



Parker Solar Probe

Instruction Manual



Fairing



Payload fairings

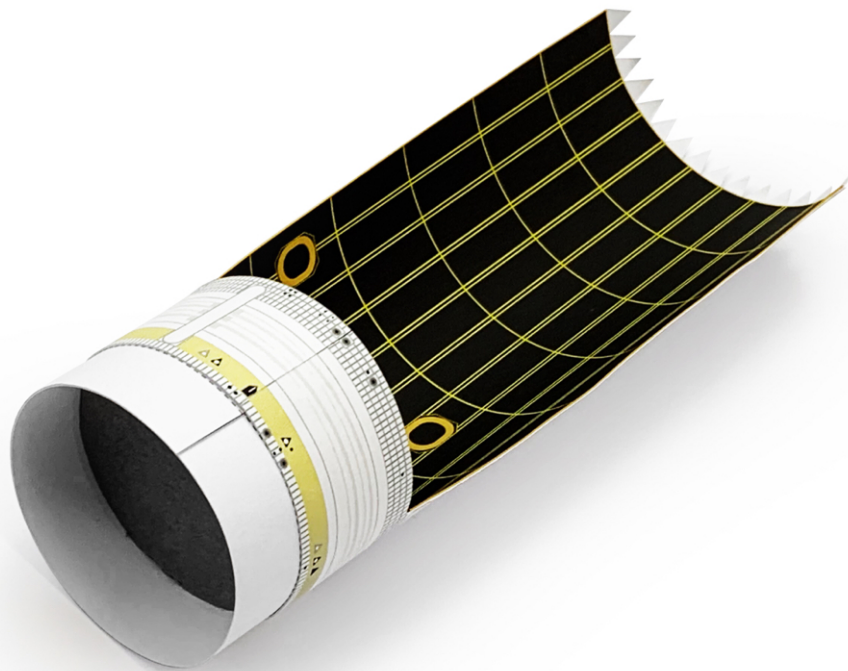
The payload fairing (PLF) provides a controlled, safe environment for spacecraft during ascent.

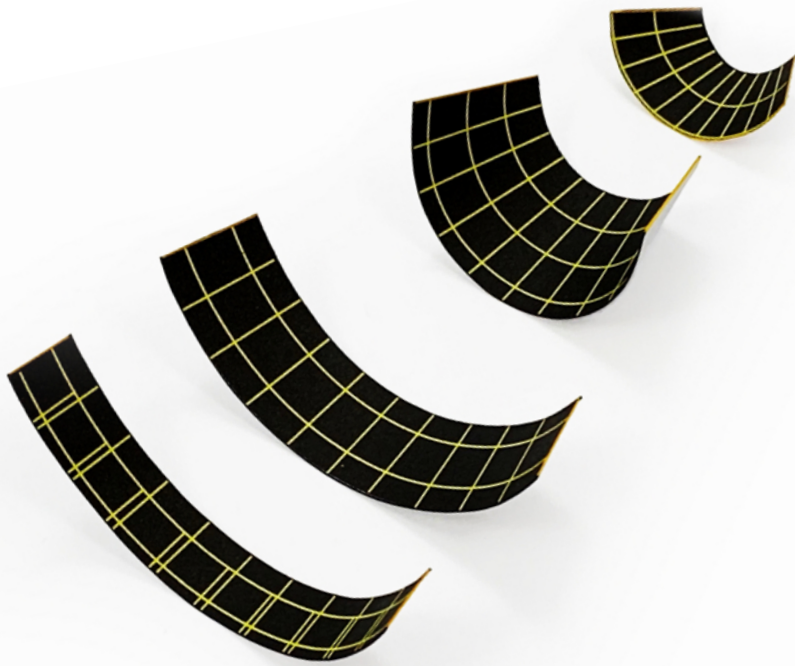
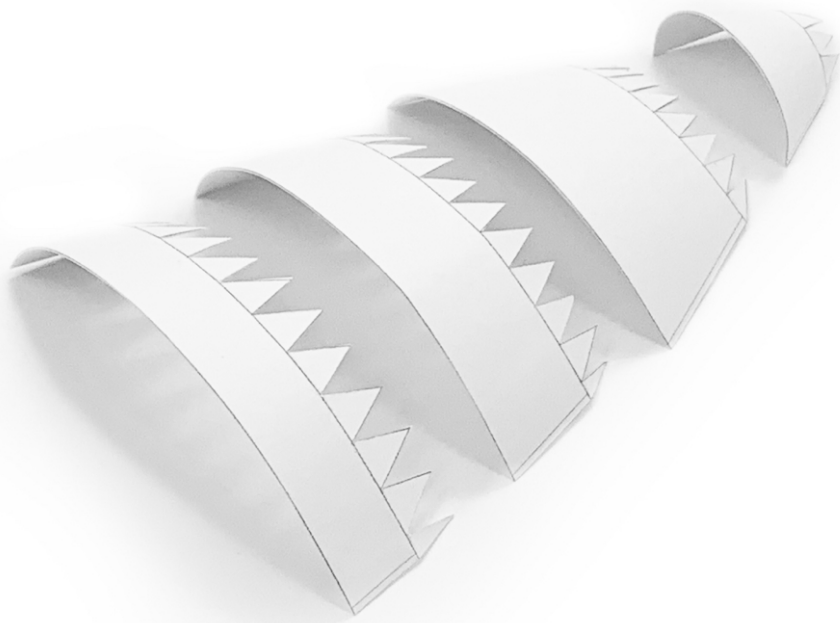
All ULA PLFs are configured for off-pad payload encapsulation, which enhances payload safety and security and minimizes on-pad time.

