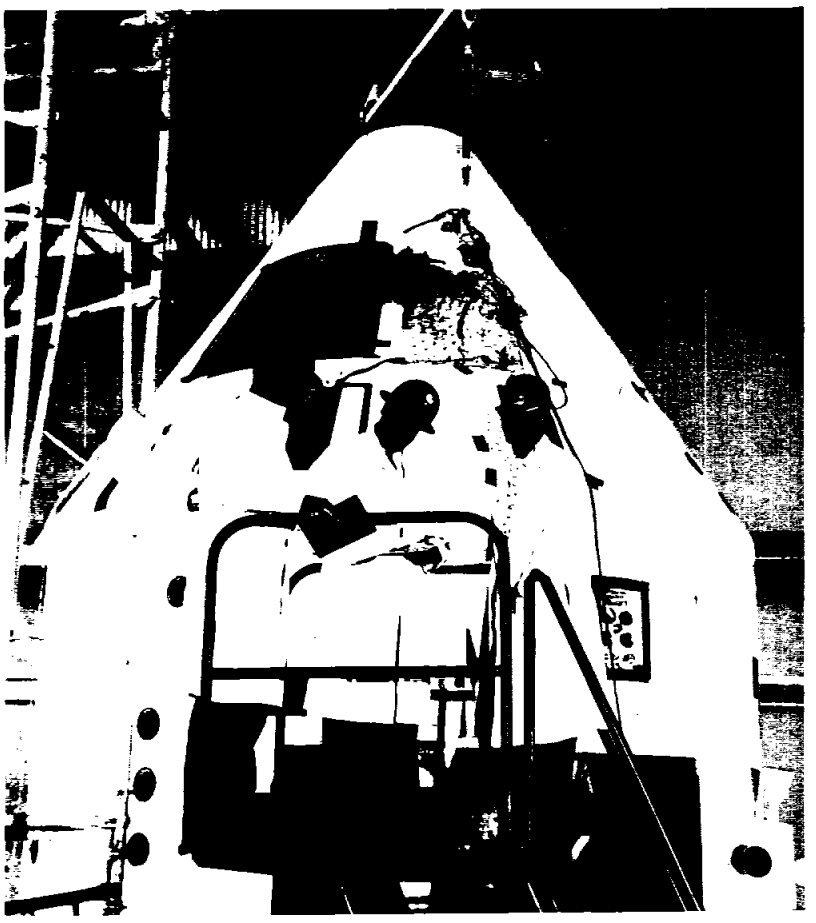
Space News ROUNDUP!

VOL. 3, NO. 19 MANNED SPACECRAFT CENTER, HOUSTON, TEXAS JULY 8, 1964



APOLLO BP-15 STACK—Going over the Apollo Boilerplate 15 command and service module stacking check-off sheet in Hangar AF, Cape Kennedy, Fla., are (l. to r.) Allen Cave, MSC mechanical system engineer; Thomas Black, MSC operations engineer; and Orval Bradford, North American Aviation operations engineer. The check-off was made prior to mating the package to the Saturn SA-7 on Pad B, Launch Complex 37, on June 26.

Advisory Committee Meets Here, Discusses Space Flight Problems

Members of the Science and Technology Advisory Committee for Manned Space Flight were here at the Manned Spacecraft Center three days last week for a series of meetings with Center officials on problems relating to manned space flight.

The committee functions in an advisory capacity to Dr. George E. Mueller, associate administrator for Manned Space Flight, who met with the group. NASA Administrator James E. Webb established the committee in December 1963.

The meetings here last week by the committee were to provide them the opportunity for delving into the general problems related to Apollo, including launch vehicle systems, spacecraft systems, launch operations, the science program, and medical problems.

Committee members were selected by Dr. Charles H. Townes, provost of the Massachusetts Institute of Technology, who is chairman of the group. The members represent the major areas of science and technology applicable to manned space flight.

Each member of the committee is outstanding in his field and widely informed on the scientific resources of the nation as a whole.

Members present were Dr. Townes; Dr. H. Stanley Bennett, dean of the Medical School, University of Chicago; Dr. Leo Goldberg, professor of astronomy, Harvard College Observatory; Dr. William Shepherd, vice president, Academic Administration, University of Minnesota; Dr. William Shockley, professor of engineering sciences, Stanford University; Dr. William H. Sweet, Chief of Neurosurgical Services, Massachusetts General Hospital, Boston; Dr. J. R. Whinnery, former dean of School of Engineering, University of California; Dr. Kenneth Pitzer, president of Rice University; and Mr. Willis B. Foster, director, Manned Space Science Division, NASA executive secretary.

Ex officio members attending were Dr. Mueller, and Dr. W. Randolph Lovelace, director of Space Medicine, Office of Manned Space Flight, NASA Headquarters.

Astronauts Are Given Specific Assignments

Specific assignments for the astronauts were announced recently by Donald K. Slayton, assistant director for Flight Crew Operations.

Alan Shepard Jr. was named chief of the Astronaut Office. Slayton had been acting in that position in addition to his other duties.

Assignments in the Gemini branch of the space program are as follows: Virgil I. Grissom was named head of the group which includes John W. Young, Walter M. Schirra, and Thomas P. Stafford.

The Apollo group will be headed by L. Gordon Cooper and will include: James A. McDivitt, command and service module; Charles Conrad Jr., lunar excursion module and cockpit layout; Frank Borman, boosters (Apollo, Gemini and Agena); and Edward H. White, control systems, communication systems and instrumentation.

In the operations and training area, Neil A. Armstrong has been selected to head the group composed of: Elliot M. See Jr., mission planning, guidance, and navigation; James A. Lovell Jr., recovery and crew systems; and M. Scott Carpenter, who is presently on duty with the U. S. Navy, was not issued a specific assignment at this time.

The 14 newest astronauts were issued individual assignments which are to be firm for about two months and then there may be a realignment of duties.

Edwin E. Aldrin Jr. will concentrate on mission planning, trajectory analysis, flight plans and etc.

William A. Anders' duties will include environmental control systems, radiation and thermal protection.

Charles A. Bassett II will have training and simulators as his main duties.

Alan L. Bean's area will be in recovery systems.

Eugene A. Cernan will be primarily concerned with space-

(continued on page 3)

New Tracking Station Joins Gemini Network

The first tracking station to be completely built for Project Gemini was dedicated June 25 at Carnarvon, Australia, close to the point on Earth exactly opposite from the launch site at Cape Kennedy.

James E. Webb, administrator of the National Aeronautics and Space Administration, participating in the dedication ceremonies by telephone, said that NASA established the new ground support station at the antipodal point to Cape Kennedy because every spacecraft launched from the Cape passes close to Carnarvon on its first orbit.

NASA manned spaceflight tracking facilities were moved to Carnarvon from Muchea and Woomera late in 1963 after Project Mercury experience indicated the advantage of this location. Security of the astronaut's life, his flight direction, altitude and velocity must be established early in the first orbit and Carnarvon is the first land station to see the spacecraft after it passes over southeast Africa and turns northeast up the Indian Ocean toward Australia.

Webb said that Carnarvon will support the two Gemini astronauts while they maneuver their capsule to rendezvous and join with a second spacecraft, the orbiting Agena space vehicle.

Webb's remarks welcoming Carnarvon to operational membership in the Manned Space Flight Network also initiated the new station to membership in SCAMA. This is the NASA 13-country network of operational voice communications which carried the Administrator's words from NASA Washington Headquarters to Carnarvon at the farthest west point of Australia via 4,800 miles of telephone land line and 8,200 miles of submarine cable.

During Gemini missions, SCAMA will keep flight controllers at the stations in voice contact with the control centers at Cape Kennedy, Houston and the Goddard Space Flight Center, Greenbelt, Md., and all other stations in the network. Teletype circuits also connect all stations and control centers and will carry the flow of flight information from the stations to control center computers during the mission.

Employee Total Reaches 4,464 As 321 Join MSC

The largest number of employees to join the Manned Spacecraft Center during any two-week reporting period, took place during the last part of June, when 321 persons came on board. (see complete list beginning on page six)

With this group the total number of MSC employees at all locations as of June 30, reached a new high of 4,464. Of this total 3,561 are here in the Houston area.

MSC-Florida Operations at Cape Kennedy, Fla. has 483 employees; White Sands Operations in New Mexico 142; and 278 MSC employees are located at other centers, contractor plants, and various other locations. Included in the totals are 224 temporary employees, 98 co-op students, 60 military, and certain other liaison representatives attached to MSC.

Center Transportation Needs Now Being Supplied By GSA

Effective on July 1, the General Services Administration (GSA) began supplying the bulk of the transportation needs for the Manned Spacecraft Center.

Approximately the same schedules on buses and taxis will be maintained by GSA as those supplied by the contractor vehicles in the past, it was stated by George Schamberger, chief, Houston-Galveston Inter-Agency Motor Pool.

In addition to the buses and taxis, a dispatch fleet of sedans will be available for persons wishing to check them out for a day and be their own driver, Schamberger said.

A shop will be maintained in Bldg. 419 here at MSC and all buses, taxis, cargo vehicles, and fleet vehicles will be dispatched from that location. Felix Smith, sub-pool chief for GSA, will be in charge of the MSC office.

