

# Holiday Greetings

Space & Information Systems Skywriter

VOL. XXVI, No. 50

NORTH AMERICAN AVIATION, INC.

DECEMBER 29, 1966

## Apollo Missions Astronaut Crews Named by NASA

Astronaut crews for the second and third manned Apollo missions were announced last week by NASA.

The second Apollo mission, A/S-205/208 (Spacecraft 101), is planned as a rendezvous and docking mission. It will be the first manned operation of the Apollo lunar module, which is the two-man spacecraft designed to land on the moon.

A/S-503, the third manned Apollo flight, will be the first to use the Saturn V launch vehicle, which includes the S&ID-built Saturn S-II stage, and will launch the entire Apollo spacecraft — command and service modules and lunar module — into Earth orbit.

### Launch Date

NASA said both missions are scheduled to be launched during 1967, but depend on the success of other Apollo missions, including A/S-204, the first manned Apollo flight scheduled for the first quarter of the year.

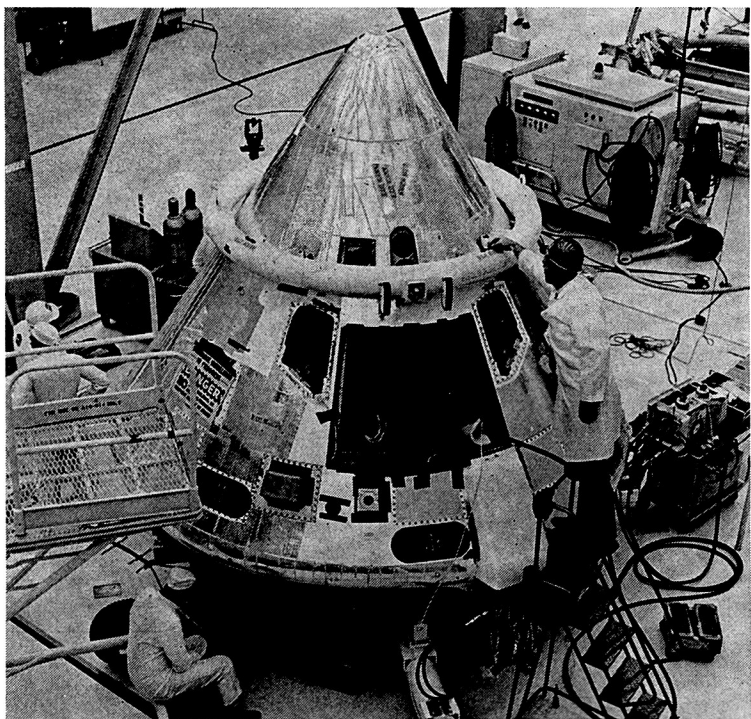
Prime flight crew for the Apollo Saturn 205/208 mission is Jim McDivitt, commander, Dave Scott, command module

## CREDIT UNION OFFICE TO OPEN

Opening of a new Credit Union office at Downey and a change in the operation of the office at Compton were announced this week.

The new office will be in operation at Bldg. 318 at Downey beginning Jan. 3. It will be located on the second floor, on the east side of the building, and open Monday, Tuesday, Thursday and Friday.

Beginning Jan. 4, the office in Compton Bldg. 340 will be open only on Wednesdays.



**READY TO GO** — Finishing touches are put on Apollo Spacecraft 017 which was delivered to NASA last week. Spacecraft is slated to be first to go into space aboard Saturn V vehicle.

## SPACECRAFT 017 UNDERGOING CHECKOUT AT SPACE CENTER

Apollo Spacecraft 017, scheduled to be the payload for the first flight of NASA's giant Saturn V launch vehicle, is undergoing initial checkout at Kennedy Space Center following its delivery to the National Aeronautics and Space Administration at Downey last week.

### Heat Shield

The spacecraft is planned for an unmanned launch that will evaluate the Apollo heat shield performance under lunar mission re-entry conditions. The same flight also will determine spacecraft and launch vehicle performance and compatibility, said Dale Myers, S&ID vice-president and Apollo program manager.

Included in the huge Saturn V launch vehicle will be the S&ID-built S-II-1 second stage, which completed its first successful static acceptance test fir-

ing Dec. 1 at NASA's Mississippi Test Facility.

Scheduled for next year, the spacecraft 017 flight will be the third designed to prove the Apollo heat shield under varying re-entry conditions. The initial two missions, with Spacecraft 009 and 011, were completed successfully earlier this year.

Both the Spacecraft 009 flight, on Feb. 25, and the Spacecraft 011 mission, on Aug. 26, tested the Apollo heat shield under the most severe high temperature conditions expected on re-entry from Earth orbit.

### Personnel

Heading work on the spacecraft in Apollo Project Engineering is Russ Johnson, project engineer, and Murray Brooks, assistant project engineer. John Armitage and Pete Magoski are

(Continued on Page 2, Column 1)

## Apollo's Hardware Requirements Higher

### Dr. Joseph Shea Details Program Progress for Press

The Apollo program was described recently as passing through a maturing phase with significantly higher hardware requirements than were required of Gemini.

Dr. Joseph Shea, Apollo spacecraft program manager for NASA's Manned Spacecraft Center in Houston, detailed progress of the test program and the spacecraft modules during a two-day Apollo systems news symposium for more than 150 members of the national press and television.

"There is a big difference between what we can accept in Gemini for the Earth-orbital operations in terms of hardware performance . . . and what we can accept for Apollo when we have to commit ourselves to the lunar mission itself," said Dr. Shea.

### Parallel

Drawing a parallel between the growth of spacecraft and growing children, Dr. Shea said hardware, similar to the growing child, goes through phases.

"Although you can sometimes help those phases and make them a bit easier, the process of maturing still has to go on.

### Current Process

"We are going through that maturing process on Apollo right now."

Pointing to the difference in requirements for the Apollo program and earlier space projects, Shea noted that in Earth-orbit flights, the spacecraft can be brought back in a relatively short period of time.