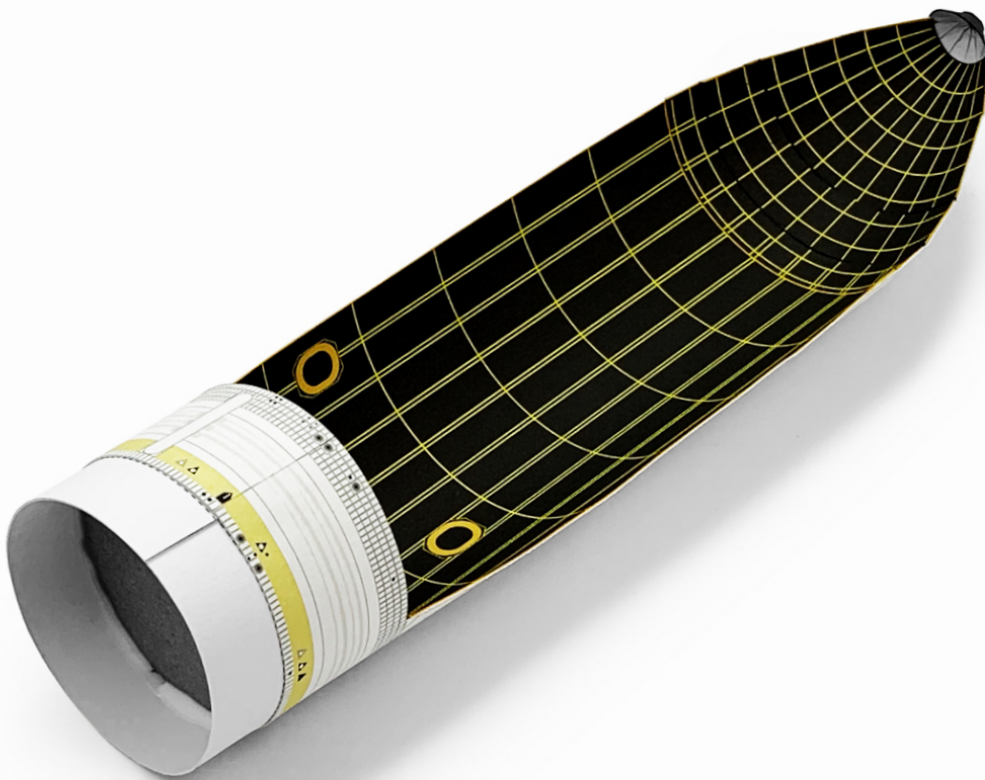
Delta IV offers a 5-meter-diameter PLF, optimized for the configuration and mission need. The Delta IV Medium uses a standard carbon composite bisector design. The Delta IV Heavy is available with an elongated carbon-composite bisector or metallic trisector PLF.



