

Showers
 TODAY'S TEMPERATURES
 7 a.m. 21°
 8 a.m. 21°
 9 a.m. 21°
 10 a.m. 21°
 11 a.m. 21°
 12 p.m. 21°
 1 p.m. 21°
 2 p.m. 21°
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 5 p.m. 21°
 6 p.m. 21°
 7 p.m. 21°
 8 p.m. 21°
 9 p.m. 21°
 10 p.m. 21°
 11 p.m. 21°
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The Minneapolis Tribune

MONDAY

Vol. CIII—No. 58 MINNEAPOLIS, MINN., MONDAY, JULY 21, 1969

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Once on the surface of the moon, Armstrong and Aldrin read plaque, left, planted U.S. flag, center, then talked to President Nixon

Two U.S. Astronauts Walk on the Moon After Piloting Craft to a Smooth Landing

Honeywell Devices Guide Ship

By LEWIS COPE
 Minneapolis Tribune Staff Writer
 HOUSTON, Texas — The spaceship Eagle swept gracefully down to the moon Sunday but it took a tricky bit of maneuvering by its astronauts at the last minute to achieve its smooth landing.

Apollo 11 astronauts Neil Armstrong and Edwin Aldrin had to maneuver around a football-field-sized crater for a final touchdown. They used a pistol-grip hand control, made by Honeywell Inc. workers in the Twin Cities area, to order the final steering commands.

Most of the way down, the ship's guidance computer steered the ship with high accuracy through its required intricate maneuvers.

The BIG engine used in the landing, the ship's right arm, and its many other systems apparently all performed in excellent fashion.

Still, the spacemen had their hands busy monitoring the proper switches during the descent.

One of the astronauts radioed mission control here after the landing. "The auto (automatic) guidance system was taking us right into a football-field-size crater, with a large number of big boulders and rocks for about one or two crater diameters around us.

"AND IT required... flying manually over the rock field to find a reasonably good touchdown area." They were at about 200 feet altitude at the time.

As the ship finally started settling down, the astronauts reported that it was "picking up some dust," starting at between 40 and 30 feet off the ground. But officials here said this in no way interfered with visibility.

The astronauts' bag-shaped lunar module spacecraft, which they named Eagle, landed on its long legs in the Sea of Tranquility, which is actually a plains area on the moon.

ARMSTRONG'S first report: "Houston, Tranquility Descent."

Continued on Page Eight

'Engines Stopped; Eagle Has Landed'

From The Tribune's Wire Services
 HOUSTON, Texas — "Eagle, this is Columbia—they just gave you a 'go' for powered descent."

With those words of Apollo 11—astronaut Michael Collins alone in the mother ship called Columbia—the drama of man's descent to a moon landing began unfolding.

"Current altitude about 45,000 feet," reported Mission Control (MC), describing the progress of Neil Armstrong and Edwin Aldrin in the landing craft dubbed Eagle. "Everything's looking good here."

Eagle: Our position check downrange shows us to be a little off.

MC: You are to continue power descent. It's looking good. Everything's looking good here, over.

Eagle: Copy.

MC: Two minutes 20 seconds, everything looking good.

Eagle: I'm getting a little fluctuation in...
 MC: Looking good.
 Eagle: ... Shows us to be a little long.
 MC: You're go to continue power descent. You're go to continue power descent. You're go to continue power descent.

Transcript Continued on Page Seven

Luna 15 Dips Nearer Moon

JODRELL BANK, England (AP) — Luna 15 darted dramatically nearer the moon Sunday in a maneuver that Jodrell Bank scientists said could only mean the Soviet unmanned probe was to perform reconnaissance during the Apollo 11 mission or was preparing to land.

Observatory Director Sir Bernard Lovell said Luna's new orbit meant it was possibly on a course over the Apollo landing site in the Sea of Tranquility.

By LEWIS COPE
 Minneapolis Tribune Staff Writer
 HOUSTON, Texas — The two Americans who Sunday achieved history's first manned moon landing have another space first on their schedule for today.

On earth, hundreds of experts have been required at the launch pad to prepare for every manned space launching.

Yet today, Apollo 11 astronauts Neil Armstrong and Edwin Aldrin must perform the first do-it-yourself manned space launching ever tried. They must take off from the moon and go into orbit without the help of a single person within miles for the countdown of their rocket.

AND WHILE it took a mammoth Saturn V rocket with 7.6-million pounds of thrust to start their mission from Cape Kennedy, Fla. last Wednesday, the

THE OTHER scientific package, a device to reflect laser beams back to earth, is equally dependent for its success on remaining dust-free.

The third experimental package to be deployed on the moon is a scroll of aluminum foil mounted on a spring-loaded bar, similar to a long, narrow window shade. It will be placed on the lunar surface, suspended from a pole that the foil faces the sun.

The foil will then be brought back for analysis by a Swiss laboratory. It is hoped that nuclei of such inert gases as neon and argon blowing out from the sun will be embedded in the foil. The relative abundance of the various gases would have implications regarding the manner in which the sun and planets originated.