The telephone number to call for GSA transportation here at the Center is HU 3-4001.

Taxis and shuttle buses will be air conditioned, while the dispatch fleet of passenger vehicles will not be air conditioned, Schamberger said.

AIRLIFTING of astronauts into jungle was the beginning of the three day and two night jungle survival.

During Astronaut Training Exercise –

Possible Gemini Fuel Cell Backup Discovered In Jungles Of Panama

(EDITOR'S NOTE – Almost every successful publication has had a man Stanley since about a century ago the old New York Herald sent *its* man Stanley to Africa to find Dr. Livingston. Naturally, the Roundup has a man Stanley. We dispatched him to Panama to find the astronauts during their jungle survival training course. On his return, our man mumbled something in broken Spanish and threw a sheaf of chigger-chewed notes on our desk. Here is his report, un-edited, with apologies to the astronauts, their heirs, the Moss Committee, AP, UPI, Tass, World Book Science Service and grammarians everywhere.)

SUNDAY – Everyone all smiles as two planes depart Ellington. Poker epidemic breaks out immediately. Seven hours later, land in Panama. Only a few smiling faces.

Much picture taking. Note temperature in low 90s. Cooler than Houston. Average annual rainfall runs 130 inches. Local USIA man claims 129 inches fell hour before planes landed. Bus across bridge at *eastern* end of canal, Pacific side. Very confusing to see sun rise over Pacific, set over Atlantic.

MONDAY – Tropic Survival School class starts at 7 a.m. Ten-foot boa constrictor lounging around class room. Various cages of all manner of snakes, reptiles. Nearby fenced area serves as instant jungle. Contains ocelots, tapir, monkeys, birds. Four-foot electric eel puts on 240-volt demonstration. Remind Chuck Mathews to investigate use of eel as backup to fuel cells.

Instructor emphasizes, "Man plus equipment plus environment equals survival." Details jungle hazards. Stresses good neighbor policy with jungle Indians. Demonstrates 12-foot blow gun used by South American neighbors. Some natives can put out candle with poison-tipped dart at 65 feet. Much talk of importance of ethnic contacts. School out at 4:30.

Establish ethnic contact with stickman at local casino. Discover snake eyes called diablo. Can't get rid of diablo. Decide not to rock boat. Cash in balboas while ahead. Hit sack.

TUESDAY – Bus to nearby golf course. Chopper into jungle clearing. Instructor points our poison-tipped spiney trees. Chop open palm tree and eat heart of palm. Not bad. Observe inch-long black ants. Poisonous. Chop into water-filled vines. Jungle drinking fountain. Hack through dense undergrowth. Just like movies. Meet Choco Indian family. Invite us to lunch. Always same old menu: Roasted boa constrictor, filet of iguana, tenderloin of wild pig, mangoes, poi. Head man named Antonio. Speaks Spanish. Goes barefooted and wears topless loin cloth. Get his autograph. Astronauts presented turtle shell. Antonio given Texas string tie. Gracias all around. Return to school via native dugout boats labeled "USAF" powered by Johnson outboard motor.

Panama Canal Co. invites group to tour locks. Inspiring. Forty horsepower motor used to open 20-ton lock doors. Each lock passage requires 52 million gallons of water. Better understand need for 130-inch rainfall.

Canal cost $380 million to build, 1914 dollars. About same as Project Mercury, only 1960 dollars. Canal buffet includes fried chicken. Not bad. Tastes like iguana. Average cost of canal passage per ship $5,000. Cash or certified check on barrel-head. Big business. Canal company chartered by Congress in 1950. Only one share of stock. Held by Secretary of Army.

WEDNESDAY – Move into jungle for real by chopper. Drop point about five miles southwest of canal. Astros broken up in groups of two. One native or GI instructor to group. Two mile hike to camp area. Surprise snake on way. Matchete-ize him. First and last snake seen. Make camp near stream. Water clear and cool. Learn astros all camped upstream. Put extra iodine tablet in canteen. Cry goes up, "Remember Clear Lake!" Campmates are Dr. Howard Minners, Charles "Snow White" Conrad and Ray Zedekar. Hit hammock early. Zedekar's hammock develops dropsy.

THURSDAY – Up at 6. Make fire. Bug-repellant makes great fire catalyst. Coffee tastes like boiled iodine. Go out and forage for food. Catch seven-inch catfish. Spot C. C. Williams and Rusty Schweickart returning from fishing with couple of three-inch sun fish. Make two lifetime friends by giving them catfish. Slog upstream on tour of all campsites. Conrad spreads word stay may be extended past Friday unless rain comes. Machete-armed astros eye Conrad menacingly. Urge Conrad to keep big mouth shut.

School director visits camp. Confuses smuggled transistor radio with Indian drums. Note astros looking lean and hungry after dining on iguana stew.

(continued on page 3)

DEEP IN THE PANAMA JUNGLE the crew of astronauts take a moment for relaxation before pushing on.

A SMOKE SIGNAL to the helicopter crew is held aloft by Astronaut R. Walter Cunningham.

AAH THAT FEELS GOOD! . . . seems to express the sentiments of Astronaut Alan L. Bean.

(continued from page 2)

School director all smiles.

Rain starts at dusk. Hit hammock second night in row at 7:30 p.m. Wives will never believe it.

FRIDAY — Astros build big smokey fires in cleared areas for chopper food drop. Also signal chopper with mirrors. Devour C-ration drop with gusto. Canned chip beef, canned fruit, canned crackers. Break camp. Move out. Walk two miles. Inflate Gemini rafts and rendezvous with school boats at prearranged point. Much comparing of beards and chigger bites. Reach BOQ. Shower and shave. Hit cocktail party thrown by Albrook AFB wing commander. Note very little interest in bar. Much interest in canapes. Food gone in six minutes flat. All hands mucha hambre. Attend bachelor dinner for Williams. Main speaker Charley Bassett. Regular Williams Jennings Bryan. Cloture invoked so toasting may continue. C. C. looking starry-eyed. All hands drink final toast to new Mrs. C. C. Hit schackkk.....

THE PAUSE THAT REFRESHES—Astronaut Roger B. Chaffee intently takes on refreshment in the jungles of Panama.

FISHING seems to be a popular jungle sport . . . especially when that's where your next meal is coming from.

FLOATING DOWN THE RIVER in Gemini life rafts to rendezvous point after the jungle ordeal.

A TIRED BUT WISER crew heads back toward civilization.

Dr. David P. Morris, Astronaut Physician, Given Mementos Before Returning To Navy

Completing a four-year tour with NASA as astronaut physician, Dr. David P. Morris was presented a plaque from Astronaut L. Gordon Cooper Jr., June 26 at Cape Kennedy, Fla. with G. Merritt Preston, manager, Manned Spacecraft Center-Florida Operations, making the presentation.

Mounted upon the glass covered plaque were miniature American and Christian flags and the engraved inscription "These flags, carried aboard Mercury spacecraft "Faith 7" by Astronaut L. Gordon Cooper Jr., on his 22-orbit flight May 15-16, 1963, are presented to Dr. David P. Morris, USN, with appreciation and gratitude for his outstanding support, friendship, and encouragement."

Preston, on behalf of MSC-Florida Operations personnel, also presented Dr. Morris, a commander in the U. S. Navy, with a cruise box, standard equipment for changing duty stations in the Navy. Dr. Morris has received orders to the U.S.S. Saratoga as the super aircraft carrier's Senior Medical Officer.

Dr. Morris served as head, Launch Site Medical Operations at Cape Kennedy during Project Mercury.

Prior to his departure Dr. Morris commented, "One of my chief responsibilities in the Mercury program was committing the astronauts to flight from a physiological point of view."

Dr. Morris continued, "In looking back, I would say being a part of the original Mercury group and the program to put a man on the moon was my finest experience. What also impressed me was the complete self-sacrifice of NASA and contractor personnel who functioned so splendidly together as a team."

Dr. Morris joined the Space Task Group of NASA as a Medical Officer in the Life Systems Division of Project Mercury in August, 1960.

COMPLETING a four-year tour with NASA as astronaut physician, Dr. David P. Morris (left) was presented a plaque from Astronaut L. Gordon Cooper Jr. by G. Merritt Preston, manager, Manned Spacecraft Center-Florida Operations.

Astronaut Assignments

(continued from page 1)

craft propulsion and the Agena.

Rober B. Chaffee's assignment will be in communications and the deep space network.

Michael Collins will concentrate on pressure suits and extra vehicular experiments.

R. Walter Cunningham will cover the electrical and sequential systems, plus monitoring non-flight experiments in other programs which may be related to the MSC program.

Donn F. Eisele's area of duty will be in attitude and translation control systems.