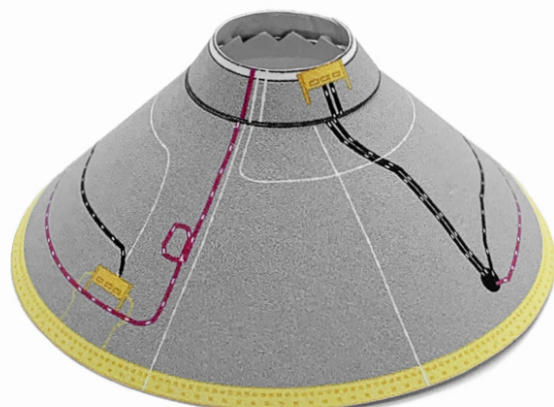
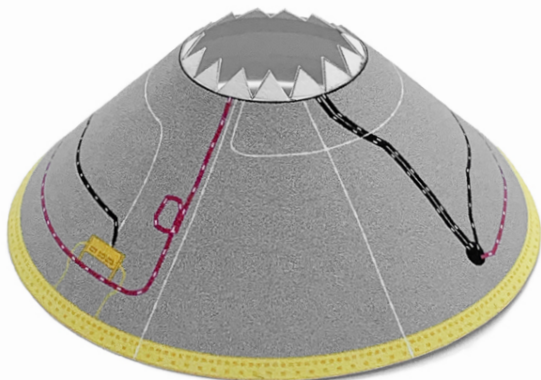
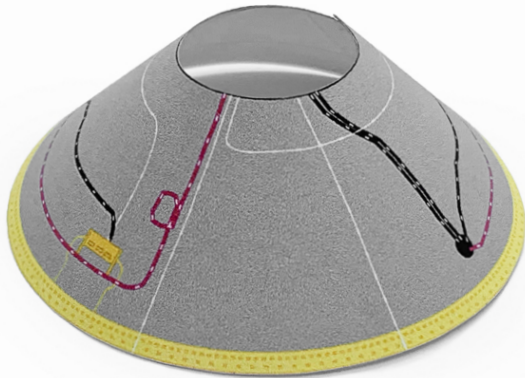
Source: ulalaunch.com







