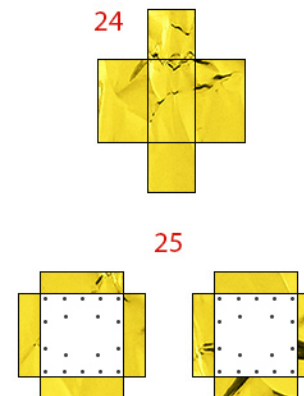
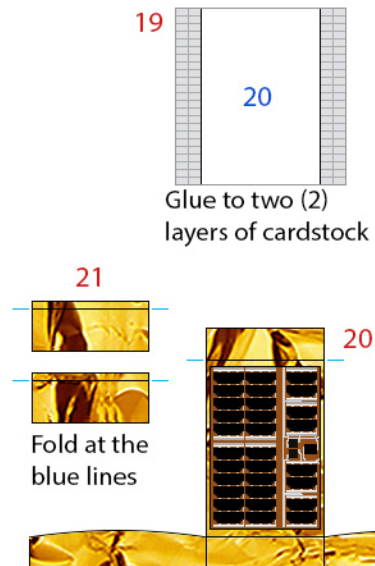
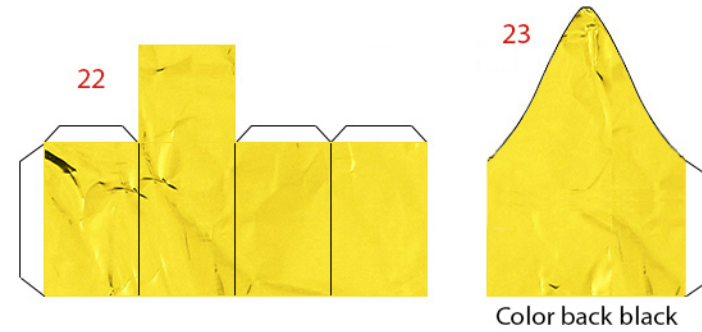
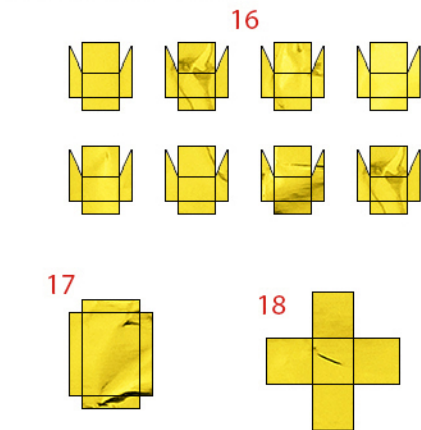
It is a small three-stage solid-fuel space launcher capable of placing 1200 kg in a low 250 x 500-kilometer-high orbit launched from Japan. You can also place 700 kg in a circular orbit of 500 kilometers or 450 kg in a heliosynchronous polar orbit of 500 kilometers. It has a length of 24 meters, a diameter of 2.6 meters and a mass at the launch of 91 tons.