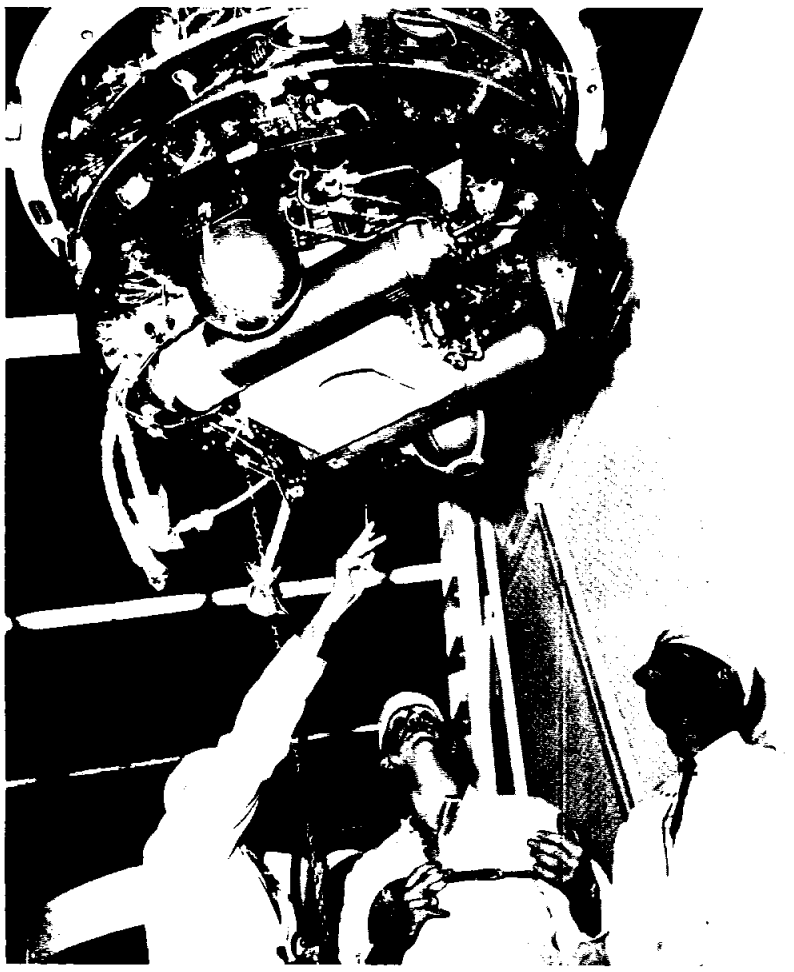
Theodore C. Freeman will be primarily concerned with boosters.

Richard F. Gordon Jr. will concentrate on cockpit integration.

Russell L. Schweickart's area will be in future manned programs and in flight experiments (Gemini and Apollo).

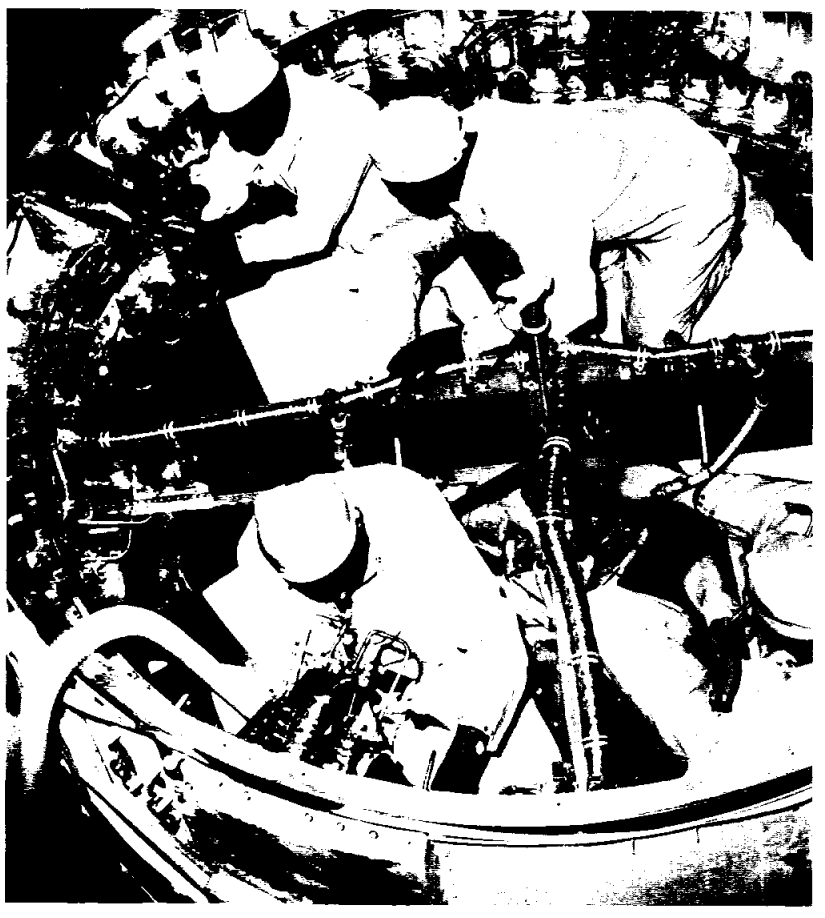
David R. Scott will have guidance and navigation as his primary duties.

Clifton C. Williams Jr. will concern himself with range operations and crew safety.



McDONNELL FOREMAN George Baldwin (r) and Electrician Ray Harrison (c) inspect interface area between the Gemini Spacecraft Reaction Control System and the cabin section prior to mating.

INSTRUMENTATION Engineers J. E. Smith, MAC, and Harry Fuller, MSC-FO huddle with Power and Sequential Engineers Wes Nelms, MAC, and Charles Mars, MSC-FO to run down wiring problem during Gemini Spacecraft-3 cabin instrumentation test.



INSPECTOR Harrison Shoemaker, (top left), MSC-FO examines thruster installation in Gemini Spacecraft-2 adapter section.

MSC-FLORIDA OPERATIONS Test Conductor George Page, Assistant Chief of Inspection and Quality Control Joe Bobik, and Inspector L. Dotson conduct final review of Gemini Spacecraft-2 cabin section prior to mating with RCS system.

Gemini Inspection Crew Does

Time never stands still for the men working around the clock at the McDonnell Aircraft plant in St. Louis, making preparations for the Gemini-Titan (GT-2) and Gemini-Titan (GT-3) spacecraft in man's second big step into space.

These men are NASA Manned Spacecraft Center-Florida Operations (MSC-FO) and McDonnell Aircraft inspection and test engineers, who frequently work three shifts a day, seven days a week during critical test operations to get the spacecraft ready for shipment to Cape Kennedy. All systems must be "go" before the spacecraft is released from McDonnell.

This comprehensive factory test program vividly points up the change in test philosophy from the Project Mercury days.

During the Mercury Program, complete spacecraft component and system tests were performed at Cape Kennedy, in many cases duplicating tests performed at the factory to insure confidence in the systems.

With the Gemini spacecraft, these factory tests are now supervised by MSC-FO engineers, eliminating the need for much of the redundant testing.

Prelaunch tests and preparations will be performed at the MSC-FO facilities at the Merritt Island Launch Area in Florida, which are scheduled for occupancy late this year.

The GT-2 mission is the second Gemini flight and the only ballistic flight scheduled from Cape Kennedy before manned Gemini missions are undertaken. The importance of maintaining tight schedules and still retaining top quality cannot be overemphasized.

Every day the MSC-FO office at McDonnell is a beehive of activity. The major tests conducted include spacecraft component, subsystem, and systems validation tests, weight and balance, alignment, voltage standing wave radio tests, vibration tests, an altitude chamber test, abbreviated systems tests, and simulated flight tests.

On a typical day at the St. Louis plant, John Williams, MSC-FO assistant manager for Gemini operations, assembles his group of inspectors and test conductors and reads off the agenda for the day.

Work will include testing the physiological simulator, mating of the reaction control system to the Spacecraft-2 cabin section, testing of the Spacecraft-3 environmental control system, and calibrations and adjustments to the spacecraft.

Inspection and test engineers huddle over a wiring diagram of a component of the Environmental Control System being tested against exacting NASA requirements. Propulsion engineer Ed Johnson and GT-2 Test Conductor George Page discuss test procedures for the GT-2 propulsion system.

Working out of the Systems Engineering Group, Johnson is test engineer for the spacecraft propulsion system. His job is to verify that the propulsion systems meet all objectives of the tests, including gas leakage tests. A pleasant interlude to his strenuous schedule will soon be provided by the arrival of his wife, daughter, and 3 sons.

The MSC-FO office is a temporary home away from home for these NASA men who frequently return to the Cape to participate in planning and scheduling meetings and to report progress on the test and checkout operation at the contractor's facility.

MSC-FO has approximately 40 engineers in temporary residence at McDonnell while the Cape Kennedy McDonnell personnel number about 130. These are the men that the astronauts depend on for the flight readiness of their spacecraft.

A look into the Calibration Laboratory just off the Gemini office, finds three MSC-FO men testing a physiological simulator. It simulates EKG, blood pressure, respiration, and oral temperature of the astronauts for test operations.

Coming out of the Calibration Laboratory is Jim Simmons, operation engineer assigned to the GT-2 and GT-3 spacecraft. With MSC-FO since 1962, his job entails configuration control of spacecraft. When the work schedule permits, Jim spends the weekends with his wife and 2 children in nearby St. Ann, Mo.