Payload Attach Fitting

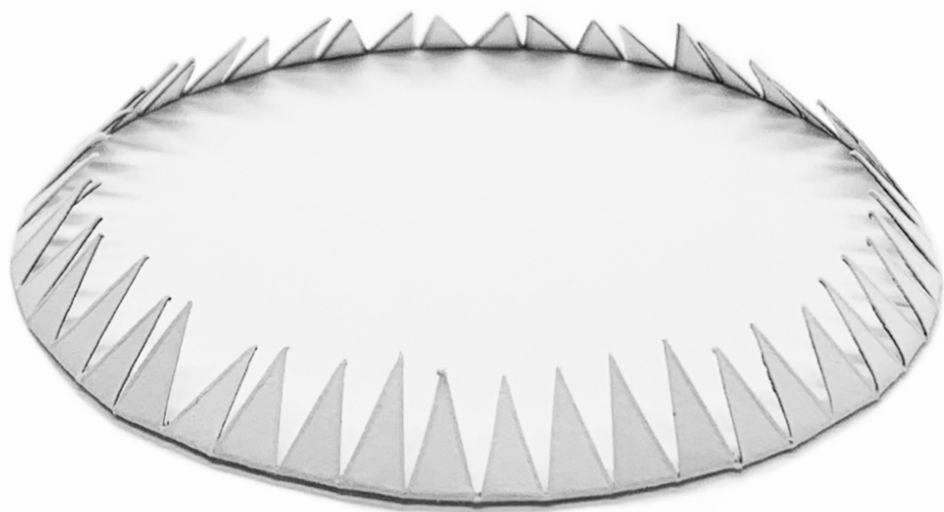


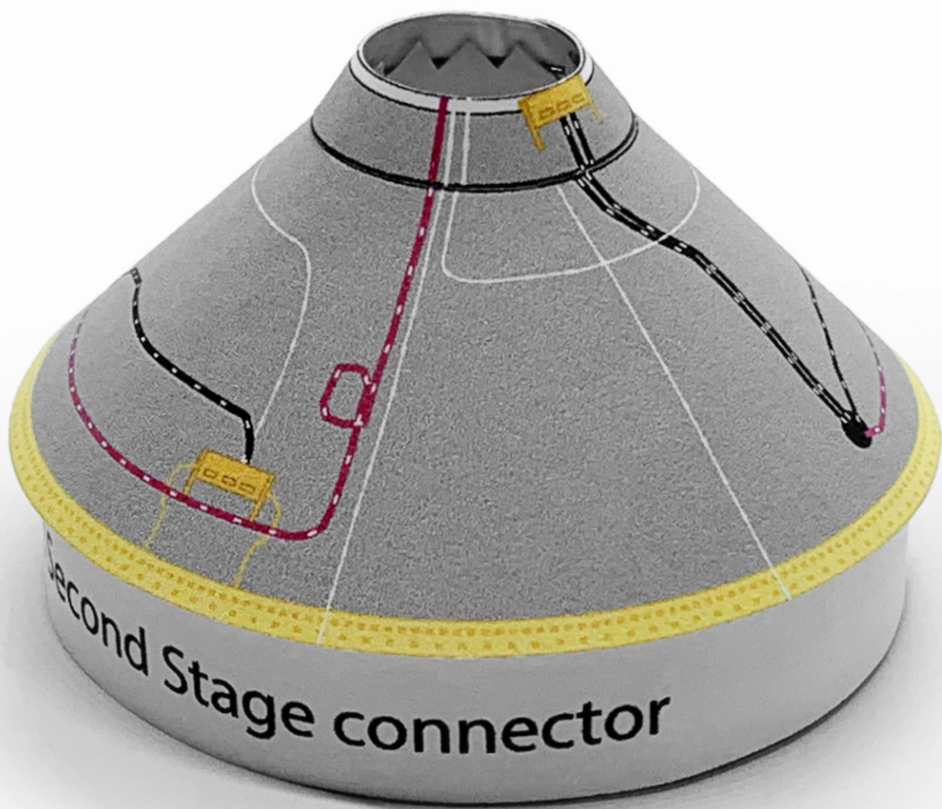
PAF

The Payload Attach Fitting (PAF) provides the mechanical interface between the payload and the launch vehicle. The Delta IV launch system offers a selection of standard and modifiable PAFs to accommodate a variety of payload requirements. The customer has the option to provide the payload separation system and mate directly to a PAF provided by ULA; or ULA can supply the entire separation system. Payload separation systems typically incorporated on the PAF include clampband systems or explosive attach-bolt systems. ULA has extensive experience designing and building satellite dispensing systems for multiple satellite launches. Our dispensers have a 100% success rate.

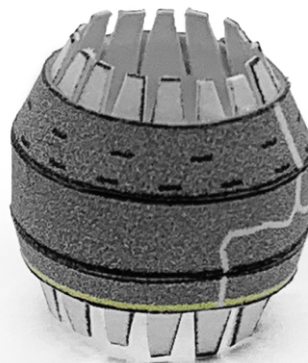
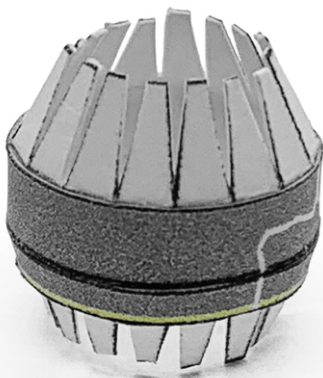
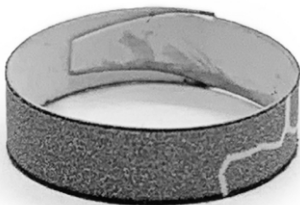
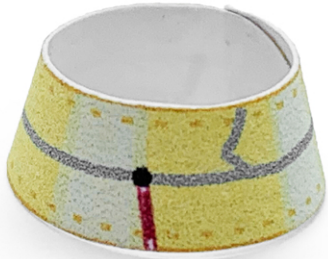


