An Epoch Begun, Astronauts Return Home

North American Rockwell News

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History-Making Trio Aboard USS Hornet

Seclusion for Apollo Crewmen Will End at Houston, Aug. 11

As congratulatory messages poured in from throughout the world, astronauts Neil Armstrong, Mike Collins and Edwin Aldrin were safely quarantined aboard the USS *Hornet* today.

The Apollo 11 astronauts in the Space Division-built command module splashed down in the Pacific Ocean yesterday thus ending their epic lunar landing mission.

Splashdown came at 9:50 a.m., PDT, 912 miles southwest of Hawaii, some 195 hours after lift-off from Cape Kennedy. Aboard the *Hornet*, at the outset of his Asian and Eastern European journey, President Nixon witnessed recovery operations.

In view of wildly cheering sailors and a broadly grinning President, the astronauts, in isolation garments, were hoisted

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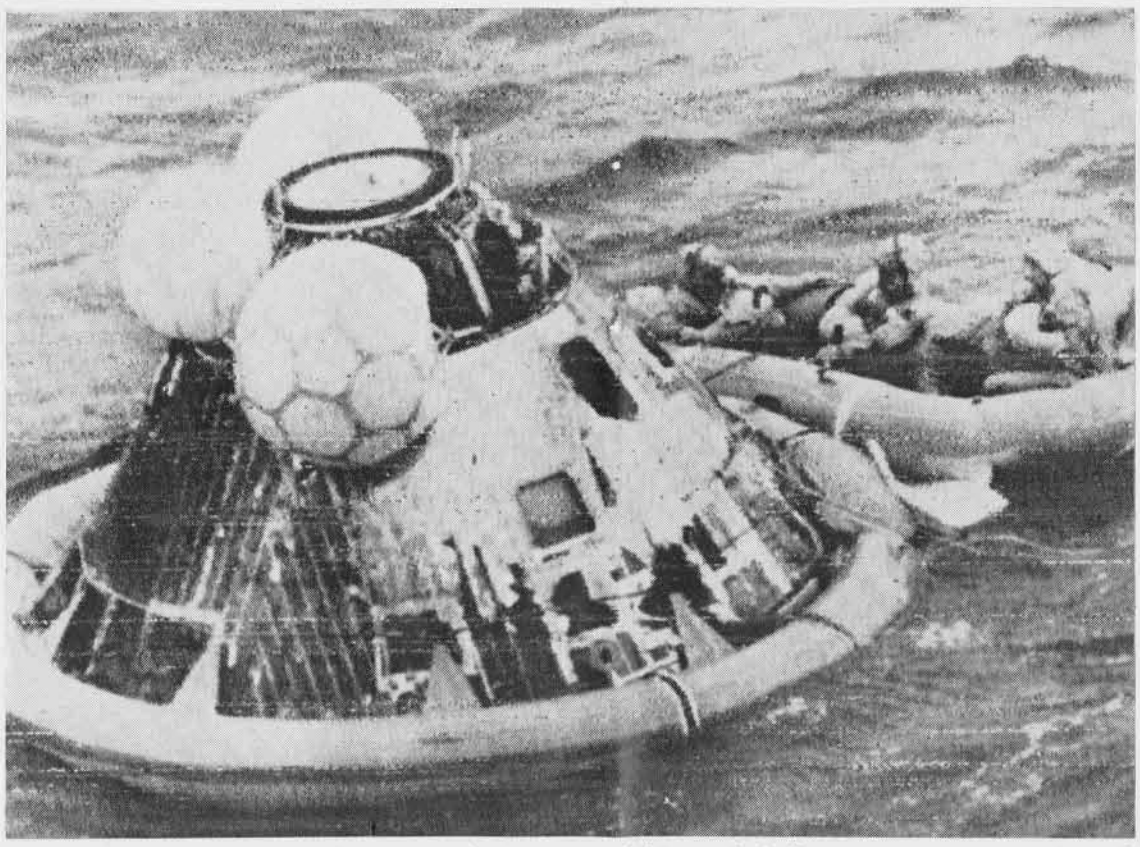

PIONEERS' RETURN — Astronauts Armstrong, Aldrin and Collins are seen waiting in raft in their special quarantine suits as scrub team member cleans them off before they board Hornet. One of most vital goals in entire mission was avoiding the bringing back of contamination from the moon to the Earth. Many steps were taken by those directing the recovery operation to prevent return of possible contamination to Earth. This brought about scrubbing operations.