Meanwhile, Test Conductor Page and Assistant Chief of Inspection and Quality Control Joe Bobik are called to the McDonnell White Room for mechanical and electrical mating of the reaction control system to the Spacecraft-2 cabin section.

In the huge, high bay area of the white room a major portion of these GT-2 and GT-3 spacecraft inspections and tests are made. Adjacent to the white room is a condition 10 clean room where cleanliness is controlled even more rigidly.

In the white room, the MSC-FO and McDonnell men are attired in white hats, smocks, and clear plastic throw-away boots to prevent contamination of spacecraft components. All dirt and contamination is removed from the boots by mechanical brushes in the floor at the dressing room door.

Bobik's group works closely with the resident NASA/MSC office. Approximately 25 spacecraft inspectors monitor the main factory operation. Inspection manpower averages 15 inspectors per spacecraft when modular checks are being made. This is reduced to approximately nine when mating of spacecraft systems start.

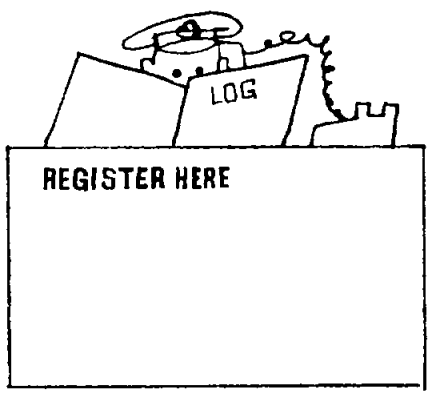
This group inspects the module assembly to insure conformance to specifications. Additionally, they monitor test runs, record discrepancies, and ensure that tests are run in strict accordance with approved procedures.

Bobik's team also verifies all spacecraft modifications and repairs including configuration changes and general work.

GT-2 Operations Engineering Chief John Janokaitis who has been working at St. Louis since January, handles all GT-2 flight systems tests. In a discussion of configuration differences be-

how to be a spy

in six easy lessons



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Keep a sharp eye for classified material that has not been properly logged, because this plays right into your hands. When you snitch it you are home free. You've left no trail, only a dead end.

—Reprinted Courtesy General Dynamics News

AFEGUARD CLASSIFIED MATERIAL!

LEAGUE CHAMPIONS—The Alleyoops were the league leaders in the MSC Mixed Bowling League which ended its season in May. With their trophies they are (l. to r.) Frank Morgan (team captain), Al Chop, Ken Hecht, Jean (Pete) Petersen, Milton Reim, and Jim Grimwood.

ISC—Florida Operations Bowlers Complete Second Week Of League Play

In the second week of the ASA Space Couples Mixed eague Bowling at the Beach owl bowling alleys at Cocoa each, Fla., Sylvia Sharp, Jean aughn, Fred Sharp, and Nor-rt Vaughn of the Sleepers mped the Apogees from an rly first place position.

As the play ended, Marjorie nes, Billie Miller, Bill Under-ood, and Dave Ouellette of e Way Outs jumped from urth place to fill the Sleeper's second-place vacancy, and the Apogee's Linda Brand, Jeri Yonnotta, Pete Daniher, and Ralph Higgins were ensconced in third place.

During the competition, the male high game honors went to Fred Sharp of the Sleepers with a 241 game, while the female high game was awarded to the Aggitator's Babette Cissel with 171. George Boukedes of the Eggheads captured the male high average with a 186, and Myrtle Oberlin copped the woman's high average with 155.

At a meeting the week before, approximately 30 bowlers elected the following league officers: Bill Sharp, president; Norbert Vaughn, vice president; and Jeri Yonnotta, secretary. Mickee Long, Bill Lee, and Norbert Vaughn were appointed to the prize committee.

MSC BOWLING ROUNDUP

SPACE COUPLES MIXED
Standings As of June 23

Team	Won	Lost
Sleepers	6	2
Way Outs	5	3
Apogees	5	3
Fabulous Four	4	4
Aggitators	3	5
Vecters	3	1
Resets	2	6
Eggheads	0	4

MSC COUPLES LEAGUE
Standings as of June 30

Team	Won	Lost
Our Gang	12	4
Cotton Pickers	12	4
Schpidlrunners	11½	4½
Four Aces	9	7
Uncalled Four	9	7
Fireballs	8½	7½
The Thinkers	6	10
Bowlernauts	4	12
Shucks	4	12
Lucky Seven	4	12

Women's High Game: N. Heffernan 200, S. Swain 180.

Women's High Series: S. Swain 491 and 485, S. Yeater 480.

Men's High Game: H. Maples 202, J. Moody 202, G. Sanders 201.

Men's High Series: H. Maples 560, L. Galler 540, J. Moody 540.

JCLEUS OF 1960 FLIGHT OPERATIONS DIVISION—The group above was assembled cently at the HPC in Houston just prior to the final relocation of MSC employees to the nter. Members of the group were all formerly part of the Mission Analysis Branch of the l Flight Operations Division in 1960. These people had an active part in the mission anning and analysis studies performed for the Mercury project and are continuing this rk as part of the Mission Planning and Analysis Division, Flight Operations Directorate, the Gemini and Apollo programs. The group above along with the rest of their division ich now numbers nearly 200, recently moved into offices in Bldg. 30. This is the last of out 10 moves by some members of the group since starting out in the Unitary Wind Tunnel Building at Langley Research Center in July 1958. The women are (l. to r.) Doris Folkes, Cathy Osgood, Shirley Hunt, and Mary Shep Burton. The men are (l. to r.) Dick Koos, Paul Brumberg, John O'Loughlin, Emil Schiesser, Jim Dalby, Morris Jenkins, Carl Huss, John Mayer, Bill Tindall, Hal Beck, Charlie Allen, Ted Skopinski, Jack Hartung, Glynn Lunney, John Shoosmith, Bill Reini, Lyn Dunseith, Jerry Engel, Harold Miller, Clay Hicks. Missing at the time the picture was taken were Nancy Carter and Marty Jenness. Dick Koos, Harold Miller and Glynn Lunney are presently working in the Flight Control Division. Jack Hartung is in the Apollo office and John Shoosmith works in the Computation and Analysis Division.

MSC Work Hour Schedules Explained By Center Official

Numerous requests, including written petitions, have been received to return to a single Center-wide workday and/or to begin the workday earlier, i.e. 7:00 a.m. or 7:30 a.m., Wesley L. Hjornevik, assistant director for Administration stated last week.

"It is realized that the recent change in work hours, has to some degree been an inconvenience for all of us. A single tour of duty for all Center personnel certainly is desirable," Hjornevik said.

"Even given a requirement of staggered tour of duty, Center Management would have preferred earlier rather than later starting times. It would better align our working hours with those of NASA Headquarters and east coast contractors on Eastern Daylight Time, and would give all employees an opportunity to better utilize after-time hours," he said.

"However, present road networks and traffic volume preclude a single work schedule at this time. MSC has a large force of construction contractor employees who enter the site from 6:45 a.m. to 7:45 a.m. each morning."

"We have about 3,000 MSC employees who enter the site from 7:30 a.m. to 8:30 a.m. An earlier reporting time is not feasible at this time as we would be superimposing our main MSC traffic volume upon the construction force traffic," Hjornevik added.

He said, "A recent traffic count shows that traffic flow under the present work hours is better balanced than at any time since our move to the site."

"The influence of the addition of some 500 automobiles entering the site as a result of the move of MSC personnel from the HPC complex to the IMCC is yet to be seen. Additional changes may be necessary," he stated.

Hjornevik said, "In mid-July it should be possible to open another entrance to the North, with egress and ingress from Route No. 3 through Clear Lake City to the site which should help with the continuing increase in traffic volume. Until the major construction forces have left the site, a single work schedule or a staggered shift with an earlier starting time does not appear practical. In the meantime, your understanding and cooperation will be greatly appreciated."

MSC Employees Invited To Learn Curling On Ice

For those who are experienced in the sport of Curling and for those who may not be familiar but are interested in a good family sport, the MSC Employees Activities Association is planning to form a Curling Club.

Arrangements have been made with the Houston Curling Club, Inc., for interested MSC personnel to participate in the sport at the Winterland Skating Rink during the coming Curling season from November to March.

No experience is required in ice skating or Curling to join the club in the sport. You may indicate your interest by contacting Ragan Edmiston at HU 3-2191.

When sufficient interest has been indicated, films will be shown at an announced time to better introduce prospective participants to the sport.

20-YEAR AWARDS—Robert Somerville (left) and Jakey Wood (center) of the Office of Administrative Servi are presented awards for 20-years of government service by Douglas R. Hendrickson, chief of that office.

Water Ski Club Holds First Outing For Members

Eighteen members of the Water Ski Club enjoyed a day of skiing and sunning on the beach of the San Jacinto River as the group held its first outing June 27.

Several of the members learned to ski while others practiced single ski techniques and trick skiing.

Another outing will be plan at the next meeting of the C at 7:15 p.m., July 18 in the E Conference Room of Buildin

Anyone interested in boa and skiing activities and join the Water Ski Club should Leslie Bonner at HU 3-73

WATER SKI CLUB—Members of the Water Ski Club from MSC are sh as they prepare to get in some skiing on the San Jacinto River.

