

Image: Made for Mercury—the BepiColombo Mercury Magnetosphere Orbiter

June 17 2016



Credit: Airbus DS GmbH 2015

The shining face of the Mercury Magnetosphere Orbiter, Japan's contribution to the BepiColombo mission to the Solar System's

innermost planet.

The octagonal spacecraft is seen here at ESA's test centre in the Netherlands, where it is being tested alongside the other elements of this dual-spacecraft mission.

During cruise, it will sit above ESA's Mercury Planetary Orbiter at the top of the BepiColombo stack, to be launched in April 2018. The Mercury Transfer Module will deliver them to Mercury [using highly efficient electric propulsion](#).

While ESA's craft will go into a 480 x 1500 km mapping orbit around Mercury, Japan's will enter a highly elliptical 590 x 11 640 km [orbit](#) to study the planet's environment and its magnetic field.

The two spacecraft employ differing strategies to cope with the temperatures in excess of 350°C involved in operating around the closest world to the Sun. Japan's octagonal orbiter will spin 15 times per minute to distribute heat evenly across its surface. But since it cannot spin during BepiColombo's seven-year journey from Earth, it will be protected within the Magnetospheric Orbiter Sunshield.

ESA's orbiter, meanwhile, will maintain a steady attitude, covered with high-temperature insulation with a deep space-facing radiator behind protective louvres that will dump waste heat into space.

Provided by European Space Agency

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