

Parking Lots, Road Net Will Help MSC Traffic

Two of MSC's major non-scientific problems . . . traffic and parking . . . will be on the road to at least partial solution before the end of this year, according to Center officials.

The Center is now planning a series of connector roads to join with a network of public roads approved by Harris County voters recently. The public road network will be concentrated north and west of the site. (See maps on page 2.)

At the same time, MSC has advertised for bids on construction of nine parking lots at strategic locations throughout the Center.

The on-site street expansion will provide effective utilization of the planned new county roads.

The key road in the county system is Bayshore Boulevard. It will connect with the Gulf Freeway (Interstate 45) at one terminal and with Highway 146 at the other. The state plans the addition of an interchange at each end of the boulevard.

Provisions are being made for a right-of-way so that Bayshore Boulevard can be expanded from four to six lanes at a future date. Initial planning calls for two lanes of the road, from the west end of Avenue B to Highway 3, to be completed by the fall of 1966. A two lane

segment from the west end of Avenue B to Highway 146 is planned for completion in the summer of 1967. This will offer partial relief to congested traffic in the MSC-Clear Lake area.

The schedule for completion of Bayshore Boulevard (four lanes) from the Gulf Freeway to Highway 3 and the balance from Highway 3 to Highway 146 has not been firmed. The Bayshore-Gulf Freeway interchange is included in a general state improvement of the Gulf Freeway system.

Early construction is planned for the four lane county improvement project on Red Bluff Road, from Spencer Highway to the intersection with Bayshore Boulevard. This and Kirby Road improvements were included in the county bond issue approved last month.

The connector roads to Bayshore Boulevard and some of the internal street network are planned for completion late this year . . . the same schedule planned for the initial two-lane segment of Bayshore Boulevard.

Bids on the new on-site parking lots are scheduled for opening April 21 with the construction contract to be awarded seven days later. All but one of the lots are scheduled for completion by the end of August. Parking lot E, near the Fire Station, with a capacity of 450 vehicles, will be deferred until other lots are completed since it is usable in its present condition.

The planned parking lots will provide parking for an additional 1,742 vehicles. These additional parking lots will eliminate the necessity for parking in unimproved areas and substantially reduce street parking.

Apollo Schedules Juggled To Gain Checkout Time

Apollo/Saturn 202 has been rescheduled to follow A/S 203 to allow additional time for checkout of the Apollo spacecraft to be flown in the A/S 202 mission. Both launches are scheduled for the third quarter of 1966—A/S 203 from Launch Complex 37 and A/S 202 from Launch Complex 34.

A/S 203 is a launch vehicle development mission in which orbital behavior of liquid hydrogen in the third stage propulsion system will be examined. The mission will not carry an Apollo spacecraft.

The A/S 202 mission will be the second flight of an unmanned Apollo spacecraft and will further verify performance of the Saturn IB, systems of the command and service modules and heatshielding of the command module. The first Saturn IB flight carrying an Apollo spacecraft was launched successfully February 26, 1966. (See March 4 and March 18 Roundups)

Family-Type Symposium Draws Large Turnout

The first MSC Technical Symposium with a family flavor played to an almost full house March 28 in the MSC Auditorium. Crew Systems Division presented the program for the first symposium to which wives and children of MSC employees were invited.

Except for a brief break during the summer months, it is anticipated that all future MSC Technical Symposiums will be slanted for enjoyment by the whole family, but without becoming so basic that they diminish in value to engineers. Also, family-type programs allow the youngsters to gain a better idea of what Dad's work is.

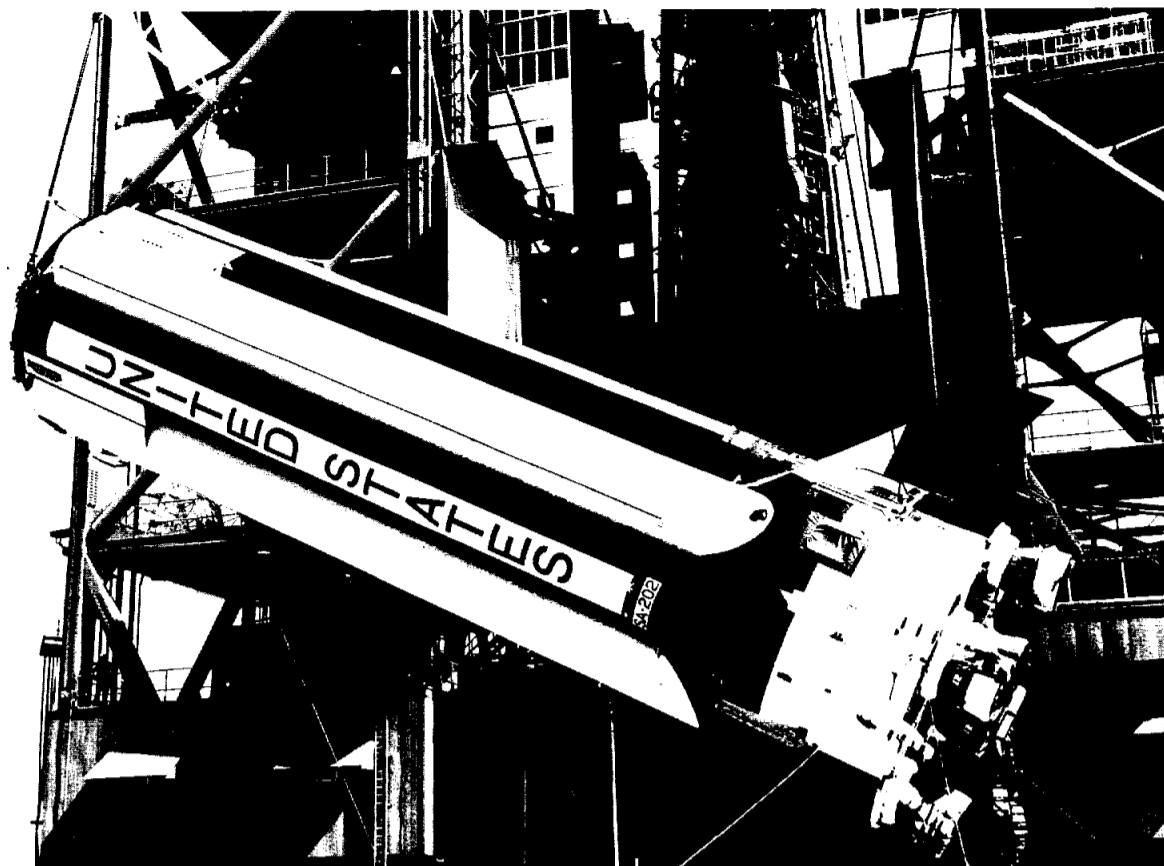
The program, date and time for the next MSC Technical Symposium will be carried in the April 29 Roundup.

Cortright Speaks To AIAA May 2

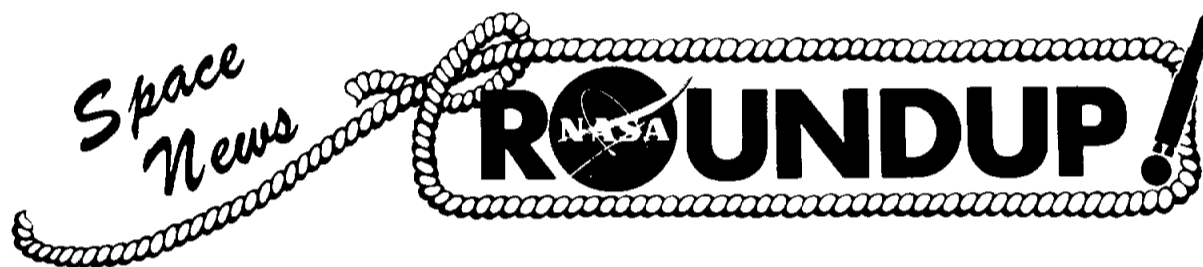
Edgar M. Cortright, Deputy Associate Administrator of the Office of Space Science and Applications, will be the featured speaker at the May 2 meeting of the Houston Chapter of the American Institute of Aeronautics and Astronautics.

The meeting will be at the Holiday Inn on NASA Road 1, with cocktails at 6 pm, dinner at 7 pm and the program at 8 pm. Complete details of the program will appear in the April 29 Roundup.

The Big Lift



BOOSTING THE BOOSTER—The first stage booster for the Apollo/Saturn 202 mission is hoisted into position on Launch Complex 34. A/S 202 will be the third developmental flight of the Saturn IB and the second flight of production Apollo command and service modules. The mission, now rescheduled to follow A/S 203, will further verify C/SM systems and command module ablative heatshielding.



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Gemini IX, GLV Electrically Mated; Agena Engine Mod Tests Complete

Spacecraft Gemini IX this week was electrically mated to its launch vehicle and preparations began for electrical interference testing. Fuel cells were installed April 5 in the spacecraft equipment adapter.

To offset a recurrence of the

thruster problem encountered during Gemini VIII which was caused by a short circuit in the Orbit Attitude and Maneuvering System (OAMS) wiring, the Gemini IX spacecraft has been modified. Modifications consist of installation of a master switch

between the electrical power bus and OAMS circuit breakers. The change will allow rapid in-flight trouble-shooting of thruster problems before spacecraft tumble rates have built up. All subsequent Gemini spacecraft will incorporate the new master switch in their OAMS power circuitry.

Gemini IX's rendezvous vehicle, Agena 5004, will be mated with the Atlas Standard Launch Vehicle in the near future. The Atlas last week was erected in Launch Complex 14.

Testing of modifications to the Agena primary propulsion system at the USAF Arnold Air Engineering Center, Tullahoma, Tenn. is complete. Completion of the test series has raised the Gemini Program Office confidence level that the source of the Gemini VI Agena's hard-start last October 25 has been identified and corrected.