LSU Bengal Fans Wanted For Group

Fans of the LSU Bengals at the Center who are interested in attending the LSU-Rice game here in Houston in a group are invited to contact Sam Nevin at HU 3-5521 for reservations.

The game is at night on September 26 and Nevin will make the arrangements to obtain the tickets for those interested in attending as a group.

Spotlight On Secretaries . . .

MARJORIE J. PIZALATE (right), secretary to Robert A. Dittman, administrative assistant to the manager of the Gemini Program office, joined the Manned Spacecraft Center in September of 1962 as a secretary in the Facilities Division. She came to work for NASA after graduating from Milby High School in Houston. Marjorie was born in Houston. She is married to Leonard J. Pizalate who is a purchasing agent with the Texsteam Corporation in Houston. Marjorie says she enjoys cooking when she has the time. She and her husband reside in Houston.

JUDITH J. LILES (left) is secretary to Emory F. Harris, technical assistant to the manager, Apollo Spacecraft Program Office. She joined the Manned Spacecraft Center in the Systems Engineering Division of Apollo in May, 1963. She was away from NASA for a short period before assuming her present job. Born in Leadville, Colo., she attended high school in Colorado Springs, Colo. Previous jobs have been with the Gulf Oil Corp., and Ent Air Force Base in Colorado. Her husband Charles O. Liles is a sales engineer with the Hughes Tool Company. They live in Houston. Among her interests she includes water skiing, sewing and cooking.

GEMINI SPACECRAFT-3 undergoing cabin instrumentation testing by MSC-FO and McDonnell engineers at St. Louis factory.

On-The-Spot Factory Testing

tween GT-2 and GT-3 with a new employee, he explains that GT-2 will carry all systems that will be on the GT-3 manned flight, except that GT-2 will have fuel cells in place of battery cells. Following the GT-2 launch the flight data will be examined for use in the GT-3 mission.

John has been with MSC-FO since November 1959. His wife and three children joined him in St. Louis in February.

In a far corner of the white room, MSC-FO Test Conductors Page and Don Corcoran monitor mating of the reaction control system. Simultaneously, the spacecraft adapter section is completing final preparations for mating.

A large crane is lowered and attached to the ring of the reaction control system. It gently lifts the system and carries it toward the spacecraft. A few feet up, the crane is stopped and and spacecraft interface areas are inspected. Interface connections are checked by an inspector and the mating procedure is delayed while adjustments are made.

Under Test Conductors Page and Corcoran and a team of systems and operations engineers, spacecraft systems and integrated systems tests are conducted to ensure that all systems function precisely. "Care" action is taken on discrepancies uncovered by the MSC-FO and McDonnell inspectors.

Don Corcoran was formerly the GT-2 Test Conductor before taking over the GT-3 spacecraft. Page was at White Sands, New Mexico as Test Conductor for the Boiler Plate 12 Apollo spacecraft, before taking over Gemini Spacecraft-2 in St. Louis.

In another section of the plant Spacecraft-3 Environmental Control System testing is underway to validate this critical life support system. The system is being tested in the condition 10 clean room. A MSC-FO and McDonnell engineer takes and records readings from the elaborate test console. Limited access is maintained at all times in this room.

Back on the floor of the white room, inspection and test personnel, high on the spacecraft scaffold, check calibrations and adjustments being made to Spacecraft-2, while an inspector checks off each procedure on a master list to assure adherence to specifications. In another part of the room, men are similarly occupied with the Spacecraft-2 rendezvous and recovery section.

Al Branscomb, who has just returned from the Cape enters the white room in preparation for GT-2 weight and balance tests. Al has been with MSC-FO since February 1962. At the Cape, he is responsible for mechanical operations of GT-2 prelaunch preparations.

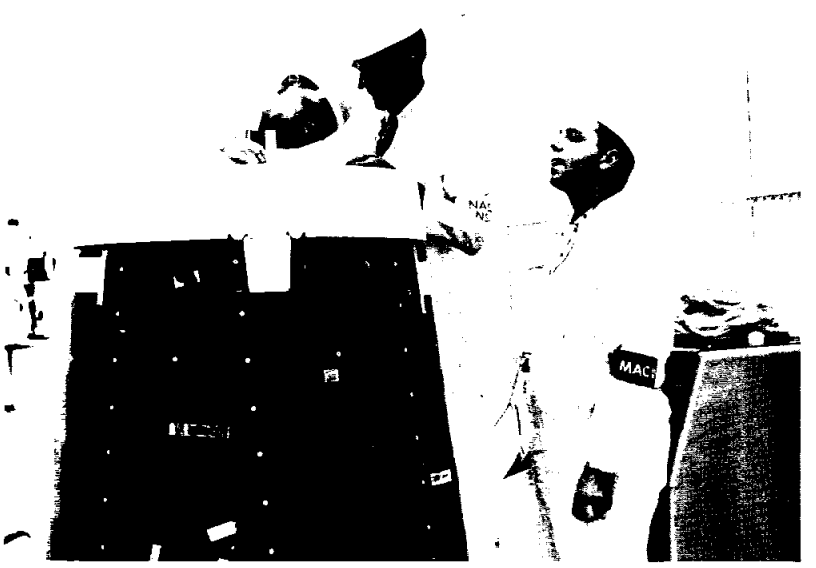
In the Gemini mockup room away from the tumult of white room activity, Astronauts Gus Grissom and John Young study the cabin instrument panel of a mockup Gemini spacecraft. Selected for the first manned Gemini flight, they spend considerable time at the McDonnell plant, participating in flight simulation tests and life support system tests. Their presence again points up the extreme importance of the Gemini factory test program .

Following a 12 hour test day, the first shift of MSC-FO and McDonnell engineers are ready for a little rest. The second shift has already been at work for two hours.

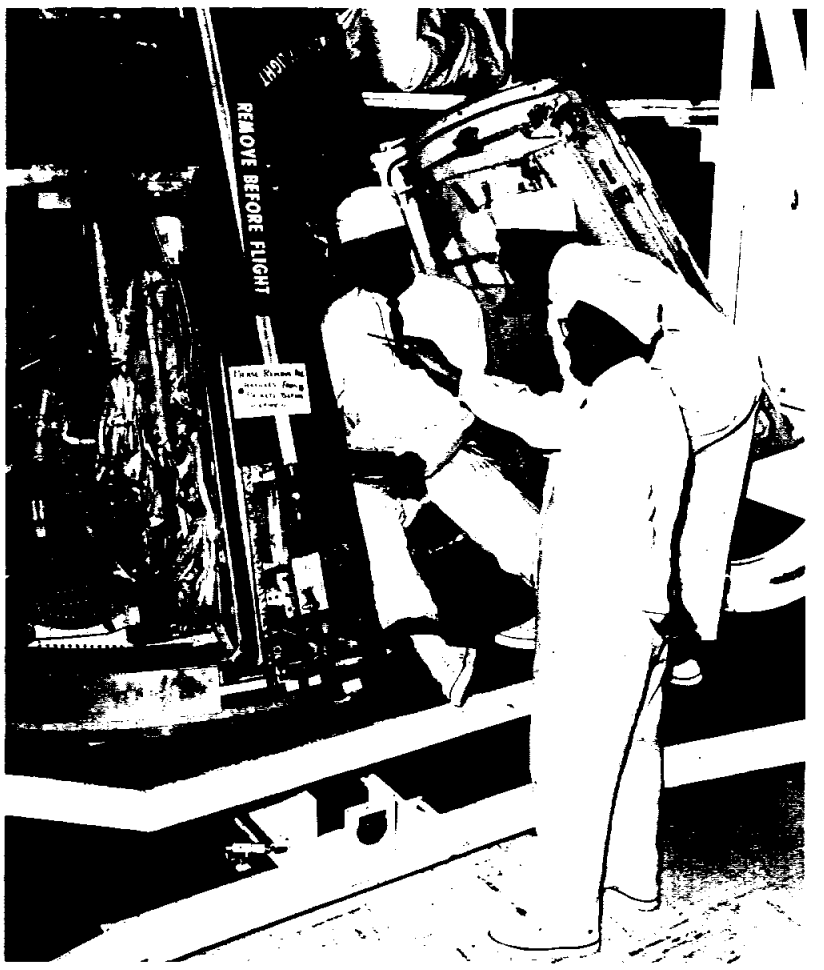
Dick Dennis of Systems Engineering stuffs papers into his briefcase, ready to head for his temporary home in the St. Louis suburbs. Dick has been with MSC-FO since September 1962. His wife and two children joined him in St. Louis earlier this year.

When the GT-2 and GT-3 spacecraft have completed factory testing and are shipped to Cape Kennedy sometime this summer, the MSC-FO group and their families will start the journey south but their work will not be finished. Awaiting them at the Cape are approximately three weeks of prelaunch tests and preparations at the MSC-FO facilities on Merritt Island and at the Launch Complex 19 before they stamp "Flight ready" on GT-2 and GT-3 spacecraft.

To these men, the long test program at McDonnell is another necessary part of the job. There is no doubt, however, that when GT-2 and GT-3 complete their mission successfully, their reward will be the realization that they were an important part of the NASA-McDonnell team responsible for making new inroads into space.

