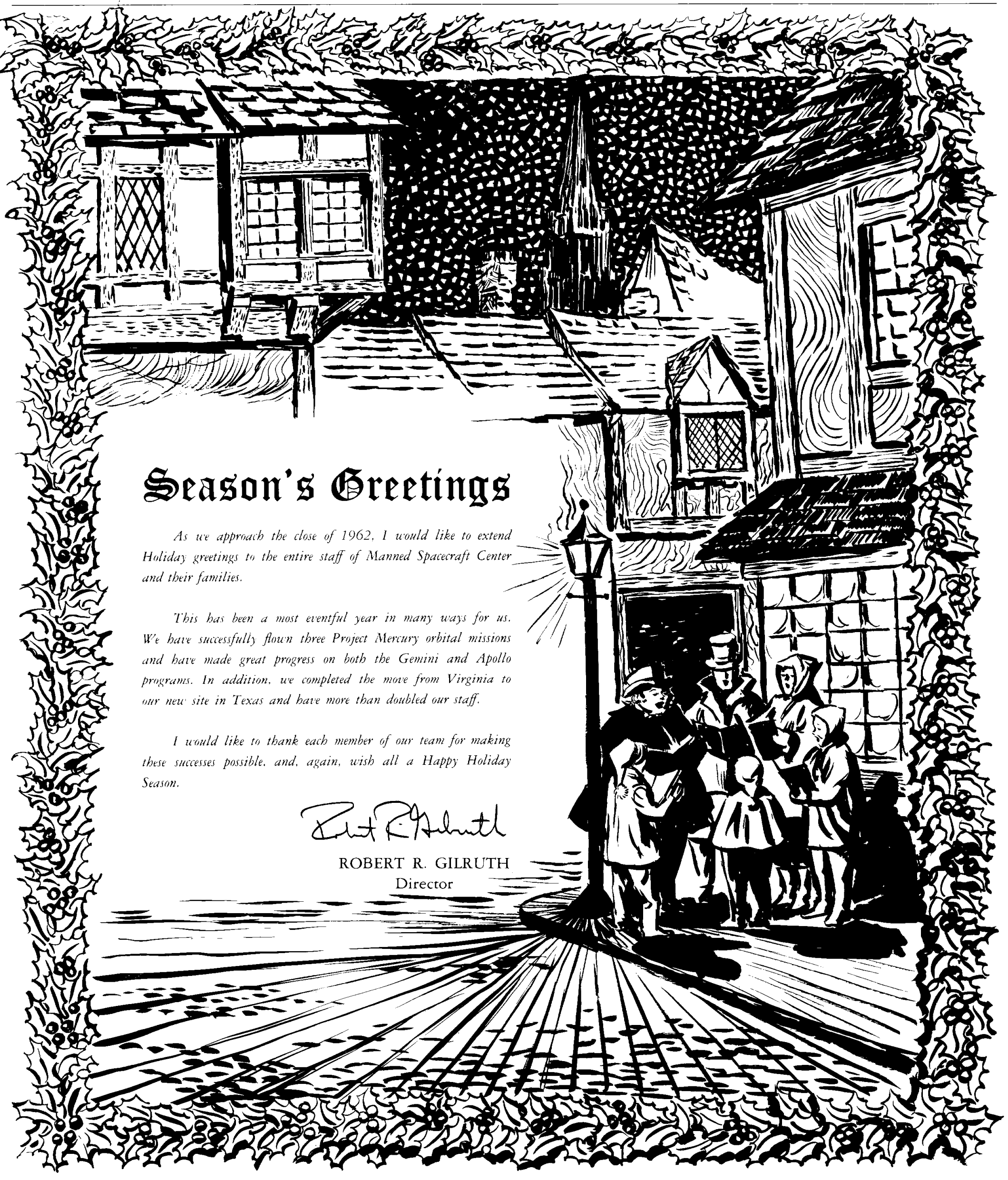
Space News

NASA ROUNDUP!

VOL. 2, NO. 5 MANNED SPACECRAFT CENTER, HOUSTON, TEXAS DECEMBER 26, 1962



Season's Greetings

As we approach the close of 1962, I would like to extend Holiday greetings to the entire staff of Manned Spacecraft Center and their families.

This has been a most eventful year in many ways for us. We have successfully flown three Project Mercury orbital missions and have made great progress on both the Gemini and Apollo programs. In addition, we completed the move from Virginia to our new site in Texas and have more than doubled our staff.

