WORLD AWAITS APOLLO 11'S LUNAR LANDING

North American Rockwell News

Space Division Skywriter Downey, California Volume 29 Number 27 July 18, 1969

"I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to earth. No single space project in this period will be more impressive to mankind or more important for the long-range exploration of space; none will be so difficult or expensive to accomplish.

"We go into space because whatever mankind must undertake, free men must fully share."

President John F. Kennedy, May 25, 1961

Astronauts Continue On Greatest Venture

Armstrong, Collins and Aldrin En Route After Successful Lift-Off

As millions of Earthlings hoped and prayed, the Apollo 11 astronauts moved through cislunar space today, preparing for their scheduled moon landing Sunday.

Encouched in the Space Division-built command module, Commander Neil Armstrong, Command Module Pilot Mike Collins and Lunar Module Pilot Ed Aldrin were launched into their eight-day epochal journey Wednesday. NASA's giant Saturn V lifted off Pad A at Kennedy Space Center's Launch Complex 39 at 6:32 a.m., propelled by the awesome power of five Rocketdyne F-1 engines.

As in previous Saturn V launches, witnessing the controlled inferno of 7.5-million pounds of thrust boost the 363-foot white stack into the Florida sky was an emotional experience. Yet this launch was different: the hopes of the Free World were focused on the journey of these three brave Americans.

Watching the lift-off from three miles away was the largest contingent of reporters ever to assemble. In stands just a few yards away from the press area, 7,000 especially invited guests were assembled, including civic leaders from throughout the United States and former President Lyndon B. Johnson.

These special guests, as well as the thousands of men, women and children who lined beaches for miles north and south of Cape Kennedy, had been for the most part sharing their excitement with members of their group. When ignition came, with flame, thunder and shock waves, some cried, some cheered, and all seemed aware they were present at the start of a journey which might alter mankind's development.

For the news media, this was a working time. Broadcast reporters strained in a dozen languages for words adequate to describe the momentous occasion. Printed media reporters relayed the news to editors around the globe. Through wire services and communications satellites, as many as 500 million persons may be following the Apollo 11 mission.

Armstrong, Collins and Aldrin, although aware of the historical importance of their mission, have little time for reflection.

Moon Orbit Tomorrow

Wednesday, some 2 hours and 44 minutes after lift-off, the astronauts and engineers at NASA's Mission Control Center in Houston made a commitment and the third-stage engine was reignited, taking the space-

(Continued on Page 2, Column 3)

NATION'S GOAL — Plans to accomplish the national goal proposed to Congress, above, by the late President Kennedy, are depicted in photograph below.

Space Division Teams Will Attend Module To Make It Safe To Handle

When the Apollo 11 command module splashes into the Pacific Ocean at the end of its historic mission, Space Division teams will be in Hawaii, ready to perform vital "safing" operations.

In simplest terms, the explanation of these operations is that they make the spacecraft safe for personnel to work around during post flight analysis. Generally, the "safing" of a spacecraft encompasses propellant system draining and cleaning, deactivation of pyrotechnic devices and the sealing of radiation sources. In all, there are some 5,000 steps. It is not a job for the inexperienced.

The teams who work for Norm Casson, manager, Spacecraft Checkout, CSM Test Operations, are highly motivated men who are thoroughly familiar with their many tasks. Space Division teams have been performing these "safing" operations on all recovered

(Continued on Page 2, Column 4)

REGULAR SCHEDULE SET FOR MONDAY

The Aerospace and Systems Group will operate on its usual work schedule on Monday.

The remarkable achievement of the manned lunar landing will be observed by continuing to perform the important programs entrusted to the company, including the many vital defense contracts which are essential to national security. Of course, many employees will be directly engaged in supporting the Apollo 11 mission.

Employees will be kept informed of progress of the mission throughout the day.

Three Mementos Will Be Left on Moon's Surface

When astronauts Neil Armstrong and Edwin E. Aldrin, Jr., lift off from the moon July 21 after their lunar exploration they will leave behind three items in commemoration of the historic event.

Armstrong will unveil a plaque attached to the descent stage of the Apollo lunar module. The plaque is signed by President Nixon and the three Apollo 11 astronauts — Armstrong, Michael Collins and Aldrin.

