ASSOCIATED PRESS

MOON SHOT

By Charles Apple | THE SPOKESMAN-REVIEW

Sixty years ago, President John F. Kennedy informed a joint session of Congress of his intention to put an American on the moon before the end of the decade. It seemed like an impossibly brash goal, given how the Soviet Union had beaten the U.S. at putting a satellite and then a man into orbit. But sometimes, it pays to dream big. Here's how NASA followed through on Kennedy's promise.

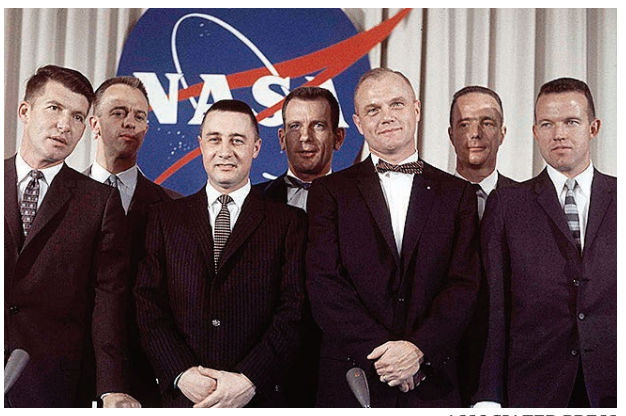
Oct. 4, 1957
The Soviet Union shocks the world by launching Sputnik 1, the world's first artificial satellite.

Dec. 6, 1957
An attempt at launching the first U.S. satellite fails in a spectacular launch pad explosion.

NASA

Jan. 31, 1958
The U.S. finally succeeds in launching a satellite, Explorer 1, aboard a U.S. Army Juno rocket developed by former German rocket scientist Wernher von Braun and his team.

Oct. 1, 1958
The National Aeronautics and Space Administration officially begins operations with about 8,000 employees and an annual budget of $100 million. A month later, NASA forms the Space Task Group, which will lead to Project Mercury. The group's work is based at Langley Aeronautical Laboratory in Hampton, Va.



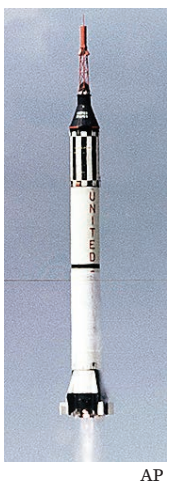
ASSOCIATED PRESS

April 9, 1959
NASA unveils its Mercury astronaut corps at a gala press conference in Washington, D.C. This comes after a grueling two-month-long evaluation and selection process.

July 1, 1960
NASA absorbs the Army's missile agency in Huntsville, Ala. Among the assets the agency gains: von Braun and his team, who set to work right away designing what they call the Saturn rocket.

April 12, 1961
The Soviet Union puts the first man in space: Yuri Gagarin, aboard Vostok 1 for a 108-minute orbital flight.

TASS

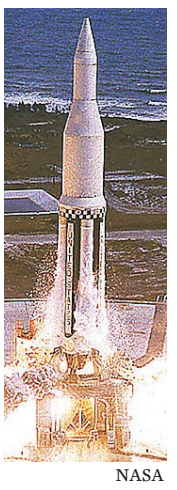


AP

May 5, 1961
Alan Shepard becomes the first American in space with a 15-minute suborbital flight in a Mercury spacecraft.

May 25, 1961
In a speech before a joint session of Congress, President John F. Kennedy announces a goal of putting an American on the moon before the end of the decade.

Sept. 19, 1961
NASA Administrator James E. Webb announces the agency's manned spaceflight center will be located in Houston, on 1,000 acres of land donated by Rice University,

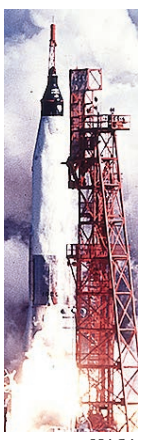


NASA

Oct. 27, 1961
First test-launch of von Braun's Saturn I rocket, using a dummy second stage and a Jupiter missile nose cone.

Nov. 1, 1961
The Space Task Group officially becomes the Manned Spacecraft Center. Staffers begin moving from Langley to Houston, setting up offices in vacant stores at a nearby shopping center.

Feb. 20, 1962
Astronaut John Glenn becomes the first American to orbit the Earth.