Source: ulalaunch.com



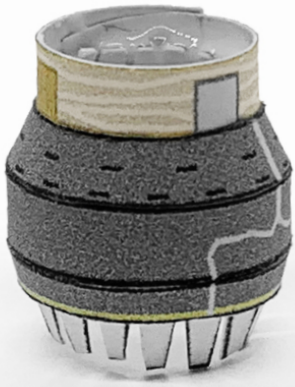


Third Stage

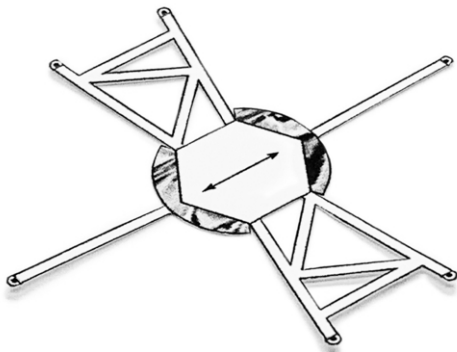
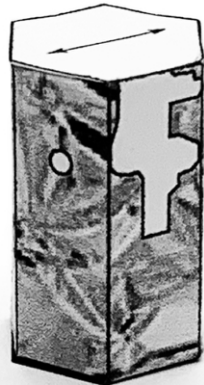


Third Stage

The Delta Program is evaluating the use of a third stage for the Delta IV M+ and Delta IV Heavy launch vehicles for interplanetary missions. The third-stage design would be based on the proven Delta II design. The heritage Delta II third stage consists of a Star 48B solid rocket motor, a payload attach fitting (PAF) with Nutation Control System (NCS), and a spin table containing small rockets for spin-up of the third stage/ spacecraft. The flight-proven NCS, using monopropellant hydrazine prepressurized with helium, maintains orientation of the spin-axis of the third-stage/spacecraft stack during flight until spacecraft separation. This simple system has inherent reliability, with only one moving component and a leak-free design