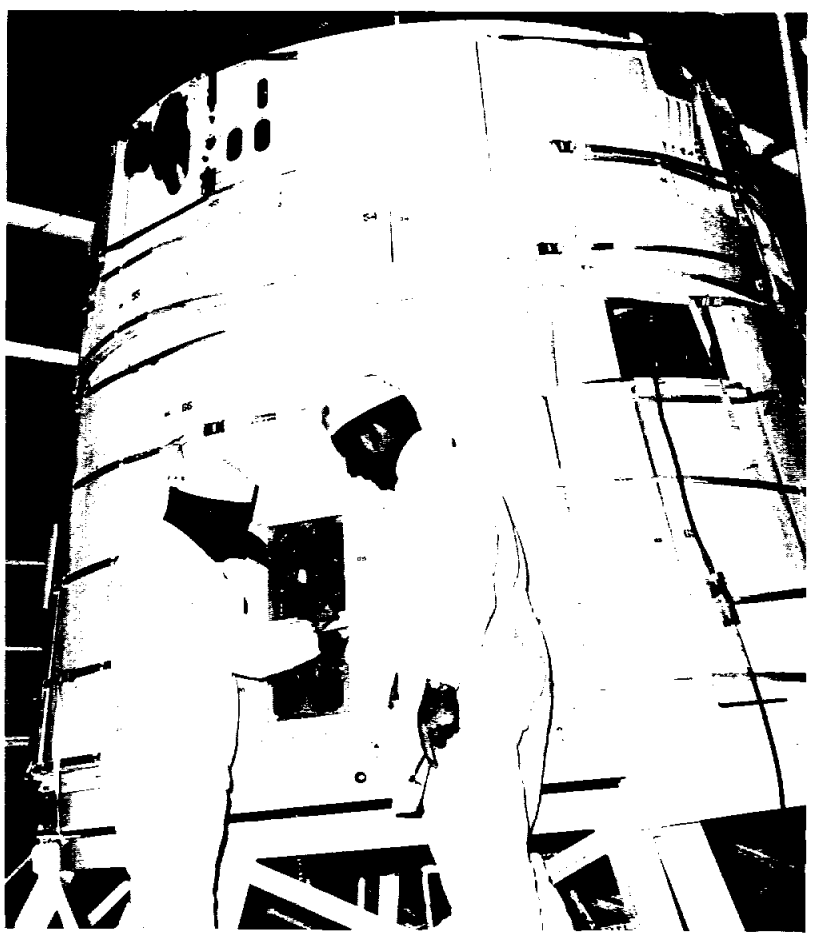


MSC-FO SPACECRAFT Inspectors Charles Capps (l) and Jack Waldrup (c), with L. Signorello (r) of McDonnell Quality Control, inspect the installation of the drogue parachute cover in a Gemini rendezvous and recovery section.



GRAY CHUNN (c) MSC-FO Inspector, assisted by Leonard Dotson (l) McDonnell Inspector, and John Weideman (r) McDonnell Assistant Foreman, inspect the right hand cabin pallet area prior to pallet installation.

MSC-FO LIFE Instrumentation Engineers Don Carlson (l) and Gene Thomas (r) and Support Technician John Wise (c) test physiological simulator in MAC calibration laboratory.

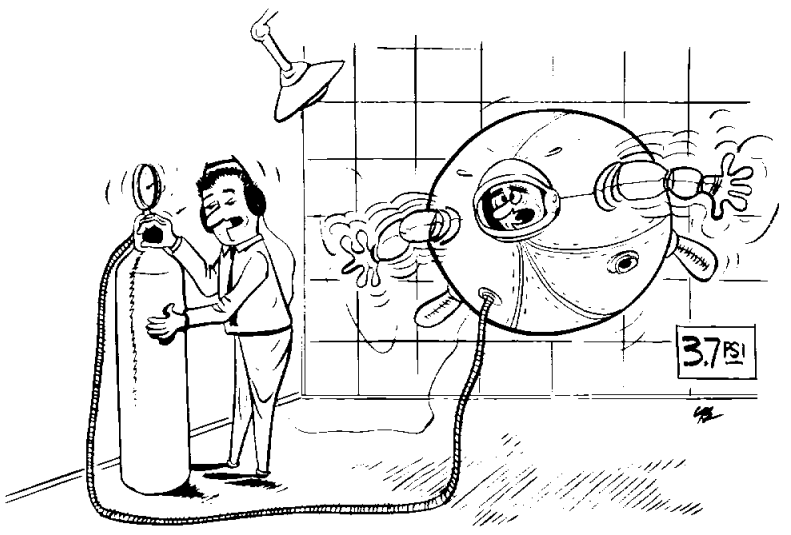


MSC-FO Inspectors Harrison Shoemaker (l) and Charles Capps check adapter for Gemini Spacecraft-2 prior to fit checking adapter with cabin section.

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 . . . . . Robert R. Gilruth
Public Affiars Officer . . . . . Paul H ney
Chief, News Services Branch . . . . . Ben Gillespie
Editor . . . . . Milton E. Reim

On The Lighter Side



"SAY AGAIN SMITHERS?"

Welcome Aboard

Three-hundred and twenty-one persons joined the Manned Spacecraft Center during the last reporting period. Of these, two were assigned to Downey, Calif., three to White Sands Operations in New Mexico, one to St. Louis, Mo., 14 to Cape Kennedy, Fla., and 301 here in Houston.

CENTER MEDICAL PROGRAM OFFICE: John F. Zieglschmid.

AUDIT OFFICE: William R. Knight.

LEGAL OFFICE: Drude Faulconer.

CENTER MEDICAL OFFICE: Peter Campos, Calton R. Greer, Pliny C. Smith, and Louis J. M. Zinterhofer.

BUSINESS LIAISON REPRESENTATIVE (Downey, Calif.): Janet M. Noack, and Sheila N. Poling.

MANAGEMENT ANALYSIS DIVISION: Cleo A. Myers.

PERSONNEL DIVISION: Laura A. Brooks, James W. Broussard, John J. Daunt III, John M. Dellinger, James R. Fulton, Stephen I. Grossbard, Betty J. Holt, Hugh A. Jones III, Ronald M. Konkel, Ray D. Laurentz, Ronald J. Philips, Paul E. Rasmussen, Charles R. Row, Robert M. Senter III, Richard E. Stephens, Eldon D. Wilson, and Janet E. Young.

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SECURITY DIVISION: Robert S. Cooke, Sandra A. Pace, and Hugh W. Ward.

RESOURCES MANAGEMENT DIVISION: James S. Ayton, Carol Ann Badgley, Richard C. Bily, Charles W. Bird, Sammie K. Cooper, Thomas J. Demboski, Dan C. Durst, George L. Grovert, Juanita J. Howard, Robert W. Langsdon, Mario C. Lucchesi, Larry R. Martin, Gale E. Mauney, George A. Nixon, Larry D. Rannals, John H. Robinson, James W. Schlegel, Craig A. Townsend, and Gaynor I. Yancey.

MSC-WHITE SANDS OPERATIONS (New Mexico): E. Clark Rouze Jr.

OFFICE OF TECHNICAL AND ENGINEERING SERVICES: Michael W. Griffith.

PHOTOGRAPHIC DIVISION: D. Gail Blackburn, Walter D. Hanby, and Charles R. Steffler.

ENGINEERING DIVISION: Dean W. Allen, John J. Fitzgerald, Joe H. Fulton, William C. Huber, Jerome F. Kuminecz, Harold A. Loden, C. Jane Miller, Robert F. Nugent, and Paul A. Svejkovsky.

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OFFICE SERVICES DIVISION: Orville L. Coil and Mary L. Humes.

LOGISTICS DIVISION: Ed V. Parker and Ross O. Stanley.

TECHNICAL INFORMATION DIVISION: Sharon L. Cordes, Patricia Ann Crabtree, Raymond H. McKay, Ann K. Thurman, and Carolyn A. Vice.

GEMINI PROGRAM OFFICE: Robert L. Blount (St. Louis, Missouri), Charles H. Jenkins, Sandra L. Julian, M. Joan McBrayer, and Marilyn C. Scarborough.

APOLLO SPACECRAFT PROGRAM OFFICE: Ralph Albon Jr., Peter E. Chesbrough, Karl R. Eckhardt, Christian R. Giguiere, Charles H. Glancy, Richard Ghetzler, Paul S. Jaschke, Eugene H. Jones (White Sands Operations, New Mexico), Harold L. Neely Jr., Paul C. Redman, Stanley E. Snipes, Bertha Soto (White Sands Operations, New Mexico), Edmund R. Wittry, and James A. York.

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ASTRONAUT OFFICE: Diane C. Shirley, and Tessa L. Slager.

FLIGHT CREW SUPPORT DIVISION: Floyd T. Cleveland, Opal A. Goodwin, Paul G. Hirsch, Michael K. Lake, Stewart F. McAdoo Jr., Thaddeous W. Pool III, Neal Rachlin, Robert L. Shick, Bennie J. Shields, Lynn C. Taggart, and Dickie K. Warren.