In the last series of tests at Tullahoma, a hard-start was deliberately induced by duplicating the original Agena propellant feed sequence wherein fuel precedes the oxidizer into the engine combustion chamber. As modified, the sequence now injects oxidizer into the combustion chamber ahead of the fuel. Engine start tests incorporating the modification at temperatures as low as -10°F were run with no problems.

An Oscar, Space Style



I HAVE JUST THE PLACE TO HANG THAT!—Gemini Program Office Manager Charles W. Mathews, right, receives the National Space Club's Astronautics Engineer Award from OMSF Deputy Associate Administrator James Elms. Elms accepted the award in behalf of Mathews at the Club's Ninth Annual Robert H. Goddard Memorial Dinner in Washington March 16. The award was made for Mathews' "outstanding technical contributions to the Mercury and Gemini programs." Mathews was unable to accept in person since the dinner was on the evening of the Gemini VIII launch.

USNS *Kingsport* Ends Network Service Job

The Grand Old Lady of Space Communications is ending her service with NASA.

The USNS *Kingsport*, first ocean link in America's research in communications by satellite and the ship which relayed western Pacific voice contact with Gemini VIII, has finished her job and will now be retired from NASA's networks.

It was *Kingsport* which relayed voice reports from Astronauts Armstrong and Scott that the Gemini VIII spacecraft had undocked from the Agena.

From Gemini high over the Pacific Ocean, the astronaut's voice and spacecraft telemetry beamed to the instrumentation ship *Coastal Sentry* north of the Philippines. The *Coastal Sentry* sent the transmission to the *Kingsport* stationed nearby.

The *Kingsport* beamed the signal on Syncom III orbiting 22,300 miles overhead. The satellite instantaneously relayed the transmission down to Hawaii

from which cable and land line circuits continued to NASCOM communications center at the Goddard Space Flight Center, Greenbelt, Md., and thence to Mission Control at Houston.

Her job completed, the *Kingsport* will find new assignment by the Department of Defense where studies are now being made for her use.

She gave the world's first demonstration of communications by a satellite in synchronous orbit. This was in July, 1963, through Syncom II over a 45,000-mile loop from *Kingsport* to Syncom and back to *Kingsport* at anchor in Lagos harbor, Nigeria.

She was part of the first exchange of radio messages via satellite between North America and Africa a few days later, linking the terminal station at Lakehurst, N.J., with land circuits at Lagos.

She was built in Los Angeles in 1944, at the California Shipbuilding Corp., destined for Army Transport Service. With 11,000 tons displacement, she was a big craft of 455 feet overall and 62-foot beam. She was a Victory ship (VC-2), tagged T-AG-164.

Eleven years later—she was now 16—she was chosen by the Bureau of Ships to be the Navy's first communications satellite ship.

And so the *Kingsport* came of age. She went to Portland, Oregon for structural modifications by the Willamette Iron and Steel Co. She sailed to Philadelphia where the Naval Shipyard installed electronics to convert her for communications.

Principal feature of her new look was a 30-foot diameter parabolic "dish" antenna within a 54-foot radome which filled her afterdeck like a gigantic toadstool towering some 80 feet above the waterline. This was the antenna with which she was to control, guide and communicate with satellites up to 25,000 miles above the earth.

Federal Employee Not Exempt From Citizen's Obligation

The term "Hatch Act" may at first glance appear to be some facet of maritime law. Actually it is an act of Congress which prohibits Federal employees from being candidates for office in partisan elections and from taking an active part in partisan political management or campaigns. Moreover, the Texas Constitution restricts certain Federal employees from holding state or local government offices.

Legislated restrictions on political activity should not be construed as relieving Federal employees of their obligations as citizens to keep themselves informed on issues, to register and to vote. Nor does it gag expressions of their personal political opinions.

Golfer Group Finishes First Tourney Series

First-round play has been completed in the MSC Golf Association's two-man team, low-ball, match play and elimination competitions. The first monthly medal play tournament is now history, and many of the round-robin medal play matches have been played.

In the first medal play tournament April 2 Bill Shropshire won the A Division (0-18 handicap) and Bill Johnson topped the B Division (19-up handicap).

"This year's Golf Association is off to a great start," said John Jones, "and should provide lots of fun for all our members."

Interested golfers who have not joined the Association still have time to become eligible for the individual match play elimination competition scheduled to start in July. Association membership also makes one eligible for the monthly medal play tournaments.

To sign up, call Jones at 4316.

CG Auxiliary Holds Boat Handling Course

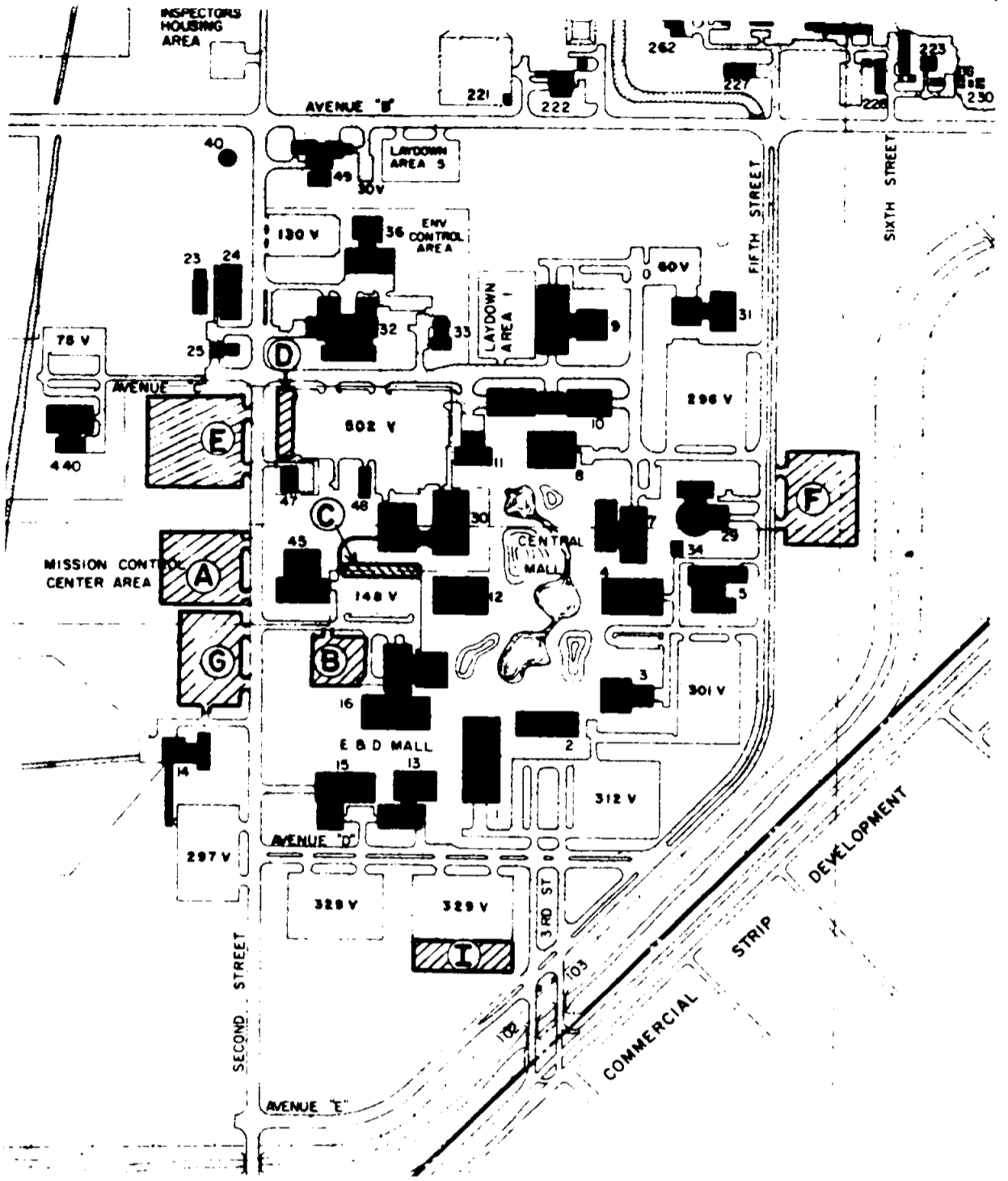
MSC employees who don a skipper's cap during their leisure hours are invited to attend a three-session course in small boat handling which begins Thursday, April 28.

Conducted by the Clear Lake 68 Flotilla of the US Coast Guard Auxiliary, the course will cover rules of the nautical road, seamanship, small boat handling, chart reading, marlinspike seamanship and safety afloat. The course is free and should be of interest to small power and sailboat owners.