Space Division Wins Share in Space Studies

The Space Division has won a Space Station Study Contract, NASA announced Wednesday.

NASA said that two companies, North American Rockwell and the McDonnell Douglas Corporation will conduct design and planning studies of a future manned Space Station which could reach flight status in the mid-1970s.

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The following statement was issued today by W. F. Rockwell, Jr., and J. L. Atwood to employees of the Aerospace and Systems Group:

This is a proud moment for mankind, and for North American Rockwell and its employees. We have landed man on the moon and successfully returned him to Earth.

We share with you an overwhelming sense of pride in being a major part of a magnificent industrial team which produced the systems for this historic expedition. These systems, for decades to come, will symbolize our nation's ability and willingness to accept challenges and solve major problems.

We are confident that they also symbolize the spirit within North American Rockwell that will bring us many future successes.

Congratulations for your contributions to this historic event.

W. F. Rockwell, Jr. — Chairman of the Board

J. L. Atwood — President and Chief Executive Officer

SECOND SPACE SPECTACULAR SET: CAMERAS TO VIEW MARS

Having thrilled to the Apollo 11 telecasts, the world's television audiences may look forward to another spectacular next week, this time from Mars.

Dr. William Pickering, director, NASA's Jet Propulsion Laboratories, described two Mariner probes which will take video cameras relatively close to Mars, some 60-million miles from Earth. Pickering visited CBS-TV studios at the Space Division last weekend in connection with Apollo 11.

The Mars telecasts begin from Mariner 6 Tuesday 9:58 p.m., PDT, continue until 12:21 a.m. Wednesday; other telecasts will be beamed from Mariner 6 Wednesday from 7:28 a.m. until 8:55 p.m. These transmissions are to produce a total of 50 pictures of the Red Planet.

Mariner 7 will deliver 91 more photographs of Mars between 9:01 p.m. and 11:56 p.m. Aug. 2, and, again between 10:20 p.m. Aug. 3 and 1:15 a.m. Aug. 4.

Mariners 6 and 7 will snap pictures of Mars at intervals of several hours, first while approaching the Planet, while passing it, then receding past it into solar orbit. The photos, all black and white, will be stored on tape, then transmitted to Earth on command. Mariner 6 is on course to pass the Mars equator; Mariner 7 will flow over Mars' South Pole.

BRIEFING SLATED

Division President William B. Bergen has announced a special briefing for all members of supervision Saturday, Aug. 2, from 9 a.m. until noon in the Long Beach Elks Lodge.

Purpose of the meeting is to give supervision a current status report on present programs and the division's new business outlook. Members of Management Council will be there to answer questions.

All will be required to show their regular company identification badges. Casual wear is suggested.

NASA, Germany Agree to Build Co-op Satellite

A co-operative satellite has been agreed upon between Bonn, Germany, and NASA headquarters.

The integrated aeronomy satellite, to be designed and built by Germany, is slated for launching in 1972 from the U. S. Western Test Range, Lompoc, Calif., atop a NASA Scout rocket.

Purpose of the project is to correlate the most important upper atmosphere variables of neutral and charged particles and solar ultraviolet flux in selected wavelengths, NASA added.

This aeronomy satellite will be the fourth major cooperative German-American scientific space project to be undertaken.

Achievement of Apollo Program Is 'Outstanding'

The House Subcommittee on NASA Oversight has termed the Apollo Program "an outstanding management achievement."

The subcommittee under Rep. Olin Teague (D-Tex.) has released a report on Apollo Program Management prepared by its staff from information provided by NASA and NASA contractors including North American Rockwell.

"Perhaps one of the most significant contributions of the Apollo program," Teague said, " . . . will be its contributions to the management of large technical undertakings as typified by the Apollo program. It seems likely that the skills and techniques developed by the highly competent Apollo management group, both in industry and government, will materially aid future large technological programs undertaken by our government."

The staff report commented that:

- Apollo management system development has been a "dynamic and evolutionary undertaking," portions of which may be usable in other large federal technological programs.
- Management visibility "has been based on detailed monitoring and auditing systems that have allowed the flow of information both vertically and horizontally." It is a "major contribution to the art of management . . ."

