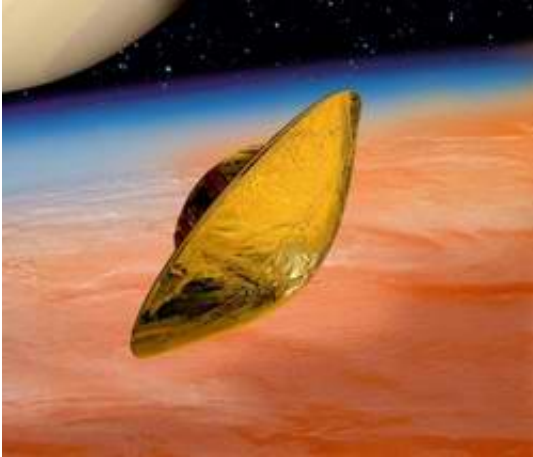


Huygens probe test successful

September 17 2004



ESA's Huygens probe, now orbiting Saturn on board the [NASA](#) /ESA/ASI [Cassini](#) spacecraft, is in good health and successfully passed its fifteenth 'In-Flight Checkout' on 14 September 2004.

This in-flight checkout procedure was the last but one planned before separation of the Huygens probe from Cassini in December this year, and it included some specific activities that were intended to prepare for the separation. The main difference in this procedure from previous checkouts was that there was a test of the Master Timer Unit (MTU). Because Huygens will spend three weeks coasting towards Titan following separation from the Cassini orbiter, its systems and instruments are powered down.

The MTU is the ‘triple-redundant’ alarm-clock that has the most important job of waking up Huygens a few hours before its entry into Titan’s atmosphere.

Image: Huygens will be the first spacecraft to land on a world in the outer Solar System. In January 2005, it will land on the surface of Titan, Saturn’s largest moon, and the only moon in the Solar System to possess a thick atmosphere.

The gold-coloured foil blanket will help to control the probe's temperature during the interplanetary cruise phase. The heat-resistant tiles covering the front shield are hidden underneath the foil and will provide protection against the very high temperatures that will be generated during the entry into Titan's atmosphere.

The checkout also included some specific payload activities required to configure the Huygens instruments before separation.

The procedure was carried out live, with Cassini transmitting the data to Earth in real-time. However the data arrived on Earth with an 80-minute delay as this is the time taken for light, and therefore radio signals, to travel the distance between Saturn and Earth.

The preliminary analysis of the real-time data received, performed within 12 hours after the test, indicates that the MTU test was successful, and that all instruments performed as expected.

Source: ESA

Citation: Huygens probe test successful (2004, September 17) retrieved 11 May 2024 from <https://phys.org/news/2004-09-huygens-probe-successful.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.