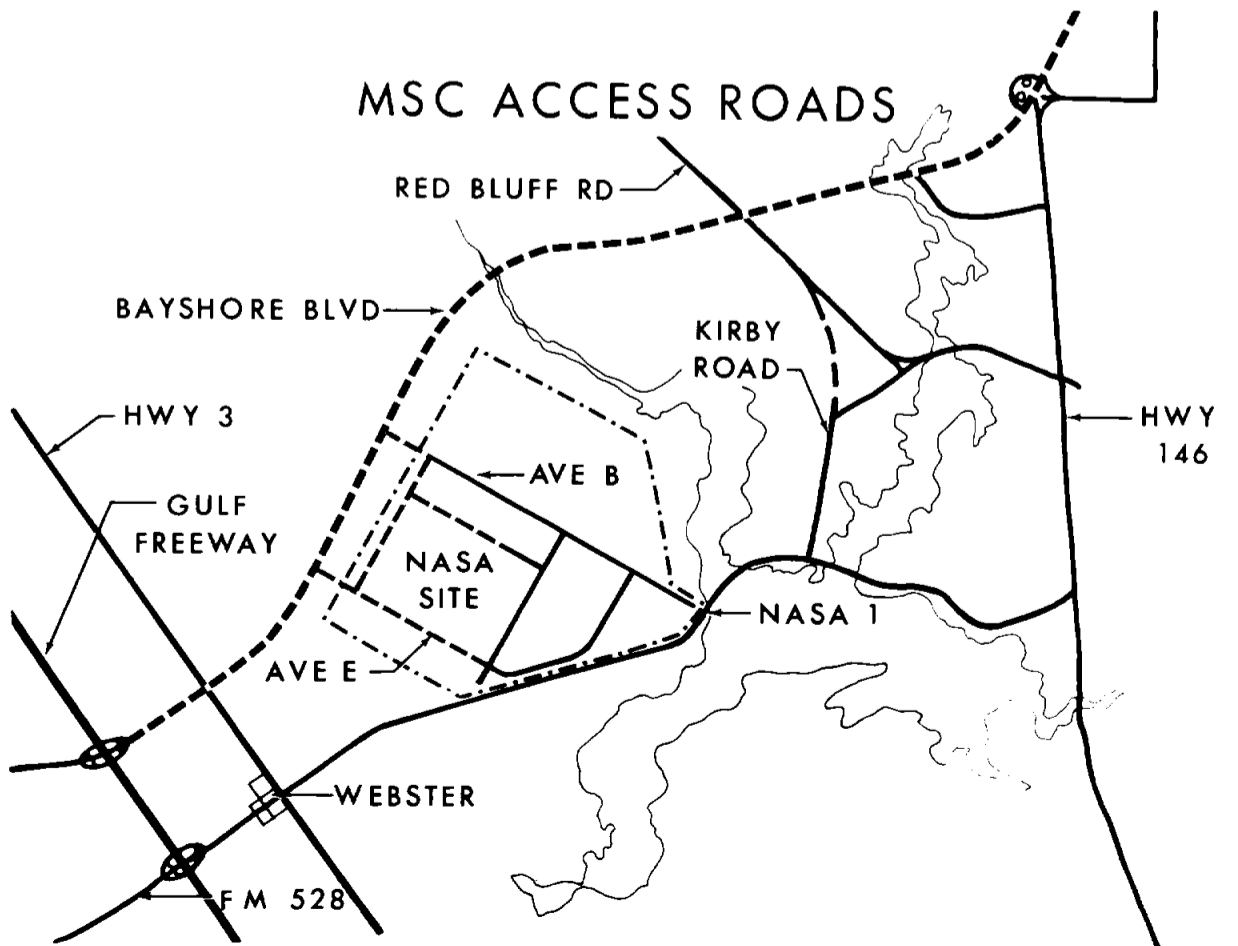
Classes will be held each Thursday from 7:30 pm to 9:30 pm through May 12 at the Boat Town show room on NASA Road 1, two miles east of MSC.

Additional information is available from Flotilla Commander Jim Bailey at Ext. 7581.

New Parking Lots and Roads To Alleviate MSC Traffic



Shaded areas show location of nine new parking lots.



Interface of new road net with MSC streets.

Six MSC People Get Astronautical Awards

The American Astronautical Society next month will present the Society's highest awards to six MSC people and three others will be named Fellows of the Society.

Richard S. Johnston, Chief Crew Systems Division, will receive the AAS Victor A. Prather Award which is presented each year to the person whose research efforts have contributed the most to the field of extravehicular protection in space.

Johnston's Division developed the EVA pressure suit, umbilical line and the Emergency Life Support System used by Ed White during the Gemini IV extravehicular activity. The Division is currently develop-

The Moon is smaller than the Earth but it is farther away. How about that?

Kiker Named To AIAA Committee

John W. Kiker, chief of the Landing Technology Branch, Structures and Mechanics Division, this month was named to the newly-formed American Institute of Aeronautics and Astronautics Committee on Aerodynamic Deceleration Systems.

The Committee, chaired by Earl C. Myers, technical director of the USAF 6511th Parachute Test Group, El Centro, Calif., includes among its 22 members many pioneers in the field of parachutes, balloons, ballutes and paragliders. Committee vice-chairman is Dr. Helmut Heinrich, parachute specialist and professor of aeronautical engineering at the University of Minnesota.

A national symposium on aerodynamic deceleration will be conducted by the committee in Houston September 7-9.

ing similar equipment for use in remaining Gemini extravehicular missions and for Apollo lunar-surface exploration.

Dr. Charles A. Berry, Chief Center Medical Programs, will receive the Melbourne W. Boynton Award, presented annually by the Society to the physician performing the most outstanding research contributing to space flight.

The AAS Flight Achievement Award for 1965 will go to Walter M. Schirra, Thomas P. Stafford, Frank Borman and James A. Lovell for the Gemini VII/VI rendezvous flight. The Award is made to those whom the Society feels have contributed most to the advancement of manned space flight.

MSC people being named Society Fellows are Christopher C. Kraft, Assistant Director for Flight Operations; George M. Low, MSC Deputy Director, and Dr. Joseph F. Shea, Manager Apollo Spacecraft Program Office.

All of the awards will be made at the Society's Honors Night Dinner on May 24 at 7 pm in the Embassy Room of the Disneyland Hotel, Anaheim, Calif.

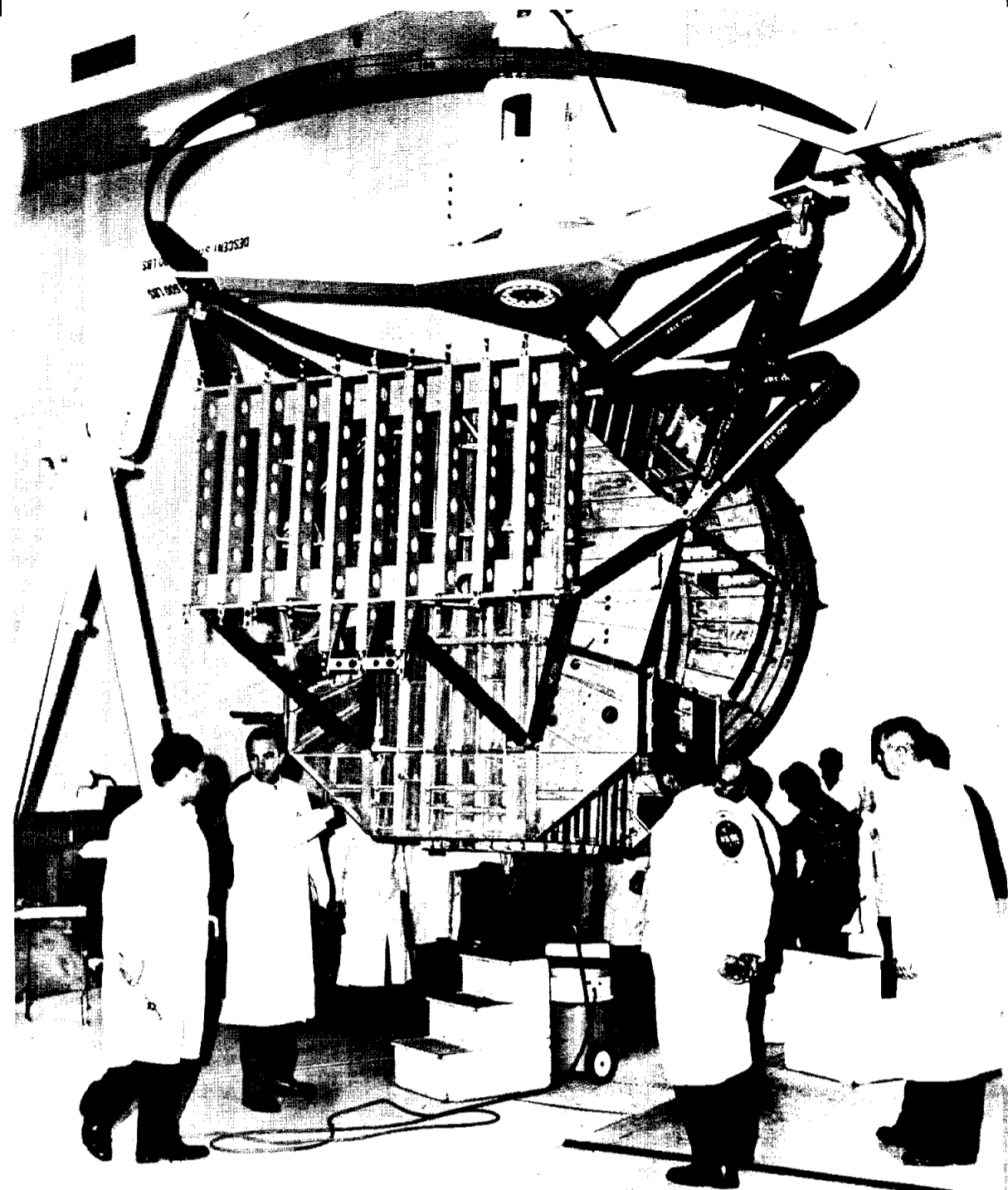
The Society's twelfth annual meeting, May 23-25, is a three-day symposium devoted to the scientific and engineering aspects of "The Search for Extraterrestrial Life."

Windjammer Skippers Hold Activation Meet

For those who prefer the quiet power of sails to the noise and odor of engines, a reactivation meeting of the MSC Sailing Club will held April 20 at 5 pm in Room 266, Building 16.

Also to be discussed will be a proposed sailing party in early May. For further details, call Jerry Grayson at 3286.