"But for the lunar program,

when it is three or four days before you can actually get back, that class of problems which was acceptable in Gemini would not be acceptable in Apollo," said Shea. "And if we noted them in the Earth-orbital part of the mission, they probably would have caused an abort, or probably would have caused an abort shortly after the injection on the way to the moon."

"The crew training program," he said, "will be one of the major problems as we move

(Continued on Page 2, Column 5)

## SOCIAL SECURITY TAX INCREASES

Effective with payroll checks issued in January, 1967, Social Security tax will be deducted at the rate of 4.4% on the first \$6600 of wages paid in the year. The new rate includes the additional tax of 0.50% for hospital insurance for the aged under the Medicare program.

The Social Security tax rate in 1966, including the tax for Medicare, was 4.2% on the first \$6600 of wages paid in the year. In addition to the social security tax deducted from employee wages, the company must pay the same amount as its own contribution.

## DIVISION LOOKING FORWARD TO CHALLENGING NEW YEAR AS EVENTFUL 1966 DRAWS TO CLOSE

As an eventful 1966 draws to a close, S&ID personnel are looking forward to a new year that promises to be both the most challenging and rewarding in the division's history.

The past 12 months have seen the division deliver its first space flight hardware in both the Apollo and Saturn S-II programs, and re-align its internal organization for more efficient operation as well as to further expand its capabilities.

Ahead in 1967 lies the historic first manned flight of the Apollo spacecraft and the first launch into space of the Saturn S-II as initial Earth-orbital flights are made with the giant NASA Sat-

urn V vehicle that will power Apollo to the moon.

Major accomplishments in the Apollo program included three successful tests of spacecraft. The first was the Spacecraft 002 abort test at White Sands Test Facility, N.M., which qualified the spacecraft launch escape system and capped a highly successful two-year program at WSTF.

The Apollo heat shield was put through the most severe high-heat conditions it is expected to endure on re-entry from Earth orbit missions in the unmanned suborbital flights of Spacecraft 009 and 011.

The Feb. 26 flight of Space-

craft 009, the first Apollo launched into space, marked a number of firsts for the program and the nation. It was the largest U.S. payload — 137,400 pounds — placed in space, and had the highest re-entry speed — approximately 18,000 miles per hour.

The 93-minute, 17,500-mile flight of Spacecraft 011, on Aug. 25, was the longest both in time and distance for the Apollo. It also was the first time the fuel cell and guidance and navigation systems were put through their paces.

Spacecraft 017, scheduled to be the first unmanned Apollo

(Continued on Page 2, Column 4)



**SHEA ON APOLLO** — Dr. Joseph Shea, NASA MSC spacecraft program manager, details test program and spacecraft progress during two-day news symposium for press and TV held recently.





**COST CUTTERS** — Bob Greer, left, v-p and S-II program manager, congratulates outstanding Cost Reduction contributors following presentation of Buc Trimmer award for November. Cited, from left, are K. D. Marriott, R. B. Orne, and D. R. Slocum.

## SATURN S-II EMPLOYEES SNAG MONTH'S BUC TRIMMER TROPHY

Scoring well above their monthly goals, Saturn S-II employees captured the Buc Trimmer Trophy competition for November.

Apollo was second in the monthly standings and Material was third. Both organizations also compiled a healthy percentage above their monthly targets.

### Order

Rounding out the Top 10 standings for November were, in order, Contracts and Pricing, Management Planning and Controls, Manufacturing and Facilities, Tulsa, Research, Engineering and Test, Quality and Reliability Assurance, and Administration.

Material, with a total of 44 points out of a perfect 50, still retained its lead in the annual

standings. Following were Tulsa, Apollo, Contracts and Pricing, Administration, Saturn S-II, Management Planning and Controls and Manufacturing and Facilities, tied for seventh, Research, Engineering and Test, and Quality and Reliability Assurance.

Outstanding contributors in the major organizations during the month were:

Gary Turner, Administration; Jim Edwards, H. W. Pickham, C. J. Dickinson, John Proctor, John Eslinger, Jack Harrington, and Milt Sherman, all of Apollo; C. L. Smith, Jr., Computing and Data Systems Services; W. C. Campbell, Contracts and Pricing.

Walt Klinger, Financial; W. R. McDowell, Management Planning and Controls; R. B. Woods, Manufacturing and Facilities; J. E. Campos, Material, and R. B. Orne, L. B. Thon, and K. D. Marriott, all of Saturn S-II.

## Peter Ferryman Named Member of National Group

Peter Ferryman of Advanced Programs Development has been appointed a member of the National Defense Executive Reserve, according to an announcement by Secretary of Commerce John T. Connor.

The group is a volunteer 1400-member executive force which provides assistance and advice to the U.S. Dept. of Commerce. Ferryman's assignment will be to monitor industrial mobilization readiness plans and to participate in war production exercises, and executive training sessions.

He also will aid in the review of Defense Materials System plans, priorities, and directives.

Ferryman's certificate of appointment was presented to him by Stanley K. Crook, director of the Dept. of Commerce's Los Angeles Field Office.

## Symposium Hears Two Papers by Division Men

Two papers by division men were presented at the American Astronautical Society's recent Southeastern Symposium on Missiles and Aerospace Vehicles Sciences held at Huntsville, Ala.

Dr. G. A. Etemad, technical assistant to the director of Aero-thermo and Power Systems, and Ken Korkan of Flight Sciences co-authored a work on "Base Flow Characteristics and Thermal Environment of Launch Vehicles with Strap-On Solid Rocket Motors."

A. S. Abbott, Flight Control, and J. P. Gille, Propulsion Systems, teamed on a paper entitled, "A Model to Approximate the Effects of Propellant Slop on Vehicle Dynamics under Zero Gravity Conditions."

## S&ID President Toastmaster for AIAA Meeting

S&ID President Harrison Storms, a national director-at-large of the American Institute of Aeronautics and Astronautics, will be toastmaster for a joint meeting of the AIAA's Los Angeles and Orange County Sections, Jan. 10 in the Crest Hotel in Anaheim.