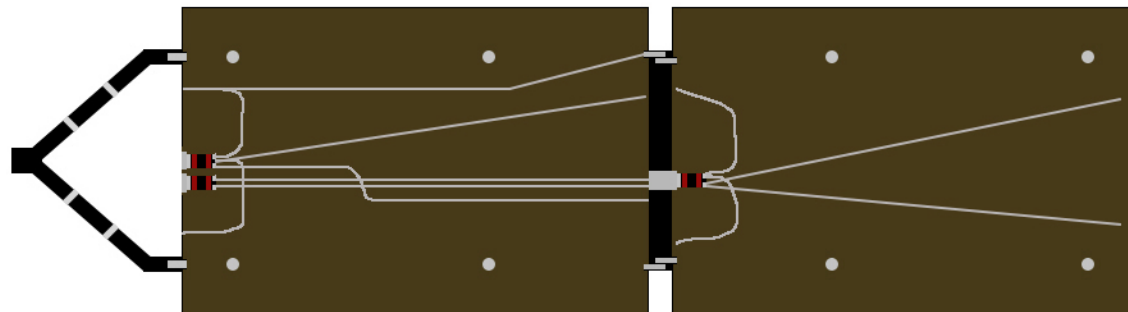
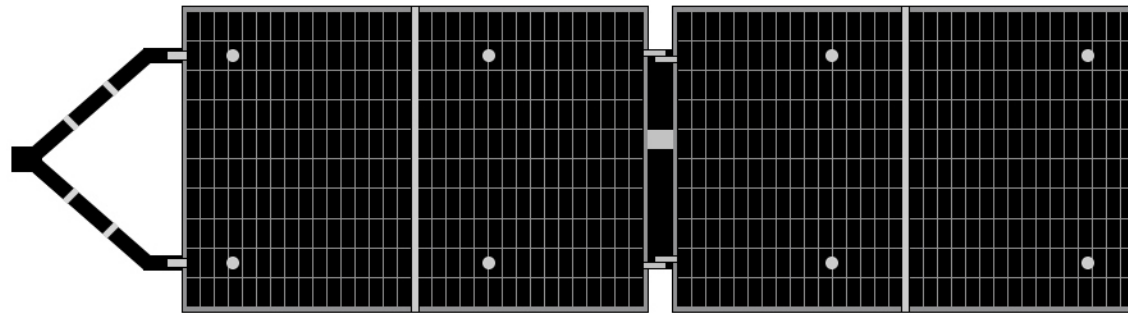
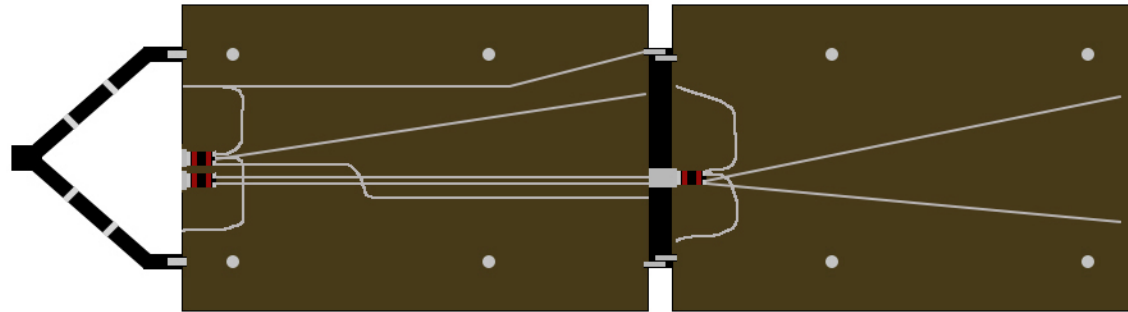
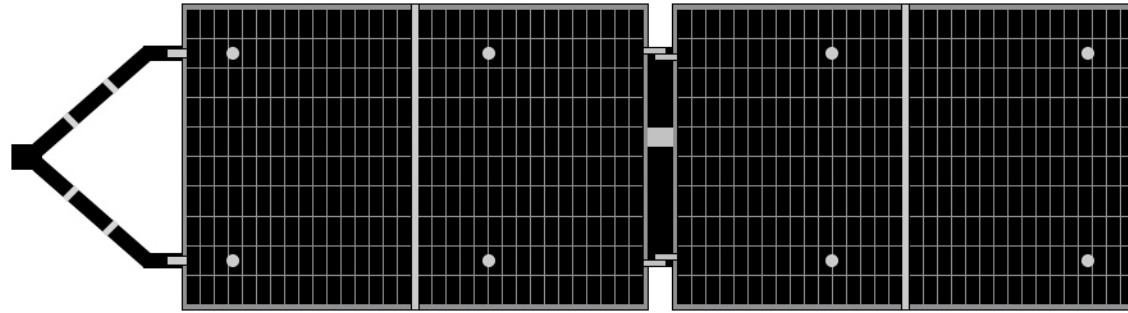
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Glue each pair back-to-back

Need a thin skewer, music wire or similar material cut at 6 inches or 150mm long, colored black for the solar array support rod.