Debris Shakedown



HOUSECLEANING—Grumman built the above motor-driven "LEM Cleaning Positioner" to tumble the LEM structure during final build-up to allow vacuuming of metal chips, dirt and other debris at several positions. When upright many of the LEM's corners and bays are difficult to clean.

A Tale of Two Centers



VISITING FIREMAN—MSC Employee Activities Association officers met recently with Thomas M. Davis, president of the Kennedy Space Center Activities and Welfare Association, to brief him on the functions of the MSC Association. Left to right, standing, are David B. Mullins, vice president promotion; Joyce Lowe, vice president youth activities; Hugh M. Scott, vice president clubs; and Jesse Phillips, treasurer. Seated, left to right, are Lana J. Matthews, vice president social activities; Philip T. Hamburger, president; Davis, and Rita Sommers, secretary.

Working Toward Safety



RECOGNITION—MSC Safety Officer John M. Kanak, left, displays to MSC Assistant Director for Administration Wesley L. Hjernevik an award certificate presented MSC by the Texas Safety Association. The award is the Association's recognition of MSC's accident prevention record for 1965 in the Aerospace Group A category.

It's Official Now



FOR THE RECORD BOOK—Mauricio Obregon, president of *Federation Aeronautique Internationale*, left, present certificates from FAI to Gemini V pilot Charles "Pete" Conrad stating that Gemini V holds the present world's distance and duration records in the category of manned space flight. Gemini V covered a distance of 3,338,000 miles with a flight duration of 190 hours 56 minutes. FAI is the international body which homologates and certifies record claims in all categories of sport, military and space flight—sailplanes, free balloons, light planes, jet closed-course speed runs and manned space flights. Aero clubs in each country in turn are members of FAI. The US member organization is the National Aeronautic Association. FAI is headquartered in Paris.

NASA Negotiates for Additional S-IC Stages, Engines, for Saturn V

NASA will negotiate incentive contracts with two major aerospace firms for the procurement of five additional Saturn V first stages (S-IC) and 33 F-1 rocket engines.

NASA will negotiate with The Boeing Co. for the stages

and with Rocketdyne Div. of North American Aviation for the F-1 engines for these stages, plus spares.

The five S-IC stages will cost more than \$165 million. NASA's plans call for the launch of 15 Apollo/Saturn V space vehicles by the end of 1970.

Boeing is under contract to NASA's Marshall Space Flight Center, Huntsville, Ala. for the manufacture, assembly and test of two S-IC ground test stages and eight flight stages. Two Saturn V flight boosters are being assembled at the Marshall center from components supplied by Boeing.

Boeing's assembly and static test operations are performed at NASA's Michoud Assembly Facility, New Orleans; and Mississippi Test Facility, Hancock County, Miss., respectively.

Rocketdyne will supply the additional 33 F-1 rocket engines for the 11th through 15th flight Saturn V vehicle.

Cost of the 33 engines, in-

cluding production, support and sustaining engineering through the 15-vehicle Saturn V program, is in excess of \$150 million.

Rocketdyne is now under contract to supply 76 F-1 rocket engines. Fifty of the 1.5-million-pound-thrust engines are to be used on the first 10 Saturn V boosters. The remaining 26 are for ground test stages and spares. Rocketdyne's contract for the 76 engines now totals more than \$192 million.

First flight of the three stage Saturn V launch vehicle is scheduled for next year. The 365-foot-tall Apollo Saturn V space vehicle will launch manned flights to the Moon before the end of this decade.

Management Sciences Program Held April 22

The Southwestern Institute of Management Sciences next Friday will hold a seminar on "Implementation of the Management Sciences" at the Crest Hotel beginning at 9 am.

Speakers on the program are Dr. T. R. Brannen, University of Houston; A. J. Phipps, Jr. Bonner & Moore; B. H. Russell, GE Apollo Support Department; W. C. Sproull, Honeywell, Inc.; Dr. F. L. Levy, Rice University; Dr. W. A. Fox, University of Florida, and J. W. Colin, Texas Instruments, Inc.

Further details are available from R. W. Shroder of GE at HU 8-0850, Ext. 357.

Anyone for Tennis?

If vaulting over a tennis net to congratulate the victor or to be congratulated is for you, then call Jim Richards at 5333 about forming an MSC tennis club.

NEWLY-SELECTED GROUP OF 19 ASTRONAUTS

The roster of astronauts assigned to MSC will jump to 50 in May when the 19 men of the latest group selected report for duty. The group is composed of four civilians, seven Air Force, six Navy and two Marine Corps officers.

Average age of the 19 is 32.8 years, and average college years is 5.8. Two have doctorates. Flight time for each averages 2,714 hours, 1,925 in jets. Two men are single.

Recruiting of the new astronauts began September 10, 1965. A total of 351 applied and 159 of these met basic qualifications. Of the 159, 100 were military and 59 were civilian.

To qualify, applicants must have been a United States citizen no taller than six feet, born on or after December 1, 1929, and have a bachelor's degree in engineering or in the physical or biological sciences. They also must have had 1000 hours jet time or have graduated from an armed forces test pilot school.

The 19 astronaut selectees and their backgrounds are as follows:

Vance D. Brand, civilian, was born May 9, 1931 in Longmont, Colo. He holds a BBA and BSAE from the University of Colorado, and an MSBA from UCLA. He is married to the former Joan Virginia Weninger of Chicago. They have four children, Susan Nancy 12, Stephanie 11, Patrick Richard 8, and Kevin Stephen 3.

Brand is presently an engineering test pilot for Lockheed assigned to the West German F-104G Flight Test Center, Istres, France. He has 2,174

hours flight time—1,721 in jets.

He served with the US Marine Corps from 1953 to 1957, and graduated from the US Naval Test Pilot School in 1963.

John S. Bull, Lt. USN, was born September 25, 1934 in Memphis, Tenn. He holds a BSME from Rice and has completed one year of study at Rice toward a master's degree. He is married to the former Nancy Laraine Gustafson of Seattle, Wash. They have a son, Jeffrey Tyler 1.

Bull is presently a carrier suitability test pilot at NAS Patuxent River, Md. He has 1,634 hours flying time—1,424 in jets.

He was commissioned in 1957 and graduated from the US Naval Test Pilot School in 1964 as outstanding student in his class.

Gerald P. Carr, Mag. USMC, was born August 22, 1933 in Denver, Colo. He holds a BSME from USC, a BSAE from the USN Postgraduate School and an MSAE from Princeton. He is married to the former JoAnn Ruth Petrie of Santa Ana, Calif. They have six children, Jennifer Anne 11, Jamee Adele 8, Jeffrey Ernest 8, John Christman 4, Jessica Louise 2, and Joshua Lee 2.

Carr is presently in the test director section of the Santa Ana Marine Station responsible for directing and supervising all testing of Marine tactical data

systems. He has 1,903 hours flight time—1,368 in jets. He has been a Marine officer since 1954.

Charles M. Duke, Jr. Capt. USAF, was born October 3,

1935 in Charlotte, N.C. He holds a BS in Naval Sciences from the US Naval Academy and an MS in Aeronautics and Astronautics from MIT. He is married to the former Dorothy Meade Claiborne of Atlanta, Ga. They have a son, Charles III, 1.

Duke has been assigned since 1964 as an instructor at the Aerospace Research Pilot School, Edwards AFB, Calif. He has 1,736 hours flight time—1,472 in jets. He was commissioned an Air Force officer in 1957.

Joe H. Engle, Capt. USAF, was born August 26, 1932 in Abilene, Kans. He holds a BSAE from the University of Kansas. He is married to the former Mary Cathrine Lawrence of Mission Hills, Kans. They have two children, Laurie Jo 7, and Jon Lawrence 4.

Engle since 1963 has been assigned as an aerospace flight test officer at Edwards AFB, Calif., principally assigned as an X-15 project pilot. He has 3,867 hours flight time—2,573 in jets.

He has been an Air Force officer since 1957 and is a graduate of the Experimental Flight Test Pilot School and the Aerospace Research Pilot School. He was named Outstanding Young

Officer by the Air Force Association in 1964, and one of Ten Outstanding Young Men of America by the US Junior Chamber of Commerce the same year.

Ronald E. Evans, LtCdr USN, was born November 10, 1933 in St. Francis, Kans. He holds a BSEE from the University of Kansas and an MSAE from the US Naval Postgraduate School. He is married to the former Janet Merle Pollom of Salina, Kans. They have two children, Jaime Dayle 7, and Jon Pollom 5.

Evans is presently assigned to sea duty in the Pacific. He has 2,372 hours flight time—2,084 in jets. He was commissioned in 1956.

Edward G. Givens, Maj. USAF, was born January 5, 1930 in Quanah, Texas. He holds a BS in Naval Sciences from the US Naval Academy. He is married to the former Ada Eva Muuss of Bedford, Mass. They have two children, Catherine Helen 3, and Edward Galen III, 2.

Givens is presently assigned to the USAF SSD office at MSC as project officer for the Astronaut Maneuvering Unit (Gemini Experiment D-12). He has 3,353 hours flight time—2,628 in jets. He was commissioned in the Air Force in 1952 and is a graduate of the USAF Experimental Test Pilot School and the

Aerospace Research Pilot School.

Fred W. Haise, Jr., civilian, was born November 14, 1933 in Biloxi, Miss.

He holds a BSAE from the University of Oklahoma. He is married to the former Mary Griffin Grant of Biloxi. They have three children, Mary Margaret 10, Frederick Thomas 8, and Stephen William 5.