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SIGNED, INTERESTED READER — Andrew Aldrin, 11, at right, and friend, Charlie Merrifield, look at pictures received from moon. On cover of newspaper is North American Rockwell artist's depiction of Andrew's father and Neil Armstrong at work.

LUNAR REPLAY — Manufacturing personnel were among thousands of division employees who followed the epochal Apollo 11 lunar landing mission from lift-off to splashdown via video tape.

Lee James Promoted to Director Post

Lee B. James, manager of the Saturn Program Office at NASA's Marshall Space Flight Center, Huntsville, Ala., will be elevated to the post of director of Program Management late this summer.

Major Gen. Edmund F. O'Connor, present director of Program Management, will return to duty with the U.S. Air Force.

In announcing the James appointment, Dr. Eberhard F. M. Rees, MSFC deputy director, technical, noted that the shift in assignments would take place following the Apollo 11 mission.

S-II TRANSPORT — The S-II-10, second stage of the Saturn V launch vehicle, shown as it left Seal Beach last month. The Division-built stage is now in a test stand at NASA's Mississippi Test Facility, being readied for static test firing Aug. 28. The S-II-9 was successfully static test fired on June 20 at NASA's MTF.

Astronauts Return Safely . . .

(Continued from Page 1, Column 4)

via helicopter onto the deck of the *Hornet* less than two hours after splashdown. There was no handshaking. The astronauts passed directly through a decontamination tunnel into a Mobile Quarantine Facility (MQF).

The *Hornet* will arrive at Ford Island Naval Air Station, Honolulu, tomorrow. The MQF will be flown to Houston where the astronauts will transfer directly into the Lunar Receiving Laboratory (LRL) at NASA's Manned Spacecraft Center early Sunday morning.

En route to Hawaii, a helicopter took off from the deck of the *Hornet* carrying the priceless cargo of lunar materials gathered by Armstrong and Aldrin last Sunday night. The helicopter landed at nearby Johnston Island and an Air Force plane rushed the lunar materials to the LRL.

Awaiting the *Hornet* in Hawaii were Space Division teams who will deactivate the command module before the spacecraft is flown to the LRL for sterilization. Division personnel will assist NASA in these sterilization procedures. It is expected that the historic spacecraft will be returned to Downey for post-flight analysis in mid-August.

Although there will be frequent news conferences with the astronauts, who will speak to reporters through glass enclosures, any public heroes' welcome will have to await the end of their quarantine period, Aug. 11.

Late in August, lunar rocks and soil samples will be distributed to some 142 universities and industrial organizations for analysis. The Space Division and the North American Rockwell Science Center will receive four grams of lunar soil to analyze, primarily for iron content.

An estimated half-billion persons heard Armstrong announce with cool objectivity at 1:17 p.m. Sunday, "Houston . . . Tranquility Base here . . . The Eagle has landed." These were the first words uttered from the moon.

Spellbound television audiences in most areas of the world watched as Armstrong stepped onto the lunar surface at 7:56 p.m. and prophetically stated, "That's one small step for man . . . one giant leap for mankind."

Aldrin followed at 8:16 p.m. Between that time and 10:11 p.m., when Armstrong joined Aldrin back in the lunar module, the astronauts planted the American flag in the lunar crust, gathered about 70 Earth-pounds of lunar rock and soil samples, and set up three experiments: a solar wind measuring device, which they brought back to Earth, and a seismometer and a laser reflector, which they left on the moon.

Also, while on the moon, the astronauts uncovered a plaque which had been affixed to a leg of the LM descent stage. The plaque read: "Here men from the planet Earth first set foot upon the moon. July, 1969, A.D. We came in peace for all mankind." The plaque bore the signatures of the astronauts and President Nixon.

They left on the moon a disc on which messages from leaders of 76 nations had been recorded.

During a radiotelephone call to the astronauts on the lunar surface, President Nixon summed up the national reaction: "I can't tell you how proud we are of what you have done for every American. This has to be the proudest day of our lives.

"For one priceless moment in the whole history of man, all of the people on this Earth are truly one," the President said.

During the final telecast from space late Wednesday, Armstrong said, "We'd like to give special thanks to all those Americans who built the spacecraft, who constructed, designed and tested them and put their hearts and all of their abilities into the craft.

"To these people tonight we give a special thank you and to all the other people listening and watching, God bless you and good night from Apollo 11."

Apollo 10 Crew Awarded DSM

The Apollo 10 crew, who served as pathfinders for the Apollo 11 mission, have been awarded the NASA Distinguished Service Medal.