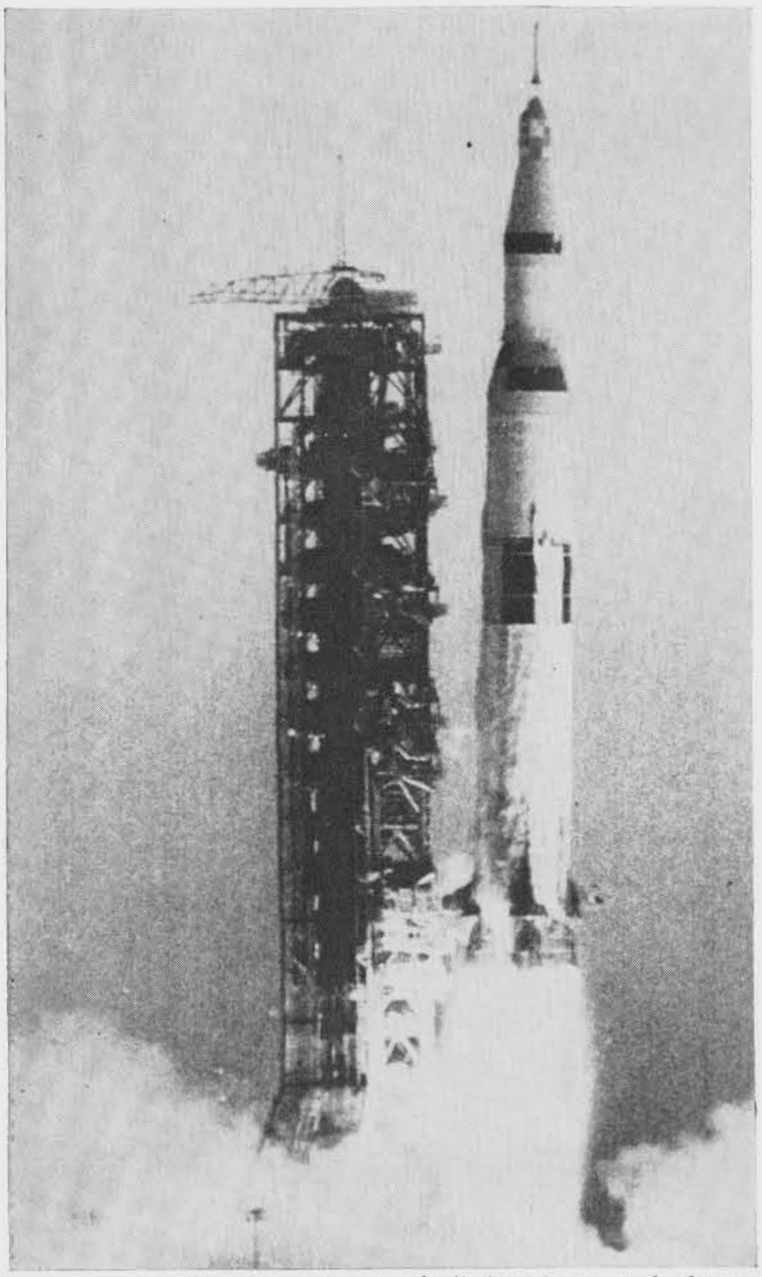
The plaque bears images of the hemispheres of the Earth and this inscription:

HERE MEN FROM THE PLANET EARTH
FIRST SET FOOT UPON THE MOON
JULY 1969, A.D.
WE CAME IN PEACE FOR ALL MANKIND

Another memorial to be left on the moon will be 1½-inch

(Continued on Page 2, Column 1)

LUNAR APPROACH — Apollo 11 approach to lunar landing site No. 2, compared with airliner approach to Los Angeles International Airport. Airliners fly over Downey heading for LAX, 18 miles away, at 3,500 feet altitude and 250 mph. As Apollo 11 passes over lunar point same distance away, its altitude will be 18,000 feet and speed 1,200 mph. Lunar module will be lowered to about 500 feet and 18 mph before beginning vertical descent to lunar surface, according to flight plan.



HISTORIC LAUNCH — Hopes of all Americans, and of most of Free World, rose with NASA's Apollo 11 Saturn V as it lifted from pad Wednesday at Kennedy Space Center at 6:32 a.m.

Astronauts Approach Moon . . .

(Continued from Page 1, Column 5)

craft out of Earth orbit and placing it on a path which would intersect the moon's orbit tomorrow morning. Transposition and docking of the CSM with the LM was completed three and a half hours into the flight.

The astronauts spent most of yesterday monitoring systems and coasting through space. Today, Armstrong and Aldrin will crawl into the LM, there to check out its systems. Collins will remain in the CSM.

Tomorrow, the astronauts are to fire the service propulsion system twice, first to place the spacecraft into lunar orbit, then to circularize that orbit at about 60 miles.

Landing Sunday

Activities Sunday are to be etched into history. At about 1:19 p.m. PDT Sunday, Armstrong and Aldrin in the LM are scheduled to guide their spacecraft to a soft landing on the moon's surface, there to remain 22 hours.

Mission plan calls for Armstrong to set foot on the moon at about 11:22 p.m., to be joined 23 minutes later by Aldrin. These footprints will echo through all time to come. The astronauts are to return to the LM early Monday morning.

During their more than two hours afoot on the moon's crust, the men are to plant the American flag, collect rock and soil samples, set up three experiments and uncover a plaque attached to the LM which reads: "Here men from the Planet Earth first set foot upon the moon, July, 1969 A. D. We came in peace for all mankind."

Moon Lift-Off

Later Monday morning, Armstrong and Aldrin are to lift off from the moon in the LM's ascent stage and to dock with the CSM, which will have continued in orbit around the moon with Collins aboard. Trans-Earth injection is scheduled for about 9:57 p.m.

Tuesday and Wednesday the men are to rest and coast Earthward. Thursday is to mark their homecoming. The command module is to enter the Earth's atmosphere at 9:35 a.m. Splashdown is scheduled for approximately 9:49 a.m., about 1,200 miles southwest of Hawaii.

Once aboard ship, the astronauts will walk directly into a sealed van and will live there until the van is taken to the NASA's Lunar Receiving Laboratory in Houston.

