Gemini IX Prime Crew Die In Aircraft Crash

Gemini IX prime crewmen Elliott M. See, Jr. and Charles A. Bassett were killed Monday during a landing at McDonnell Aircraft Corporation's St. Louis plant. The prime crew and backup crewmen Tom Stafford and Eugene Cernan flew in two T-38 aircraft from Houston to Lambert International Airport Monday morning to attend rendezvous simulations.

Weather at Lambert International was marginal as See and Bassett made an instrument landing approach, striking the roof of a McDonnell building before dropping into an outside storage area. Several McDonnell employees were injured. Stafford and Cernan landed safely shortly afterward.

MSC Director Dr. Robert R. Gilruth issued the following statement upon learning of the deaths: "It is with a deep sense of personal loss that I learned of the deaths of Astronauts Charles A. Bassett II and Elliott M. See, Jr. in an aircraft accident in St. Louis this morning.

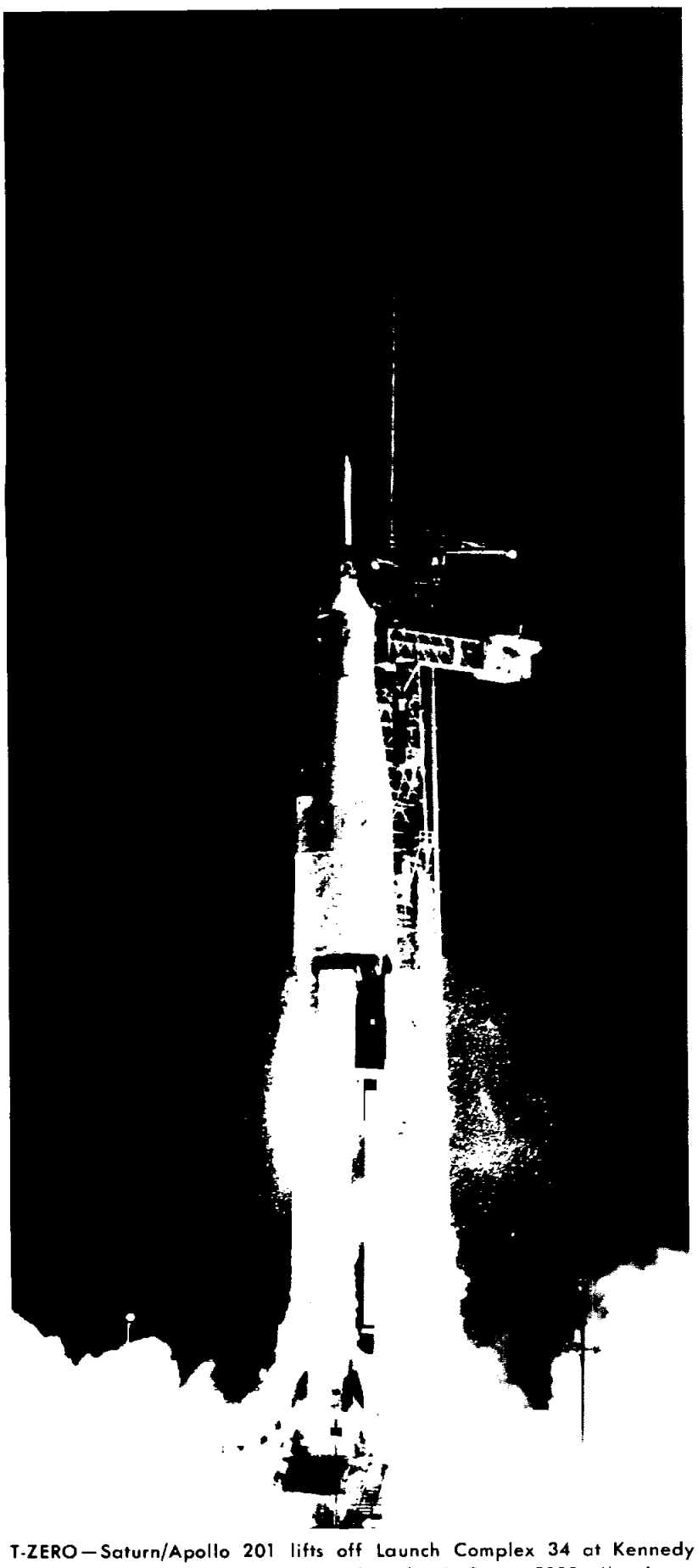
"My deepest sympathies go out to their families. Both of these men were fine persons and excellent professional test pilots. We will miss them more than I can say."

See, 38, was born in Dallas, Texas, and prior to his selection as a NASA civilian astronaut was a test pilot for General Electric Company and had logged more than 3300 hours of jet aircraft time. He is survived by his wife, Marilyn, and three children, Sally 10, Carolyn 8, and David 3.

Bassett, 34, was born in Dayton, Ohio was a USAF major and a graduate of the Air Force Experimental Test Pilot School and the Aerospace Research Pilot School with more than 3600 hours of flying time, 2900 hours in jets. He is survived by his wife, Jean, and two children, Karen 8, and Peter 4.

Elliot M. See, Jr.

Charles A. Bassett



T-ZERO—Saturn/Apollo 201 lifts off Launch Complex 34 at Kennedy Space Center en route to a point in the Atlantic Ocean 5000 miles downrange northwest of Ascension Island. The mission, plagued by poor weather at the launch site and by holds in the countdown caused by first stage nitrogen pressurant spheres, was the first flight of the Saturn's IB first stage and the S-IVB second stage, and the first flight test of a production command and service module. The Saturn IB is an uprated version of the Saturn I which had ten successful flights in ten launches.

Space News ROUNDUP!

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Near-Perfect S/A 201 Follows On-Again Off-Again Count

After two holds, a scrub and a scrub of a scrub, Saturn/Apollo 201 lifted off Launch Complex 34 at Kennedy Space Center last Saturday at 10:12 am CST for a near perfect flight some 5000 miles down the Eastern Test Range to landing 35 miles from the prime recovery ship.

The unmanned suborbital development flight for qualifying the Apollo command module heatshielding, service module prime propulsion system, and first flight trial for the Saturn IB was postponed twice from its scheduled launch date of February 23 because of poor weather in the launch area.

The first hold in Saturday's launch occurred when the count went all the way to zero, but the automatic sequencer called for a shutdown at T-04 seconds when first stage nitrogen sphere pressures dropped below acceptable limits. The nitrogen spheres provides control pressures to actuate various first stage propulsion systems.

The countdown was recycled to T-15 minutes while a ground crew went out to the pad and adjusted a ground regulator controlling nitrogen pressures within the vehicle and verified that there were no leaks in the nitrogen system.

At T-5 min 34 sec the countdown was again halted because of a second drop in nitrogen pressure in the first stage spheres. Mission Director Brig. Gen. C. H. Bolender in Mission Control Center-Houston announced the mission had been scrubbed for the day, but some 10 minutes later the decision was reversed and the count picked up for the third time at T-15 minutes. A review of nitrogen sphere pressure trends determined that the situation was acceptable for continuing the launch.

Liftoff and powered flight events all took place as programmed, and the seven-minute burn of the S-IVB stage J-2 liquid hydrogen/liquid oxygen engine and two burns of the service module hypergolic engine rammed the command module back into the atmosphere at some 27,500 feet per second—2000 feet per second faster than Apollo reentry from earth orbit.

Flight controllers aboard the tracking ship *Rose Knot* reported to Mission Control that vehicle attitudes and engine burns were nominal in their telemetry readouts.

(Continued on page 2)

IDES OF MARCH—

Gemini VIII Scheduled For March 15 Launch

The launch of Gemini VIII from Cape Kennedy, Fla., has been scheduled for no earlier than March 15.

Command pilot for the three-day mission is civilian Astronaut Neil A. Armstrong. Pilot is Air Force Maj. David R. Scott. Gemini VIII will be boosted into orbit by the two-stage Titan II Gemini Launch Vehicle, generating 430,000 pounds of thrust. Scheduled liftoff is 10:40 am CST.

The mission will include rendezvous with a Gemini Agena Target Vehicle (GATV) (modified Agena D), extravehicular activity by Scott, and 10 onboard experiments.

The Agena will be launched into a 161 nm circular orbit by an Atlas Standardized Launch Vehicle approximately 100 minutes before Gemini VIII liftoff, or at 8 am CST.

Gemini VIII will go into a 87 by 141 nm elliptical orbit and rendezvous is planned during the fourth revolution, approximately five and one-half hours after liftoff.

(Continued on page 8)

See, Bassett Buried Today At Arlington

Memorial services for Astronauts Elliot M. See, Jr. and Charles A. Bassett were held Wednesday in MSC-area churches. Services for See were at the Seabrook Methodist Church at 10 am, and for Bassett at the Webster Presbyterian Church at 1:30 pm.

Both men were buried today in Arlington National Cemetery. Graveside services for See were at 10 am and for Bassett at 2 pm.

The See family requested that donations be made to the Merchant Marine Academy at Kingsport, N.Y., be made in lieu of flowers. The Bassett family requested donations in lieu of flowers be made to the Heart Fund.

Near-Perfect Saturn/Apollo 201

(Continued from page 1)

"Air Boss," the on-scene commander reported a visual sighting of the command module upright in the sea some 35 miles northwest of the prime recovery vessel, the carrier USS *Boxer*. Swimmers deployed from the *Boxer's* helicopters attached the command module floatation collar, as the *Boxer* steamed toward the landing point.