Dr. Thomas O. Paine, NASA administrator, presented the DSM, highest honorary award in NASA that can be conferred on an individual, to Tom Stafford, John Young and Eugene Cernan.

First Marines Plan Long Beach Reunion

First Marine Division Association will have its annual West Coast Reunion July 31-Aug. 3 at the Edgewater Hyatt House, Long Beach.

Further information may be obtained from Bob Wolfenstein, Ext. 2305; Earl Halberg, Ext. 4280; Hugo Calaci, Ext. 2282; Vic Campbell, Ext. 5185, or, Doug Gardner, Ext. 6582.

Highlighting the reunion will be a banquet Aug. 2. Other activities will include a harbor cruise, poolside barbecue, and an evening concert.

Serial No. 107 and How It Grew

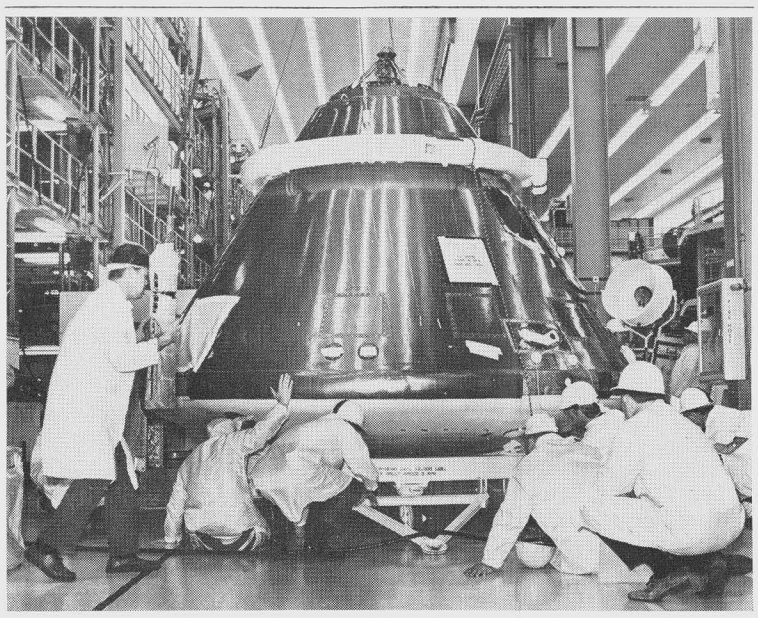
Technicians began assembling the spacecraft command module (CM) and service module (SM) for the Apollo 11 lunar landing mission more than three years ago at the Space Division. Here is an account of the beginning and development of the spacecraft, recorded by Serial No. 107:

Began assembly of CM	July 5, 1966
Began assembling crew compartment heat shield	Oct. 1, 1966
Completed closeout weld of Apollo 11's CM crew compartment	Jan. 3, 1967
Began assembly of the SM at Tulsa, Oklahoma	Jan. 30, 1967
Shipped SM from Tulsa to Downey	Apr. 14, 1967
Shipped crew compartment heat shield to AVCO for ablator	Apr. 14, 1967
Started assembly of the spacecraft lunar module adapter (SLA 14)	May 5, 1967
Completed installation of the CM's secondary structure	June 9, 1967
Began assembling launch escape tower	July 15, 1967
AVCO completed ablator installation and returned heat shield to Downey	Oct. 16, 1967
Completed mating SLA panels	Nov. 20, 1967
Installed SM secondary structure	Dec. 8, 1967
Shipped tower to Downey	Apr. 24, 1968
Installed crew compartment heat shield on CM	July 2, 1968
Completed SM final systems installation	Aug. 20, 1968
Final systems installed in SM	Aug. 20, 1968
Completed individual and combined systems checkout of CSM	Oct. 22, 1968
Completed integrated systems checkout and demate CSM	Dec. 6, 1968
Apollo 11 spacecraft SLA shipped to Kennedy Space Center	Jan. 10, 1969
Shipped CSM and tower to KSC	Jan. 22, 1969
Completed CSM and lunar module (LM) mechanical docking test at KSC	Feb. 13, 1969
Completed manned altitude run with the prime crew	Mar. 18, 1969
Moved CSM, LM and SLA stack to the VAB and mated to booster	Apr. 14, 1969
Moved Apollo 11 space vehicle to Launch Complex 39A	May 20, 1969

Bob Hoover to Make Television Appearance

R. A. "Bob" Hoover, executive assistant to the corporate vice president — Public Relations and Advertising, will be on ABC television's Wide World of Sports Saturday, July 26 at 5 p.m., Channel 7.

