



Apollo 10: “Dress Rehearsal” for Apollo 11

In May of 1969, Apollo 10 became the fourth crewed Apollo mission. As the final preparation for Apollo 11, this mission was designed to execute as much of the Apollo 11 flight plan as possible, except for the actual lunar landing itself.

As with all complex space missions, there were a few difficulties along the way, including one scary moment for the crew aboard the Lunar Module, but none of these were major.

In general, the Saturn V rocket, Apollo spacecraft and crew performed well, paving the way for the historic lunar landing mission scheduled for July.

All photos courtesy of NASA.



Major Mission Objectives:

- Serve as the first mission with the entire Apollo spacecraft, the Command and Service Model (CSM) and Lunar Module (LM), to orbit the Moon.
- Detach the LM from the CSM, with two crew members aboard, and descend to within eight nautical miles of the surface of the Moon.
- Duplicate as much of the Apollo 11 lunar landing mission as possible, including close observations of the planned Sea of Tranquility landing site.



The Crew



From left to right: Cernan, Stafford and Young.

Apollo 10 featured a relatively rare all-veteran astronaut crew including Commander Thomas Stafford, who had previously flown on Gemini 6A and 9A; Command Module Pilot John Young, from Gemini 3 and 10; and Lunar Module Pilot Eugene Cernan, John Young's crewmate on Apollo 9A.

These three astronauts would fly on Apollo again, with Stafford serving as Commander of the Apollo-Soyuz mission, John Young as Commander on Apollo 16 and Gene Cernan as the last person to walk on the Moon as the Commander of Apollo 17.

Launch and Flight

Apollo 10 launched flawlessly on its eight-day mission on May 18, 1969, from Launch Complex 39B at Cape Kennedy (later renamed Cape Canaveral), Florida. About two and a half hours after launch, the Saturn V's S-IVB third stage engine ignited and propelled the Apollo spacecraft out of Earth orbit and toward the Moon.

At 76 hours after launch, the CSM and LM spacecraft were inserted into an elliptical lunar orbit of 60 miles by 171 nautical miles.

After circularizing the orbit to 60 miles, the Lunar Module (call sign "Snoopy") separated from the Command and Service module (call sign "Charlie Brown").

The LM soon began its descent orbit, passing over the Apollo 11 landing site while testing the LM landing radar, taking visual observations and stereo photos and studying the lunar lighting conditions.



While still above the Moon's surface, the LM's Ascent Module separated from its Descent Module. However, this did not go smoothly, since a switch was set to the wrong position. The ascent module tumbled wildly for a few seconds before Stafford brought the craft back under control (after some salty language that was caught on a hot microphone!). Soon afterward, they rejoined the CSM, docking after eight hours of independent flight.

After several more hours of lunar observation and photography, the crew jettisoned the LM, fired its CSM main engine and returned to Earth, splashing down in the Pacific Ocean on May 26.



Mission Insights

Apollo 10 came tantalizingly close to landing on the Moon. The view from close proximity led LM Pilot Cernan to declare, "We is Go. We is done among 'em!". There has been some speculation about whether the crew might have been tempted to go ahead and land. There are, however, at least three reasons why this could not have happened. First, the crew was disciplined and committed to the flight plan and would never have attempted such a thing. Second, the Lunar Module aboard Apollo 10 was still overweight and unlike Apollo 11's future LM, could not have landed. Finally, the LM's Ascent Module was intentionally not fully fueled, in order to mimic the docking conditions that would occur on Apollo 11.

This mission also initiated a long association with the "Peanuts" franchise (now Peanuts Worldwide) that continues to this day.