Haise since 1963 has been assigned to the NASA Flight Research Center, Edwards, Calif., as a research pilot. He has 4,760 hours flight time—2,096 in jets. He was a Naval Aviation Cadet from 1952 to 1954, a USMC officer 1954-1956 and an Air National Guard officer 1957-1963. He graduated from the Aerospace Research Pilot School in 1965 and received the A.B. Honts Trophy as the outstanding graduate.

James B. Irwin, Maj. USAF, was born March 17, 1930 in Pittsburgh, Pa. He holds a BS in Naval Sciences from the US Naval Academy, an MSAE and an MS in Instrumentation Engineering from the University of Michigan. He is married to the former Mary Ellen Monroe of Santa Clara, Calif. They have four children, Joy Carmel 7, Jill Cherie 5, James Benson 3, and Jan Caron 2.

Irwin is presently chief, Advanced Requirements Branch, Hq Air Defense Command,



Spain To Share In Operation Of DSN Station By Joint Agreement

Spain's *Instituto Nacional de Tecnica Aeroespacial* (INTA), will share in the operation of the U.S. space station near Madrid which maintains radio contact with unmanned probes to the Moon, Mars and Venus and will support the Apollo astronauts on their flight to the Moon.

Under a contract announced today, Spanish engineers and technicians will receive training and be assigned positions in the operation and maintenance of the NASA station located near Robledo de Chavela, 40 miles west of the Spanish capital.

The agreement is already being implemented, as INTA has sent some of its key personnel to the United States for special training at the Deep Space Facilities, Goldstone, Calif. Further training will continue in the United States and on the job at the station in Spain.

Trainees will be assigned to tracking, telemetry, communications and support positions on the team of Americans and Spaniards operating and maintaining the station.

The contract enters into effect May 1, 1966, and will be continued through Jan. 28, 1974 with the concurrence of both parties, in accordance with the government-to-government agreement between Spain and the United States signed Jan. 29, 1964.

Twenty-five Years



James E. Eaton
RASPO/Downey

Smylie, Powers Chosen For Career Programs

MSC Director Dr. Robert R. Gilruth last week received word that Ed Smylie of Crew Systems Division, and James Powers of Gemini Program Office, have been selected for participation by two of the nation's outstanding career development programs.

Smylie will spend a year of intensive study in the MIT Alfred P. Sloan Fellowship Program. Powers will complete approximately nine months work at one of the five nationally known universities in the National Institute of Public Affairs career education program.

"We are indeed pleased that the Manned Spacecraft Center is to be represented by Ed and James in these two fine university programs," said Dr. Gilruth.

Frequently found clipped under windshield wipers of MSC employee cars are Security citations saying "Illegally parked in a No-Parking zone." How does one *legally* park in a no-parking zone?

His Master's Voice



TRANSISTORIZED VENTRILOQUISM—Mike K. Hendrix of the IESD Flight Data Systems Branch puts words into the mouth of his alter ego, ED, during a demonstration for newsmen. ED, in no way related to an articulate equine of the same name, gets his acronymal name from Electronic Dummy. Designed by IESD as a substitute for human subjects in high-level noise tests, ED's head is a composite of flight crew head measurements. His ears are two microphones and a small speaker serves as a mouth. Electronics in ED's base register his responses to such simulated noise levels as liftoff to aid engineers in the design of audio headsets and spacecraft soundproofing. He was built by CBS Laboratories.

AUTS REPORTS NEXT MONTH FOR DUTY

Colorado Springs, Colo. He has 5,468 hours flight time—3,780 in jets. He has been an Air Force officer since 1951 and is a graduate of the USAF Experimental Test Pilot School and the USAF Aerospace Research Pilot School.

Dr. Don L. Lind, civilian, was born May 18, 1930 in Murray, Utah. He holds a BS in physics from the University of Utah and a PhD in physics from the University of California at Berkeley. He is married to the former Kathleen

Maughan of Logan, Utah. They have five children, Carol Ann 10, David Melvin 10, Dawna 8, Douglas Maughan 6 and Kimberly 3.

Dr. Lind since 1964 has been at the NASA Goddard Space Flight Center as a physicist working on experiments to determine the nature and properties of low-energy charged particles within planetary magnetospheres and in interplanetary space. He has 1,361 hours flight time—1,044 in jets. He was a naval officer from 1954 to 1957.

Jack R. Lousma, Capt. USMC, was born February 29, 1936 in Grand Rapids, Mich. He holds a BSAE from the University of Michigan and an MSAE from the US Naval Postgraduate School. He is married to the former Gratia Kay Smeltzer of Ann Arbor, Mich. They have a son, Timothy James 3.

Lousma is presently an operational pilot at the Cherry Point, N.C. Marine Air Station. He has 1,258 hours flight time—1,077 in jets. He has been a Marine Corps officer since 1959 and received the Navy "E" for piloting skills in 1962.

Thomas K. Mattingly, Lt. USN, was born March 17, 1936 in Chicago, Ill. He holds a BSAE from Auburn University.

Mattingly is single and is presently a student in the USAF Aerospace Research Pilot School, Edwards AFB, Calif. and will graduate this month. He has 2,582 hours flying time—1,036 in jets. He has been a naval officer since 1958.

Bruce McCandless II, Lt. USN, was born June 8, 1937 in Boston, Mass. He holds a BS in Naval Sciences from the U.S. Naval Academy, an MSEE from Stanford University and is a PhD candidate at Stanford. He is married to the former Alfreda Bernice Doyle of Roselle, N.J. They have two sons, Bruce III, 5, and Tracy 3.

McCandless presently is working on his doctorate in electrical engineering at Stanford. He has 1,435 hours flight time—1,339 in jets. He has been a naval officer since 1958.

Edgar D. Mitchell, LtCdr USN, was born September 17, 1930 in Hereford, Texas. He holds a BS in Industrial Manage-



ment from Carnegie Institute of Technology, a BSAE from the US Naval Postgraduate School, and a Doctor of Science from MIT. He is married to the former Louise Elizabeth Randall of Pittsburgh, Pa. They have two daughters, Karlyn Louise 13, and Elizabeth Randall 7.

Mitchell this month will graduate from the USAF Aerospace Research Pilot School. He has 2,795 hours flight time—704 in jets. He has been a naval officer since 1953.

William R. Pogue, Maj. USAF, was born January 23, 1930 in Okemah, Okla. He holds a BS in mathematics from Oklahoma Baptist University and an



MS in mathematics from Oklahoma State University. He is married to the former Helen Juanita Dittmar of Cromwell, Okla. They have three children, William Richard 13, Layna Sue 11, and Thomas Reid 9.

Pogue is presently an instructor at the USAF Aerospace Research Pilot School, Edwards AFB, Calif. He has 3,344 hours flight time—2,509 in jets. He has been an Air Force officer since 1952 and is a graduate of the Empire Test Pilot School. He was a member of the USAF Thunderbirds from 1955 to 1957. He flew 43 combat missions in Korea.

Stuart A. Roosa, Capt. USAF, was born August 16, 1933 in Durango, Colo. He holds a



BSAE from the University of Colorado. He is married to the former Joan Carrol Barrett of Sessums, Miss. They have four children, Christopher Allen 7, John Dewey 5, Stewary Allen 4, and Rosemary DeLozier 3.

Roosa presently is an experimental test pilot at Edwards AFB, Calif. He has 2,758 hours flight time—2,406 in jets. He was commissioned in 1953 and is a graduate of the USAF Aerospace Research Pilot School.

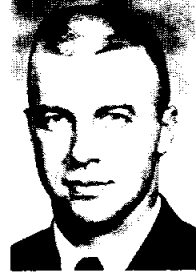
John L. Swigert, Jr., civilian, was born August 30, 1931 in



Denver, Colo. He holds a BSME from the University of Colorado and an MS in Aerospace Science from Rensselaer Polytechnic Institute. He is single. Swigert is presently an engineering test pilot for North American Aviation. He has 4,469 hours flight time—3,503 in jets. He served three years with the Air Force and was for seven years a research engineering test pilot for Pratt & Whitney.

Paul J. Weitz, LtCdr. USN, was born July 25, 1932 in Erie,

Pa. He holds a BSAE from Penn State University and an



MSAE from the US Naval Postgraduate School. He is married to the former Suzanne Margaret Berry of Erie, Pa. They have two children, Matthew 8, and Cynthia Ann 5.

Weitz is presently operations officer of an A3B squadron at Oak Harbor, Wash. He has 2,510 hours flight time—2,207 in jets. A naval officer since 1954, he recently completed a tour of duty aboard the USS *Independence* from which he flew 132 combat sorties in Viet Nam.

Alfred M. Worden, Capt. USAF, was born February 7, 1932 in Jackson, Mich. He holds a BS in Military Science from the US Military Academy and an MS in Aeronautics/Astronautics and Instrumentation from the University of Michigan. He is married to the former Pamela Ellen



Vander Beek of Bayside, L.I., N.Y. They have two daughters, Merrill Ellen 8, and Alison Pamela 6.

Worden presently is an instructor at the USAF Aerospace Research Pilot School, Edwards AFB, Calif. He has 1,900 hours flight time—1,308 in jets. He was commissioned in 1955 and is a graduate of the Empire Test Pilot School and the USAF Aerospace Research Pilot School.

Space News Of Five Years Ago

April 17, 1961—Construction of Dynamic Test Stand for Saturn completed at Marshall Space Flight Center.

April 20, 1961 — National Academy of Sciences issued report by its Space Science Board which stated that "the history of geographic exploration on Earth tells over and over again of the deaths of bold explorers . . . To ignore this in the far more difficult and hazardous areas of man in space is foolish. Men will perish in space as they have on the high seas, in the Antarctica, in the heart of Africa, and wherever they have ventured into unknown regions."