Storms will introduce guest speakers Dr. Raymond Bisplinghoff, national president of AIAA, whose topic will be "The AIAA and the Young Engineer," and Dr. Joseph Kaplan of UCLA, who will speak on "The Involvement of Engineers in Scientific Programs."

## Registrations for Golf Slated

Registrations for the first division monthly golf tournament of the new year will be taken on Jan. 3, it was announced this week.

Signups will be taken at the Recreation and Welfare Office in Bldg. 1 and at the Bldg. 2 Cafetorium at Downey beginning at 8 a.m.; in the Service Bldg. at Seal Beach at noon, and in Bldg. 40 at Compton at 1 p.m.



**HONOREES**—Three division men recently presented doctorates under ERP are commended by S&ID President H. A. Storms. From left: R. L. Strom, Storms, Earl Timpke, James Modeer.

## Three Research, Engineering and Test Men Presented Doctorates

Three division Research, Engineering and Test men have been presented their doctorates under company Educational Reimbursement programs.

Commended on their achievements by S&ID President Harrison Storms were Drs. Russell L. Strom, technical director of Advanced Programs Support, James R. Modeer, Structures Dynamics, and Earl F. Timpke, of Aerothermo and Power Systems.

### Two Years

Dr. Modeer earned his PhD in math through the Full-Study Fellowship program at the University of Colorado. Married and the father of two children, he attended the university for the past two years.

He joined the company and the division in 1962. In his current assignment he is primarily concerned with company-funded programs in the applied mathematics and research areas.

### Wide Range

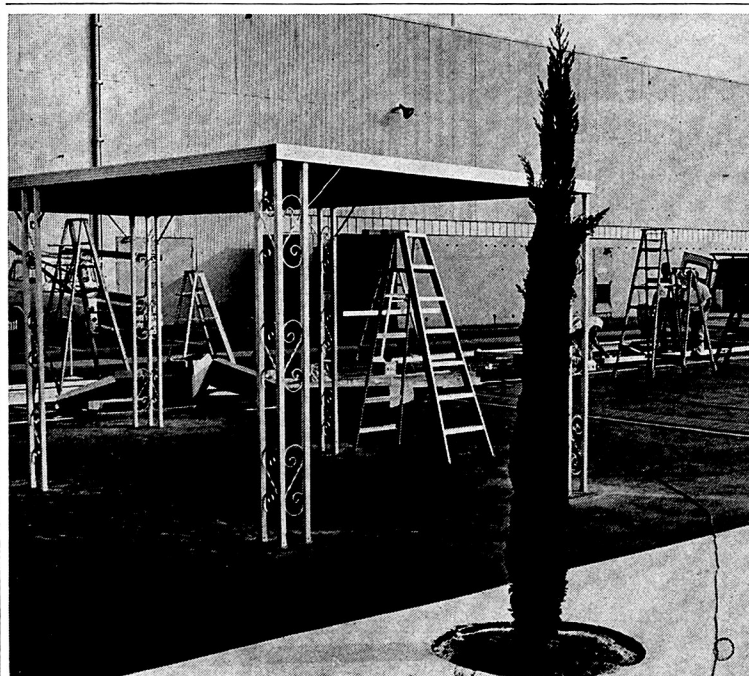
Dr. Strom has served at the company's General Offices, Los Angeles, and Autonetics Divisions since joining North American in 1955. In addition to his PhD, he was presented his master's degree through the company educational program.

He received his doctorate from UCLA, climaxing six years of work. Dr. Strom has

three children, ranging in age from five to 19 years.

Dr. Timpke, who also has been working on his degree since 1960, was presented his doctorate by USC. In his assignment he is associated with heat transfer and thermodynamics work, primarily on company research programs.

Dr. Timpke is the father of four youngsters. He has been with S&ID for 15 months.



**GOING UP** — Canopies for covered eating area adjacent to Downey Bldg. 1 were being installed by workmen prior to Yule holiday. Landscaped area also will have patio tables, chairs.

## MTO's Neptune, Callihan Elected Officers in Recreational Assn.

Jim Neptune and Charles Callihan, both of S&ID's Mississippi Test Operations, have been elected officers in the Recreational Assn. at NASA's Mississippi Test Facility.

Neptune, supervisor of Plans and Programming, has been elected association vice-president. Callihan, of Financial, is serving as treasurer. The board includes personnel from NASA

and other companies with operations at the facility.

First major undertaking of the new board will be a membership drive among facility employees. All permanent site personnel are eligible to participate in association activities. Future plans include a long-range master plan for development of recreational facilities.

## Classified Ads

### AUTOS FOR SALE

- '60 T-bird, w/auto. pwr., \$995. 670-1890.
- '63 Rambler, wagon, \$810. 827-0561.
- '61 VW, w/sunroof. 923-6637.
- '61 Chevy, Impala, \$750. 422-0859.
- '64 Impala, T.O.P. 863-4405.
- '59 Chevy, El Camino, \$650. 378-2570.
- '58 Cadillac, \$350. 421-0164.
- '55 T-bird. 634-4380.
- '60 Falcon, std., \$395. 431-0968.
- '57 Simca. 371-4768.
- '60 Alfa, \$950. 632-3276.
- '64 VW, \$1150. 714-984-7116.
- '60 Corvair, 725, Auto. 714-828-9966.
- '66 Chevelle, SS396, \$2595. 539-8333.
- '65 Mustang, V-8. 897-2069.
- '61 Cad, air/power, \$1200. 861-2720.
- '57 Ford, wagon, \$400. 596-7966.
- '59 Edsel, \$180. 833-1458.
- '57 T-bird, \$1795. 714-529-5503.

### HOMES

- 3 br., 1/2 acre, nr. A/N. 714-528-7939.
- 3 bd., G.I. resale. 714-774-7343.
- 3 bd., Garden Grove. 714-897-5042.
- 3 bd., Huntington Beach. 847-1140.
- Mobile home, self-cont'd. 581-1756.