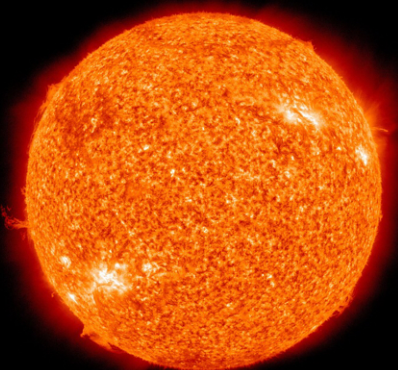
Parker Solar Probe

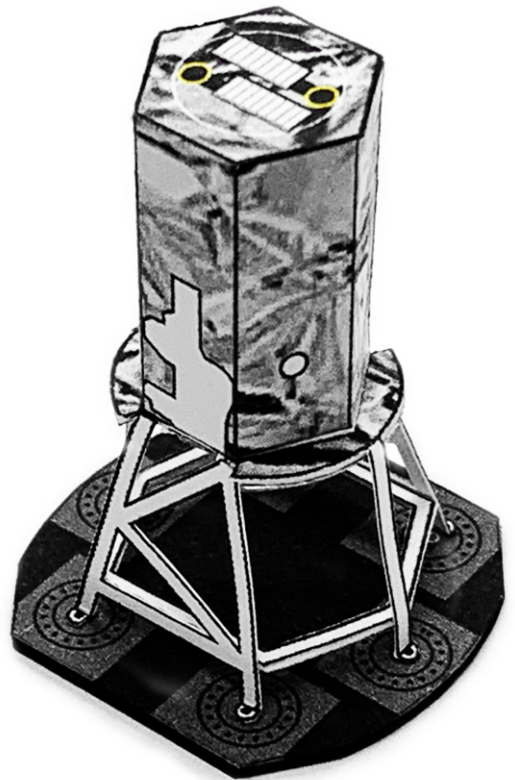
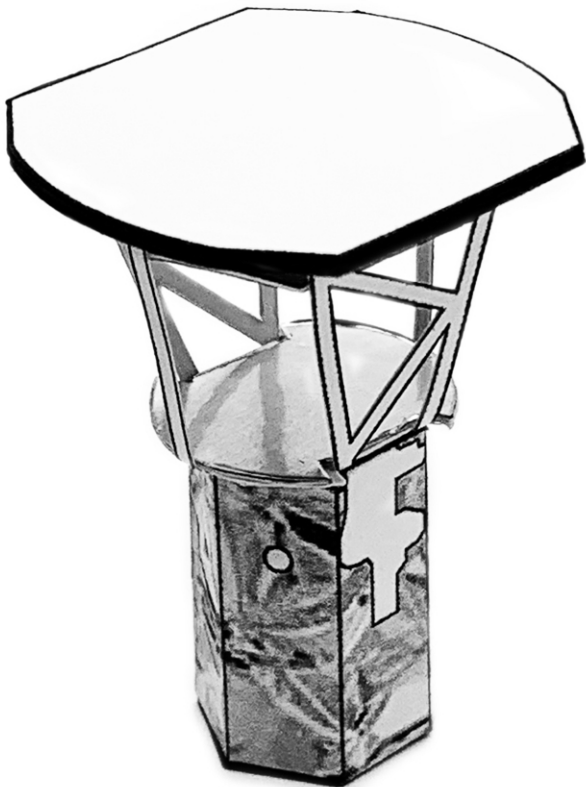
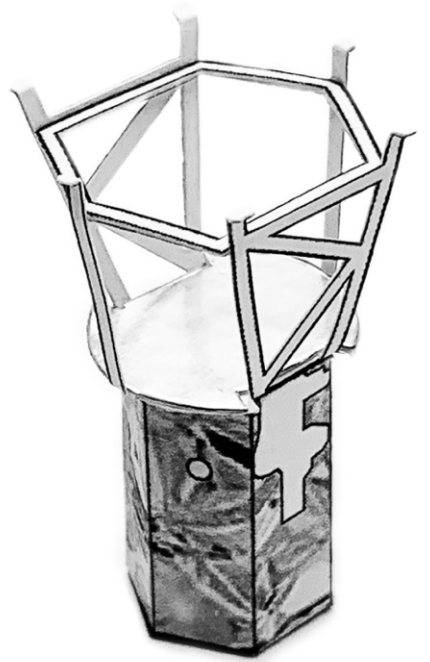
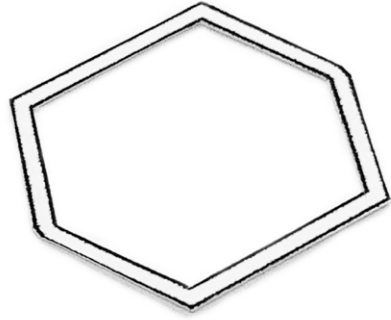
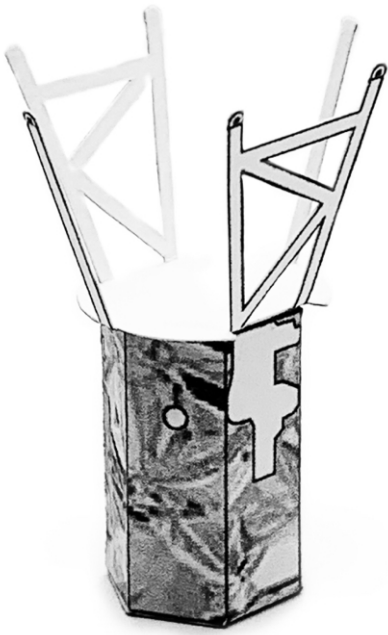


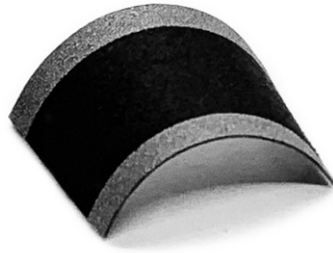
NASA's historic Parker Solar Probe (PSP) mission will revolutionize our understanding of the Sun. PSP will swoop closer to the Sun's surface than any spacecraft before it, facing brutal heat and radiation conditions.