April 25, 1961 — Mercury-Atlas 3 was launched from Cape Canaveral in an attempt to orbit the spacecraft with a "mechanical astronaut" aboard. After lift-off, the launch vehicle failed to roll to a 70° heading and pitch

over into the proper trajectory. The abort-sensing system activated the escape rockets prior to the launch vehicle's destruction by the range safety officer after approximately 40 seconds of flight that had attained an altitude of 16,400 feet. The spacecraft then coasted up to 24,000 feet, deployed its parachutes, and landed in the Atlantic Ocean 2,000 yards north of the launch pad. The spacecraft was recovered and was found to have incurred only superficial damage; it was then shipped to McDonnell for refitting.

Official Soviet report described preliminary weightlessness training of the Soviet cosmonauts as follows: "It was established that all selected cosmonauts possess a good ability to endure weightlessness up to 40 seconds, the cosmonaut can eat food liquid, semiliquid and solid; can perform delicate coordinated acts, such as writing or purposeful hand motions; can maintain communications by radio; can read; and, besides, can orient himself visually."

April 27, 1961—NASA Ames Research Center measured the intensity of radiation from the hot gas over the nose of a model flying through the air at 42,300 feet per second. This speed was in excess of parabolic atmospheric entry speed and the data are significant in relation to development of lunar spacecraft. The speed, 11,000 feet per second higher than maximum air speed obtained previously, was achieved by firing the model from a light-gas gun into a high-speed jet of air flowing in the opposite direction from a shock-driven wind tunnel.

April 28, 1966—Little Joe 5B was launched from Wallops Island to test the Mercury escape system under maximum dynamic pressure conditions. At the time of liftoff, one of the launch vehicle rocket motors did not ignite until after four seconds had elapsed. This delay caused the launch vehicle to pitch into a lower trajectory than had been planned, with a result that the abort maneuver experienced greater dynamic pressures than had been specified in the test plan. Other than this, all other sequential systems operated according to plan, and after landing, a normal helicopter recovery was accomplished. Thus, all test objectives were met and were actually exceeded because the spacecraft withstood the higher dynamic pressures.

A simulated countdown for the first Mercury-Redstone manned suborbital flight (MR-3) was successfully completed.

Narrow Thought Inhibits Ideas That Pay Off

Hide-bound rationalizations frequently get in the way of constructive thinking that, if applied, would improve and streamline government operations to make them not only more efficient, but also easier on Mr. Taxpayer's pocketbook.

MSC's Incentive Awards program is designed to encourage fresh thought among employees on how their own work can be done more quickly and cheaply. But thinking about it is not enough; these thoughts should be set down on paper in the form of an Incentive Suggestion. Such suggestions can and do pay off in the form of award money—money which no one would exactly reject.

Below are listed several state-of-mind stumbling blocks that often get in the way of innovation and progress in government operations:

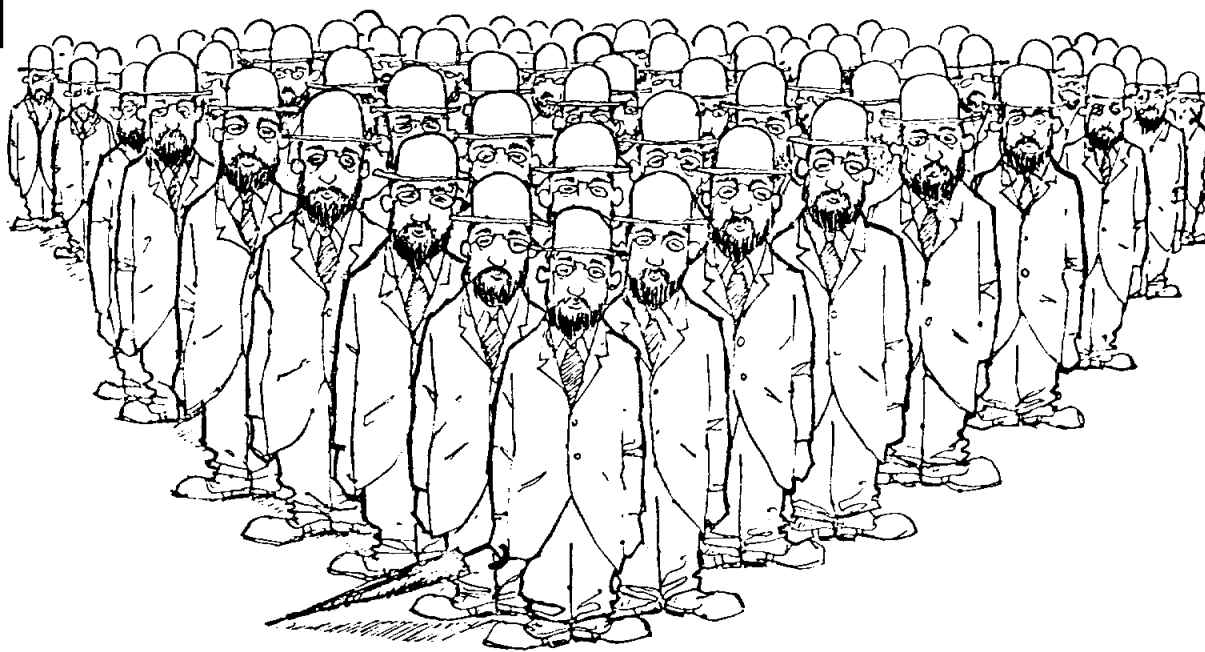
- We tried that before.
- We don't have the time.
- That's beyond our responsibility.
- We've never done it before.
- Why change? We're getting along.
- The front office would squelch it.
- Let's shelve it. Maybe it will die of old age.
- Employees don't like change.
- Has anyone else tried it?

If the above platitudes are inhibiting constructive thought, throw them out before they completely paralyze originality. Help stamp out tunnel vision.

The SPACE NEWS ROUNDUP, an official publication of the Manned Spacecraft Center, National Aeronautics and Space Administration, Houston, Texas, is published for MSC personnel by the Public Affairs Office.

Director Dr. Robert R. Gilruth
Public Affairs Officer Paul Haney
Editor Terry White
Staff Photographer A. "Pat" Patnesky

On The Lighter Side



The Saturn V is 77.82 Toulouse-Lautrecs tall.

OUT OF TEXAS' PAST—

Did a Texas College Prof Beat Signor Marconi into Airwaves?

A bare decade ago Texans were this planet's greatest Chauvinists, braggarts and tellers of tall tales. Professional Texans loudly proclaimed the Lone Star's supremacy in everything from natural endowments to military exploits. Everything in Texas was the biggest, best, hottest, coldest, longest, tallest, richest, oldest. Wherever they went, Texans boasted egriously—even about their braggadocios. Thus the fame of the state of states had spread to the remotest villages of Siberia and Tibet.

The admission of the 49th state was the beginning of the end. As talented at clowning as they were at petroleum production, Texans at first tried to laugh off Alaska's enormous size. They said Texas was still the largest *inhabited* state; thaw Alaska out, and it would be no bigger than the Texas panhandle. But that was whistling Dixie. Texas was no longer the biggest, resourcefulest, coldest, wildest or most colorful state. Of course,

it was still the only state that had ever been an independent nation—discounting California's insignificant bear-flag episode. But then came the admission of Hawaii, which had been a kingdom away back before Columbus discovered Texas.

That was the last straw. Slowly, inevitably, Texas began to become just another state. Finally the art of hyperbole no longer flourished under the monostellar flag.

But *Out of Texas' Past*, a Texan of the old school, does not give up as easily as most of his fellow tejanos. A last-ditcher from the forks of the bayou, he fiercely waves the Republic's tricolor (like on your safety sticker) o'er the ramparts.

In this connection he takes occasion to point with pride to a claim that a Texan invented radio. The flat claim is not ours, but it has been made, and it is not without some foundation. Like space travel, the existence of radio waves was postulated

before it was demonstrated, and development of the art required the ingenuity of many men.

If we read the record aright, it was in the summer of 1895 that Marconi first demonstrated that he could transmit messages a distance of a mile by code-pulsed Hertzian waves.

It is also a matter of record that Dr. Robert S. Hyer, professor of science at Southwestern University, Georgetown, Texas, began experimenting with Hertzian waves in 1892. And by 1894 he was sending telegraphic messages from his laboratory at the university to the Williamson County jail—a distance of more than a mile.

For that intelligence we have the family records of Dr. Hyer, who later became the president of Southwestern and still later the first president of Southern Methodist University. We also have the word of Mrs. Ray Hyer Brown, Dr. Hyer's daughter, whose biography of her distinguished father, *Robert Stewart Hyer: The Man I Knew*, is published in a limited edition (of which our copy is No. 718).

Prof. Hyer attended a seminar on Hertzian waves at Harvard in the summer of 1891. Mrs. Brown says that as soon as he came home to Georgetown he repeated the experiments of Heinrich Hertz.

"Then," she said, "he began changing the apparatus used by Hertz, and by adding a transmitter and a receiver he discovered that he could send and receive messages by wireless. For two years he worked on those experiments, and by 1894 he was sending messages from his laboratory to the jail . . . Father's friends have said repeatedly that his experiments were perfected before Marconi's. While his apparatus was different, the results were the same.

(Coming in *Out of Texas' Past* soon: *Did a Texan Fly Before Orv Wright?*)

—Sigman Byrd

Author Seeks Examples Of Spacese, Narratives

Intrigued by the Ruskin thesis in the light of MSC's profound cultural impact on the Galvez Bay area, *Out Of Texas' Past* has assigned ourself the opera of compiling two aids for present and future historians:

1. A dictionary of spacese. This is not to be a formal lexicon of technological terms like NASA's new "Dictionary of Technical Terms for Aerospace." It will be an informal catalog of assorted figures of speech, slang, colloquialisms, lingo, jargon, neologisms and peculiar usages in the space industry.

