Lunar Landing Mission  
Apollo 11 Launch  
  
Apollo 11: Astronaut Edwin Aldrin Descends Steps of Lunar Module  
  
Apollo 11: Buzz Aldrin and the U.S. flag on the Moon  
  
Apollo 11 was the first manned mission to land on the Moon. The first steps by humans on another planetary body were taken by Neil Armstrong and Buzz Aldrin on July 20, 1969. The astronauts also returned to Earth the first samples from another planetary body. Apollo 11 achieved its primary mission - to perform a manned lunar landing and return the mission safely to Earth - and paved the way for the Apollo lunar landing missions to follow.  
  
Summary of Events  
The Apollo 11 spacecraft was launched from Cape Kennedy at 13:32:00 UT on July 16, 1969. After 2 hr and 33 min in Earth orbit, the S-IVB engine was reignited for acceleration of the spacecraft to the velocity required for Earth gravity escape.  
  
Lunar-orbit insertion began at 75:50 ground elapsed time (GET). The spacecraft was placed in an elliptical orbit (61 by 169 nautical miles), inclined 1.25 degrees to the lunar equatorial plane. At 80:12 GET, the service module propulsion system was reignited, and the orbit was made nearly circular (66 by 54 nautical miles) above the surface of the Moon. Each orbit took two hours. Photographs taken from lunar orbit provided broad views for the study of regional lunar geology.  
  
The lunar module (LM), with Astronauts Armstrong and Aldrin aboard, was undocked from the command-service module (CSM) at 100:14 GET, following a thorough check of all the LM systems. At 101:36 GET, the LM descent engine was fired for approximately 29 seconds, and the descent to the lunar surface began. At 102:33 GET, the LM descent engine was started for the last time and burned until touchdown on the lunar surface. Eagle landed on the Moon 102 hr, 45 min and 40 sec after launch.  
  
Immediately after landing on the Moon, Armstrong and Aldrin prepared the LM for liftoff as a contingency measure. Following the meal, a scheduled sleep period was postponed at the astronauts' request, and the astronauts began preparations for descent to the lunar surface.  
  
Astronaut Armstrong emerged from the spacecraft first. While descending, he released the Modularized Equipment Stowage Assembly (MESA) on which the surface television camera was stowed, and the camera recorded humankind's first step on the Moon at 109:24:19 GET (pictured at left). A sample of lunar surface material was collected and stowed to assure that, if a contingency required an early end to the planned surface activities, samples of lunar surface material would be returned to Earth. Astronaut Aldrin subsequently descended to the lunar surface.  
  
The astronauts carried out the planned sequence of activities that included deployment of a Solar Wind Composition (SWC) experiment, collection of a larger sample of lunar material, panoramic photographs of the region near the landing site and the lunar horizon, closeup photographs of in place lunar surface material, deployment of a Laser-Ranging Retroreflector (LRRR) and a Passive Seismic Experiment Package (PSEP), and collection of two core-tube samples of the lunar surface.  
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