The network is featuring the famous Reno Air Races of 1968 when Hoover, flying the P-51 Mustang, served as official starter and pacer.



MOON MISSION SPACECRAFT — SC107 command module which flew in the epic Apollo lunar landing mission, is shown as it was lowered gently onto a dolly at the Space Division's Bldg. 290 prior to shipment last January to Kennedy Space Center.

Congress Lauds . . .

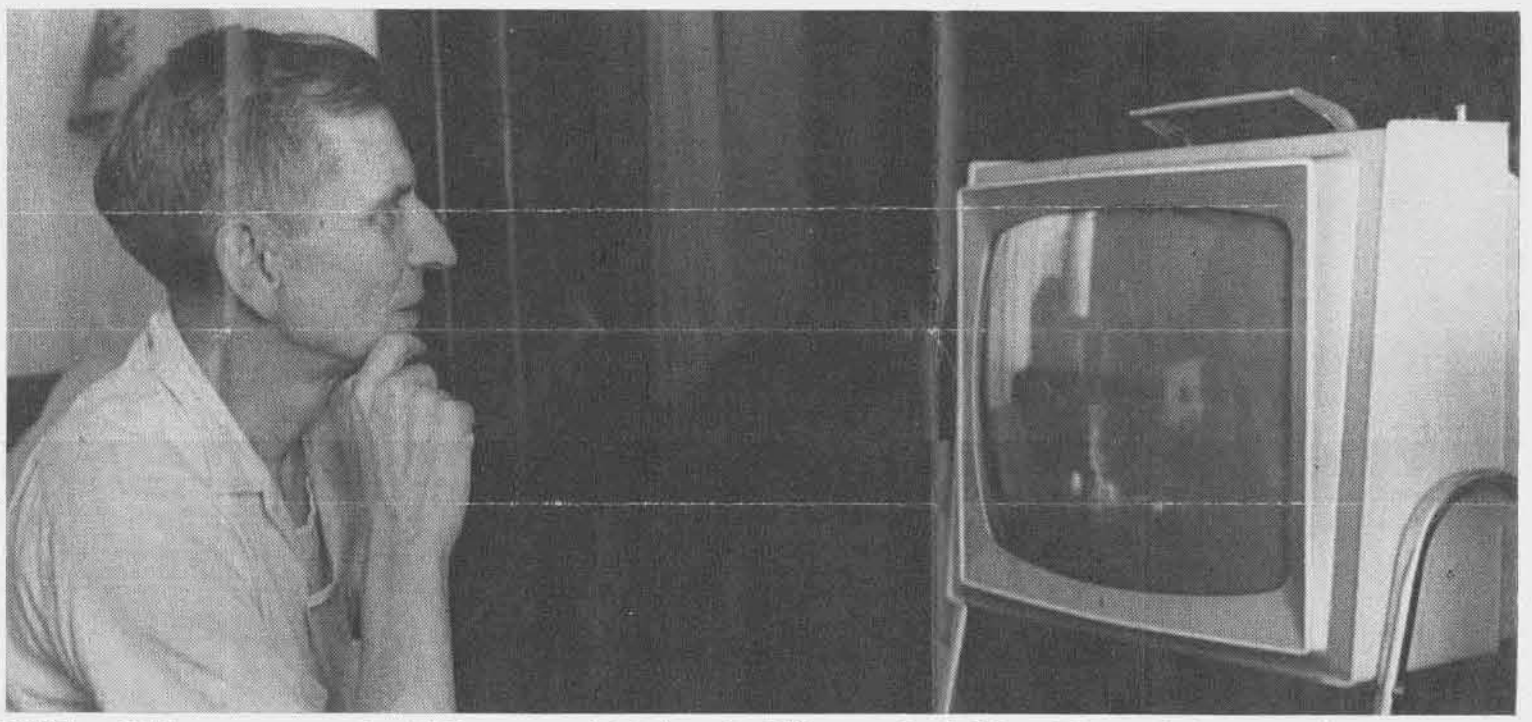
(Continued from Page 1, Column 3)

- Balance between government and industry capability "has established a competent give and take between the key industrial contractors and NASA program managers."
- A key element "has been complete dedication of people involved" to assure reaching the national goal of a lunar landing in this decade.