'Safing Teams'

The CM will be taken to Hawaii where "safing" teams from the Space Division will deactivate spacecraft systems. The spacecraft will go to the LRL in Houston for sterilization. It is expected that the CM will be returned to Downey for post-mission analysis late in August.

Module Handling Plan . . .

(Continued from Page 1, Column 2)

command modules, since unmanned test flights in 1966.

It has been standard procedure for the spacecraft to be transported to Downey for postflight analysis. The Apollo 11 command module is scheduled to be returned to Downey, but not until the end of August.

Two teams will leave for the Naval Air Station on Ford Island, Hawaii, next Tuesday, there to await the arrival next Saturday of the command module.

One unit is composed of C. E. McKim, team leader; H. F. Shimizu, C. H. Burch, F. A. Schmidt and Lino Salazar. The second is comprised of L. J. White, team leader, W. G. Schmidt, Jr., H. H. Porter, Ossie Reid and D. O. Coleman.

A back-up crew consists of H. D. Dick, team leader, Virgil Burgess, Jr., G. D. Bickerstaff, D. W. Tucker, Mark Gordon and O. W. Nasse.

Between splashdown July 24th and its return to the Space Division, the command module will be flown to NASA's Manned Spacecraft Center in Houston, for quarantine and sterilization. Division personnel will go to Houston to assist NASA in carrying out these procedures.

McKim, Schmidt, Salazar, Tucker, Gordon and Nasse are to be joined by P. R. McCarley and W. L. Anderson in assisting NASA at MSC.

J. P. Healey Guest on KMPC Program

John P. Healey, vice president of Manufacturing and Facilities, was interviewed on KMPC, Los Angeles, Sunday beginning at 10:05 p.m.

During the 25-minute KMPC Forum program, Healey discussed the Apollo 11 mission, what is expected to happen during the weeks following the July 24 splashdown and various aspects of manufacturing reliability and craftsmanship.

PRIDE
IN PERFORMANCE

Three Mementos . . .

(Continued from Page 1, Column 2)

silicon disc bearing messages of goodwill from heads of state of many nations. The messages were placed on the wafer using the technique of making microcircuits for electronic equipment. The National Aeronautics and Space Administration invited the heads of nations to submit messages for this purpose.

The third item is the flag of the United States of America which will be erected on the moon. Armstrong will erect the Stars and Stripes as Aldrin photographs the event.

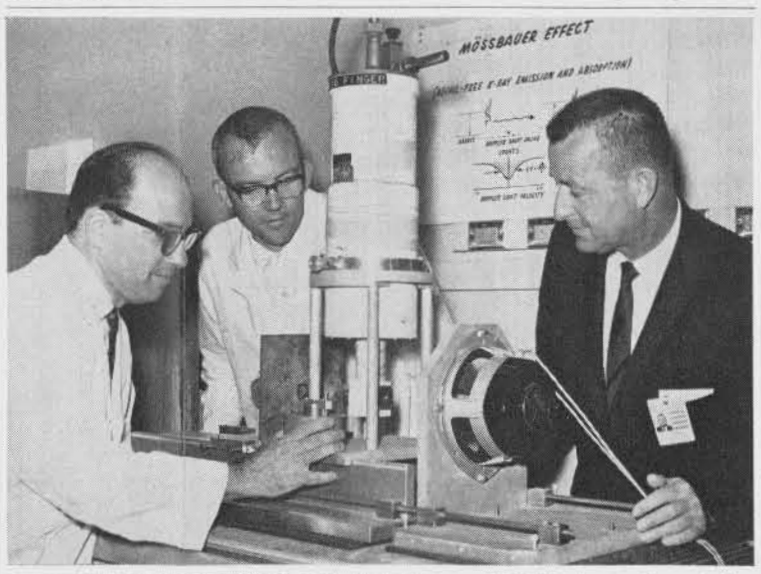
The flag is three-by-five feet and is made of nylon. It will be erected on an eight-foot aluminum staff and tubing along its top edge will unfurl it in the airless environment of the moon. Plans are for the event to be recorded on television and transmitted live to Earth.

The planting of the flag is symbolic of the first time man has landed on another celestial body and does not constitute a territorial claim by the United States.

In addition, the Apollo 11 crew will carry four-by-six-inch flags of other nations of the world, the 50 states, District of Columbia and territories of the United States and the United Nations. These flags will be carried in the lunar module and brought back to Earth.

Two other United States flags will be carried in the Space Division-built command module. These measure five by eight feet and are to be presented to the two houses of Congress upon return to Earth. They were flown over the U. S. Capitol before the mission.

PRESS CONFERENCE — Dale D. Myers, vice president and general manager, CSM Programs, facing cluster of microphones, explains Apollo 11 spacecraft during press conference last week at Division Rec Center for Los Angeles and San Diego reporters.



LUNAR SAMPLE PREPARATION — NASA has selected the Space Division to be among those organizations to analyze lunar soil returned by Apollo 11 astronauts. A. C. Jones, right, lunar sample experiment program manager, checks out a spectrometer to be used in analysis of the lunar dust with Dr. Milton Blander, left, and Dr. R. M. Housley, both of NR Science Center.

