



Apollo 7: First Crewed Test of the Apollo Spacecraft

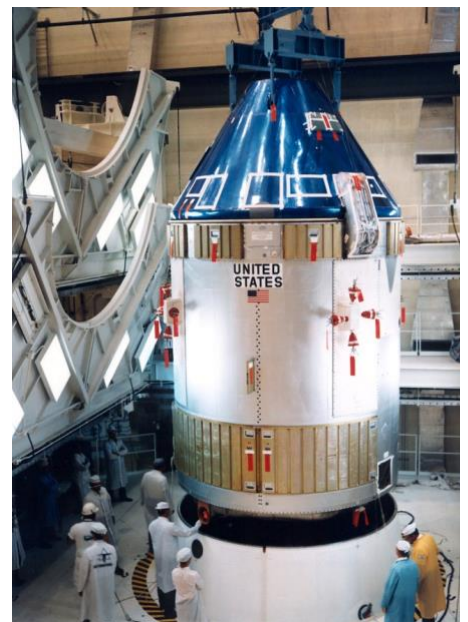
After the tragic launchpad fire that took the lives of Apollo 1 astronauts Gus Grissom, Ed White and Roger Chaffee, NASA spent several months investigating the causes of the accident. The resulting improvements to the Apollo spacecraft took time to implement, and the mission plan for the Apollo program was changed. Apollo 7 thus became a crewed mission to test the new Command and Service Module (CSM) in low Earth orbit.

All photos courtesy of NASA unless otherwise noted.



Major Mission Objectives:

- First crewed flight of the Saturn IB launcher.
- First crewed test of the Command and Service Module (CSM) in Earth orbit.
- Test air-to-ground communications.
- Test the Service Propulsion System (SPS), the re-startable engine of the CSM.
- Perform transposition (turning around) of the CSM, rendezvous and docking with a “target” simulating the Lunar Module (LM) mounted in the S-IVB stage.





PRIME CREW OF FIRST MANNED APOLLO MISSION
DONN F. EISELE WALTER M. SCHIRRA, JR. WALTER CUNNINGHAM

The Crew

The Apollo 7 crew included Mercury and Gemini program veteran Walter M. (Wally) Schirra (Commander) and first-time astronauts Donn F. Eisele (Command Module Pilot) and R. Walter (Walt) Cunningham (Lunar Module Pilot).

Cunningham was born in Creston, Iowa. His “Lunar Module Pilot” crew title designation was used, despite not having a Lunar Module on this mission.

Apollo 7 was the last mission flown by all three crew members.

Launch

Apollo 7 launched on Friday, October 11, 1968 from Launch Complex LC-34 at Cape Kennedy Air Force State (since re-named Cape Canaveral), Florida. The launch was smooth and uneventful, with Schirra remarking that the launch was smoother than his Gemini launch.

Apollo 7 was the final launch from Launch Complex LC-34. Subsequent Apollo mission were launched from LC-39A and LC-39B.

This was also the final launch of the Saturn IB booster for the Apollo Moon program. Subsequent Moon missions used the giant Saturn V launch vehicle. The Saturn IB booster was used four additional times, however, during the Skylab program (delivering the Skylab 2, 3 and 4 crew missions to the space station) and for the Apollo-Soyuz mission.



Mission Highlights



- 11-day mission was a technical success.
- First U.S. spacecraft with three astronauts.
- Smooth, flawless launch of the Saturn IB.
- One of the four “petals” on the spacecraft/launch vehicle adapter did not open fully to 45 degrees, making rendezvous and docking dangerous. In future missions, these panels would be jettisoned.
- Transposition and docking were successful.
- Eight on-target firings of the Service Propulsion System (SPS) rocket engine.
- First live television broadcast from space.
- The crew caught head colds, which in part, led to some tensions with Mission Control.
- The Apollo 7 crew returned safely to Earth on October 20, 1968.

Mission Insight

The Saturn IB launch vehicle had sufficient thrust and capability to launch the Command and Service module into Earth orbit. It was, at the time, the second-most powerful booster in the NASA fleet. However, it was not adequate for the trip to the Moon. For the remainder of the Apollo Moon missions, only the mighty Saturn V would suffice.

The photo at right illustrates the relative sizes of the Saturn IB and the Saturn V, both carrying the Apollo Command and Service Module (CSM) spacecraft.

Photo courtesy of Dan Hoy.