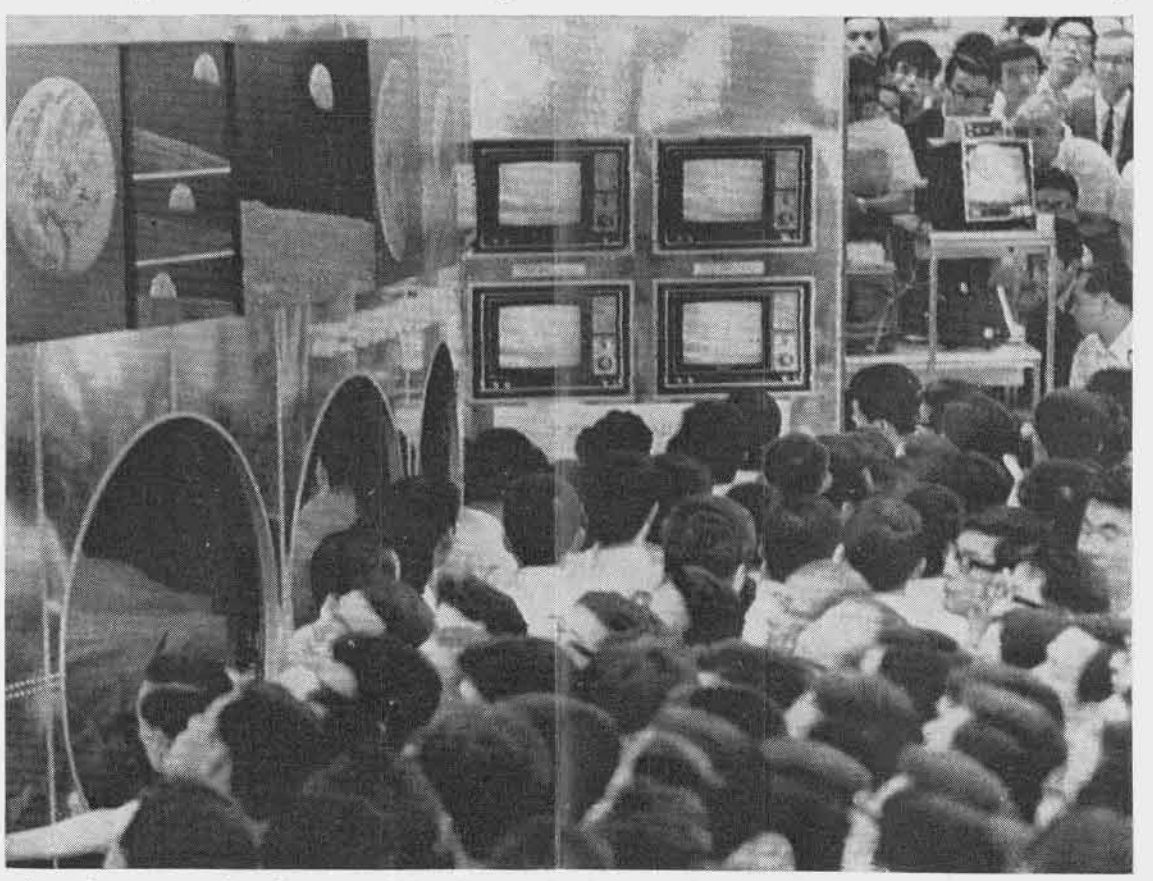
The World Looked Up at the Land of the 'Giant Leap'

ALL OVER THE WORLD — In the great cities, in the villages and the places in between, viewers watched the men on the moon. Here are shown the towers of Chicago, the Merchandise Mart, and the place where man first set foot this week.

OTHER MEN WHO WATCHED — At Houston, Tex., in the Mission Control Center, the men who had planned for months, and literally plotted the course of Apollo 11, may have believed they had an even greater interest than the rest of the world. While the mission was in progress, they sat at their consoles and read the complex boards or viewed astronauts on television.



IN MOSCOW AND WAPAKONETA — Neither party nor national differences seemed to dim the interests in the mission. From all over the world came evidences of the curiosity of millions. One of many viewers in Neil Armstrong's birthplace in Ohio was Jacob Zint. This week he watched Armstrong on television and recalled that many years ago he had given a neighborhood boy — Neil Armstrong — his first look into a homemade observatory.