Walter Cunningham To Speak to Division Cost Reduction Experts

Astronaut Walt Cunningham will be principal speaker at the Sixth Annual Cost Reduction Award Banquet at the Elks Club, Long Beach, 6 p.m. Tuesday.

Cunningham, who last October flew aboard Apollo 7, first manned Apollo mission, now serves as chief of astronaut liaison for the Apollo Applications Program.

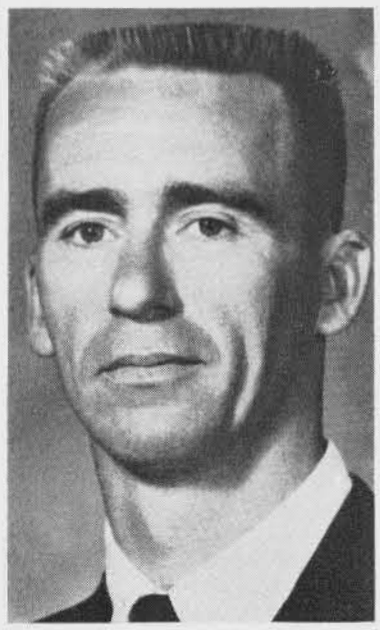
His talk, to be given while the Apollo 11 astronauts are scheduled to be returning to Earth after the lunar landing, will be devoted to the need for continued cost awareness in space programs.

Also at the banquet, Apollo CSM Programs will be presented the annual Buc Trimmer Trophy. The Apollo CSM Programs organization's cost reduction effort, headed by Dale D. Myers, vice president, CSM Programs, won first place in the annual contest by amassing a cumulative total of 106 points out of a possible total of 120 points.

Saturn S-II and Material finished in a dead heat for second place with a total of 104 points each. Quality and Reliability finished third with 75 points.

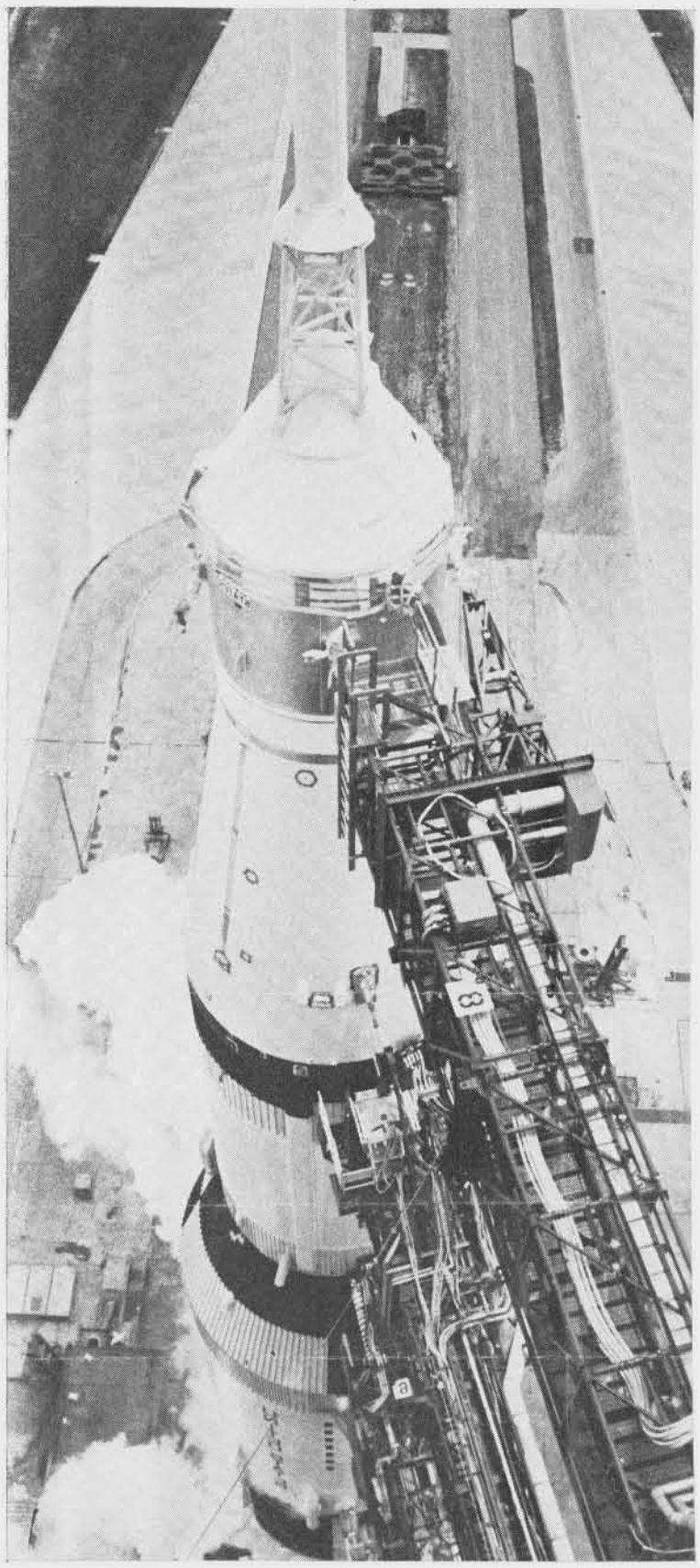
Special banquet guests will include J. D. Bennett, NASA Houston; W. B. Gray, NASA Apollo Program Resident Manager; W. K. Gengelbach, NASA S-II Program Resident Manager; John Young and Bill Urquhart, of NR Executive Offices.