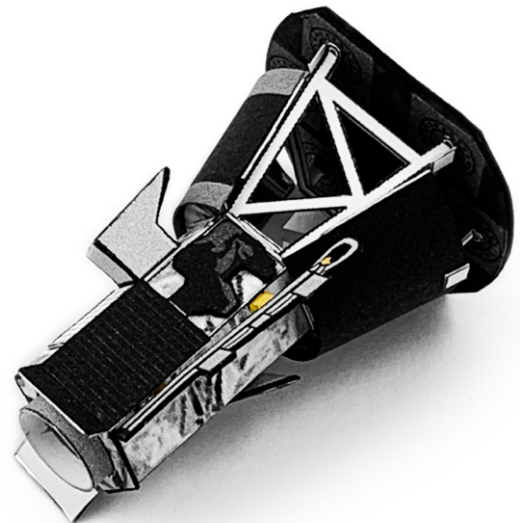
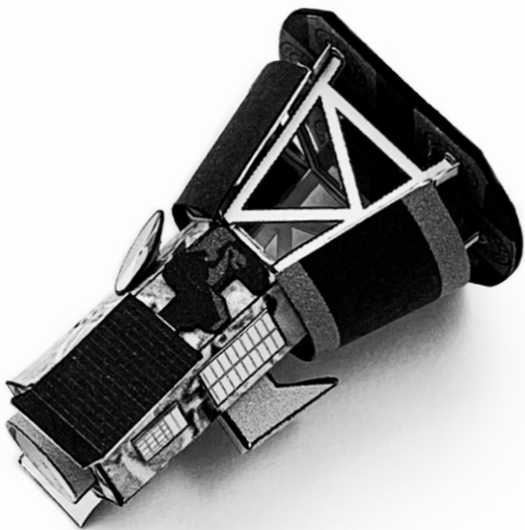
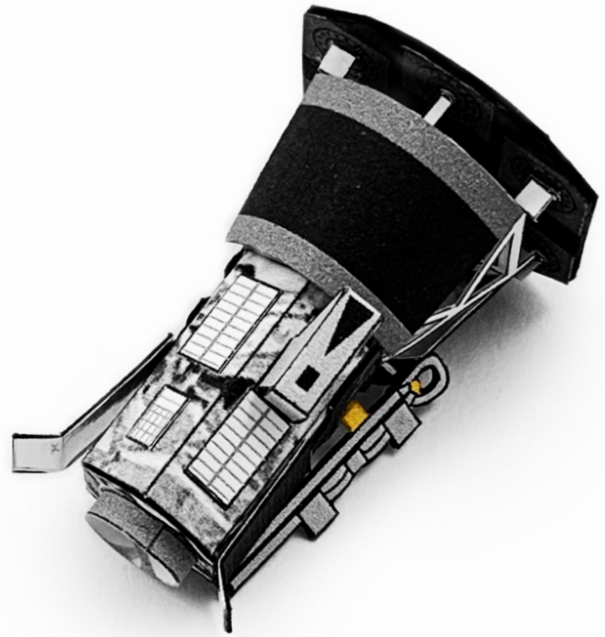
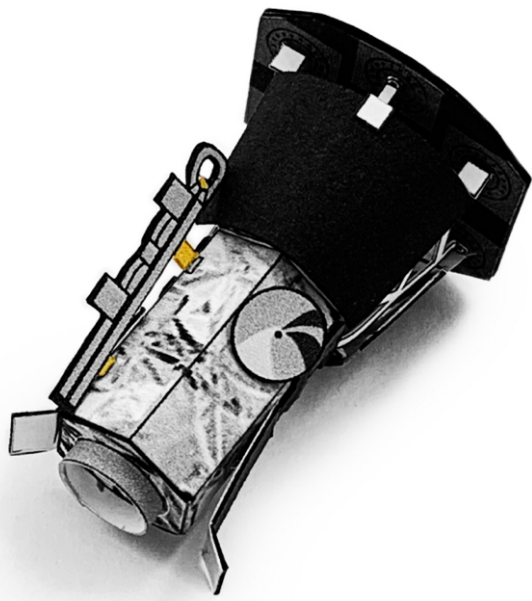
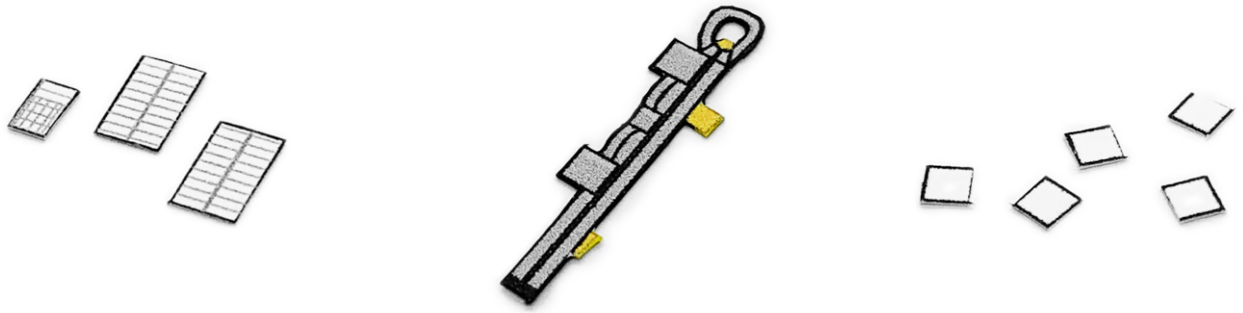
The spacecraft will come as close as 3.83 million miles (and 6.16 million kilometers) to the Sun, well within the orbit of Mercury and more than seven times closer than any spacecraft has come before.