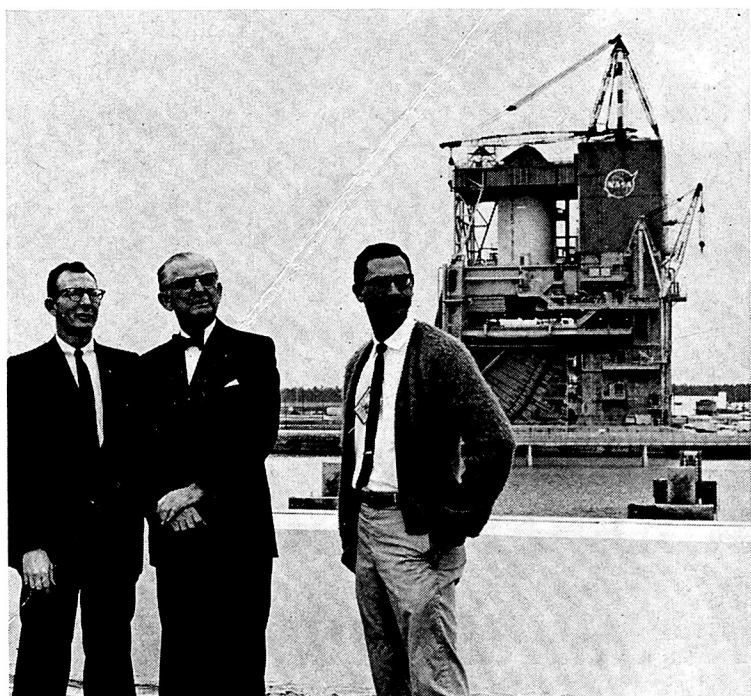
### FOR SALE

- APPLIANCES**
- Washer; dryer; dishwasher. 774-9038.
- '63 Washer, Maytag, \$95. 923-8766.
- Washer & dryer, gas. 632-7064.
- FURNISHINGS**
- Book cases, maple. 597-3713.
- Sofa & chair, best offer. 944-5793.
- Table & chairs, din. rm., \$160. 421-5730.
- Double bed; dresser, \$20. 421-5730.
- STEREOS - TAPES - RADIOS**
- Tape recorder, 3-speed. 892-8533.
- HF35 w/amp (EICO). 638-8253.
- Radio, port., AM/FM, 10 tran. 638-8253.
- BOATS**
- Inboard, 18', Corvette. 714-528-9304.
- Glass boat, 15', trlr., \$400. 861-2609.
- PETS**
- German Shepherd. 861-4445.
- Pups, Germ. Shepherd, AKC. 637-6181.
- Pups, Dachshund, min., AKC. 283-3885.
- Pups, Chihuahua. 544-7863.
- MISCELLANEOUS**
- '65 Suzuki bike, \$250. 528-9304.
- Sliding doors, 12 x 6-10. 923-3594.
- Bike, Schwinn, 24" girls, \$20. 869-1455.
- Router, heavy duty. 535-0531.
- Bike, 10-sp., 26" boys. 863-6575.
- Iron-rite, lined oak, \$200. 923-8766.
- T.V., 21" color, \$150. 941-0720.
- Bike, 3-sp., girls, 2. 714-526-5207.
- T.V., 21" console, \$25. 421-5730.
- Golf clubs, Patty Berg set, \$40. 869-2396.
- Bike, 20" boys, \$10. 421-5730.
- Cab over camper, make offer. 675-1735.
- Trailer, 4' x 8', \$40. 714-838-2932.
- Honda-150. 632-6083.
- Trailer, Scotsman, \$900. 862-0304.
- Camera, Keystone, turret, \$35. 421-5730.
- Guitar, Spanish, \$15. Stoner (D), NE 2-3432.

### FOR RENT

- Apt., furn., \$75, L.B. 435-9324.
- 3 bd., hse., pool, L.B. 435-4295.
- House, \$250, Seal Beach. 431-0968.
- 1 bd., apt., furn., \$75. 041-0720.
- 2 bd., nr., Rosecrans & Atl. 631-2913.
- 2 bd., apt., Downey. 923-1902.
- 3 bd., hse., Lkwd. Plz. 421-9940.
- 3 bd., furn. hse., \$125 mo. 869-7266.
- 1 bd., apt., Catalina, \$100. 867-9928.
- 2 bd., unfurn., w/range, NLB. 867-6989.
- WANTED TO BUY**
- '57 VW, '62 Falcon, Chevy II. 862-3027.
- '61, '62 Valiant sta. wgn. 714-529-5165.
- Inverter, 12vdc to 115 vac. 774-7176.
- World Bk., Encyclopedias, used. 463-0720.
- RIDE WANTED**
- Long Beach to Dny., S/1, B/2. 433-4742.
- ODDS AND ENDS**
- Roommate wanted, female. 866-6922.
- Private room, male, \$60. 633-1678.





**MISSISSIPPI VISITOR** — U. S. Senator John Stennis of Mississippi, center, tours NASA's MTF with S&ID's Gerry Wilson, left, and Tom Baggett. S-II test stand is in background.

## APOLLO/SATURN V VEHICLE TO 'SHRINK' AS FUEL GAINED

The huge 365-foot tall Apollo Saturn V space vehicle that will place astronauts on the moon will "settle" and contract 10 inches when the 5,500,000 pounds of propellant required for the lunar round trip are pumped aboard.

NASA Marshall Space Flight Center engineers say the top of the vehicle, if unrestrained, could be expected to sway up to five feet in the ocean's breeze as it awaits tanking.

### Engineers Know

NASA said rocket engineers are aware of the expected 10-inch "shrinkage" as cryogenic propellants are pumped in. Launch facility service arms extending to the vehicle from the umbilical tower are designed accordingly.

An accumulation of the many manufacturing tolerances built into the rocket accounts for some of the drop in height.

The real concern, said NASA, is in the area of wind-induced oscillations, and engineers have designed a damper system to lessen these effects. These dampers, built at MSFC, will be installed before the initial unmanned Apollo Saturn V flight next year.

Saturn launch vehicle designers at MSFC, in their quest for producing a refined, light weight metal rocket for space missions, almost inevitably find that the vehicles have little internal damping. As a result, they're susceptible to a "resonant-type" build-up of oscillation amplitudes when exposed to wind forces of certain velocities.