IN ROME AND WASHINGTON AND ON THE GINZA — Leaders of many churches, of state, joined in the enthusiastic watching and waiting but the good wishes and prayers were most evidenced by the crowds on the streets, in the plants, and families in the homes, all of whom contributed to one of the longest continuous presentations of television in the history of the medium. In many cities traffic was halted by crowds viewing store-window TVs.

TRAINING AIDS — Some 500 pieces of obsolete Apollo/Saturn metals have been given by NASA for use in vocational schools. At the presentation were, from left, Martin Melanson, NASA; Lowell Cleaver, Los Angeles City School District; William Jordan, Government Services Administration, and Harry O'Neill, Space Division. Weldor, operator trainees will use metals as practice materials.

NASA TURNS OVER OBSOLETE APOLLO/SATURN MATERIALS

NASA has turned over some $100,000 worth of obsolete Apollo/Saturn materials to government-sponsored training centers throughout the Los Angeles area.

Martin Melanson, property disposal officer, NASA's Resident Apollo Spacecraft Program Office, Downey, Calif., made the presentation to Lowell Cleaver, vocationad superintendent, Manpower Development Training Centers, Los Angeles County School District.

The materials, some 500 pieces of mixed metals, were accumulated during the Space Division's production for NASA of the Apollo Spacecraft Command and Service Modules and the second stage (S-II) of the Saturn V launch vehicle.

These metals will be used as practice materials by some 400 weldor and machine operator trainees at skill centers in East Los Angeles, Watts, Wilmington, Pacoima and Venice.

Special funds to operate these training centers are provided by the Department of Health, Education and Welfare and the Department of Labor.

Space Station Contract . . .

(Continued from Page 1, Column 5)

NASA is entering final contract negotiations for two parallel 11-month program definitions Phase B studies, each valued at approximately $2.9 million.

The division study will be headed by Dr. Ian Dodds and will be centered at Seal Beach.

The division's study contract will be directed by NASA's Manned Spacecraft Center, Houston, while the McDonnell Douglas effort will be directed by NASA's Marshall Space Flight Center, Huntsville, Ala.

Major efforts of these studies will be preliminary design and planning of a 12-man Earth orbital Space Station which could be developed by 1975. The Space Station would be designed to have an operational life of 10 years subject to re-supply of expendables and rotation of crews with logistic vehicles.

The Station is envisioned as the initial element of a large Space Station and as a means for investigating the problems associated with manned habitation of space for expended periods such as would be encountered in future manned planetary missions.

The work also will include a conceptual design of a 50-man Space Base made up of specialized modules assembled in low Earth orbit in the late 1970s and early 1980s. The Space Base would be a centralized facility in orbit comparable to a scientific and technical research development and operations center on Earth.

Scientists and engineers of many disciplines could utilize its unique features such as weightlessness, vacuum, Earth-viewing and unobstructed celestial-viewing for a large variety of research and application activities.

Logistics systems to re-supply expendables and rotate crews of both the Space Station and the Space Base will be included in the studies.

Modified existing spacecraft designs will be considered as initial logistics systems for the early phases of the Space Station program in the event an advanced space Shuttle would not become available in time for these operations, NASA said.

Salary, Weekly ATP

Retirement Age To Drop from 68 To 65—Moore

The retirement plan covering employees on the salary, advanced technical and weekly payrolls of the Aerospace and Systems Group will be amended to lower the mandatory retirement age from 68 to 65, it was announced today.

According to John R. Moore, A&SG president, the change will become effective Oct. 1, 1970, and will take two years thereafter to fully implement. This will give employees who will be affected maximum time for personal planning.

Basically the change will provide for mandatory retirement at age 67 during the company fiscal year 1971 (Oct. 1, 1970 to Sept. 30, 1971), retirement at age 66 during the fiscal year 1972, and mandatory retirement at age 65 after Oct. 1, 1972.

The three-step plan includes:

One — Employees who have reached age 67 by Oct. 31, 1970, will retire on that date. Employees who reach age 67 thereafter during fiscal 1971 will retire on the last day of the month following their 67th birthday.

Two — Effective Oct. 1, 1971, age 66 will become the mandatory retirement age, with actual retirement to occur on the last day of the month following attainment of age 66.