Other guests will include members of Management Council and some 175 Division employees who have made out standing contributions to the cost reduction program during the past year.

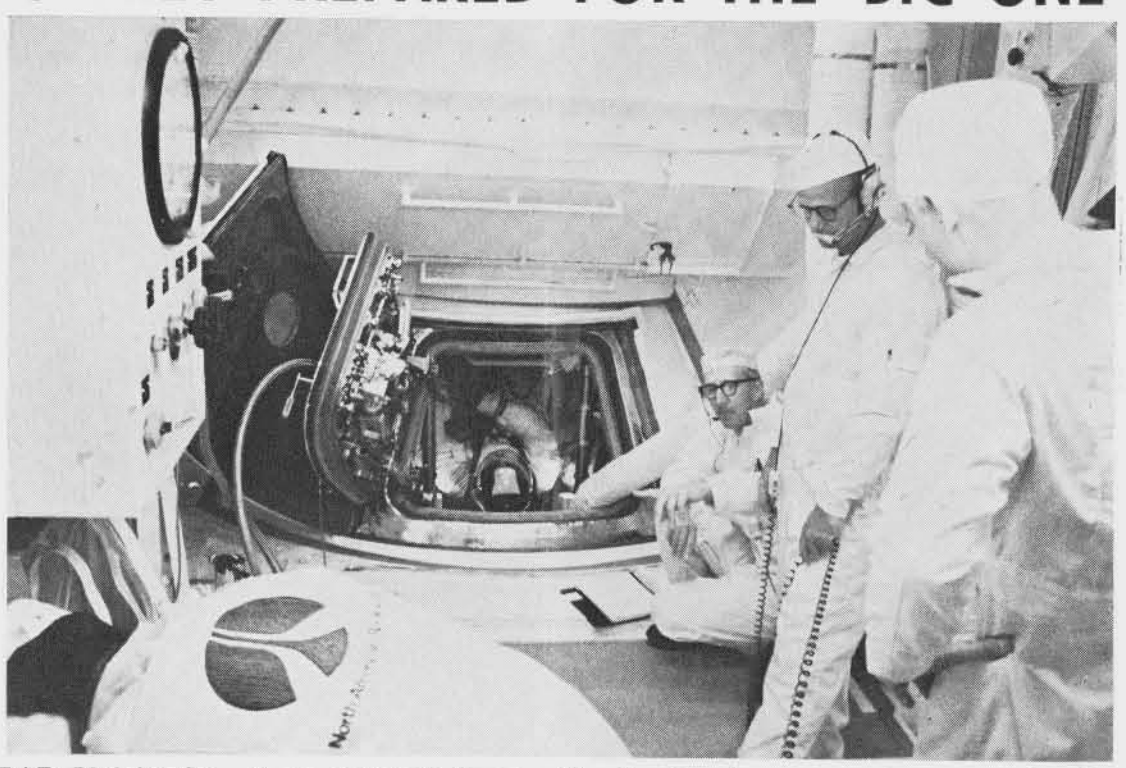


Walter Cunningham

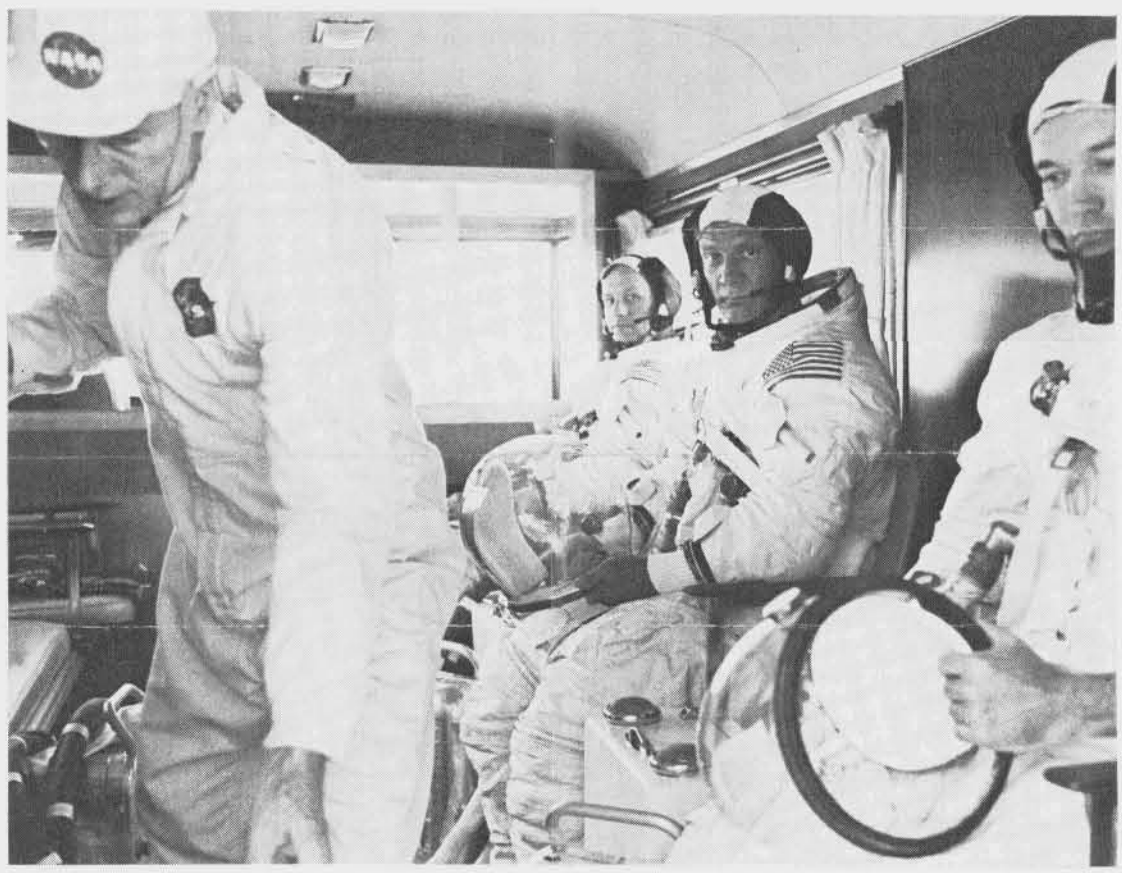
ASTRONAUTS, ENGINEERS AS THEY PREPARED FOR THE 'BIG ONE'