In a post-launch press conference at Kennedy Space Center Associate Administrator for Manned Space Flight Dr. George E. Mueller commented, "This test was of extreme importance to the eventual manned lunar landing in that it provides us with the first test of the ablative characteristics of the heat shield protection for the Apollo spacecraft. It is the one test that we were unable to perform on the ground—the one test, therefore, that was a qualification test and which will be repeated again on 202, which is the next flight in the Apollo system. The final first, at least in my experience, was the occasion of the calling of the scrub and then continuing the countdown. I've never seen that before, and I'd like not to see it happen again."

When asked about command module heat shield performance, Apollo Spacecraft Program Office Manager Dr. Joseph Shea responded, "It's really too soon to tell about the telemetry on the heat shield. We did come pretty close to 27,000 feet per second which is well above orbital reentry and up in the region where we wanted to get."

Dr. Wernher von Braun, Director of Marshall Space Flight Center, was quizzed on the performance of the S-IVB stage J-2 engine in its first space flight. "So far," said von Braun, "we have had only an opportunity to the see that the flight track of the Saturn IB two-stage launch vehicle was nominal. From this we may conclude that the J-2 engine performed nominal also."

Mission Control Center-Houston was manned by flight controllers during S/A-201 in much the same manner it has been manned in Gemini missions. The only exceptions were the flight surgeon's and spacecraft communicator's consoles, which were not manned. Remote-site flight controllers were assigned to the tracking ship *Rose Knot* to augment the data fed to Mission Control-Houston from stations in the Air Force Eastern Test Range. The *Rose Knot* was positioned a few degrees north of the Equator northwest of Ascension Island.

In-flight backup command of certain spacecraft and launch vehicle events was remoted from Mission Control through the ETR stations or sent from the *Rose Knot*. to cover onboard failure contingincies.

Birg. Gen. C. H. Bolender was S/A-201 Mission Director at MCC-H, and was responsible for directing those portions of the terminal countdown and recovery that were directly related to mission success.

The S/A-201 flight controller team in the second-floor Mission Operations Control Room was led by Flight Director Glynn Lunney. Assistant Flight Director was Lawrence S. Canin.

Other console positions in the MOCR were:

Operations and Procedures officer: John H. Temple and Herbert E. Porter. Booster Systems Engineer: Charles W. Casey and Dexter H. Burdeshaw. Electrical, Environmental and Communications Systems Engineer (EECOM): David. B. Pendley.

Guidance, Navigation and Communications Engineer: Louis A. DeLuca. Systems Backup: John P. Meszaros. Retrofire Officer: Charles F. Deiterich.

Yaw Guidance Officer: George F. Guthrie. Pitch Guidance Officer: Granville E. Paules. Network Controller: Capt. Andreus A. Piske and Capt. Richard G. Ayers, both USAF. Support Control Coordinator: John F. Childress.

Maintenance and Operations Supervisor: R. B. Cagel. Public Affairs Officer: Paul Haney.

In the MCC-H Recovery Control Room was Recovery Coordinator Robert F. Thompson assisted by Donald E. Stullken, J. O. Sayler, R. Wayne Empey, Jerry E. Hoisington and Joe R. Vice.

Flight controllers aboard the *Rose Knot* were Perry L. Ealick and Stuart M. Present, spacecraft communicator; Briggs N. Willoughby, guidance, navigation and communications; William L. Blair, EECOM; and Myron C. Hayes, S-IVB stage monitor.

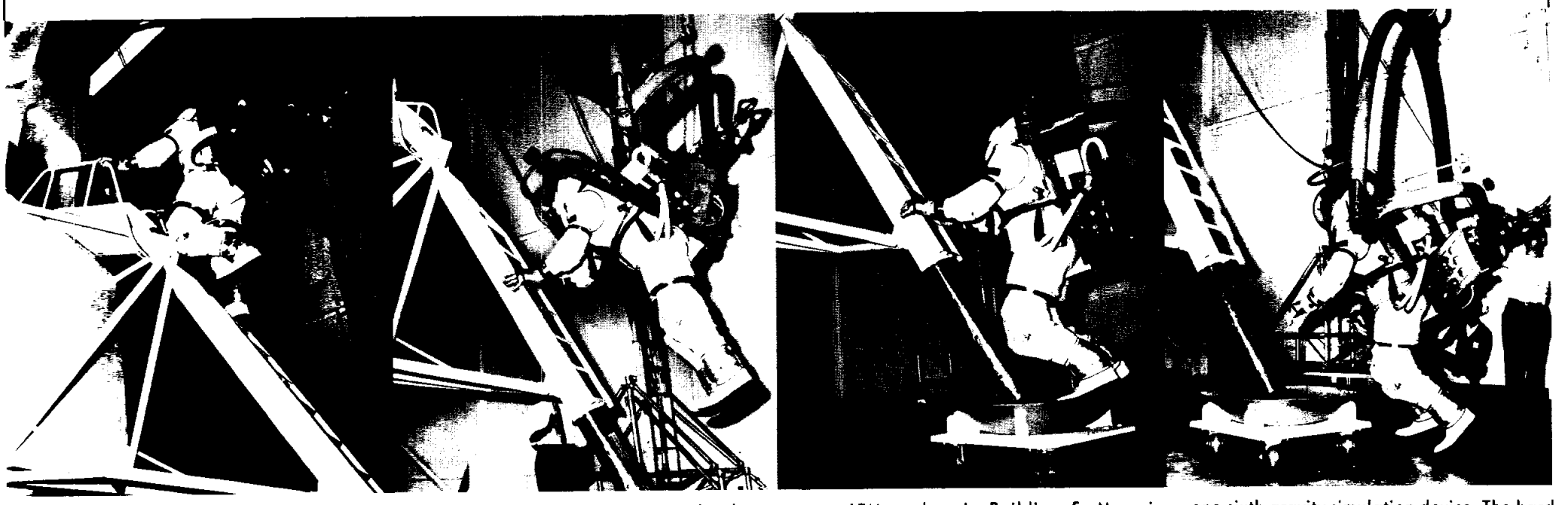
BLOCKHOUSE VIGIL—NASA, Air Force and contractor launch control monitors in Launch Complex 34's blockhouse sweat out Saturday's launch of Saturn/Apollo 201. In right foreground are Maj. Gen. Vincent Huston, Air Force Eastern Test Range commander, and Dr. Kurt H. Debus, Kennedy Space Center director. Launch vehicle, spacecraft and instrument unit contractor technicians monitor the performance of their products at the consoles at left.

YOUNG MAN WITH HEAVY RESPONSIBILITY—Flight Director for the Saturn/Apollo 201 mission was 29-year-old Glynn Lunney, chief of Flight Dynamics Branch, Flight Control Division.

APOLLO SYSTEMS—Flight controllers in Mission Control Center-Houston review in-flight data coming from the command and service module systems. Left to right are Richard A. Gardner, Edward Lorenz and John P. Meszaros at the Apollo Systems console, in the second-floor Mission Operations Control Room.

BOOSTER SYSTEMS—Tank pressures, engine performance and other phases of booster performance are monitored during the S/A 201 powered flight by flight controllers at the Booster Systems Engineer console. Left to right are Robert R. Wolf, Dexter R. Burdeshaw and Charles W. Casey.

How to Properly Re-mount the LEM After A Moon Stroll



SECOND-STORY MAN—Mobility of an experimental hard suit for possible lunar surface wear is Crew Systems suit development engineer Jack Mays ascends a ladder on a LEM mockup in Building 5. Mays is suspended from a six-degree-of-freedom one-sixth gravity simulation device. The hard suit is built by Litton Industries.

Gemini VIII Flight Controllers Work 12-Hour Shifts In Mission Control

Flight controllers in Mission Control Center-Houston will be on a two-shift schedule during Gemini VIII for the first time in the Gemini program. Not since the last Mercury flight, MA-9 on May 15-16, 1963 have flight controllers worked 12-hour shifts. Three eight-hour shifts were run in all previous Gemini flights beginning with Gemini IV, the first mission to be controlled from Mission Control Center-Houston.

Shift changes will be made at 7 am and 7 pm each day of the three-day mission. The first shift "Blue Team" flight director is John D. Hodge, with Clifford E. Charlesworth as deputy flight director. Eugene F. Kranz is flight director for the "White Team" second shift.

Other console positions in the third-floor Mission Control Operations Room now used for controlling Gemini flights follow, listed as 1.—first shift, and 2.—second shift:

Assistant flight director: 1. William E. Platt, Jr., Stuart M. Present and James R. Bates; 2. Donald R. Butler and Charles R. Lewis.

Operations and procedures officers: 1. Lawrence L. D. Armstrong and Donald E. Holkan: 2. Robert G. Britton and Merrill A. Lowe.

Flight surgeon: 1. Dr. D. Owen Coons; 2. Dr. A. D. Catterson.

Spacecraft communicator: 1. James A. Lovell and William A. Anders; 2. Alan L. Bean.

Booster systems engineer: Charles S. Harlan (manned during launch only).

Tank monitor: Russell L. Schweikart (manned during launch only).

Guidance, navigation and control engineer: 1. Gary E. Coen; 2. Gerald D. Griffin.

Electrical, environmental and communications engineer (EECOM): 1. Richard D. Glover; 2. Thomas R. Loe.

Agena: 1. Melvin F. Brooks; 2. James E. Saultz, Jr.

Agena systems: 1. Bruce H. Walton; 2. Robert L. Carlton.

Flight dynamics: 1. Jerry C. Bostick; 2. Edward L. Pavelka.

Retrofire controller: 1. Thomas F. Carter; 2. David V. Massaro.