Three — Effective Oct. 1, 1972, and for all subsequent years, age 65 will become the mandatory retirement age, with actual retirement to occur on the last day of the month following attainment of age 65.

Employees who retire under the new provision with five or more, but less than 10 years' credited service, and are age 55 or over at the time the provision goes into effect, will be given credit at the time of their mandatory retirement for the number of years they would otherwise have acquired by age 68, up to 10 years.

Adopting 65 as mandatory retirement age is in line with general practice in American industry.

FELLOWSHIP AWARD — Carl J. Kiefer, center, manager, Facilities and Industrial Engineering, Seal Beach, received one of the first Aerospace and Systems Group Business Administration Fellowships. Congratulating him are Richard Wilson, left, Group vice president, Facilities and Industrial Engineering, and E. D. Starkweather, who is A&SG vice president for Personnel.

Space Division Employees Win 10 of the 33 A&SG Fellowships

Space Division employees were awarded 10 of the 33 Fellowships for 1969-1970 given by the Aerospace and Systems Group, North American Rockwell.

Carl J. Kiefer, manager, Facilities and Industrial Engineering, Seal Beach, was awarded one of the first three Business Administration Fellowships granted by the company. Other Business Administration Fellowship award winners are at Rocketdyne and Autonetics.

In addition to Kiefer, other Space Division grantees were: D. L. Babcock, D. M. Brooks, R. A. Christianson, J. F. Gloudeman, J. A. Hallberg, Calvin Hecht, D. Y. Konishi, B. B. A. Logan and W. J. Papanek. Fields of interest are in science, engineering and business management areas.

Not present at the presentation were Gloudeman, who is in Stuttgart, Germany, studying computerized techniques to be applied in the structures area and Hallberg who is examining geological formations in Australia.

Full study and Work Study Fellowships are available to qualified employees. Details may be obtained from R. C. Flournoy, Educational Programs Administrator, Manpower Development, Ext. 3141 or 2379.

New Courses Are Announced

Five additional after-hours courses have been announced by H. S. Hill, manager, Manpower Development. Courses and their starting dates include: Techniques and Application-Part I, July 28; Automated Check-out Programming, July 29; Introduction to Telemetry, Aug. 4; Principles of Structural Design Criteria, Sept. 9, and, Computer Maintenance Techniques and Application-Part II, Nov. 17.

For information on these and other Science/Engineering, Technology, or Manufacturing courses, call Ext. 1165-6.

Data Accumulated

During its three-year lifetime, about 335 millions bits of data were received on Earth from the Mariner IV spacecraft, according to NASA.

HISTORIC CALL

Nixon Phones Astronauts on Lunar Surface

President Richard Nixon led the world in congratulating the Apollo 11 astronauts who landed on the moon Sunday night.

Speaking for two minutes via radiotelephone, President Nixon, in part, told Spacecraft Commander Neil Armstrong and Lunar Module Pilot Edwin Aldrin:

"Because of what you have done, the heavens have become a part of man's world and, as you talk to us from the Sea of Tranquility, it inspires us to redouble our efforts to bring peace and tranquility to Earth."

Engineers had arranged a "hot line" for the President's phone call, which he said was the most historic ever made from the White House.

President Nixon's call was relayed to Goldstone, Calif., where a huge antenna relayed to tiny antennas on the astronauts' Portable Life Support Systems.

FLEXIBLE BASE

Space Station And Shuttle Task Group Selected

NASA has established task groups to handle its efforts on the Manned Space Station and the Space Shuttle.

The Space Shuttle effort is headed by Dr. George E. Mueller, in addition to his responsibilities as NASA Associate Administrator for Manned Space Flight. Charles W. Mathews, Deputy Associate Administrator for Manned Space Flight, heads the Space Station effort, in addition to his present duties.

Reporting to Dr. Mueller is a Space Shuttle Task Group under LeRoy E. Day, former director of Apollo Test. The group will develop NASA material for a report on Space Shuttles to the President's Space Task Group. NASA will work directly with the Department of Defense to provide an integrated report serving as the basis for the President's Task Group recommendations on Space Shuttles.

Reporting to Mathews will be Apollo 8 mission Spacecraft Commander Frank Borman, former deputy director of Flight Crew Operations at the Manned Spacecraft Center. As Field Director for the Space Station effort, Borman will be responsible for integration of study efforts between centers and other elements of NASA. Borman will be located at the Manned Spacecraft Center, Houston.