OFFICE OF ASSISTANT DIRECTOR FOR FLIGHT OPERATIONS: Virginia W. Engle, John Richard Gilpin, Jaque L. Wall, and R. Boyd Williams.

FLIGHT OPERATIONS DIVISION: C. Gordon Stevens.

FLIGHT CONTROL DIVISION: John W. Aaron, Bradley K. Bailey, Whitney Bartlett, Jimmy E. Beaves, John W. Chadwick, Patricia R. Garza, Robert L. Love Jr., John B. MacLeod, Michael M. McCrea, H. David Reed, Gary C. Watros, and Thomas E. Weichel.

(Continued on Page 7)

MSC PERSONALITY

J. Thomas Markley Monitors Apollo Contractor Efforts

On the shoulders of J. Thomas Markley rests the responsibility for the development of the Apollo Spacecraft Program resources and scheduling plans, their integration into the overall program along with the implementation of this plan.

Markley was appointed as chief, Program Control Division, Apollo Spacecraft Program Office in November, 1963.

More specifically some of his duties include monitoring of spacecraft efforts related to facilities, production machinery and equipment and documentation, along with preparation of basic inputs into MSC and NASA budgets for the Apollo program, plus the preparation of program reports for MSC and NASA management.

J. THOMAS MARKLEY

A native of Bellwood, Penn., Markley completed high school in that city and was graduated from Shippensburg State College in Shippensburg, Penn., with a BS degree in physics and mathematics.

He joined the Langley Research Center in Virginia as an aeronautical research engineer in June 1956 where he worked on heat transfer tests of vehicles at high mach numbers.

In July of 1958 he transferred to the Operations Branch of Langley as technical advisor to the Air Force Special Weapons Center for Project Jason, a missile launching exercise conducted to detect radiation from atomic blasts in the South Atlantic.

Markley joined the MSC Flight Systems Division in April 1959 as executive engineer to the division chief and in September 1960 was assigned to liaison work in the Apollo Program Office between Marshall Space Flight Center and MSC.

He was named assistant chief, Apollo Program Office, in March 1961 and in January 1962 was assigned as acting manager of the Apollo Program Office at North American Aviation. He served in this capacity until April 1962, when he was named special assistant to the manager of the Apollo Spacecraft Program Office and remained there until he assumed his present duties.

Markley is married to the former Mary L. Myers of Bellwood, Penn., and the couple has three children, Dwight 8, Gretchen 6, and Keith 5. The family resides in Dickinson, Tex.

MSC-Florida Co-Op Students Gaining Practical Know-How

If some of the young men at Manned Spacecraft Center-Florida Operations (MSC-FO) resemble college students, don't be surprised, for that's exactly what they are.

However, one distinction sets them apart from the average college student. These men are "Co-Ops," who earn while they learn the many sophisticated engineering functions performed at Cape Kennedy.

Selected competitively from six institutions of higher learning, 21 MSC-FO "student-engineers' are gaining the practical know-how that will enable them to step directly into the program full-time following graduation. They are working toward degrees in aeronautical, electrical, and mechanical engineering; engineering science; and physics.

The impressions of one Co-op student who has been at MSC-FO since June, 1962, were revealed by Pete Daniher, assigned to the Life Instrumentation Section of the Electrical and Electronics Systems Division.

"My work here," he said, "has confirmed my desire to enter the field of bioinstrumentation upon receiving my electrical engineering degree from the University of Florida."

"One of my first real assignments," he said, "was participating in the Mercury simulated flight tests. I am presently learning and applying the Gemini and Apollo program philosophies with special emphasis on spacecraft bioinstrumentation."

Benefits of on-the-job training are accrued by both students and NASA. It provides the trainee with practical, first-hand experience in the technological aspects associated with prelaunch testing and preparation of spacecraft. It also enables him to keep abreast of the latest state-of-the-art employed in manned spaceflight research and development.

MSC-FO benefits by maintaining a reservoir of top engineering talent, individuals who can, upon graduation, step confidently into jobs and render tangible results without costly and time-consuming training.

During the year, the Co-ops alternate between working at the Cape and pursuing their studies on the campus. Their time cycle depends on the academic schedule followed by their respective colleges which may divide the school year on a semester, quarter, or tri-semester basis. Following graduation, firm employment offers are made to the students by MSC-FO.

Here's how a student can qualify for cooperative training with a NASA installation:

First, his college or university must have a reciprocal training program with a NASA element which provides a cooperative training course.

He must then apply to the director of the engineering school he attends. He takes a civil service examination in his area, and, upon passing, is placed on the civil service register according to the grade he obtains.

Depending upon scholastic excellence and position on the civil service register, the engineering school director them recommends those students best qualified to take the training.

A requirement is placed on the institution by a NASA installation for a specified number of qualified students to undertake on-the-job-training.

Students working this summer at MSC-FO in the Mechanical and Propulsion Systems Division are: R. A. Lynch, Georgia Tech, aeronautical engineering; J. D. Douthat, Jr., University of Florida, aeronautical engineering; J. G. Tibbetts II, Georgia Tech, mechanical engineering; T. W. Wright, Auburn, physics; and J. M. Ward, University of Florida, aeronautical engineering.

In the Electrical and Electronic Systems Division are: P. M. Daniher, University of Florida, electrical engineering; W. B. Cunningham, Georgia Tech, mechanical engineering; D. V. Kerns, Florida State University, engineering science; and H. G. Koger, Florida State University, engineering science.

Assigned to the Electronic Ground Support Equipment Division are: S. B. Baker, Auburn, physics; S. J. Adams, Drexel Institute, physics; and B. K. Fritz, University of South Florida, electrical engineering.

CO-OP STUDENT Pete Daniher of Merritt Island, focuses intently on a block diagram of the Life Instrumentation and Medical Instrumentation Laboratory close-loop FM telemetry system for Gemini as part of his advanced training at MSC-Florida Operations.

TWO SPACE PROGRAM LEADERS MODEL SPACE SUITS—Two well known men in the space program tried out the Gemini and Apollo space suits in the Crew Systems Division at the Manned Spacecraft Center recently. In pressurized suits they are, left, Maj. Gen. Ben I. Funk, commander of Space Systems Division, Air Force Systems Command in the Gemini suit, and Dr. George Mueller, NASA associate administrator for Manned Space Flight, in the Apollo suit.

$20-Million Apollo Tracking Systems Contract Awarded

NASA announced today that it has selected the Collins Radio Co., Dallas Division, Dallas, Tex., for procurement of a major portion of the S-Band tracking, data acquisition and communications system to be used in Project Apollo manned space flights.

The contract will be worth approximately $20 million.

Collins was one of two firms chosen in May for final competitive negotiations leading to the selection of a single contractor for the procurement. Proposals by 14 leading aerospace firms were involved in the total evaluation.

The procurement will add fundamental elements to the Manned Space Flight Network stations to meet the added requirements of Project Apollo.

Nine systems with 30-foot diameter parabolic antennas will be provided. Six of these are planned for integration into facilities already being improved for Project Gemini two-man Earth orbital flights, and three are planned for new Apollo ground stations.

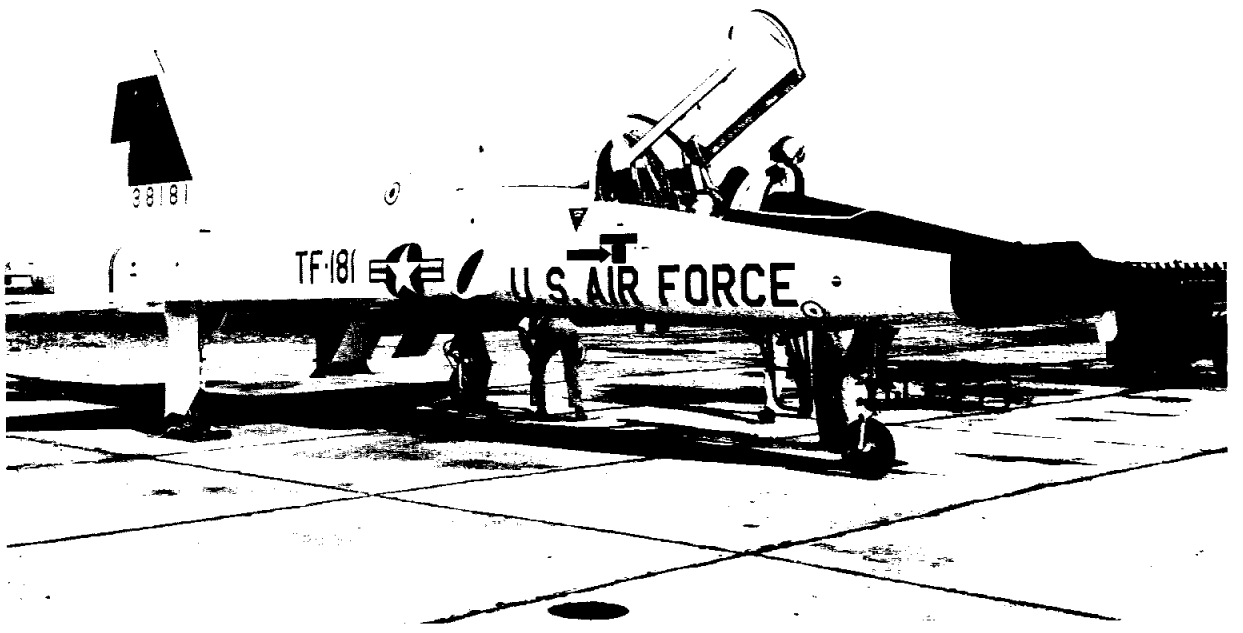
Some 30 partial systems will be incorporated with other station equipment at these and other sites for the additional demands of the Apollo flight program, including the lunar flights.