Guidance officer: 1. Charley B. Parker; 2. William E. Fenner.

Support control coordinator: 1. L. L. Linson; 2. James E. Mager; 3. Philip N. Barnes (three shifts).

Network controller: 1. Ernest L. Randall; 2. Capt. Lawrence Lonero, USAF.

Public affairs officer: 1. Paul Haney; 2. Albert M. Chop.

Maintenance and operations supervisor: 1. John W. Hatcher; 2. G. M. Egan.

Remote-site flight controllers assigned to tracking stations and ships of the Manned Space Flight Network, as in past missions, will work a single shift. Because of the precession of the spacecraft ground track, each station is "up" for approximately 14 hours each day and out of range the remainder of the time.

Tracking station flight controller assignments are as follows:

Canary Islands: William D. Garvin and William G. Bastedo, command communicator; Ted A. White, Gemini systems; Harold V. Berlin and Luis J. Espinoza, Agena systems; Capt. Charles H. Sawyer, USAF/MC, aeromed.

Carnarvon, Australia: Edward I. Fendell, command communicator; Floyd E. Claunch, Gemini systems; Harry Smith and Thomas E. Weichel, Agena systems; Wing Cmdr. W. J. Bishop, Royal Australian Air Force MC, aeromed.

Hawaii: Arda J. Roy, Jr. and William Molnar, Jr., command communicator; Gene F. Muse and George W. Conway, Gemini systems; Robert D. Legler and Willard D. Robinson, Agena systems; Dr. John J. Droescher, aeromed.

Guaymas, Mexico: Harold M. Draughon and Franklin W. Brizzolara, command communicator; George M. Bliss, Gemini systems; George P. Contois, Agena systems; Cdr. Clarence E. Gossett, USN.MC, aeromed.

USS *Coastal Sentry:* James R. Fucci and William F. Buchholz, command communicator; Albert W. Barker, Gemini systems; Hershel R. Perkins and Paul D. Nering, Agena systems; Capt. William H. Walter, USAF/MC, aeromed.

USS *Rose Knot:* Keith K. Kundel, command communicator; John E. Walsh, Gemini systems; Charles L. Gruby, Agena systems; Dr. J. Nugent, aeromed.

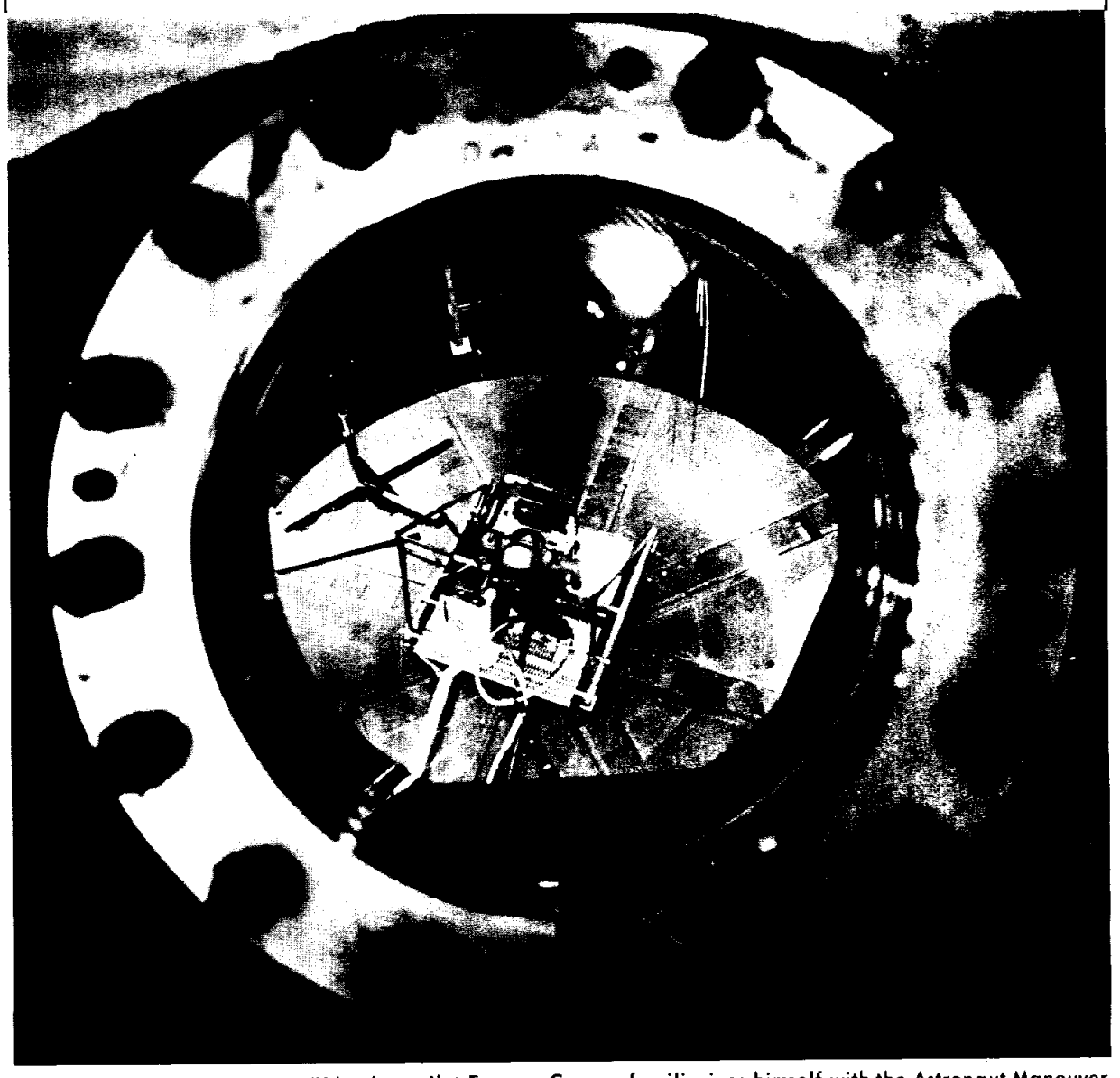
Founding Meeting March 15 For 'Dollars for Scholars' Fund

MSC employees are invited to attend a public meeting and banquet March 15 for organizing a scholarship fund to help Clear Lake area graduating high school seniors attend college.

Dr. Irving A. Fradkin, president and founder of the Citizens' Scholarship Foundation of America, Inc. will be the featured speaker. The banquet starts at 6:30 pm in the Clear Creek High School cafeteria, League City. Banquet tickets are $2.25 a person, but admission to the 7:30 pm public meeting is free. Banquet reservations can be made at First Federal Savings, Clear Lake Savings and at League City State Bank. Reservation deadline is March 10.

A project of the Clear Lake Jaycees, the effort in organizing a Clear Lake chapter of the Citicens' Scholarship Foundation aims toward developing a fund to provide "Dollars for Scholars" in the form of subsidies to high school graduates who want to attend college, technical schools, nursing schools or other types of career training.