I would like to thank each member of our team for making these successes possible, and, again, wish all a Happy Holiday Season.

Robert R. Gilruth

ROBERT R. GILRUTH
Director

MANNED ORBITAL FLIGHT

Mercury - Atlas Missions And Test Objectives

Mission	Launch date	Objectives
MA-6	February 20, 1962	(a) To evaluate the performance of a man-spacecraft system in a three-orbit mission. (b) To evaluate the effects of space flight on the astronaut. (c) To obtain the astronaut's evaluation of the operational suitability of the spacecraft and supporting systems for manned space flight.
MA-7	May 24, 1962	(a) To evaluate the performance of the man-spacecraft system in a three-pass orbital mission. (b) To evaluate the effects of orbital space flight on the astronaut. (c) To obtain the astronaut's opinions on the operational suitability of the spacecraft systems. (d) To evaluate the performance of spacecraft systems replaced or modified as a result of previous missions. (e) To exercise and evaluate further the performance of the Mercury Worldwide Network.
MA-8	October 3, 1962	(a) To evaluate the performance of the man-spacecraft system in a six-pass orbital mission. (b) To evaluate the effects of an extended orbital space flight on the astronaut and to compare this analysis with those of previous missions and astronaut-simulator programs. (c) To obtain additional astronaut evaluation of the operational suitability of the spacecraft and supporting systems for manned orbital flight. (d) To evaluate the performance of spacecraft systems replaced or modified as a result of the previous three-pass orbital missions. (e) To evaluate the performance of and exercise further the Mercury Worldwide Network and mission support forces and to establish their suitability for extended manned orbital flight.

Water Under The Bridge Was Full Of Pebbles . . .

In just a little more than a week, 1962 will become "last year" instead of "this year" and the MSC staff will be puttering with New Year's resolution lists as they enjoy the first holiday of 1963.

Nobody will have much trouble remembering the big events of 1962—three orbital flights in the Mercury program, significant milestones in Gemini and Apollo, and for many, the big move to a strange city 1400 miles from what had been "home" for years.

But the water under the bridge that was 1962 carried a lot of smaller pebbles, too—events that won't necessarily go down in the histroy books...

January

It was January 10, and the *Roundup* carried a front page picture of the symbol of the times—a moving van. Over, under, and around the move from Langley AFB, Va. the Center was preparing for America's first orbital space flight. Every section was to be operational at one end of the move or the other. Houston set up an answering service to dispense information on motels, garages and restaurants to incoming travelers. Medical monitors and recovery assignments for MA-6 were announced. Dr. Gilruth and Walter C. Williams were named to the NASA Management Council. The Mercury auxiliary flotation collar had just proved successful in tests; the Mercury tracking network was setting up to support a series of orbital missions; Astronaut Virgil I. Grissom was named outstanding young man by the U.S. Junior Chamber of Commerce.

And in a preview of things to come, MSC's new two-man spacecraft project was officially designated Project Gemini.

Through January, Astronauts Glenn and Carpenter continued their intensive training program. The *Roundup* ran the first pictures of the Farnsworth Chambers, Lane-Wells and Rich Buildings and as employees looked to see where they would be working, Tech Services finished training its own scuba-diving team and the first of a lengthy reorganization plan fell into place.

February

Came February, and what seemed like endless delays in the planned mission of Astronaut John Glenn. Glenn remained calm. "We'll go when all the tests are completed satisfactorily," he said. The *Roundup*, publishing "by remote control" from the Cape, featured continued preparations and the problems of handling hundreds of news media representatives present to cover the launching.

On February 20, Glenn went, setting off wild applause over an entire nation, a snowstorm of ticker tape in New York, celebrations in New Concord, Ohio, the United Nations and the Congress of the United States, where he made a 17-minute speech warm with humility, patriotism, appreciation, and marked references to the effort of the Mercury team as a whole.

March

A bare two weeks later, the smiles on team members faltered as physicians discovered Astronaut Donald Slayton's heart fibrilation and Carpenter replaced him as MA-7 pilot. The same month the Virginia penninsula turned out for Mercury Day, a sort of farewell parade for MSC; the penninsula's weather provided its own parting shot with a tidal flood that put much of the Langley facilities under water; the full task of answering Glenn's mail — thousands of letters daily — became apparent; and incoming new personnel started a second wave of reorganization, including formation of Mercury and Gemini Project Offices from the old Engineering Division.