LAUNCH PREPARATION — Camera mounted at the 360-foot level recorded view of the liquid oxygen venting from the Saturn V second stage (S-II-6) during Countdown Demonstration Tests.

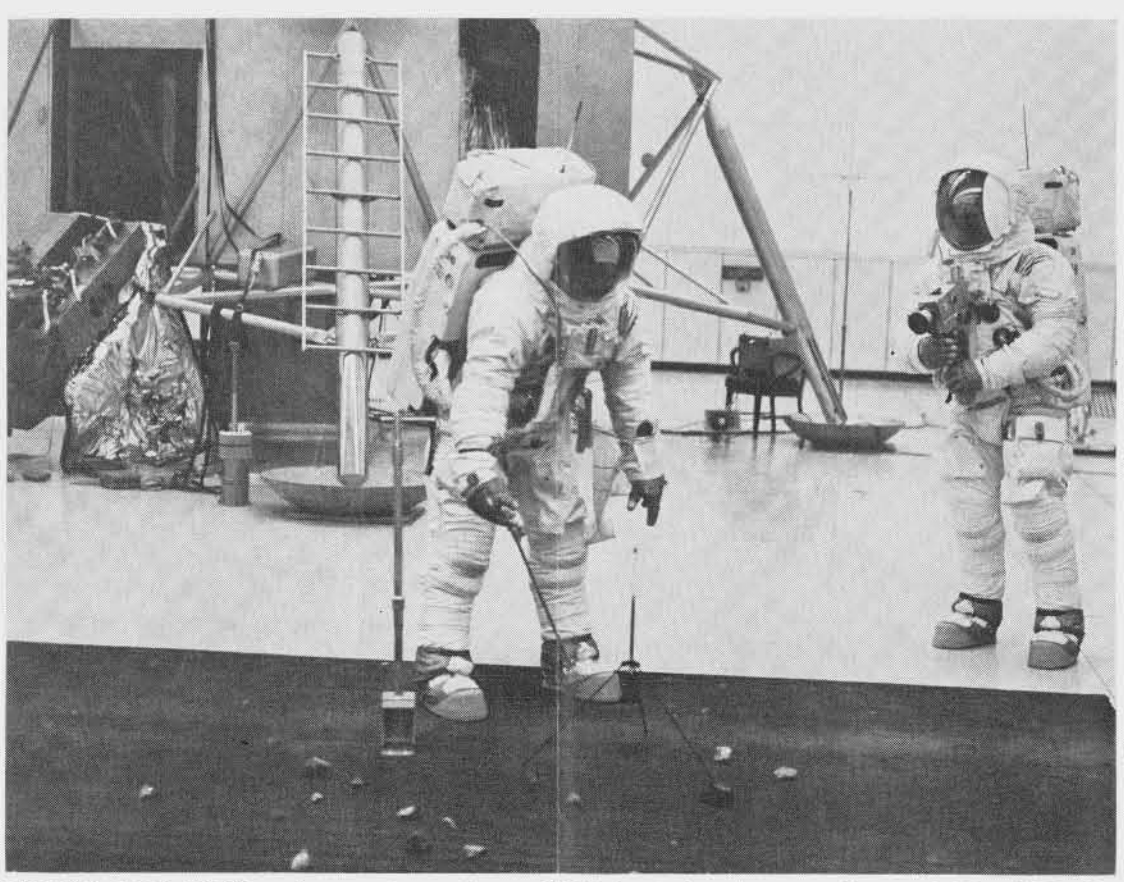


PAD PRACTICE — Space Division's Guenter Wendt, with glasses, supervises preparations for removal of astronauts after CDDT. Visible through the hatch is Apollo 11 CSM pilot Mike Collins.



PENSIVE MOMENT — Seated in rear of KSC transfer van following CDDT, are, left to right, Commander Armstrong, LM pilot Aldrin, CSM pilot Collins, in reflective mood as launch nears.