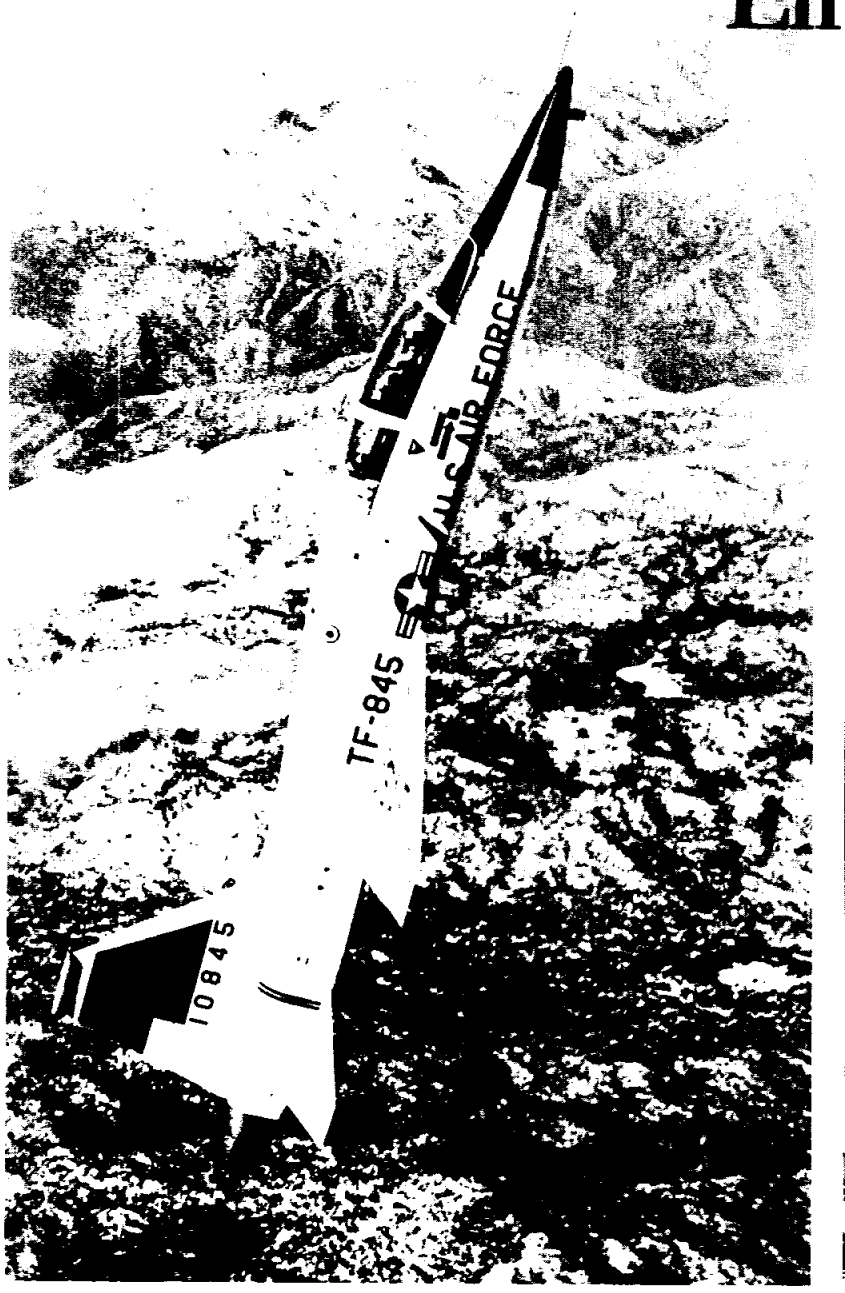
Porthole Preview



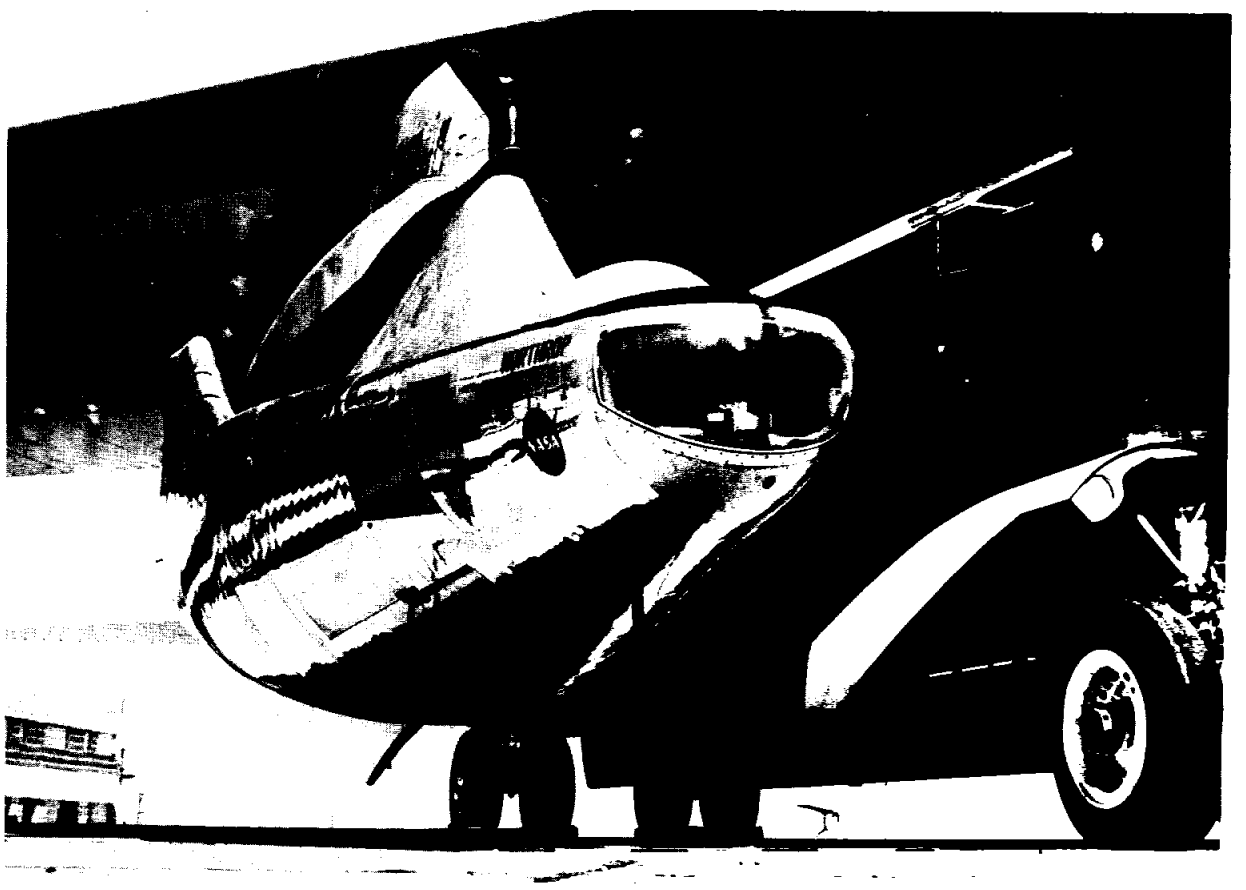
EVA UNDER GLASS—Gemini IX backup pilot Eugene Cernan familiarizes himself with the Astronaut Maneuvering Unit (AMU) he will use for extravehicular propulsion. The exercise in a vacuum environment was in Chamber B of the Space Environment Simulation Laboratory, Building 32. The camera peered in on Cernan through a heavy glass viewing port in the chamber's dome. The AMU was supported on a holding fixture during the familiarization runs.

Northrop's Space Projects Range From Lifting Bodies to Parachutes

EDITOR'S NOTE: This is the forty-ninth in a series of articles designed to acquaint MSC personnel with the Center's industrial family, the contractors who make MSC spacecraft, their launch vehicles and associated equipment. The material on these two pages was furnished by Northrop Corporation.



HOMESICK ANGEL—A Northrop T-38 Talon supersonic trainer, in service with the USAF Training Command and used for MSC astronaut flight proficiency, stands on its tail in a vertical climb. The T-38 holds world time-to-climb records.



SPACECRAFT OF THE FUTURE?—Northrop's M2-F2 lifting body research vehicle nestles under the protecting wing of a B-52 at the Flight Research Center. Dropped from 45,000 feet, the vehicle is expected to demonstrate behavior of future lifting body space vehicles in the atmosphere between reentry and landing.

NORTHROP, A PIONEER in the aircraft industry, is supporting NASA in many areas of scientific exploration of space, and in the development of advanced spacecraft systems.

The broad experience acquired at Northrop in developing and producing advanced aircraft, including the F-89, T-38 Supersonic Trainer, and F-5 Freedom Fighter, is being focused in many NASA contracts to further man's knowledge of space. The broad areas of physical and life sciences being explored for NASA by Northrop include: Apollo heat shield materials testing for MSC, sterilization studies for unmanned planetary spacecraft for JPL and Ames Research Center, thermal control by use of fusible materials for MSFC, and medical electronics development for the NASA Biosatellite primate experiment.

A prime area of Northrop activity with NASA has been developed of recovery and landing systems for advanced spacecraft. Northrop has been the developer and producer of all the recovery systems used for the Mercury and Gemini programs, and is presently developing the Apollo landing system.

Wingless Lifting Bodies

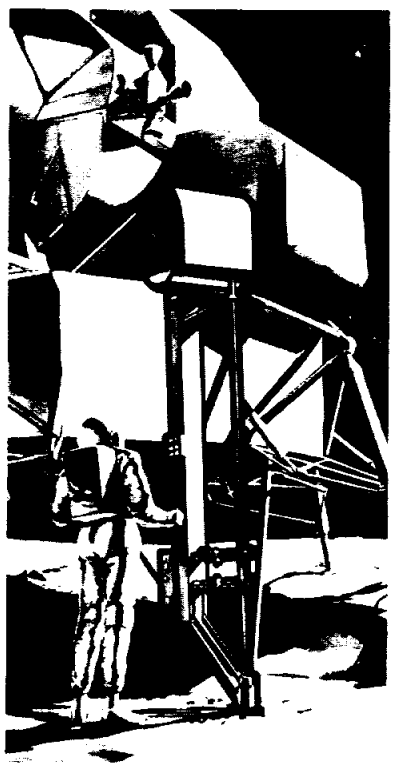
A few weeks ago in Hawthorne, Calif., the second of two flight research vehicles, designed to help solve control problems of future manned spacecraft entering the earth's atmosphere, was delivered to NASA by Northrop. This vehicle, the HL-10, is a 22-foot-long wingless lifting body with three fins. The HL-10 configuration was developed at NASA's Langley Research Center in Virginia.

A predecessor of the HL-10, the M2-F2, was developed at the NASA Ames Research Center in California and constructed by Northrop. Also wingless and 22 feet in length, it has two fins instead of three as on the HL-10. It was delivered to NASA in June 1965.

Lift and flight is achieved by the aerodynamically lifting bodies of the vehicles. Both of the shapes are basically half cones with blunted noses and vertical and horizontal control surfaces. The HL-10 features a round top and flat bottom cross section, contrasted to the flat top and rounded bottom configuration of the M2-F2.

Both vehicles are dropped from beneath the wing of a B-52 aircraft, flying at 45,000 feet. NASA and Air Force pilots will glide and maneuver these lifting bodies at high speeds to landings at the NASA Flight Research Center, Edwards, California.

DRILLING RIG — Artist's concept shows a lunar surface drilling rig being developed by Northrop for Apollo core sampling of selenological structures to depths of 100 feet.



Parachute Systems

Parachute landing systems developed by Northrop have been used for the safe return of all America's astronauts who have flown in space thus far.

This record of teamwork with NASA began in 1958 when designers began work on the 63-foot main Mercury parachute and its associated recovery gear. The entire development of space landing systems was keyed to the Northrop invention of the Ringsail parachute, an extremely low weight, compact, and highly reliable retardation parachute.