April

In April, readers first learned of the new astronaut trainees to be picked by fall. NASA asked for proposals for a preliminary Nova design, and 1500 persons attended the MA-6 results conference in Washington. The *Roundup* ran pictures of an old shack and a windmill standing on the site of the new Manned Spacecraft Center in Houston. Crew equipment specialist Joe Schmidt discussed what astronauts wore in space. A Bavarian tavern keeper sent a wood-carved mask of Glenn to the astronaut. Explorer IX brought in more information on the Earth's atmosphere, and details of Gemini were released.

The *Roundup* packed up shop and moved to Houston.

Construction work here was well underway. The Washington conference was over, and a series of reports on the results of MA-6 became available. Pictures and a story on the spacecraft procedures trainer gave readers an inside view on the long, rigid training of an astronaut.

May

The second Saturn flight was termed a complete success last spring. Glenn got the geographic society's Hubbard Medal and the astronaut selection process went on. Friendship 7, Glenn's spacecraft, started on a world tour, and Ranger IV hit the dark side of the moon, a little harder than intended.

By mid-May, MA-7 preparations were nearing completion, and the liquid-study and balloon-and-confetti color visibility experiment were announced. LSU honored three alumni—Walter C. Williams, Paul Purser and Maxime Faget, and the U. S. Chamber of Commerce gave its "Great Living American Award" to the Project Mercury Team. Tech Services was building a mock-up of the Gemini spacecraft, and IBM was selected to develop the Gemini guidance computer system.

May 24, Astronaut M. Scott Carpenter added three more orbits to the U. S. space record—said he "felt fine" even though he overshot the recovery area by 250 miles and spent three hours floating on a one-man raft in the Atlantic. Thirteen Air Force personnel on their way to a contingency recovery base at Nairobi, Kenya, died in the crash of a C-130 transport—a sobering note in the general success of the mission.

June

Carpenter got a fast tour and a hero's welcome in June; the second major Clear Lake building contract was awarded; Credit Union assets reached $14,000; and UNC sociologist Dr. George L. Simpson was appointed Asst. Administrator for Public Affairs at NASA headquarters in Washington.

Project Mercury Flight Data Summary

Flight	Launch date	Maximum altitude			Maximum range		Maximum velocity			Flight duration: lift-off to impact hr:min:sec
		Feet	Statute miles	Nautical miles	Statute miles	Nautical miles	Ft/sec earth-fixed	Ft/sec space-fixed	Mph space-fixed	
Big Joe 1	9-9-59	501,600	95.00	82.55	1,496.00	1,300.00	20,442	21,790	14,856.8	13:00
LJ-6	10-4-59	196,000	37.12	32.26	79.40	69.00	3,600	4,510	3,075.0	5:10
LJ-1A	11-4-59	47,520	9.00	7.82	11.50	10.00	2,040	2,965	2,021.6	8:11
LJ-2	12-4-59	280,000	53.03	46.08	194.40	169.00	5,720	6,550	4,465.9	11:06
LJ-1B	1-21-60	49,104	9.30	8.08	11.70	10.20	2,040	2,965	2,021.6	8:35
Beach abort	5-9-60	2,465	0.47	0.41	0.60	0.50	475	1,431	976.2	1:16
MA-1	7-29-60	42,768	8.10	7.04	5.59	4.85	1,560	2,495	1,701.1	3:18
LJ-5	11-8-60	53,328	10.10	8.78	13.60	11.80	1,690	2,618	1,785.0	2:22
MR-1A	12-19-60	690,000	130.68	113.56	234.80	204.00	6,350	7,200	4,909.1	15:45
MR-2	1-31-61	828,960	157.00	136.43	418.00	363.00	7,540	8,590	5,856.8	16:39
MA-2	2-21-61	602,140	114.04	99.10	1,431.60	1,244.00	18,100	19,400	13,227.3	17:56
LJ-5A	3-18-61	40,800	7.73	6.71	19.80	17.20	1,680	2,615	1,783.0	23:48
MR-BD	3-24-61	599,280	113.50	98.63	307.40	267.10	6,560	7,514	5,123.2	8:23
MA-3	4-25-61	23,760	4.50	3.91	0.29	0.25	1,135	1,726	1,176.8	7:19
LJ-5B	4-28-61	14,600	2.77	2.40	9.00	7.80	1,675	2,611	1,780.2	5:25
MR-3	5-5-61	615,120	116.50	101.24	302.80	263.10	6,550	7,530	5,134.1	15:22
MR-4	7-21-61	624,400	118.26	102.76	302.10	262.50	6,618	7,580	5,168.2	15:37
MA-4	9-13-61	750,300	142.10	123.49	26,047	22,630	24,389	25,705	17,526.0	1:49:20
MA-5	11-29-61	778,272	147.40	128.09	50,892	44,104	24,393	25,710	17,529.6	3:20:59
MA-6	2-20-62	856,279	162.17	140.92	75,679	65,763	24,415	25,732	17,544.1	4:55:23
MA-7	5-24-62	880,792	166.82	144.96	76,021	66,061	24,422	25,738	17,548.6	4:56:05
MA-8	10-3-62	928,429	175.84	152.80	143,983	125,118	24,435	25,751	17,557.5	9:13:11

