

Cassini Goes On

August 24 2004

The [Cassini spacecraft](#) successfully completed a 51-minute engine burn that will raise its next closest approach distance to Saturn by nearly 300,000 kilometers (186,000 miles). The maneuver was necessary to keep the spacecraft from passing through the rings and to put it on target for its first close encounter with Saturn's moon Titan on Oct. 26.

Mission controllers received confirmation of a successful burn at 11:15 a.m. Pacific Time today. The spacecraft is approaching the highest point in its first and largest orbit about Saturn. Its distance from the center of Saturn is about 9 million kilometers (5.6 million miles), and its speed just prior to today's burn was 325 meters per second (727 miles per hour) relative to Saturn. That means it is nearly at a standstill compared to its speed of about 30,000 meters per second (67,000 miles per hour) at the completion of its orbit insertion burn on June 30.

"Saturn orbit insertion got us into orbit and this maneuver sets us up for the tour," said Joel Signorelli, spacecraft system engineer for the Cassini-Huygens mission at NASA's Jet Propulsion Laboratory, Pasadena, Calif.

The maneuver was the third longest engine burn for the Cassini spacecraft and the last planned pressurized burn in the four-year tour. The Saturn orbit insertion burn was 97 minutes long, and the deep space maneuver in Dec. 1998 was 88 minutes long.

"The October 26 Titan encounter will be much closer than our last one. We'll fly by Titan at an altitude of 1,200 kilometers (746 miles), 'dipping our toe' into its atmosphere," said Signorelli. Cassini's first Titan flyby

on July 2 was from 340,000 kilometers (211,000 miles) away.

Over the next four years, the Cassini orbiter will execute 45 Titan flybys as close as approximately 950 kilometers (590 miles) from the moon. In January 2005, the European-built Huygens probe that is attached to Cassini will descend through Titan's atmosphere to the surface.

The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the Cassini-Huygens mission for NASA's Science Mission Directorate, Washington. JPL designed, developed and assembled the Cassini orbiter.

Source: NASA

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