Even before conclusion of the highly-successful Mercury program, the company began development of a larger 84-foot-diameter parachute and its related pilot drogue parachutes, for the Gemini program.

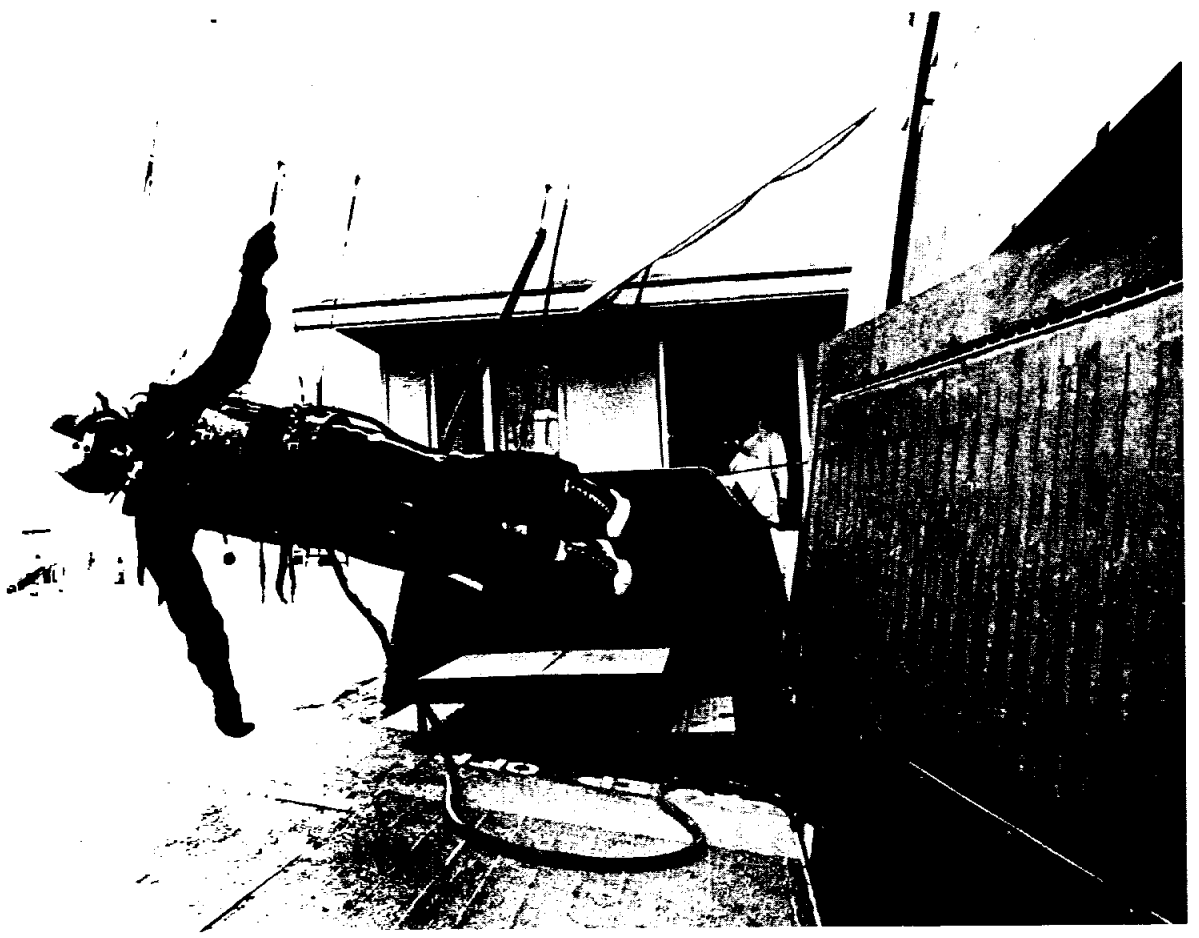
Northrop is now developing a cloverleaf steerable parachute, a new configuration which has demonstrated a glide ratio of two feet for each foot of vertical descent. In October 1965, MSC awarded Northrop a contract for the development of a large cloverleaf test vehicle and control system for pinpoint recovery of a 5,000-pound vehicle leading toward precise landings of spacecraft with application for land recovery. First airdrop tests are now underway using a 56-foot parachute. The cloverleaf has been flight tested numerous times in diameters ranging from 16 to 40 feet.

Apollo Studies

A second area of spacecraft landing technology being investigated by Northrop under MSC sponsorship is a research program establishing Apollo emergency impact limits. Advance support and restraint systems are being developed and tested at Northrop on decelerator test beds where data is being obtained for the design of crew seating configurations that will support spacecraft land recovery missions.

Recently, Northrop was awarded a design study contract for the Apollo Experiments Pallet. The contract calls for Northrop to design and develop detailed specifications for a pallet to be placed in Sector I of the Apollo spacecraft service module. As part of this contract, a mockup is being produced for delivery to MSC. The Apollo Experiments Pallet will house scientific, technological and engineering experiments to be carried on missions of up to two weeks duration, beginning in 1968.

Northrop is conducting many NASA programs related to man's eventual activity on the Lunar Surface. Two of the most significant projects are the development of a lunar drill and study of man's physical and functional capabilities while on



SUBTRACTING GRAVITY—Suspended from cables like a marionette, a Northrop engineer takes a simulated moon walk on a one-sixth gravity simulator. The upper ends of the cables are attached to a moveable dolly and the walkway is tilted 9.5° from the vertical to achieve a one-sixth Earth gravity force vector. Northrop is conducting research into man's physical capabilities in the lunar environment under a NASA contract.

LOOK MA, NO WINGS!—Developed by the Langley Research Center for atmospheric glide-descent experiments, the Northrop-built HL-10 lifting body was recently delivered to the Flight Research Center. NASA M2/HL-10 Chief Test Pilot Milton Thompson tries on the vehicle for size.

the Lunar surface. Northrop is under contract to NASA to design and fabricate a prototype lunar drill for the Apollo program. This compact drill, weighing less than 200 pounds, will permit sampling of the Lunar surface to depths of approximately 100 feet. The cores obtained will be returned to earth for analysis to determine chemical and lithologic composition, bearing strength, stratification and density.

The final version of the lunar drill will become a key geological research tool. It will be employed in the Apollo Extension System for manned lunar exploration after the initial manned lunar landings. Scientists believe that there have been few major changes in the lunar surface since its formation. Thus, undisturbed cores to be obtained by lunar explorers with this tool could provide important clues to the origin of the moon. This information may help resolve the many unknown of the sublurain, including the existence of ice layers. Also, it may provide some indication as to how the solar system was formed.

Under NASA Langley Research Center sponsorship, a 1/6 lunar gravity simulation facility has been fabricated at Northrop. A test subject is suspended from a dolly traveling along a rail attached to the side of a building. A treadmill is installed in an inclined walkway and the test subject is pretested on the treadmill to reach steady state condition prior to recording his physiological functions.

The subject then proceeds to the test section performing his assigned locomotion and working experiments under the conditions of simulated lunar gravity. The resulting biomechanics and physiological data, performed for the first time by computer analysis, have indicated the efficiency of man in the performance of lunar working tasks.

Operational Support

Another area of Northrop activity is providing technical support operations to various NASA centers. Northrop presently has engineering support operation contracts with MSFC, the Jet Propulsion Laboratory, Ames Research Center, Kennedy Space Center, and MSC.

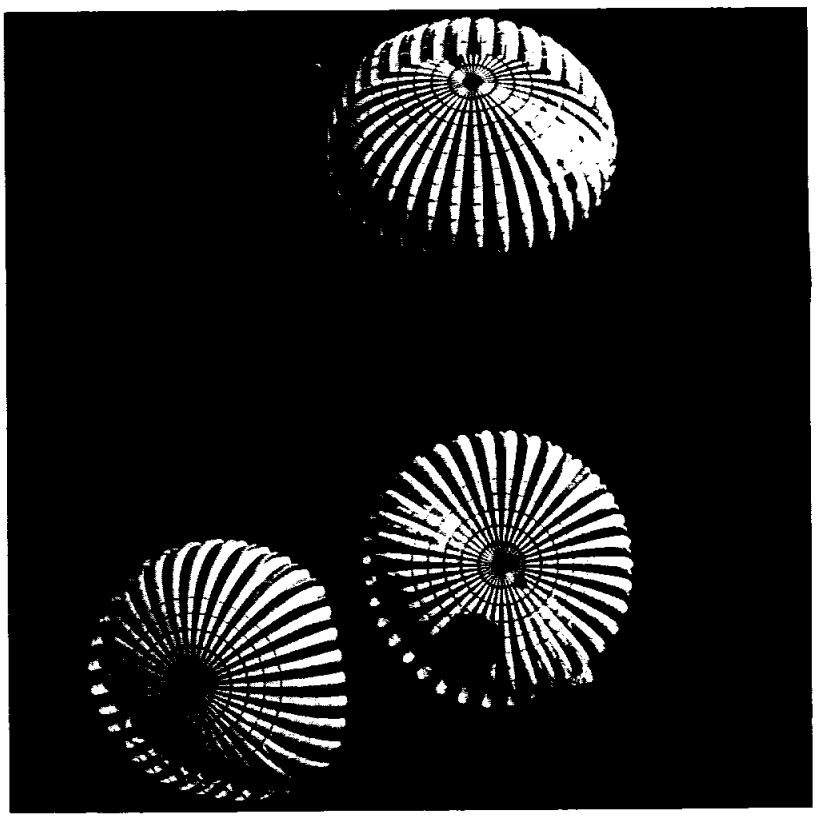
Operational and Maintenance Support operations for the major laboratories at MSC are performed through the complementary skills and services of Brown & Root and the Northrop Corporation, united in a joint venture under the operating name of Brown & Root-Northrop.