Examples: Lase, mode, deboost, interface (both noun and verb), grand tour, suboptimize, lurain, klunge (or is it kluge?), glitch (or is it glitch?).

2. The second opus would be an anthology of authentic narratives of incidents in and related to the space program, each conscientiously labeled as to whether it is factual, fact-based or purely imaginative. Examples:

Factual: What the range safety director was heard to exclaim just before he pushed the destruct button.

Fact-based: What the pilot really said at the point in the communications transcript where the long ellipsis occurs.

Imaginative: The popular one about the kosmonautka marooned on Luna.

Any and all contributions will be gratefully received. Just send to *Out of Texas' Past*, AP-4, MSC, Houston. Confidences meticulously respected.

Space News ROUNDUP!

MANNED SPACECRAFT CENTER, HOUSTON, TEXAS

EMPLOYEE NEWS

MSC BOWLING ROUNDUP

MIMOSA MEN'S LEAGUE TEAM	WON	LOST
Chizzlers	25	3
Alley Oops	16	12
Technics	16	12
Foul Five	16	12
Whirlwinds	15	13
Goobers	12	16
Roadrunners	12	16
Fabricators	11	17
Agitators	10	18
Green Giants	7	21

High Game: B. Graham 273, T. Brahm 262.
High Series: G. Amason 701, B. Harris 701.
High Team Game: Whirlwinds 1108, Alley Oops 1105
High Team Series: Chizzlers 3138, Technics 3108.

MSC 5 O'CLOCK MONDAY MIXED LEAGUE

TEAM	WON	LOST
Pacesetters	59 1/2	40 1/2
Pot Shots	57 1/2	42 1/2
Hi-Hopes	49	51
Thirds	47 1/2	52 1/2
McH's	43 1/2	56 1/2
Bombers	43	57

Final Standings
High Game Women: Tommie Bordeaux 194, Pat Little 193.
High Game Men: E. Ray Walker 246, William Kutalek 228.
High Series Women: Pat Little 485, Gale Mauney 483.
High Series Men: Harley Erickson 604, E. Ray Walker 599.

1966 MSC/Ellington AFB Volleyball League

American Division	National Division
1. G&C	5. ASPO
2. NAA	6. IBM (1)
3. CSD	7. FCD (11)
4. IESD (A)	8. GE
	9. 2578th
	10. FSD
	11. MPAD
	12. Link
	13. Coast Guard
	14. FCD (1)
	15. IESD (B)
	16. IBM (2)

League games April 18-28, teams listed by numbers assigned above:

	April 18	April 19	April 20	April 21
6:30 pm	12 vs 13	11 vs 14	16 vs 9	10 vs 15
8:00 pm	8 vs 1	3 vs 6	4 vs 5	2 vs 7
	April 25	April 26	April 27	April 28
6:30 pm	8 vs 2	7 vs 3	1 vs 5	6 vs 4
8:00 pm	16 vs 10	15 vs 11	9 vs 13	14 vs 12

League Championship Single Elimination Tournament, May 2
6:30 pm: American League 1st place vs National League 2nd place
8:00 pm: National League 1st place vs American League 2nd place
Winners of May 2 games will play for League Championship at 6:30 pm May 3.

"INTENDED TO INFLUENCE . . ."—

Gratuities Are For Bellhops; Return Them With Thanks

Somebody once said that it is better to give than to receive. But there are instances when it is better to refuse than to receive.

These instances are covered in NASA Management Instruction 1930.1 which covers acceptance of gratuities by NASA employees that could be interpreted as "being intended to influence an employee's official actions."

Each MSC employee is responsible for his own actions in complying with the NASA gift and gratuities policy along the following guidelines:

- Courteously decline all gifts offered in person.
- Return all gifts received indirectly by mail or through a third party. Exceptions are advertising items of nominal value (calendars, ball-point pens, etc) which may be kept, and perishable items which cannot be returned and which should be given to a charitable organization, followed up with a notice to the giver.

Supervisors may not accept any gift offered or presented to them by Federal employees who receive a lower salary than themselves.

When an MSC employee finds it awkward to handle a gift

situation, the Personnel Division stands ready to assist. When a gift is returned and the employee wants it in the record, he should send a copy of the gift-return letter to Personnel.

Identical gifts received for general distribution to an MSC section or branch should be reported to the Mail Room. The gifts will be returned to the giver with a courteous explanation of NASA policy on gifts and gratuities.



PILOTS, MAN YOUR PLANES!—MSC Radio Control Club members once a month meet to discuss the latest in radio control gear, super-duper fuels, and to swap lies about the performance of their airplanes. Left to right are Tim Brown, Bill McCarty, Tom Parry, Bob Tracy, Marion Kitchens, Skipper Stenfors, Chales Palermo, Dave Hoffman, John Kiker, Tom McPherson, Dave Clark and Harold Stenfors.

Flyers Keep Their Feet on Ground While Directing Airplanes in Flight

Every Tuesday after work a group of 20 MSC employees get together to fly airplanes. The airplanes do all the flying while their owners keep their feet on

the ground, for the group is the MSC Radio Control Club, most recent among clubs to be sanctioned by the MSC Employee Activities Association.

The Club holds its combined business and program meeting the first Tuesday each month, but the remaining Tuesdays are spent in "fly-together" sessions in which members gather after work to demonstrate their aircraft and radio gear.

The Club's "airfield" is the open area to the west of the IESD Anechoic Chamber in Building 14. Through a Club field manager, self-imposed operating rules are observed by the Club members to insure safety in the flying area and to lessen confusion.

Each earthbound pilot must have a valid FCC license to operate his radio-control equipment in either the Citizen's Band or amateur radio frequencies. Experimental and home-built radio control equipment ranges from sophisticated full maneuvering control to rudder-only control.

The Club welcomes onlookers to their flying sessions but allows no cars in the traffic pattern of their aircraft. Ample parking space is available after hours in the Building 14 parking lot, and the activity can be observed from the parking lot or from the flying field, but . . . watch for low-flying aircraft!

The MSC Radio Control Club is open to all MSC, contractor and Ellington AFB employees who are interested in radio-controlled airplanes. One requirement for membership is each person also become a member of the Academy of Model Aeronautics, a national organization which provides liability and property damage coverage, sponsors model airplane competition of all types and works to promote model aircraft as a hobby.

Club officers for 1966 are Bill McCarty, president, Bill Mal-lary, vice president, Tim Brown, secretary-treasurer and John Kiker, field manager. Additional information on the MSC Radio Control Club is available from Brown at Ext. 4374.



PREFLIGHT CHECK—Radio Control Club field manager John Kiker, right, manipulates the "stick" of Tim Brown's (center) "Square Hare" radio-control airplane. Club president Bill McCarty stands at left.

Hodgson Takes Trophy In Bridge Competition

The first series competition of the MSC Duplicate Bridge Club, which ended with the March 22 game, was a close race with Bob Hodgson winning the trophy for the highest percentage achieved and Leona Kempainen placing second. The next series will commence with the May 3 game and finish on July 12.

Winners at the March 22 fractional point game were: North-South, Marilyn Gallagher and H. Rotter, first; R. and E. Wake, second; East-West, Bill Hamby and Clarke Hackler, first; Bob Hodgson and Bud Parschall, second.

Roundup Swap-Shop

(Deadline for classified ads is the Friday preceding Roundup publication date. Ads received after the deadline will be run in the next following issue. Send ads in writing to Roundup Editor, AP3. Ads will not be repeated unless requested.)

FOR SALE

Cocker Spaniel pups AKC registered, 8 weeks old. One red male and one buff male. C. Olano, Arcadia 925-2083.
90-watt SSB Johnson Pacemaker xmtr \$165. National NC-300 rcvr \$185, Gotham vertical antenna \$5. All for \$300. Don Witt, SU 2-0648.
32-in riding mower w/elec starter \$125, 1 1/4-ton air conditioner \$50. GR 3-5445.
1964 Corvette Stingray conv, white, 300 hp, 4 speed, new black top, new tires, AM-FM radio, \$2900 W/1 trade. Linda Drysdale, Alta Loma 925-2384.
Curtis-Mathes 21-in color TV-stereo-record player combination. Pecan cabinet, antenna. \$50 equity, pick up \$25 28/ month payments. Mary B. Dunn, GR 9-295 after 5 pm.
Chihuahua puppies, 9 weeks, AKC registered, 3 males left, all white. Quick-sale price. Linda Drysdale, Alta Loma 925-2384.

2-story brick and wood, wrgt iron trim, 5 bdrms, 2 bath, family room, library, 2-car garage, fenced, landscaped, old trees, nylon carpeting, poured vinyl floors, 2nd floor front balcony, Timber Cove, \$37,500. Matt Radnofsky, 877-3007.

1 1/2-story traditional, Imperial Estates, Friendswood, 4 1/2/2/2, 110x163 lot. HU 2-7969.
60x247 wooded lot with 75 ft on Dickinson Creek, Pine Oak Cove subdiv, Dickinson, \$3200. Dwayne Weary HU 6-3206.

1963 Grand Prix, factory air, power brakes, auto trans, low mileage, black with red leather, one owner. C. T. Slaughter HU 8-0607 after 5 pm.

White brick, 3-2-2, central air/heat, elec built-in kitchen, drapes, carpeted, near schools, low equity. Robert McDonnell, MI 9-6786.

RIDER POOLS

Ride wanted from Friendswood to Bldg. 30, 8-4:30 shift. Lucille Booth HU 2-7919.

Production Apollo CM Arrives for Sea Tests

The first production-line Apollo command module to be shipped to MSC arrived today to begin manned habitability demonstrations in a sea environment.