### Perpendicular

The principal oscillation will be perpendicular to the wind direction, NASA said.

With this in mind, MSFC engineers and contractor associates developed two big hydraulic cylinders that will be attached to the Apollo launch escape tower near the top.

## Shea Speech . . .

(Continued from Page 1, Column 5) on into the lunar and command and service module joint program, because the crew must train for both spacecraft.

### Problem

"The over-all difficulty of maturing that I have stressed is a problem that's with us to a certain extent now, and will become more important as we try to drive the program cost down but still maintain quality," said Shea.

"It is literally true that there is no planned date at the present time for the lunar operation," Shea said. "And I don't see how there can be until we have had hardware in orbit to understand what vestigial problems still remain."

### Sieve

"The sieve is getting pretty good and we are screening out a large number of difficulties," Shea concluded.

In addition to Dr. Shea, the two-day briefing included talks by Dr. Christopher Kraft, director of flight operations, MSC; Vern Stelter, chief of NASA's Communication Division, and Henry Thompson, Manned Flight Support office, Goddard Space Flight Center.

## Year's Winners Take November SPACE Honors

Fresh from receiving the Manufacturing SPACE program trophy for 1966, Apollo Bonding and Processing personnel got off to a good start in the new year by winning the monthly competition for November.

Tied for second place only a point and one-half back were Tooling Support and Saturn S-II Major S/A Welds and Bonds. Apollo Brazed Systems Assembly was fourth.

### Good Start

"All of our participating departments are off to a good start," said Jim Cunningham, vice-president of Manufacturing and Facilities.

"The departments have improved in all elements of the program," Cunningham pointed out, "and our average score is more than seven points higher than for the comparable month last year."

## Spacecraft 017 . . .

(Continued from Page 1, Column 3) the night project engineers, and Robert Fugikawa is the third shift project engineer.

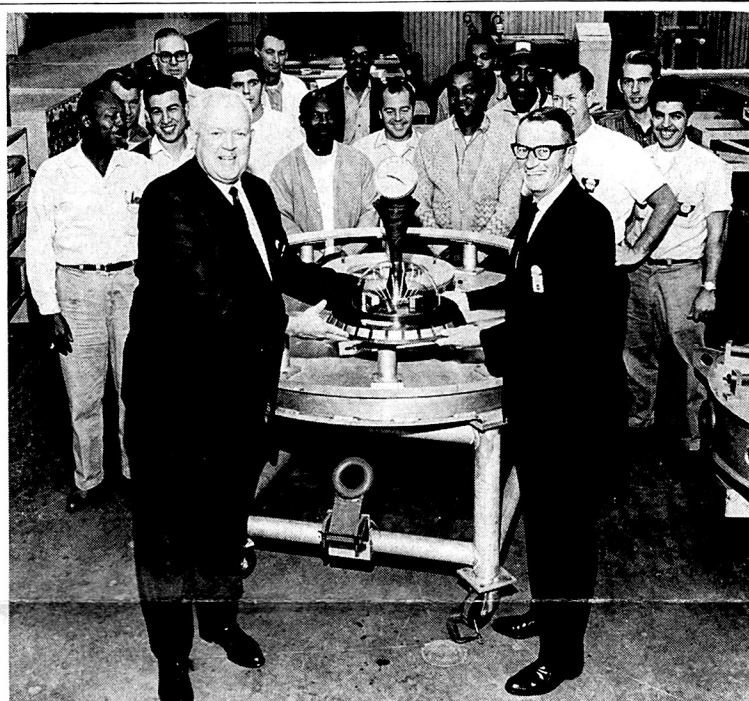
Work on the vehicle in Apollo Test and Operations is under the direction of Al Younger, Station 2B manager. Test project engineers are Ted Klauss on days, and F. E. Fillbach and E. A. Decker on the second and third shifts.

Systems supervisors are Bill Babis, John Lett and Garth Jones, and Vern Dempsey, Phil Otee and Reed Gordon are shop supervisors. Al Canclini is the chief test conductor, with John Mantle, Ron Voelker, Jerry Sparkman, Steve Pyrymybida and Stan Terrill serving as test conductors.

## Florida's H. B. Brown Elected V-P of Group

Howard B. Brown, Apollo CSM Contract administrator at S&ID's Florida facility, has been elected first vice-president of the Cape Canaveral, Fla., Chapter of the Federal Bar Assn. for the coming year.

The association is composed of persons who are or have practiced law or hold legal practices with the government.



**SPACE WINNERS** — Bill Smith, left, accepts Manufacturing SPACE trophy for November on behalf of his department from Jim Rasmussen, assistant director of Apollo Manufacturing.

## Apollo Astronauts Named . . .

(Continued from Page 1, Column 1) pilot, and Russell Schweickart, lunar module pilot. Backup crewmen are Tom Stafford, commander, John Young, command module pilot, and Eugene Cernan, lunar module pilot.

Astronaut prime crewmen for the A/S-503 mission are Frank Borman, commander, Michael Collins, command module pilot, and William Anders, lunar module pilot. The backup crew includes Charles Conrad, commander, Dick Gordon, command module pilot, and C. C. Williams, lunar module pilot.

### Plans

The A/S-205/208 mission plan calls for the manned Apollo command and service modules to be launched into Earth orbit by one uprated Saturn 1 launch vehicle. About 24 hours later, an unmanned lunar module will be launched by another uprated Saturn 1.

The crew in the Apollo spacecraft will rendezvous and dock with the lunar module, and the spacecraft commander and lu-

nar module pilot will transfer to the lunar module. After a series of checks and maneuvers with the lunar module, they will return to the Apollo command module for re-entry and landing.

Plans call for the A/S-503 mission to be a simulation—in Earth orbit with a 4000-mile apogee — of the lunar landing mission. Events of the actual moon mission will be conducted in the same sequence and at the same relative times.

## Annual Roundup . . .

(Continued from Page 1, Column 3) to fly aboard the Saturn V, was shipped to NASA's Kennedy Space Center, Fla., before Christmas. Spacecraft 020, the last of the Block I — Earth-orbital — Apollos, is in final assembly and checkout at Downey.