The companies also co-own Darius Field Facilities, a subsidiary which performs maintenance programs at MSC laboratories. Brown & Root-Northrop operates and maintains four major laboratory facilities with over 600 people working at the MSC.

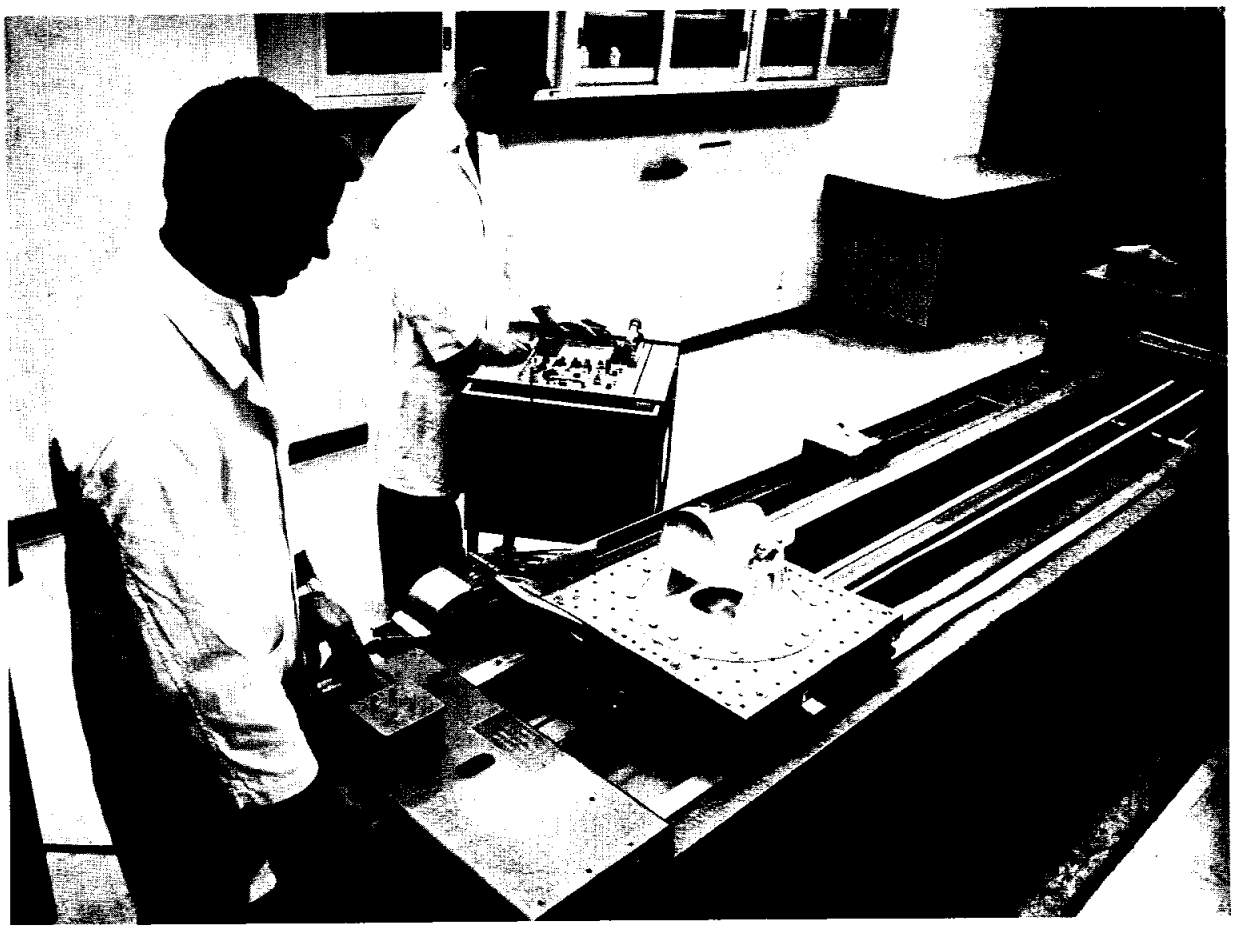
The laboratories facilities being operated by BRN are: the Space Environment Simulation Facility in Bldg. 32, the Experimental Mechanics Laboratories in Bldgs. 13, 49, 262 and Hangar 135, the Thermochemical Test Facility north of Avenue B, and the Crew Systems Laboratory in Bldgs. 7, 29 and 4.

Northrop was selected by NASA to furnish a number of T-38 Talon supersonic jet aircraft, for space flight readiness training to be given all astronauts. Initial aircraft deliveries have already been made to NASA by Northrop.

STAND FROM UNDER—A cluster of three Northrop-built 88-foot ringsail parachutes, right, lower an Apollo command module test vehicle at 25 feet per second in the first of a series of tests to qualify the Apollo Earth Landing System.



ANVIL CHORUS — Apollo emergency impact limits are determined with this Northrop decelerator, below, as a part of studies for NASA on support restraint systems. The decelerator consists of a support and restraint system, sled assembly and track, and a bungee cord for accelerating the sled toward a 20-ton anvil upon which aluminum honeycomb is mounted for impact attenuation.



OUT OF TEXAS' PAST

Texan Revolutionaries Included Men Of Anglo and Mexican Cultures

You must not suppose, from reading this feature a fortnight ago, that early 19th century Texans and Mexicans were natural enemies. The Texas war for independence (like the American war for independence) was a political revolution against reactionary government. It was won by liberals whom time turned into reactionaries, and who then had to be defeated by other liberals in the next revolution, that of 1860-65.

Revolutionary Texas was a part of the Mexican state of Coahuila-y-Texas. Its Anglo-American colonists were Mexican citizens, and legally they were all members of the established church. Many of their fellow citizens, of course, were of Spanish, Creole and Mestizo ancestry, and many of those became fellow revolutionists.

The colonial grievances that some historians recite in behalf of revolutionary Texas seem trivial today. Actually, Anglo-American or European colonists settling in Mexican Texas in the early 1820s never had it so good. Immigrants were given outright 4428 acres of unsettled land of their own choosing. Title fees were strictly nominal, and the land was taxfree for 10 years. If one of your ancestors had had the foresight to accept that almost incredible Mexican bounty, you might be a Texas millionaire today.

But the Texas colonists, both Anglo and Latino, wanted self-determination; and Andrew Jackson wanted Texas so bad that he sent Sam Houston here to liberate the province. Don't entertain the notion that the resulting war was a conflict of Protestant Anglos against Catholic Mexicans. The first vice president of Texas was Lorenzo de Zavala, born in Yucatan, an intellectual and a liberal. He was a delegate from the Clear Lake area (Harrisburg Municipality) to the convention that signed the Declaration of Independence, which we discussed here last issue. And the site of his home is just across the bayou from San Jacinto Battleground, 14 miles north of MSC.

Texans of Spanish and Mexican ancestry died in the Alamo; others fought against the forces of the Mexican dictator at San Jacinto. And the number-one secret agent of the Texas rebels was a native of San Antonio named Juan Seguin, for whom the town of Seguin is named.

Like Zavala, Juan was a liberal politico. He fought with Jim Bowie (whose wife was born Ursula Veramendi, daughter of a governor of Coahuiltejas who was unpopular in Ciudad Mejicana because he was friendly with the Anglos) and with Buck Travis in skirmishes against the Mexican army. He infiltrated the enemy lines, reported much military intelligence to the Texas leaders and even persuaded many federal soldiers to defect to the Texas side. He was a talented forager and horse-liberator for the Texans. And he would have died in the Alamo except for the fact that Travis had sent him on a dangerous mission just before the siege began.

After the war Juan became mayor of San Antonio, but he endured many smears against his loyalty to the liberal cause. In 1842 he warned that San Antonio was about to be invaded by Mexico. When the invasion actually occurred he was unfairly smeared as a collaborator, and eventually he was forced into exile.

Pobrecito Juan Seguin, Texas patriot and spy, lived in exile until the signing of the Treaty of Guadalupe Hildalgo, in 1848, when the United States gave him permission to return to his beloved land of the Tejas.

Space News Of Five Years Ago

Mar. 7, 1961 – Spacecraft No. 11 was delivered to Cape Canaveral for the Mercury-Redstone 4 ballistic manned (Grissom) flight.

First flight model of Saturn booster (SA-1) installed on static test stand for preflight checkout, Marshall Space Flight Center, Huntsville, Ala.

Mar. 8, 1961 – Spacecraft No. 10 was accepted and delivered to the McDonnell altitude test facility on March 31, 1961 for an orbital-flight environmental test.

Mar. 9, 1961 – USSR launched 5-ton Sputnik IV into orbit and recovered dog passenger, the second time this feat was performed.

Mar. 14-15, 1961 – United States and United Kingdom signed formal agreement covering Mercury tracking stations on Bermuda.

Mar. 16, 1961 – The Space Task Group recommended that the Department of Defense give consideration to assigning weather reconnaissance missions to the Air Weather Service preceding Mercury orbital missions beginning with Mercury-Atlas 4.

Mercury Spacecraft No. 10 was withdrawn from the flight program and was allocated to a ground test simulating orbital flight environmental conditions at the McDonnell plant site.

The Space Task Group advised the Goddard Space Flight Center that for all Mercury orbital missions, beginning with Mercury-Atlas 3, trajectory data would be required for postflight analysis.

