

LUNAR RECONNAISSANCE ORBITER: Viewing Traces of Previous Explorers

LRO—Lunar Reconnaissance Orbiter

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Viewing Traces of Previous Explorers

On December 11, 1972, Commander Eugene (Gene) Cernan landed the Lunar Module Challenger on the floor of the Taurus-Littrow valley on the near side of the Moon. The Apollo 17 crew spent a portion of three days exploring the valley using the Lunar Roving Vehicle (LRV) — setting up science experiments and gathering samples of lunar rocks and regolith (soil) to bring to Earth for analysis. Gene Cernan and his crewmate Harrison (Jack) Schmitt were the last people to set foot on the Moon (for now). Forty years later, the Lunar Reconnaissance Orbiter Camera (LROC) on board the Lunar Reconnaissance Orbiter (LRO) imaged the Apollo 17 landing site with enough detail to see the tracks of the rover and footprints the astronauts left behind!

The detail in these images, provided by the high resolution LROC Narrow Angle Camera, shows evidence of the activities Cernan and Schmitt undertook on the lunar surface. LROC was able to obtain these images during a low altitude (22 kilometers, or about 72,000 feet) orbit. Cernan and Schmitt set up science experiments that measured heat flow, seismic activity, atmospheric composition, lunar gravity, and the lunar magnetic field. Other details that can be seen in the LROC image include the instruments in the Apollo Lunar Surface Experiments Package (ALSEP) and the antenna for the Surface Electrical Properties (SEP) experiment. The LROC Narrow Angle Camera images also show the paths created by the Apollo 17 astronauts as they set up the science experiments.

The dual tracks of the LRV left behind can be seen crisscrossing the lunar landscape in the LROC image. The LRV was driven over 35 km by Cernan and Schmitt during their stay on the Moon.

Images of the Apollo landing sites provided by LROC have enabled scientists to make detailed maps of the astronauts' activity on the surface of the Moon. These maps provide a new context for understanding the data and rock samples collected on the lunar surface.

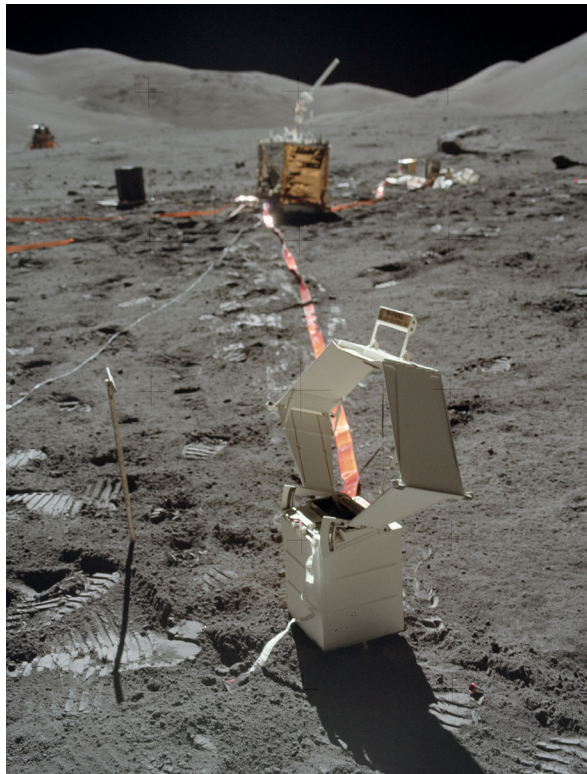


Photo taken during Apollo 17 EVA 3. Photo shows the Apollo Lunar Surface Experiments Package (ALSEP), with the Gravimeter in the foreground. AS17-134-20501 Credit NASA

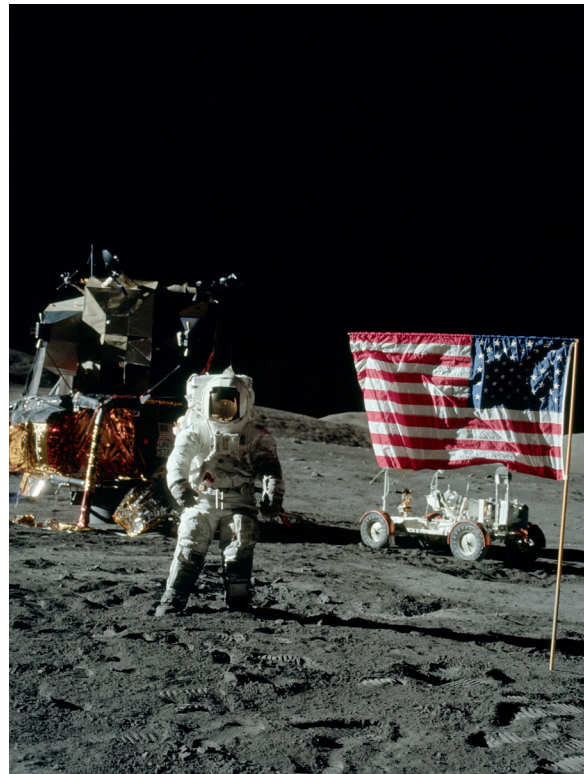


Photo taken of Astronaut Schmitt during Apollo 17 EVA 1. The Challenger and Lunar Roving Vehicle are visible behind Schmitt. AS17-134-20382 Credit NASA



More Information

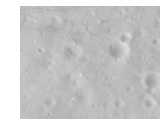
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Goddard Space Flight Center manages the Lunar Reconnaissance Orbiter for NASA's Science Mission Directorate.

Image credit info:



Front image: The Apollo 17 landing site, taken by the LRO Narrow Angle Camera from low periapse orbit. Visible at the descent stage are the Modular Equipment Stowage Assembly (MESA) and the Portable Life Support System (PLSS) LROC NAC M168000580LR. Credit NASA/GSFC/ASU