Listed range is earth track

Big Joe= MA Development Flight
MR-BD= Booster Development Flight
LJ= Little Joe
MR= Mercury Redstone
MA= Mercury Atlas

MANNED SPACECRAFT CENTER
HOUSTON, TEXAS
NOVEMBER 1, 1962

July

In July, Astronaut Walter M. Schirra was announced as MA-8 pilot, and Telstar ushered in a new era in world-wide communications. MSC had completed its relocation, and Houston turned out to give the Center personnel a July 4 parade followed by a barbecue at the colliseum. NASA announced that Apollo would proceed with emphasis on the lunar orbital rendezvous method; and Slayton was grounded from Mercury flights. NASA successfully tested its second Echo satellite. An industry information procedures conference convened in Houston.

August

August saw the MA-7 results conference, held this time in Houston. Dr. Gilruth got the President's Award for Distinguished Service. Rocketdyne got the F-1, and J-2 engine production contract for the Saturn C-5. Friendship 7 was having a fine tour, while in Houston, Crew Systems division studied the British high altitude suit for possible ideas and acquired a Project Orbit spacecraft for use in ECS tests. NASA announced plans for the Saturn C-5 launch area —Complex 39—with its giant vertical assembly building, at Cape Canaveral.

Mariner was just beginning its recently-completed three-and-a-half month, 191 million mile trip to Venus. Meanwhile, back on the moon, the search for our lunar landing site narrowed. And in St. Louis, industry and government representatives took a first close look at the emerging model of the Gemini spacecraft.

September

September was a big month. Bids opened on Phase Two of the Clear Lake work. MSC acquired its own spaceflight weather unit. President Kennedy stopped here briefly on his flying tour of the nation's space facilities. And the biggest story of all—MSC added nine new astronauts-to-be to its flight crew roster.

October

America's first six-orbit flight went off without a hitch in October, the best engineering success to date. The United Fund Drive began. MSC noted with deep sorrow the passing of Financial Management Chief Rex L. Ray. G. Barry Graves was named assistant director for information and control systems, and with Maxime Faget received leadership medals in a Washington ceremony in which four MSC Divisions were also honored. Schirra got a welcome in New Jersey, a NASA Distinguished Service Award and a chat with the President. The new Civil Service pay law went into effect, in time for Christmas. The new cafeteria in Farnsworth Chambers opened for business, and another site was added to the temporary locations with the addition of the Franklin Development apartment buildings — complete with an off-limits swimming pool.

November

It was only last month that Grumman Aircraft was selected to build the lunar excursion module for Apollo, with a $350 million contract which is still under negotiation. Bids opened on Phase Three—the main building package—of Clear Lake construction. Cooper was announced as MA-9 one-day mission pilot, and the date set next April. O. G. Linquists was named assistant to Dr. Gilruth and NASA began its expansion building on Merritt Island.

