

## MOON EXPLORATION

The U. S. has explored the moon since the 1960,s. "The Apollo Program" tells why the United States went to the moon. "The Apollo Spacecraft" tells ho we got to the moon. "The First Lunar Landing" tells about the first voyage to the moon. This paper will discus the lunar landing.

The Apollo progam was made to meet the goal set by John F. Kennedy on May 25, 1961. The goal was to land a man on the moon and return him to Earth alive and well.

The program was a succes. There were 11 manned lunar landings and other test flights totaling 15 manned flights. Out of all these there was only one major problem, and no one was injured. There was three

deaths on the lanchpad but none in space.

The Apollo Spacecraft was developed from the work of two other programs, the Mercury and Gemini Programs. The actual spacecraft was made of the combined Command Module and the Service Module also called the CSM. It was 34ft. long and 10ft. in diameter at the end. It had a major advantage with its internal guidance system, that was developed by The Massachusetts Institute of Technology.

The CSM was made of two parts. The crew stayed in the Command Module, which had some couches and was pressurized with oxygen.

Behind the CM was the SM or Service Module which had the main engine, which had 21,500lb. of thrust. The reaction control system , oxygen, fuel cells, hydrogen tanks, and envirnmental control systems. The main engine was only used for changes in course and changes in orbit and escape from the lunor orbit.

When the crew came back for reentry the CSM would split. The Command Module had heat sheilding so it would not burn-up. When the CM first came into reentry it was stabilized by its own engines. The second part was done by three parachutes and a drogue.

The First Lunar Landing took place on July 16,1969, it was named Apollo 11. It made the first landing on the moon on July 20, 1969. Lt. Michael Collins stayed in the CM and orbited the moon while, Neil Armstrong and Col. Edwin Aldrin Jr. landed down on the moon. The landing took place in Mare Tranquillitatis (the Sea of Tranquility) "at 4:17:42 PM

Eastern Daylight Time with this report:

"Houston, Tranquility Base here. The Eagle has landed." Neil Armstrong was the first man to walk on the moon. "Dropping the last meter from the ladder he said: "That,s one small step for {a} man, one giant leap for mankind" (NASA later reported that the word "a" had been lost in transmission)." When on the moon Armstrong and Aldren stup an American flag and left scientific instruments, including a laser beam reflector, a sheet of aluminum foil to to trap SOLAR WIND particles, and a seismometer that later transmitted evidence of a moonquake. The astronauts took soil and rock samples and photographs.

At 12:56 AM Eastern Daylight Time on July 22, 1969 the land craft called the LEM, or Lunar Excursion Module, left the surface and orbit of the moon. They landed in the Pacific Ocean on July 24, 1969.

Works Cited

"The Apollo Program" Grolier Encyclopedia Inc. 1994

"The Apollo Spacecraft" Grolier Encyclopedia Inc. 1994

"The First Lunor Landing" Grolier Encyclopedia Inc.  
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