Welcome Aboard

(continued from page 6)

RECOVERY OPERATIONS DIVISION: Carter F. Yearman.

MISSION PLANNING AND ANALYSIS DIVISION: Stephen G. Bales, James L. Burch, John K. Burton, Thomas M. Conway, Anthony J. Coumelis, Larry D. Davis, Robert S. Davis, David D. DeAtkine, Rocky D. Duncan, David J. Griffith, Jon C. Harpold, Ronald B. Hoffman, Robert A. Kadlec, James R. Lewis, David P. Lindroth, Samuel O. Mayfield, Merita K. Mitchell, Bertrand C. Moser, Gene E. Peter, Luther R. Powers, Richard E. Simms, Faith L. Tiller, James W. Tolin Jr., Anna E. Wolfshohl, Robert A. Womack, Ronald E. Womack, and Jerome D. Yencharis.



AIRCRAFT FOR ASTRONAUTS— A Northrop T-38 jet trainer is shown above shortly after arriving at Ellington AFB. It was flown here from Northrop Aircraft in California by Astronaut James A. McDivitt. To date two have been delivered to the MSC Aircraft Operations Office for astronaut use.

Space News NASA ROUNDUP!

SECOND FRONT PAGE

Scott Carpenter Off To Navy For Underwater Duty Tour

Astronaut M. Scott Carpenter, who reached a maximum altitude of 166.82 miles above the earth during his three-orbit flight in Aurora 7 on May 24, 1962, will spend nearly two weeks 200 feet beneath the ocean's surface beginning about July 20.

In his first stretch on active duty with the Navy since he entered the space program in April 1959, Lieutenant Commander Carpenter left the Manned Spacecraft Center in Houston, Tex., on June 26 to join the U. S. Navy's Project Sea Lab I off the coast of Bermuda.

OFF TO A NAVY TOUR—Astronaut M. Scott Carpenter gets his desk shipshape before he leaves his office at the Manned Spacecraft Center for a tour of duty with the U. S. Navy on Project Sea Lab I, off the island of Bermuda.

Carpenter is scheduled to join the Sea Lab team in Bermuda about July 1.

Sea Lab I is a 40-foot long by 10-foot diameter undersea laboratory which is to be lowered to a depth of nearly 200 feet and remain submerged for over three weeks while a series of experiments and studies are performed by the team of five divers.

In addition to Carpenter the team will consist of a submarine doctor, a chief quartermaster, a chief hospitalman, and a first class gunners mate.

Carpenter who has done considerable skin diving on his own, said the lab will be lowered on July 6, be allowed to settle one day, then four members of the team will enter the lab. He will join the team on the 13th day and will spend 12 days with the group.

The undersea lab will have the equivalent of seven atmospheres of pressure, Carpenter said, and a unique gas mixture of 85 per cent helium, 11.5 per cent nitrogen, and 3.5 per cent oxygen will be breathed by the participants.

Each man will spend from eight to 12 hours per day in the water, part of which will be during the night.

A series of studies and tests will be conducted Carpenter said, and will include such things as core drilling, corrosive studies, ecology studies, psychological and physiological evaluations, underwater navigation and sound propagation and numerous other tests.

One interesting study will consist of playing porpoise and whale tape recordings and observing photographically the reaction of shark and barracuda through windows of the lab.

Decompression period for the divers will take about four days before they will be able to return to the normal earth atmosphere.

In case of an emergency while the five men are on the bottom, a submersible recompression chamber will be suspended near the Sea Lab I for them to enter.

Entrance to the underwater sea lab will be through an opening in the bottom of the craft, the seven atmospheres of pressure holding the water from entering.

Part of the equipment on board will be a Navy galley and members of the team will take turns doing the cooking, Carpenter said.

The fare will include fresh foods in addition to the canned variety and he said extreme care would be required in doing as simple a cooking chore as boiling an egg. Water boils at 329 degrees F. at this pressure and the egg would cook almost instantly, plus the danger of being burned by the extremely high temperature of the boiling water.

After completing reports on his dive for the Navy Department, Carpenter will return to MSC sometime in August.

Bachelor Astronaut Clifton C. Williams Takes A Bride

Clifton C. Williams who until recently was the only bachelor astronaut in the NASA space program, was married July 1 to Miss Jane Elizabeth Lansche in New Bern, N. C.

The former Miss Lansche's home is in New Bern.

Williams and his new bride met seven years ago while he was piloting jets for the Marines.

A man, who once was described by a female admirer as "harder to land than a spacecraft on the moon," has been landed.

NASA SPECIAL SERVICE AWARD—For his important contribution to the manned space flight program in the area of flight operations, Tecwyn Roberts (center) is presented a $1,000 cash award and certificate by Dr. Robert R. Gilruth, director of MSC (left), as Robert's wife Doris looks on. The award was primarily for his determining the technical requirements of the Manned Spaceflight Control Center.

Robert O. Piland Receives Award In California

Robert O. Piland, deputy manager of the Apollo Spacecraft Program Office here at Manned Spacecraft Center was honored by the American Academy of Achievement on June 27 when he received a Golden Plate award at the annual "Salute to Excellence" meeting in Oceanside, Calif.

The award was presented "in appreciation of his exceptional accomplishment in aerospace," and upon his nomination by the Academy's national panel on aerospace.

At the Banquet of the Golden Plate, fifty national guests of honor—"Captains of Achievement" in the sciences, the arts, the professions, business, education, and public service—each took the spotlight to receive the Golden Plate award as the "representative of the many who excel" in his field of endeavor.

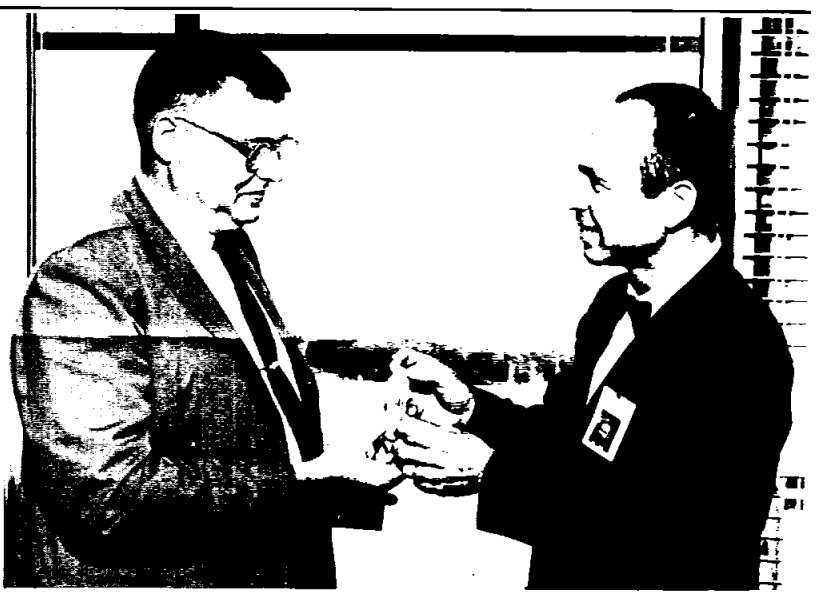
Several hundred California "Citizens of Achievement" and honor students attended the formal affair.

MSC Awards Contract For Security Service To Pennsylvania Firm

A $400,000 contract to provide protective security services at the NASA Manned Spacecraft Center was awarded June 23 to the M & T Company of Philadelphia, Pa.

The contract which began July 1, 1964, will run through June 30, 1965.

Previous contractor was Midwest Building Services, Inc., which employed approximately 70 guards and 7 visitor control clerks at MSC.



INVENTION AWARD—Maxwell Lippitt Jr., (left) Crew Systems Division, is presented a check for $150 by Maxime A. Faget, assistant director for Engineering and Development, for his contribution to the invention of a device to aid in the testing of cardiovascular reflexes of an astronaut before and after space flight. Dr. John H. Reed, formerly with Crew Systems and now doing research at Mayo Clinic shared jointly in the cash award. The device is a plastic tubular shaped cylinder calibrated to measure and maintain lung pressure at a fixed level so that cardiovascular tests may be made.

FELINE POPULATION EXPLOSION—A cat, sometimes called Prudence, after wandering for weeks about the Center was adopted recently by the occupants of Bldg. 16. June 25, the feline population of MSC was increased by six as Prudence a coal black cat gave birth to six striped kittens. Three of the benefactors in Bldg. 16 are shown above displaying the mother and offspring. They are (l. to r.) Nancy Alexander, Guidance and Control Division; Pat Higgins, building receptionist; and Nancy Lehmberg, Guidance and Control Division.