NASA Robert H. Goddard Space Flight Center officially dedicated at Greenbelt, Md., dedication address delivered by Dr. Detlev Bronk, President of the National Academy of Sciences. It was the 35th anniversary of Dr. Goddard's successful launching of the world's first liquid fuel rocket. Mrs. Robert H. Goddard accepted the congressional medal honoring her husband.

Mar. 18, 1961 – Little Joe 5A, the sixth in the series of Little Joe missions, was launched from Wallops Island. This flight was intended to satisfy test objectives, which were not met previously because of the failure of the spacecraft to separate from the launch vehicle during the Little Joe 5 mission flown on November 8, 1960. The purpose of this test was to demonstrate primarily the structural integrity of the spacecraft and escape system during an escape maneuver initiated at the highest dynamic pressure anticipated during an Atlas launch for orbital flight. Little Joe 5A lifted off normally, but 19 seconds later the escape tower fired prematurely, a situation closely resembling the November 1960 flight. The signal to initiate the abort maneuver was given; and the launch vehicle/adapter clamp ring was released as intended, but the spacecraft remained on the launch vehicle since the escape motor was already expended. The separation was effected by using the retrorockets, but this command was transmitted before the flight had reached its apex, where separation had been planned. Therefore, the separation was rather violent. The parachutes did deploy at about 40,000 feet, and after recovery it was found that the spacecraft had actually incurred only superficial structural damage. In fact, this spacecraft was later used for the subsequent Little Joe 5B flight test. Test objectives of the Little Joe 5A were not met.

Stop Lights Shout 'Keep Away' Only If They Work Properly

(Part of a continuing series on driving home and job safety by the MSC Safety Office.)

Somewhere back in the early years of the horseless carriage, someone mounted a red light on the rear of his automobile which would come on when he applied the brakes. With the light he warned bicyclists, teamsters and other drivers of the newfangled horseless carriage that he was by-gosh going to stop.

If stop lights were needed back then, compare the traffic of that day with the traffic of today's freeways and crowded city streets. Traffic congestion is increasing so fast that it is impractical if not impossible to maintain the safe one car length following distance for each ten miles per hour of speed. Yet, how many drivers ever stop to think about how important their stop lights are in fending off rear-end collisions, much less checking them to see if they are working?

It takes only a few minutes and the help of another employee or a service station attendant to check the stop lights on a private or government automobile. But the do-it-yourselfer can run a quick check by first turning on the ignition and then stepping on the brake pedal while watching the ammeter for a slight discharge indication.

If the car has an idiot light instead of an ammeter, check stop lights by moving the turn signal lever first to left and then to right turn positions. If the dash blinker burns continuously, it may mean a burned-out stop light bulb; if both positions give a continuously-burning blinker, then the signal flasher is defective. In any case, if the dash blinker does not blink, the stop light system needs servicing.

The simplest and most obvious way to check stop lights singlehandedly is to back up to a glass store front and watch reflections in the rear view mirror while pressing the brake pedal.

Working stop lights that shout "Keep your distance!" are a good defense against whiplashes and other more serious injuries that often are suffered in rear-end collisions.

SPACE QUOTES

PLANNING MUST BE A DYNAMIC ACTIVITY. Alfred J. Eggers, Jr., Deputy Associate Administrator for Advanced Research and Technology, Aviation Space Writers Association, Washington, D.C., September 30, 1965.

"There are two fundamental principles in the planning process. First it is essential that planning involve the line organization and the people who are responsible for approved programs; this is an absolute necessity if we are to be sure that recommended projects are, in fact, feasible and responsive to agency goals. The second principle is that planning must be a dynamic activity in which forward thinking is kept flexible as long as possible in order to permit incorporation of new knowledge from existing programs, and in order to allow effective direction of effort in response to new scientific discoveries and to changes in agency or national policy."

On The Lighter Side

Grand Rapids, Mich.

Manned Spacecraft Center
National Aeronautics and
Space Administration
Houston, Texas

Dear Spacecraft Center:
I am twelve years old and in the fifth grade at school. Our room is writing to famous living Americans and I have chosen you. Will you kindly send me your picture and a biographical sketch. Thank you.

Yours truly,

N_____ N_____

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

Charm in Quintuplicate

PUT YOUR LITTLE FOOT RIGHT OUT—Members of the MSC Charm Club review basic stances for their "Blast Into Spring" style show March 8 at the King's Inn beginning with cocktails at 5 pm. Tickets at $2.75 each are available from Bea Anderson, Ext. 3761. Demonstrating basic modeling positions is Mary Ann Kelly, right. Charm Club members, left to right, are Bea Anderson, Wanda Slack, Suellyn Johnson, Yvette Sharp and Judy Levasser.

Space News ROUNDUP!

MANNED SPACECRAFT CENTER, HOUSTON, TEXAS

EMPLOYEE NEWS

Aero Club To Meet March 8; Seeks More Flying Members

Next meeting of the MSC Aero Club will be March 8 at 5 pm in the News Center auditorium, Nassau Bay Bldg. 6. A representative of the Houston firm of Cruse Aviation, Inc. will present several plans for buying, renting or leasing aircraft, and will illustrate his talk with a color movie.

At the February 8 Aero Club meeting the manager of Spaceland Air Park briefed club members on the new airport and its facilities. The club's financial report was given and 1966 dues collected. All club members were requested to pay their dues prior to March 1, when a roster of active Aero Club members was prepared for all associated airports.

MSC and contractor employees interested in participating in the MSC Aero Club are requested to complete the questionnaire below and forward it to Mel Feldman, Philco WDL, Mail Stop 725.

Name_____
last first middle initial
Employer_____ Mail Stop_____
Office Phone_____ Home Phone_____
Type pilot's license held_____ Number_____
Flying time: 1965 solo_____ hours; 1965 dual_____ hours
Own aircraft?_____ If so, what type?_____
N-Number_____
Hold Instrument rating?_____ A&E license_____
Desire hangar space?_____ Tie-down space?_____
Want Link trainer time?_____ Want commercial instruction?_____
Want instrument instruction?_____
Belonged to flying club before?_____ What dues paid?
$_____ initiation fee; $_____ annual dues
Your choices of aircraft for club use: 1. _____
2. _____ 3. _____
Your estimate of minimum 1966 flying hours:_____ hours
Fly local?_____ X-C?_____ Both? _____
Distance your home to MSC?_____ miles. Preferred
meeting day:_____, at_____ (time)
Dues you are willing to pay: Present $4?_____; $25-49?_____;
$50-99?_____; $100-124?_____; $125-174?_____; Other:_____
How did you learn about MSC Aero Club?_____
Interested in becoming active participating member?_____

PRACTICAL HINTS—

Boesch Lectures March 9 On Womanly Self Defense

Two identical hour-and-a-half lectures on the "Womanly Art of Self Defense" will be presented in the MSC Auditorium March 9 by TV sports commentator Paul Boesch. The lectures will run from 10 to 11:30 am and rom 1 to 2:30 pm.

MSC and on-site contractor women employees and wives of MSC employees are invited to attend. Excused absence will be granted MSC women to attend the lectures, but contractor employees must make arrangements with their supervisors.

The Boesch lectures are not lessons in physical preparedness, but practical, common-sense suggestions on how women can cope with would-be attackers. Boesch authored a series of articles on the subject recently in the Houston *Post*.

Jan Shrum, Ext. 3671, has additional information.

MSC BOWLING ROUNDUP

MIMOSA MEN'S LEAGUE
Standings as of February 24

TEAM	WON	LOST
Chizzlers	4	0
Whirlwinds	4	0
Green Giants	3	1
Technics	3	1
Alley Oops	2	2
Fabricators	2	2
Agitators	1	3
Goobers	1	3
Foul Five	0	4
Road Runners	0	4

High Game: B. Graham 273, G. Amason 266.

High Series: G. Amason 701, B. Harris 701.

High Team Game: Whirlwinds 1108, Alley Oops 1105.

High Team Series: Chizzlers 3138, Technics 3093.

Two Couples Split Mixed Bridge Title

Dick and Ruth McCreight tied with Al Greene and Alice Gowdey for the February 8 Mixed Pair Championship of the MSC Duplicate Bridge Club, with ten tables in play.

Winners of the January 25 Club Master Point were: North-South, R. and E. Wake, first; Tom and Gatha Moore, second; East-West, Richard Baldwin and Barbara Wise, first; Paul Swanzy and George Zively, second.

The February Club Master Point on February 22 was a tie North-South between Larry and Marilyn Gallagher and Esther Wake and Alice Gowdey. East-West winners were Fuad Tawil and H. Lambert, first, and Charles Shoemake and C. J. Bates, second.

The Board of Directors for 1966 is composed of John Herrmann, President; William Hamby, Vice President; Sue Shrader, Treasurer; Evelyn Huvar, Secretary; James Raney, and Leona Kempainen.

There will be two master point events in March: An ACBL Charity Game on March 8 and the regular Club Master Point on March 29.

Fetch That Saxophone Down From The Attic; Band Needs It and You

Music ranging from foxtrot to progressive jazz will be available for EAA club functions if plans materialize for an MSC "show" band. Planned to consist of about 16 pieces, the band is envisioned as being versatile enough to play a wide range of music styles for entertaining at employee dances and parties.

MSC and contractor employees and members of their families are invited to try out for the dance band. Bob Kehl at Ext. 4801 is the contact.

Library Transfers Into New Quarters

MSC's Technical Library will open for business Monday in its new quarters in Building 45, on Second Street just west of the Mission Control Center. The Library will be housed in the one-story wing of the seven-story building.