Testing of the module, designated Airframe 007, and its post-landing systems in the Gulf of Mexico and in an environmental tank at MSC will be the final Apollo postlanding tests prior to manned earth orbital flights.

The command module arrived at Ellington AFB on the "Pregnant Guppy" aircraft. It was

Fifth S-IB Static Fired In Marshall Test Stand

The fifth Saturn IB booster (S-IB-5) was captive fired for about 2-1/2 minutes April 1 at the NASA-Marshall Space Flight Center.

The successful test was the second and longest duration firing of the booster.

A 35-second firing was conducted on March 23.

The S-IB-5 was taken from the captive test stand on April 7 and shipped by barge back to the Michoud plant for post static test checks.

shipped by North American Aviation Inc., prime contractor for the Apollo spacecraft.

Airframe 007 contains all the recovery systems and equipment other than that required during actual flight. Its heat shield is cork rather than ablative material, but the total configuration is that of a flight-type command module.

A series of tests will be conducted this spring and summer to verify operational suitability of the command module and to qualify the postlanding subsystems—egress, survival, communication and location, power, and spacecraft ventilation equipment.

The Apollo Postlanding Suitability Program tests will be conducted by the Landing and Recovery Division's Operational Evaluation and Test Branch. Wayne E. Koons is the program manager with Ronald K. Blilie as project engineer on this test vehicle.

The T-O Jitters: "If the booster isn't fired next week, we will be."

Nimbus C Goes To West Coast For Launching

The nation's most advanced weather satellite, Nimbus-C, scheduled for launch April 26, was flown by C-133 cargo plane March 27 from Pennsylvania to the launch site at the Western Test Range in California.

Nimbus-C, Nimbus II if successfully orbited, underwent a year of rigorous testing at General Electric Co.'s Valley Forge, Pa., facility.

This will be the first National Aeronautics and Space Administration satellite to take and transmit nighttime infrared pictures directly to relatively inexpensive Automatic Picture Transmission (APT) ground stations.

Eight experimental APT stations are being modified to receive these pictures taken of the Earth's cloud cover at nighttime. Instructions for modification have been made available to interested stations.

Boondoggle: a trip taken by another man in the section.



SECOND FRONT PAGE

Smylie to Study Under MIT Sloan Fellowship

Robert E. Smylie, chief of the Apollo Support Office of Crew Systems Division at the Manned Spacecraft Center, has been selected for a 1966 Sloan Fellowship in executive development.

The 12-month fellowship, under sponsorship of the Sloan School of Management at the Massachusetts Institute of Technology, will lead to a degree of Master of Science in Industrial Management. It is designed to broaden and develop outstanding, but typically specialized, young executives for more general and senior management responsibilities.

Smylie's selection is one of about 45 Sloan Fellows selected each year by MIT from both the U. S. and abroad. Nominations come from both industry and government. Participants in the program spend a full year studying changing theory and practice of management decisions. The program includes a number of management policy and practice discussions with corporation presidents and senior government executives. Many of the discussions take place during field trips to major cities of this country and Europe.

As chief of the Apollo Support Office, Smylie is responsible for development of the life support and environmental control systems for NASA's Apollo program. His responsibility also covers personal crew equipment as well as development of the



space suit and portable life support system for use on the lunar surface.

Smylie is a native of Brookhaven, Mississippi, and graduated from Mississippi State University in 1952 with a B. S. in Mechanical Engineering. After graduation he spent approximately two years with the Ethyl Corporation in Pasadena, Texas, before returning to Mississippi State to teach and work towards a Masters degree. He received the advanced degree in Mechanical Engineering in 1956.

He joined Douglas Aircraft Company in Santa Monica, California, in 1956 where he assisted in the design of the air conditioning system for the DC-8 jet transport. He joined NASA in 1962 and was active in operational aspects of the Project Mercury environmental control system.

His wife is the former June Reeves of Carthage, Texas. They have three children, Steven, Susan and Lisa. Smylie is a member of Tau Beta Pi, Kappa Mu Epsilon and Pi Tau Sigma.

Houston AIAA Mails Ballots To Elect 1966-67 Officers

The Houston Section of the American Institute of Aeronautics and Astronautics next week will mail out ballots for the election of officers and board of

Award Program Recognizes 80

Superior performance, suggestion and invention awards and quality salary increases were made April 6 to 80 employees at the annual MSC awards program in the Auditorium.

Cash invention awards went to Andre Meyer for ablative structures \$100; Joseph G. Thibodaux for a solid-propellant rocket motor \$150, and to Robert H. Lamb for a hypersonic reentry vehicle and for a spacecraft heatshield \$400. Outstanding Performance Certificates went to 35 employees.

Among employees receiving quality salary increases was Neil Armstrong, Gemini VIII command pilot, following his successful early termination of the mission.

directors for 1966-67.

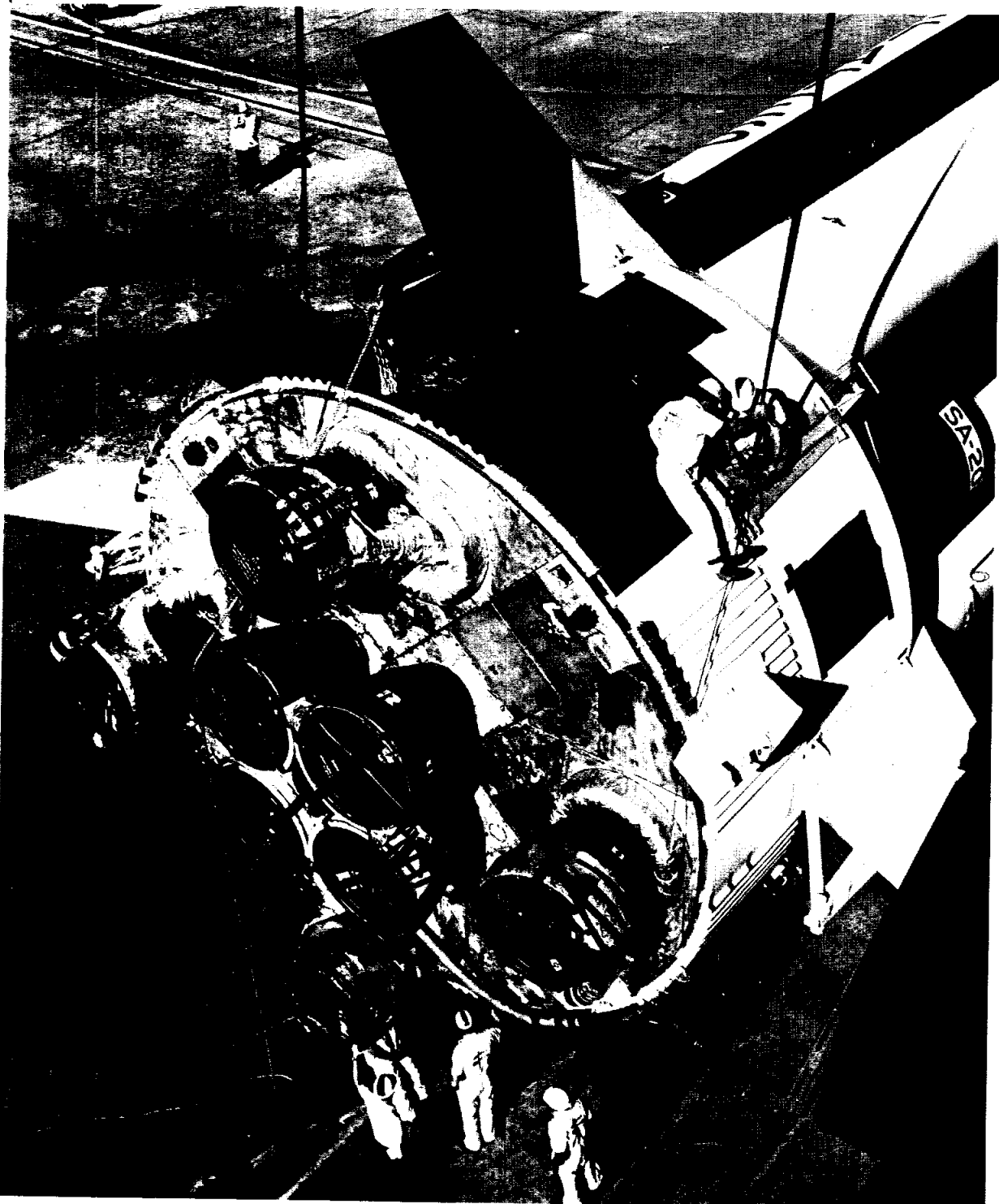
Officer nominees are Chairman, George M. Low, MSC Deputy Director; Vice-chairman, Dr. Alan J. Chapman, Rice University; Vice-Chairman Programs, Charles Appleman, General Electric; Secretary, Jack C. Waite, North American Aviation, and Treasurer, John Bonney, Nassau Bay National Bank.

Board of Director nominees are Aleck Bond, MSC Manager of E&D Systems Test and Evaluation; Sig Sjoberg, MSC Deputy Assistant Director for Flight Operations; Dick White, TRW; Dr. Fred Wierum, Rice University, and Larry Megow, Hahn & Clay Co.

Today is Bad Friday

In addition to being Friday and the day payroll checks are mailed to homes and banks, today is another type of red (or black) letter day on each citizen's calendar—the deadline for filing Federal income tax returns.

Wholesale Thrust



THE BUSINESS END—The Saturn IB launch vehicle for the Apollo/Saturn 202 mission is readied for erection on Launch Complex 34. Technicians on and under the launch vehicle are dwarfed by its immensity. Eight H-1 liquid oxygen/RP-1 engines develop a total of 1,600,000 pounds thrust.