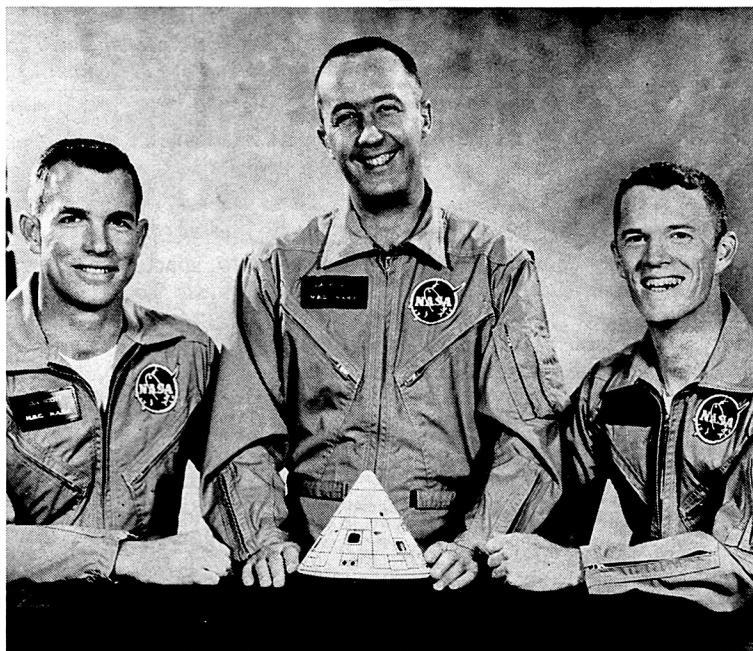
### Manned

At the same time, Apollo Spacecraft 012, the vehicle for the first manned flight, is being readied at Cape Kennedy. It will be launched early next year on an open-end mission of up to 14 days duration.

1966 saw the Saturn S-II program deliver two vehicles to NASA, including the first S-II flight stage, and approach the completion of key development test programs. A second flight stage is scheduled for shipment to NASA early next year, and eight additional stages are in various phases of assembly.

### NEXT 'SKYWRITER' ISSUE

Because of the New Years holiday the next issue of Skywriter will be published Friday, Jan. 13.



**SECOND APOLLO CREW** — Astronaut Jim McDivitt, center, has been named commander for second manned Apollo flight. Dave Scott, left, will be command module pilot, and Russell Schweickart will serve as lunar module pilot for the flight.



Bill Levering  
Editor, Company Publications  
Bob Martin  
Assistant Editor

Space & Information Division  
Tony Longo, Ext. 6468  
S&ID/Tulsa  
Dave Blankenship, Ext. 404

### Life Sciences

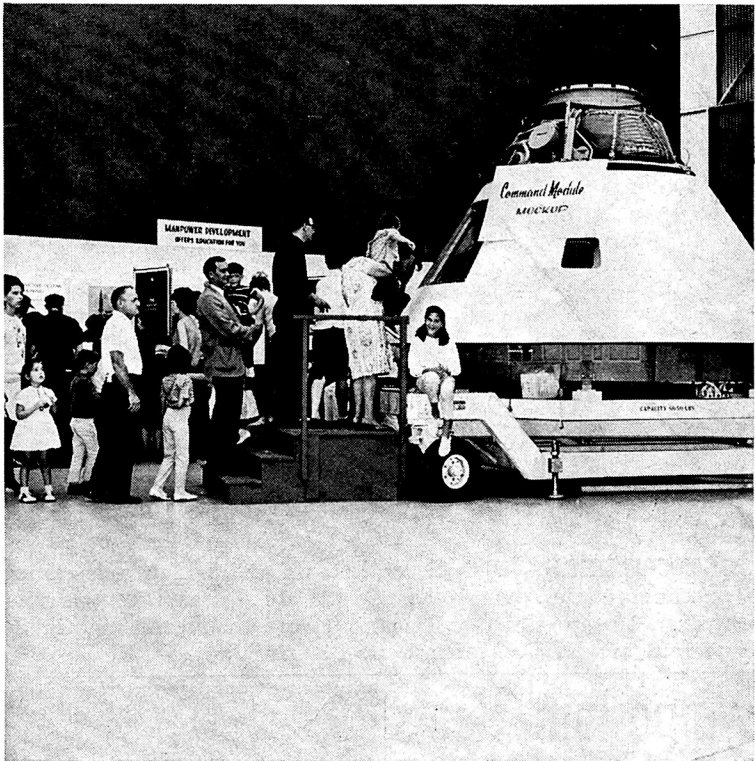
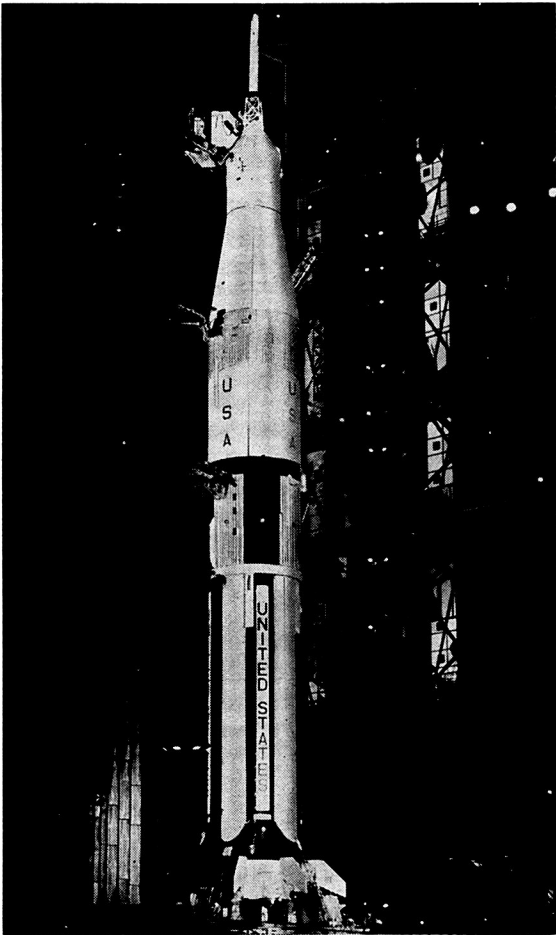
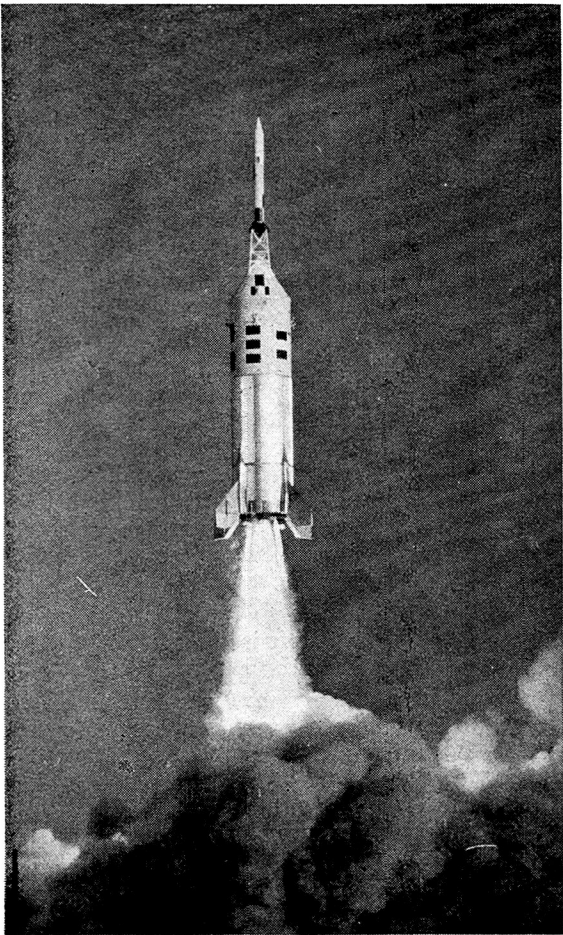
Headed by Vice-President Donn Williams, Life Sciences Operations was formed at S&ID in September. The new organization has cognizance of all company activities involving health, biomedical and human factors research, development, market planning, sales and production.