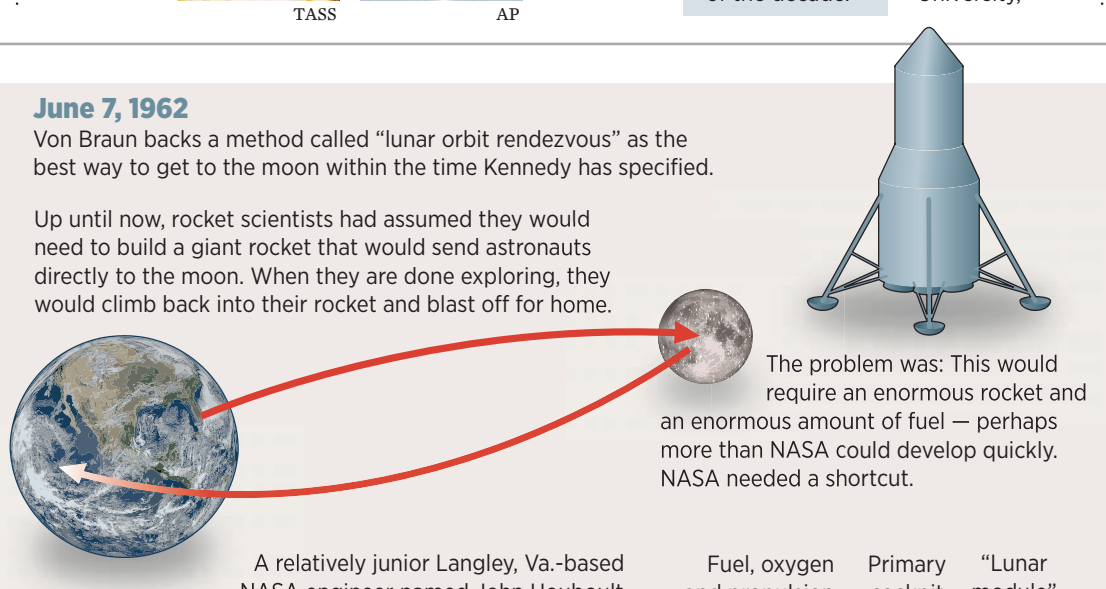


NASA

May 24, 1962
Scott Carpenter orbits the Earth three times in Aurora 7.

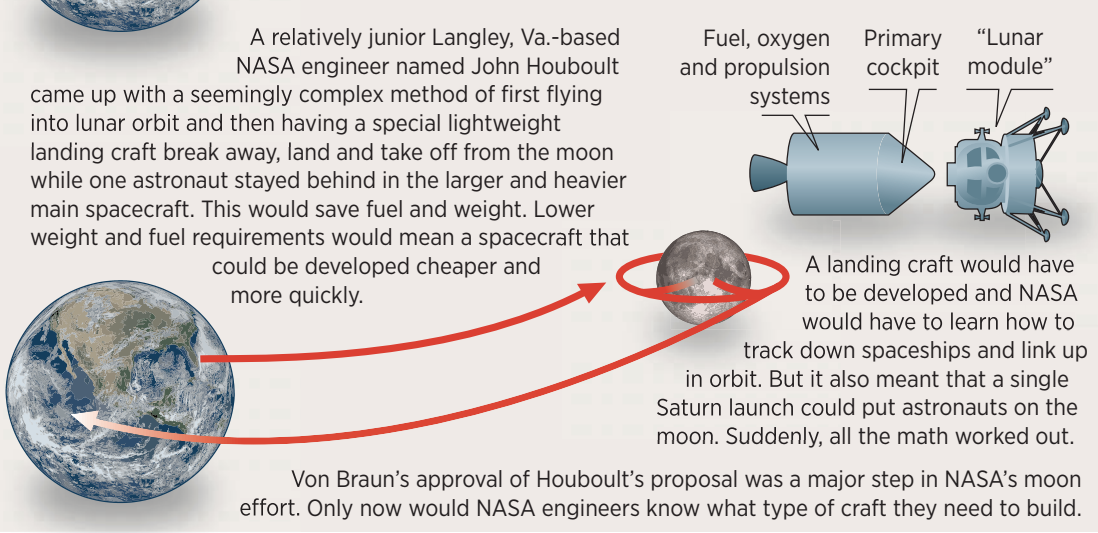
June 7, 1962
Von Braun backs a method called "lunar orbit rendezvous" as the best way to get to the moon within the time Kennedy has specified.

Up until now, rocket scientists had assumed they would need to build a giant rocket that would send astronauts directly to the moon. When they are done exploring, they would climb back into their rocket and blast off for home.



The problem was: This would require an enormous rocket and an enormous amount of fuel — perhaps more than NASA could develop quickly. NASA needed a shortcut.

A relatively junior Langley, Va.-based NASA engineer named John Houboult came up with a seemingly complex method of first flying into lunar orbit and then having a special lightweight landing craft break away, land and take off from the moon while one astronaut stayed behind in the larger and heavier main spacecraft. This would save fuel and weight. Lower weight and fuel requirements would mean a spacecraft that could be developed cheaper and more quickly.



A landing craft would have to be developed and NASA would have to learn how to track down spaceships and link up in orbit. But it also meant that a single Saturn launch could put astronauts on the moon. Suddenly, all the math worked out.

Von Braun's approval of Houboult's proposal was a major step in NASA's moon effort. Only now would NASA engineers know what type of craft they need to build.

NASA

Sept. 12, 1962
At an address at the football stadium at Houston's Rice University, Kennedy makes his case for going to the moon. "We choose to go to the Moon in this decade and do the other things," Kennedy says, "not because they are easy, but because they are hard. Because that goal will serve to organize and measure the best of our energies and skills."

Oct. 3, 1962
Wally Schirra pilots the third manned orbital Mercury mission, orbiting the Earth six times in Sigma 7.

NASA

November 1962
A contract to develop and build a lunar module is granted to Grumman Aircraft of Long Island, N.Y.

Feb. 21, 1963
NASA approves its first contract for building components of what will be called the Saturn V.

May 15, 1963
The final flight of Project Mercury is a 22-orbit, 34-hour endurance mission piloted by astronaut Gordon Cooper.

October 1963
The first building at NASA's new center in Houston is ready for occupancy. Twelve more buildings will be filled by the end of the year.

NASA

Nov. 16, 1963
Kennedy visits Cape Canaveral for a briefing on progress of the Saturn rockets and the new launch complex there. Six days later, he's shot dead in Dallas.

NASA

June 3, 1965
The first crewed mission with a two-seat Gemini spacecraft is launched. Aboard are Gus Grissom and John Young.

Dec. 15, 1965
Two Gemini spacecraft — Geminis 6 and 7 — meet up in orbit and fly alongside each other.

NASA

May 25, 1966
The first full-scale Saturn V rocket is rolled to the launch pad as a test of NASA's facilities and procedures.

Sources: NASA history office, NASA Langley Research Center, National Air and Space Museum, "Missions to the Moon" by Rod Pyle, "We Came in Peace" by Classic Press Inc., Smithsonian Air & Space magazineSpace.com, JFKLibrary.org,