Reading room, circulation and reference services were suspended last Wednesday to allow the facility to be moved, although acquisition of new titles and other processing activities were continued in the old Building 12 Library area.

Building 12, housing the Computation and Analysis Division and the Technical Library, was one of the first buildings to be occupied at the Center.

New Lunarfins Officers

OFFICERS WITH FINS—New officers of the MSC Lunarfins skin and Scuba diving club are, left to right: Billie Scott, secretary; Jim O'Kane, treasurer; Jim Peacock, training officer; Bill Lofland, diving officer; Fred O'Toole, vice president, and Chet McCollough, president. Lunarfins plan a diving and underwater photography trip April 16-17 to Lake Travis near Austin. The trip is a lake exploration opportunity for those taking the last Scuba course which begins March 28, Bldg. 336, Ellington AFB, 7:30 p.m. Contact Jim Peacock, Ext. 2557 for additional details.

AFGE Meets March 14

Lodge 2284 of the American Federation of Government Employees will hold its monthly meeting March 14 at 5 pm in the Webster State Bank. All Lodge members are urged to attend, and prospective members and interested persons are invited.

Gemini Mid-Program Conference Faces

ACHIEVEMENT REVIEW—Keynote speaker and session chairmen of the Gemini Mid-Program Conference held February 23-25 in the MSC Auditorium are shown above. Top row, left to right, are Charles W. Mathews, Gemini Program Office Manager, who covered Gemini General Results in the opening session; Kenneth S. Kleinknecht, Spacecraft Session chairman; Willis B. Mitchell, Launch Vehicle Session chairman, and William C. Schneider, Flight Operations Session chairman. Bottom row: LeRoy E. Day, Mission Results Session chairman; James C. Elms, Gemini Program Summary; Dr. Jocelyn R. Gill, Scientific Experiments Session chairman, and Dr. Charles A. Berry, Medical Experiments Session chairman. The conference was attended by some 800 persons representing industry, government and educational organizations.

Spacecraft IX Arrives At Cape; Tests of Agena Mods Continue

Gemini IX spacecraft was delivered to Kennedy Space Center Wednesday from McDonnell Aircraft, St. Louis. The spacecraft went into the launch preparation facility for the usual series of pre-mating tests.

In Gemini VIII preparations, firing tests of Agena engine modifications were resumed Tuesday at the USAF Arnold Air Engineering Center, Tullahoma, Tenn. The first firing was a mission simulation tests of 20 second duration and involved restarts. The second firing was a 5-second ignition test. Several more runs were made before midnight Tuesday.

The firings were conducted at a chamber altitude of 260,000 feet, with propellant temperatures at 40° and 30° F.

Gemini Program Office plans a series of 21 tests of the Agena primary propulsion system modifications that were made following the October 25 attempt to orbit an Agena as a rendezvous vehicle for Gemini VI. Phase I, ignition tests, and Phase II, mission simulations, are included in the 21 tests.

The tests are expected to take from seven to 10 days, but could be completed sooner.

Board Appointed To Investigate Astronaut Crash

A Board for investigating the cause Monday's St. Louis crash which took the lives of Astronauts Elliot M. See, Jr. and Charles A. Bassett has been appointed.

Headed by Astronaut Alan Shepard, the investigating board consists of Astronaut Alan Bean, Joe Algranti, Dick M. Lucas and Harold Ream of Aircraft Operations Office, John Kanak, MSC Safety Officer, Dr. John Zieglschmid, Center Medical Programs, Charles Brigham, Northrop-Norair, Edward Spear, General Electric, and Edward Dock, deputy, T-38/F-5 Systems Program Office, Wright-Patterson AFB.

'GENERAL GASS' GRADES HIS MEN—

Efficiency Ratings Are Not New, But Pity the Poor 27th Inf Regt

Recently the MSC Personnel Division prevailed upon Center supervisors, after much head scratching, pencil chewing, leg crossing, and just plain doodling, to dole out various degrees of a Satisfactory rating to most MSC employees.

A few received the lofty rating of Superior. And then there were a few who rated UN (which does not mean United Nations).

This happy or unhappy—take your choice—annual event was thrust upon the unsuspecting workingman not many years after the United States became a nation. If you want to, you may thank the military services for instituting this tradition.

During our second tussle with the British, General Lewis Cass (later an unsuccessful candidate for the presidency and tabbed by the political hacks as "General Gass") took it upon himself to rate the efficiency of officers in one of his units, that is, almost all of them. About some he related nothing.

We trust that none of MSC's supervisors were guilty of showing the bias that the good general did on occasion. But did you give, get, or should you have received, some of the remarks that he did make?

August 15, 1813
Lower Seneca Town

Sir:

I forward a list of the officers of the 27th Regt. of Infty. arranged agreeable to rank. Annexed thereto you will find all of the observations I deem necessary to make.

Respectfully,
I am, Sir
Yr. Obt. Servt.
Lewis Cass

27th Regt. Infantry

Alex. Deniston, Lt. Col., Comdg.—*A good natured man.*
Clarkson Crolins, first major—*A good man but no officer.*
Jesse D. Wadsworth, 2nd major—*An excellent officer.*
Capt. Christian Martel—
Capt. AaronT. Crane—
Capt. Benjamin Wood—
Capt. Maxwell—
Capt. Shotwell—*A man of whom all unite in speaking ill. A knave of violent passions.*
Capt. Thomas Earle—*Indifferent, but promises well.*
Capt. Allen Reynolds—*An officer of capacity, but imprudent and a man of violent passions.*
Capt. Dnl. Warren, Capt. Porter—*Strangers but little known in the Regiment.*
1st Lt. Jas. Kerr—*Merely good, nothing promising.*
1st Lt. Thos. Darling—*Same.*
1st Lt. Wm. Perrin, 1st Lt. Danl. Scott, 1st Lt. John I. Ryan—*Low vulgar men, with exception of Perrin, Irish and from the meanest walks of life. Possessing nothing of the character of officers and gentlemen.*
1st Lt. Wm. McElwrath
1st Lt. Robt. P. Ross—*Willing enough—has much to learn with small capacity.*
1st Lt. Hall—*Not yet joined the regiment.*
2nd Lt. Nickolas G. Carmer—*A good officer but drinks hard and disgraces the service and himself.*
2nd Lt. Stewart Elder—*An ignorant unoffending Irishman.*
2nd Lt. McConley—*Raised from the ranks, ignorant, vulgar and incompetent.*
2nd Lt. James Carry—*A stranger in the regiment.*
2nd Lt. Darrow—*Just joined the regiment. Of fine appearance.*
2nd Lt. Thomas G. Spicey, 2nd Lt. Piery—*Raised from the ranks, but all behave well and promise to make excellent officers.*
2nd Lts. Oliver Vance, Royal Greer, Miars, Clifford, Crawford, McKean—*All Irish, promoted from the ranks, low, vulgar men without any qualification to recommend them. More fit to carry the hod than the epaulette.*
2nd Lts. John C. Schultz, Francis P. Wheeler—*Promoted from ranks. Behave well and will make good officers.*
Ensign Mehan—*The very dreg of the earth. Unfit for anything under heaven. God only knows how the poor thing got an appointment.*
Ensigns Jonn Brown, Brayn—*Promoted from the ranks — men of no manners and no promise.*
Ensign Charles West—*From the ranks. A good man who does well.*

Gemini VIII

(Continued from page 1)

After rendezvous, the command pilot will perform the first of four dockings with the Agena, in which the Gemini will be physically connected to the Agena.

Scott is scheduled to open the hatch at 20 hours and 25 minutes into the mission while the vehicles are docked and spend one and a half revolutions, about two hours and 40 minutes, outside the spacecraft. Total elapsed time from hatch opening to hatch closing will be about two hours and 51 minutes.

In the first daylight segment he will remain on a 25-foot umbilical tether, with oxygen supplied from the spacecraft. He will retrieve a nuclear emulsion radiation experiment from the Gemini VIII spacecraft adapter, activate a micrometeoroid experiment on the Agena, and use the minimum reaction power tool to loosen and tighten bolts on a work panel on the adapter.

During the night, Scott will don a backpack contained in the spacecraft adapter. With the backpack is a 75-foot tether which he will attach to the original 25-foot tether. He will remain in the adapter section of the spacecraft until daylight before continuing the extravehicular activities.

At daylight, Armstrong will undock the spacecraft and fly formation on the Agena at distances up to 60 feet.

Scott will then use a handheld maneuvering unit which fires bursts of freon-nitrogen gas to control his movements. This unit is similar to the one used by Astronaut Edward H. White II during the Gemini IV mission.

Approximately four hours after the completion of extravehicular activity, Gemini VIII will maneuver into a different orbit from that of Agena and then attempt to re-rendezvous with the target vehicle.

Five scientific, four technological and one medical experiment will be carried on Gemini VIII. Technological experiments include mass determination, UHF-VHF polarization, night image intensification and power tool evaluation. Scientific experiments are zodiacal light photography, frog egg growth, cloud top spectrometer. nuclear emulsion and micrometeorite collection. The medical experiment is the bioassays of body fluids.

Landing of the spacecraft is scheduled in the West Atlantic Recovery Zone at the beginning of the 45th revolution, after approximately 71 hours of flight, on the morning of March 18.

Rubberneck Gallery

THE TOUCH TEST—Visitors to last weekend's MSC open house give Gemini IV spacecraft a thorough once-over in the lobby of the Auditorium. Gemini IV and other significant items of Gemini hardware were on display as part of the Gemini Mid-Program Conference.