During the same month, division computing and data processing departments were consolidated in Computing and Data Systems Services under Division Director Lloyd Harriott.

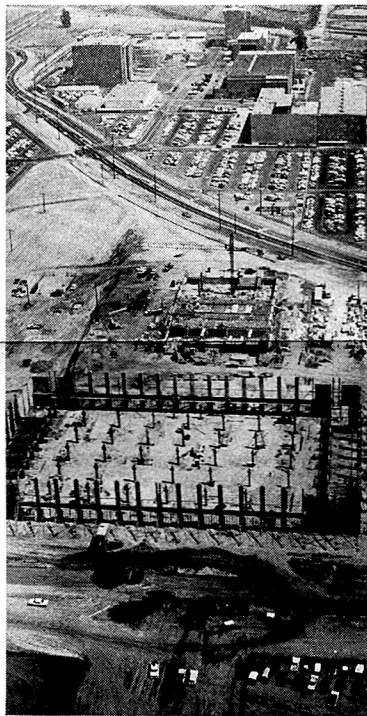
Activities at S&ID-Tulsa were highlighted by the facility being awarded a production contract in December for the wing leading edge of the giant Boeing 747 jet transport. The contract has an estimated potential in excess of \$80,000,000.



# 1966 WAS YEAR TO GET READY FOR S&ID MAJOR PROGRAMS

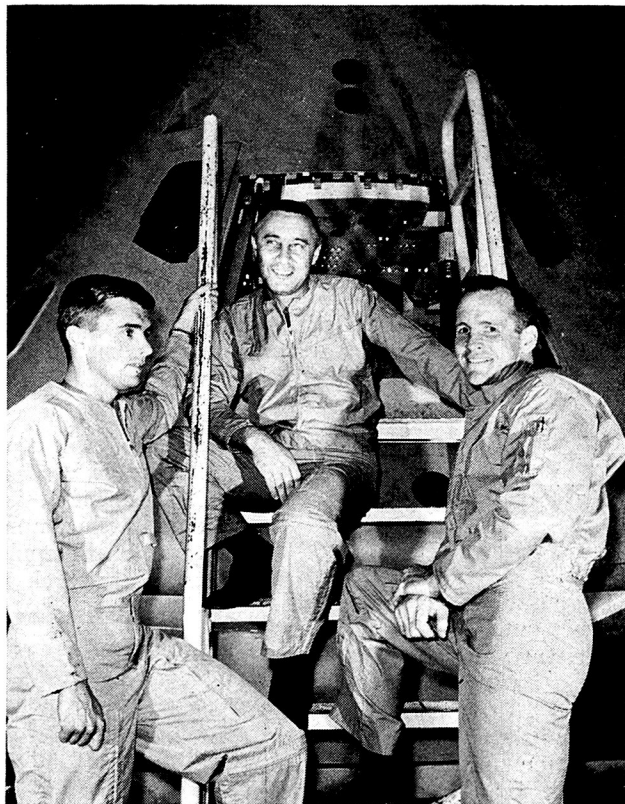
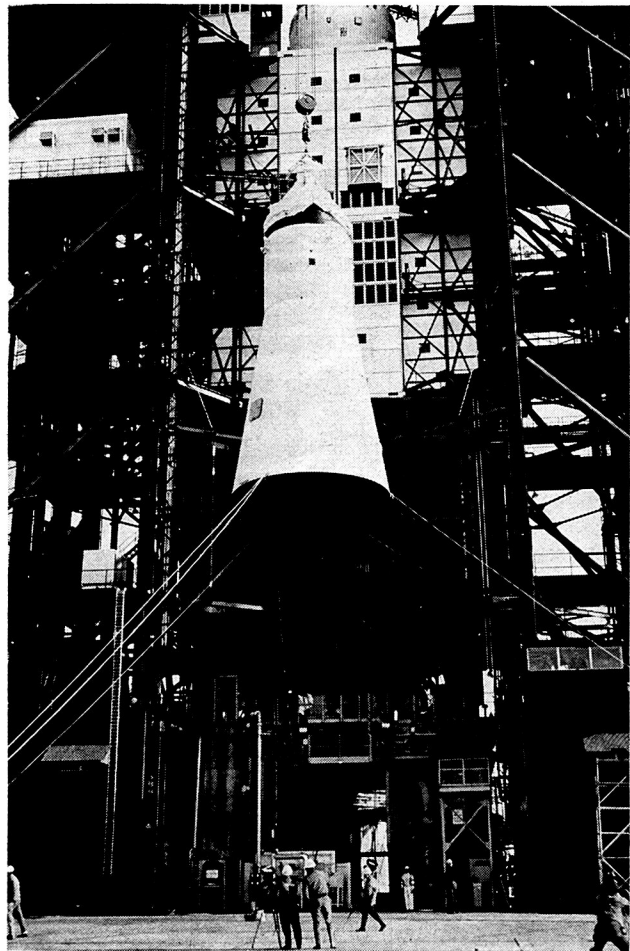