CSM SIMULATION — Astronaut Mike Collins, who will pilot Space Division built-CSM in lunar orbit during the LM descent is shown mounting steps to KSC's CSM simulator prior to flight.



LUNAR SOIL TOIL — In practice session at KSC simulating lunar surface activities, LM pilot Aldrin, left, commander Armstrong, manipulate special tools they plan to use this Sunday night.

SAFING TEAMS — Norm Casson, left, manager, Spacecraft Checkout, CSM Test Operations, confers with "safing" crews, some of whom will leave Tuesday for Hawaii, where they will deactivate Apollo 11 Command Module after splashdown. Division also will aid NASA MSC, Houston.

Larry Hicklin Wins Division's Annual Golf Tourney with 142 Net

The golf course at Carlton Oaks Country Club suited Leroy Hicklin to a tee.

Whacking long drives, zinging the ball down the fairways, ploping the ball into the cup when his putt was true, Hicklin captured the first-place trophy in the recent Fifth Annual NR Space Division Tournament of Champions.

Playing with a handicap of six, Hicklin, of Apollo CSM electrical applications, had a total tally of 142 net for the two-day, 36-hole weekend Tournament.

"I was pleased with one 290-yard drive but I didn't have any extremely good holes — no eagles," Hicklin recalled. "Neither did I have any double-bogeys, although I topped one shot when I tried to tuck the ball under the wind."

NR Executives, Specialists Take Part in AIAA Meet

The American Institute of Aeronautics and Astronautics' (AIAA) Aircraft Design and Operations meeting was held this week with numerous experts in varied fields from North American Rockwell and other aerospace companies contributing with papers, seminar participation and special addresses.

B. D. Haber, senior vice president of Research and Development, Executive Offices, served as general chairman.

Among the North American Rockwell personnel participating as speakers were P. D. Moore, Lincoln White, E. F. Flint, R. K. Smyth and P. H. Allen. Assisting with the presentation of the meeting were L. M. Rose, vice president, Research and Engineering, Columbus, who served as technical program chairman for the meetings, and M. A. Sulkin, Los Angeles Division, technical assistant to the general chairman. Others served as committee chairmen for various sessions.

GROUP INSURANCE ID CARDS MAILED

Group Insurance Identification Cards were mailed to all insured employees last week. These cards included the employee's name and a brief description of the hospital, physicians and surgeons services benefits. These cards are not a verification that the insurance for the employee is in effect but provide instructions for securing such a verification if it becomes necessary.

Full details of the plan benefits are contained in the Group Insurance Announcement Booklet recently mailed to each employee.

Blood Donors Provide 677 Pints in Drive

Employees donated 677 pints of blood last week during the Cross Blood Bank.

Notable among contributors was Don Tostenson, manager, Release and Data Operations, Research, Engineering and Test, who over the past 25 years has given 50 pints of blood. Why?

"I guess it's part of being a good citizen, I think. It's one more thing that an individual can do for the good of the community. Besides, we should support our own blood bank. I've never withdrawn any; hope I never have to. But our Blood Bank has been helpful to some friends of mine."

Tostenson's wife, Harriet, is a volunteer Red Cross worker and has assisted at almost every Division Blood Bank during the past few years.

In the event of any medical need, blood may be obtained free of charge by any employee or member of his immediate family even if the employee has never donated. Next Division Blood Bank is scheduled for February.

BLOOD BANK — Don Tostenson, manager, Release and Data Operations, Research, Engineering and Test, and his wife, Harriet, Red Cross volunteer worker, played important roles in Division Blood Bank last week. Tostenson has given 50 pints over years.

Division's Annual Tennis Open Slated

Space Division Annual Open Tennis Tournament will be held at the Downey Recreation Center, beginning at 9 a.m., Aug. 2-3 and 9-10. Trophies will be awarded.

Entry blanks are available at Recreation and Welfare Offices, from George Shull, tournament chairman, Ext. 1881, and from Ray Sena, co-chairman, Ext. 5962.

WESCON Slated for Aug. 19

The Western Electronic Show and Convention (WESCON) will be held in San Francisco Aug. 19-22. Some 23 technical sessions will be conducted; more than 600 exhibitors are expected.

Classified Ads

FOR SALE

AUTOS

'55 Bel Air Chev., $225, 923-1917.
'61 Chev. Biscayne, $350, UN 3-9476.
'64 Chev. Wagon, $825, 714/772-4654.
'68 Chev. Caprice, 714/644-1800.
'60 Corvair, $200, 288-1454.
'63 Corvair, Conv., Auto., 866-8508.
'59 Corvette, $800, ME 4-4380.
'64 Corvette Stingray, 714/630-0565.
Dune Buggy, half complete, 714/828-7583.
'58 Dodge, 714/528-5006.
'64 Fiat Sedan, $125, OR 4-4357.
'63 F85 Deluxe, $550, 594-4151.
'67 Firebird 400, 892-9834.
'59 Ford Wagon, 695-9257.
'65 GTO, $1,200, 699-8209.
'66 Healey, 438-8481.
'67 Jaguar XKE, $3,800, 860-2601.
'42 Mil. Jeep, 714/521-0872.
'60 Merc. $395, 434-7816.
'66 MGB, 862-3396.
'64 Scout, 4-wh. dr., w/winch, 634-6272.
'67 Mustang, auto/390 eng., 866-8508.
'61 Porsche, $1,800, 322-3740.
'65 Porsche, CPE, 714/968-6503.
'66 Rambler, $975, 431-1262.
'65 Sprite, $850, 714/630-0460.
'64 Tempest Wagon, 429-5568.
'66 Triumph, TR-4, 714/630-0352.
'67 VW, Sun Roof, 892-9834.
'65-'67 S/Wagon, 714/826-1396.
'58 2 dr. Sedan, 714/528-5006.