THOSE who have long debated whether the moon is a dead body with a cool interior and no volcanic activity, or has a turbulent interior like the earth are eagerly awaiting the data from this instrument. They hope, from the four different seismometers inside it, to distinguish between earthquakes generated within the moon, volcanic

'Giant Leap for Mankind'

By JACK WILSON and LEWIS COPE
 Minneapolis Tribune Staff Writers
 HOUSTON, Texas — Neil Armstrong thrust his boot into a thin layer of fine dust beside his spacecraft at 9:55 p.m. (Minneapolis time) Sunday and became the first man ever to set foot on the moon.

Armstrong and Edwin Aldrin had landed their craft gently in the moon's Sea of Tranquility at 3:17 p.m. after maneuvering at the last minute to avoid a "football-field-size crater with a large number of big boulders and rocks" around it.

Armstrong's first words as he stepped onto the lunar surface were a simple report of what it was like: "The surface is fine and powdery, I can kick it up with my toe."

"It does adhere like powdered charcoal to my boots. My feet only go in about an eighth of an inch and I can't see footprints here where I have walked."

In those few words the Apollo 11 astronaut ended thousands of years of speculation and guesswork and shattered many scientific theories about the moon.

Aldrin reentered the landing module at midnight, and Armstrong followed at 12:11 this morning.

At one time astronomers were fearful that a spaceship would disappear in hundreds of miles.

Reaction
 Continued on Page Ten

WORDS FOR HISTORY

'Engines Stopped; Eagle Has Landed'

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Transcript Continued on Page Seven

BOULDERS INTEREST SCIENTISTS

Moon Site May Prove Bonus

By WALTER SULLIVAN
 New York Times Service
 HOUSTON, Texas — Although the discovery that they were coming down in the middle of a boulder-filled moon crater may have given the two Apollo astronauts a few anxious moments Sunday, it proved a scientific boon.

The area in which they came to rest was still strewn with boulders of many sizes and varieties.

Some were presumably blown out of the lunar depth when the crater was formed, and represent rock burned perhaps 100 feet or more below the surface — far beyond the reach of the astronauts' sampling tools.

OTHER ROCKS probably were thrown from over the horizon by more massive impact, and thus are specimens from other regions of the moon. Since the moon has virtually no air and its gravity is one-sixth as strong as earth gravity, explosive impacts sometimes blow debris half-way around the moon.

Furthermore, the boulders may make it possible to place the two scientific packages to be left on the moon so that they will be sheltered from dust thrown up by the blast of the take-off rocket.

Such dust is probably the chief worry of those who have prepared the two packages, one of which is a small but highly sensitive seismic station.

THOSE who have long debated whether the moon is a dead body with a cool interior and no volcanic activity, or has a turbulent interior like the earth are eagerly awaiting the data from this instrument. They hope, from the four different seismometers inside it, to distinguish between earthquakes generated within the moon, volcanic

DO-IT-YOURSELF LAUNCH Takeoff Today Is Crucial Test

By LEWIS COPE
 Minneapolis Tribune Staff Writer
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President Talks With Astronauts

From The Tribune's Wire Services
 President Nixon, following the flight on television along with millions of others around the world, spoke with the two astronauts Sunday after they planted the American flag on the moon.

"Because of what you have done the heavens have become part of man's world," Mr. Nixon said in a two-minute call that

Reaction
 Continued on Page Nine

Apollo Timetable Today

6:11 A.M.—Armstrong and Aldrin eat, then rest for four hours and 40 minutes.

1:34 P.M.—Astronauts fire ascent engine of lunar lander, a critical step if they are to return to command ship circling overhead.

2:00 P.M.—Ascent half of landing craft inserts into intermediate moon orbit.

2:51 P.M.—Lander begins series of maneuvers, aiming toward rendezvous and docking with command ship where Collins waits.

5:30 P.M.—Command ship and lunar lander dock.

Armstrong and Aldrin vacuum-clean their equipment and spacemen in preparation for entering mother ship.

9:25 P.M.—Ascent stage of moon lander jettisoned from command ship and abandoned in moon orbit.

TV Coverage

WCCO (Ch. 4)—Midnight to 5 p.m. today.
 KSTP (Ch. 5)—Midnight to 5 p.m. today.
 KMSP (Ch. 9)—Midnight to 5 p.m. today.

More Apollo News, Photos

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Takeoff

Continued on Page Eight

Associated Press
 MICHAEL COLLINS EDWIN ALDRIN NEIL ARMSTRONG
 Apollo 11 astronauts prepared for return

Possible Rain Seen for Cities

Variable cloudiness with a chance of an occasional shower or thunderstorm is predicted for the Twin Cities and vicinity today through Tuesday, according to the Weather Bureau.

The high for the Twin Cities will be 82 today with a low tonight of 65. Chance of measurable rainfall is 5 percent today and 30 percent tonight.

Today on the Inside

The View From Peking
 The familiar picture of Red China is a huge crowd waving little red books while a speaker denounces "U.S. imperialism," Ronald Ross, The Tribune's Far East correspondent, plugs into Peking's wavelength" to understand why the Chinese think the way they seem to. His report, the second of a series, is on Page 8.

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Almanac

Finding Her Song Was a Revelation

Monday, July 21, 1969
 (Times 11:45 a.m. - 11:55 a.m.)
 A superior kiddie story: One day during vacation Bible school in south Minneapolis recently a class of 8-year-olds was asked to turn to the index of the New Testament to find a particular chapter.

Suddenly one young lady shouted, "Oh boy! They've got my favorite song in here!" "Which one is that?" inquired the teacher.

"Jude."

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