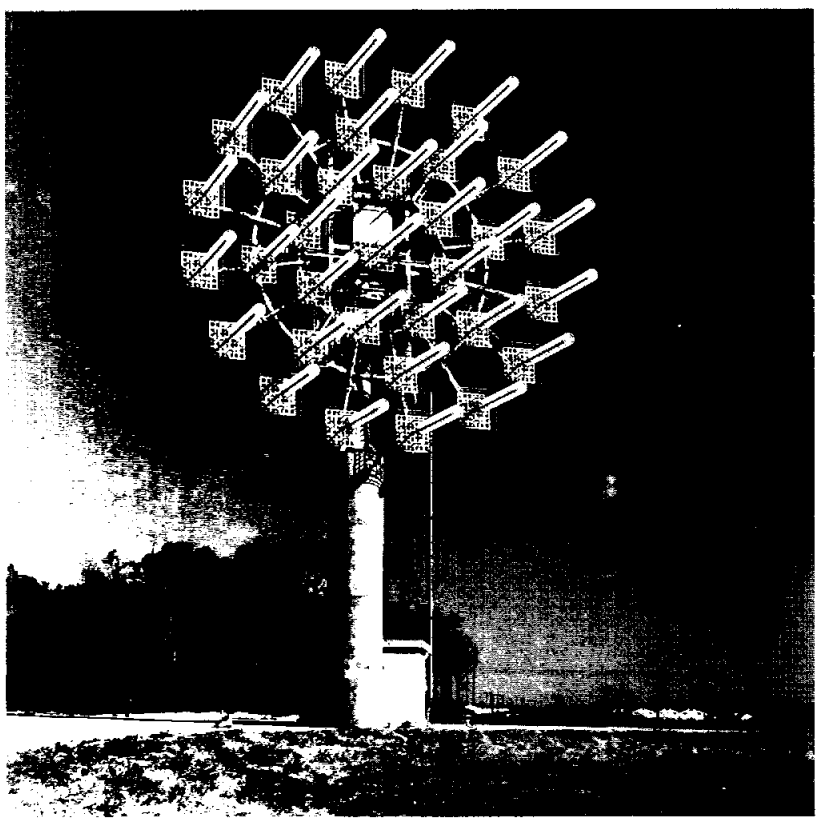
Suddenly we had two new deputy directors, and Walter C. Williams got an additional title in D. Brainerd Holmes' office. Wesley Messing was named resident manager at White Sands, and plans for the MSC facility there were announced. The third Saturn C-1 test went perfectly. Then November was gone, and the holidays descended.

December

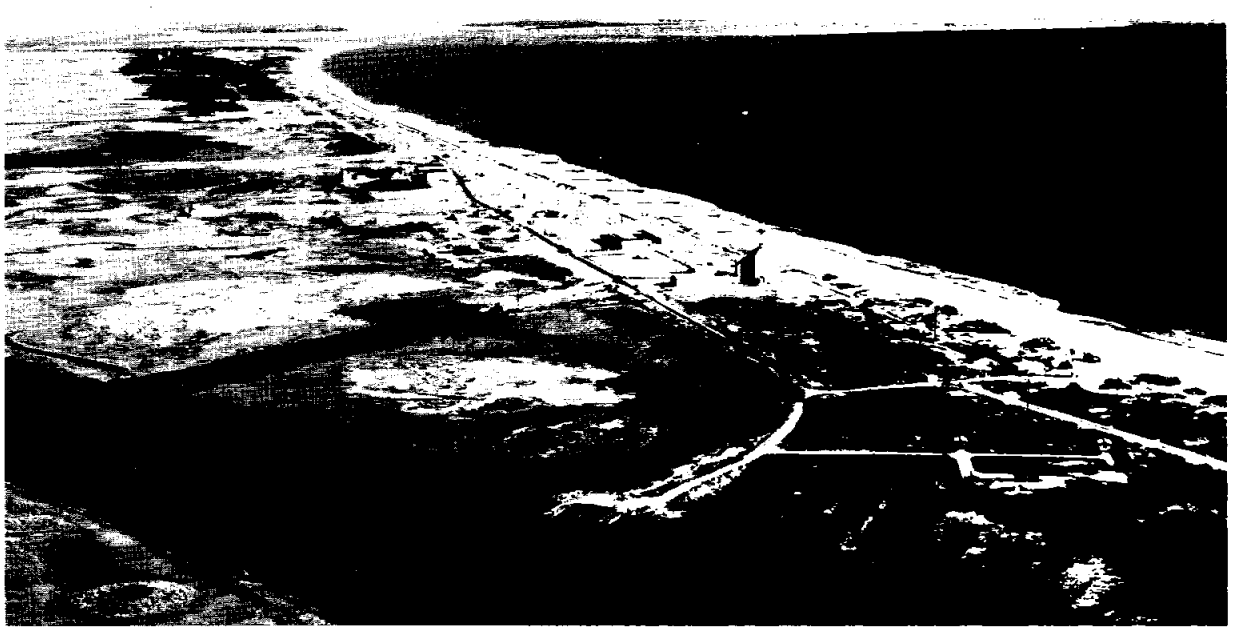
Less than two weeks ago a $19 million construction contract for the major portion of the Clear Lake buildings was signed. Nine top staff members were named to receive a total of $8,800 in incentive awards for Mercury inventions. And Christmas is here.

Another year marches away —but nothing has ended, except the usefulness of the battered calendar on the desk. Years are arbitrary scratches man-made on the face of Time —and Progress goes on.