FOR SALE

AUTOS

'61 Chev. Nomad wagon, $475. 714-1979.
'65 Jaguar 3.85 automatic am/fm. 714/838-1785.

HOMES

4 br, Fullerton, $35,000, 714/871-3469.
3 br, Lakewood, 867-9723.

FURNITURE

Bdrm. Set, mattress, dresser, 320-8039.
Naugahyde Furn, carpet, picture, 828-7583.
Liv. Rm. Set, $180, 920-2786.
Coppertone Upright Freezer, 714/529-5041.
Apt. Size Stove, 633-6387.
Gas Range, $30, 426-7231.

BOATS

Glasspar G3, 75 MP, 861-1815.
Inbrd. Ski Boat, 376-8153.
10' Boat & 5hp motor, 864-7855.

STEREOS, TAPES, RADIOS

19" Color Tv, $150, 927-1093.
Stereo Amp., TO 1-8956.
Magnavox Stereo, $225, 431-1262.
Stereo Tape Rec., 927-5744.

RIDE WANTED/OFFERED

Wanted/El Monte-Durffee & Elliott/Downey, 448-7956.

ODDS AND ENDS

'61 VW Body, Sharp, 596-0645.
Mark ten transistor ignition, 865-0016.
'39 Ford rear end, $15, 531-8145.
Golf Clubs, left-hand, 340-5863.

CM OXYGEN PANEL

Zero Defects Record Set

Chalk up another zero defects performance for spacecraft manufacturing.

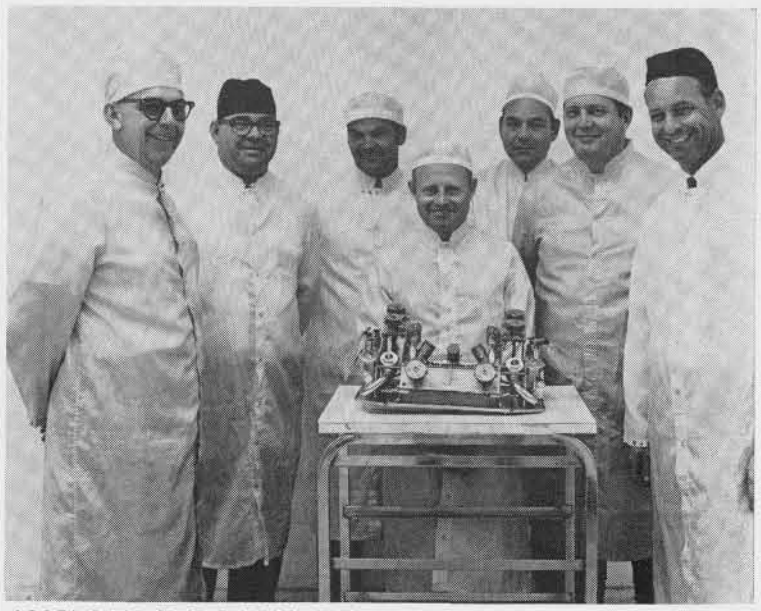
What is believed to be the first zero defects completion of a service module quadrant door was finished two weeks ago, for SC 114.

Last week, Manufacturing Subsystems Assembly had done it again, this time for SC 115A command module's oxydizer panel. This panel is a complete oxydizer distribution source for supplying nitrogen tetroxide to feed the CM's 12 reaction control system engines. RCS engines are used during entry into the Earth's atmosphere to place the blunt edge—most heavily protected—of the spacecraft in a forward position to ablate the searing heat. These engines could be used for attitude control during a pad abort also.

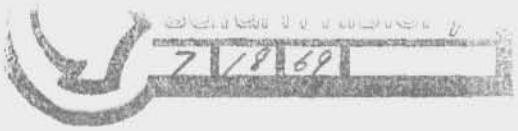
The oxydizer panel consists of 20 supplier components; there are 42 induction brazed joints.

Charles Murray, supervisor, said:

"We feel extremely proud of this assembly both from the points of view of manufacturing and quality control." In addition to Murray, the successful assembly team included J. R. Adam, manager; George Roth, Gil Laird, Don Bair, mechanics, all from Manufacturing; Floyd Quiram, inspector, Quality and Reliability Assurance, and Bill Fitzgerald, crew chief, NASA Quality Control.



ANOTHER ZERO DEFECTS — Manufacturing Subsystems Assembly scored second "zero defects" operation within a month. From left, are Bill Fitzgerald, NASA crew chief; Charles Murray, George Roth, Gil Laird, Don Bair, Floyd Quiram, J. R. Adam.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