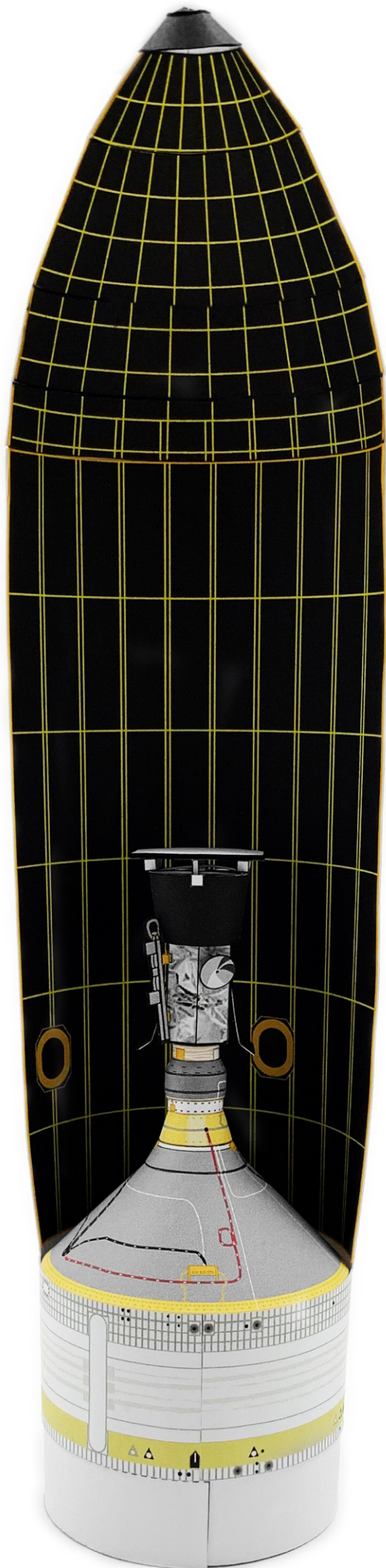
To perform these unprecedented investigations, the spacecraft and instruments will be protected from the Sun's heat by a 4.5-inch-thick (11.43 cm) carbon-composite shield, which will need to withstand temperatures outside the spacecraft that reach nearly 2,500 degrees Fahrenheit (1,377 degrees Celsius).











Designer
AXM Paper Space Scale
Models

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