**APOLLO ABORT TEST** — Apollo Spacecraft 002, far left, first flight spacecraft used in test, is powered aloft by Little Joe II at start of tumbling abort test in January which qualified launch escape system. Center picture, Spacecraft 009, on pad at Cape Kennedy, was first Apollo into space. At right Family Day drew 28,000 visitors to Downey, Seal Beach plants.



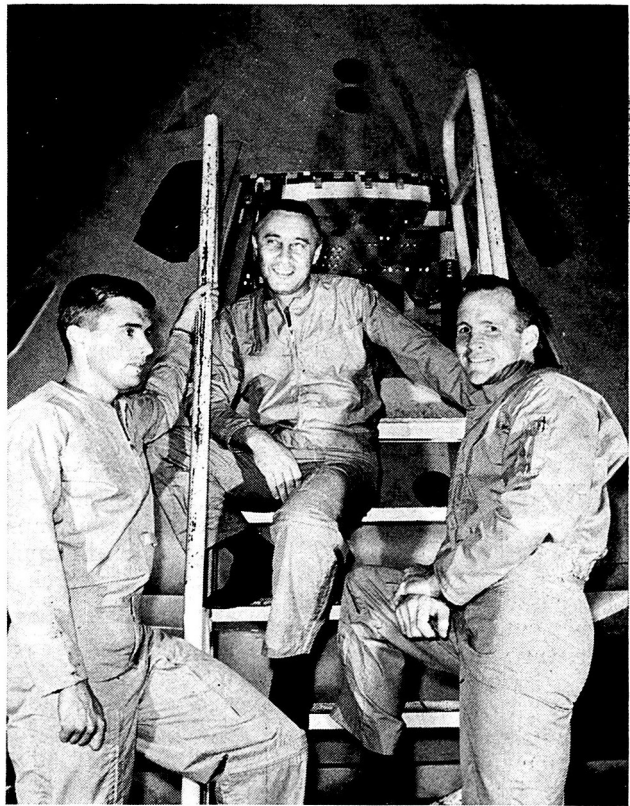
**ANNUAL WINNER** — Steve Nelson, left, division director of material, receives annual Buc Trimmer award on behalf of his organization from S&ID President Harrison Storms at awards dinner in July. Center photo, ground was

broken in July to signal start of new Saturn S-II facility at Seal Beach. At right, Saturn S-II-1, first S-II flight stage, was shipped to NASA's Mississippi Test Facility in July. Stage is now undergoing acceptance firings.

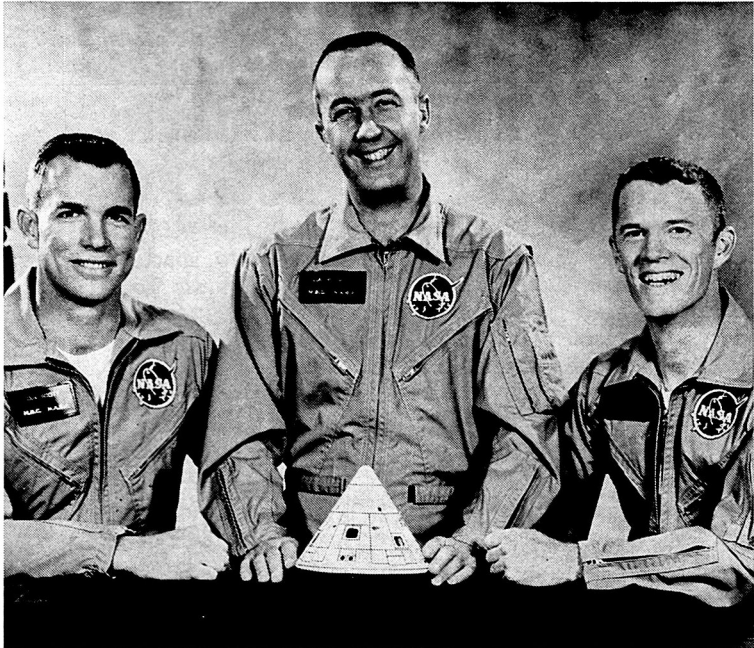


**PAYLOAD READIED**—Apollo Spacecraft 011, left, is hoisted atop uprated Saturn launch vehicle prior to successful Aug. 25 unmanned flight. Center picture, Dale Myers, left, S&ID v-p and Apollo program manager, and Dr. Joseph Shea, NASA Manned Spacecraft Center Apollo spacecraft program manager, sign customer acceptance report on Apollo 012 following delivery in August. Spacecraft will be used in first manned Apollo flight. At right, crewmen named for first manned Apollo flight are Roger Chaffee, Gus Grissom, Ed White.









**SECOND APOLLO CREW** — Astronaut Jim McDivitt, center, has been named commander for second manned Apollo flight. Dave Scott, left, will be command module pilot, and Russell Schweickart will serve as lunar module pilot for the flight.