Wallops Station Conducts Operational Launches

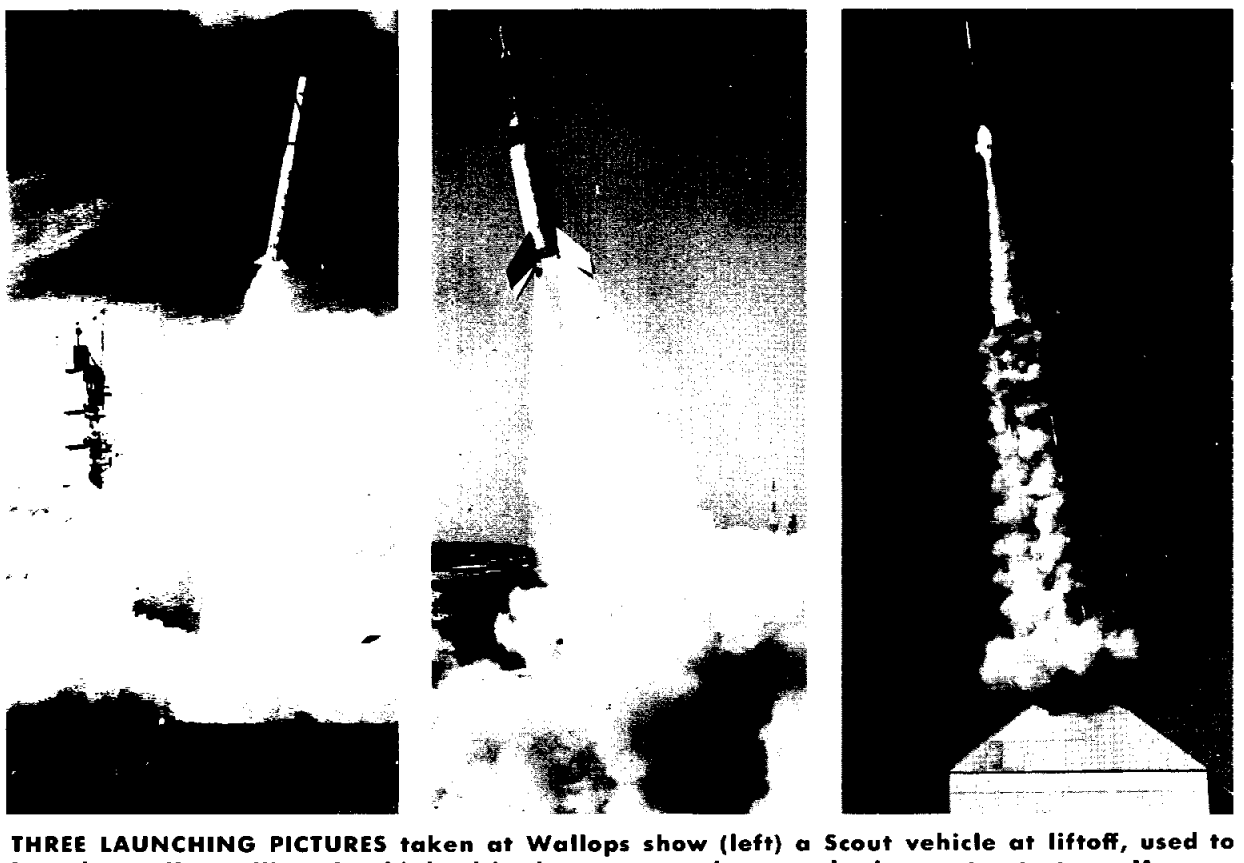


THE HIGH GAIN ANTENNA at Wallops Station is used to receive standard telemetry signals as well as television picture signals from the Tiros weather satellites.



AN AERIAL VIEW OF WALLOPS LAUNCHING AREA looking northward. Building with 160-foot tower protruding just to right of center of photo is Aerobee sounding rocket facility. Just beyond is launch area No. 2 with Blockhouse No. 2 to the left. In between is an assembly shop and storage shed. Just left of center is the 250-foot meteorological tower with anemometers every 50 feet to measure surface winds. Left of that is the Island Radar Site.

A GENERAL VIEW of the Range Control Center at NASA's Wallops Station. At the console in the foreground is the Test Director (third from left) and his assistants. At the next console is the Safety Officer and his assistants, and in the background the remote-controlled plotboards used to plot data received from various radars at the installation. Launch pad operations five miles away are observed on television monitors mounted near the ceiling.



THREE LAUNCHING PICTURES taken at Wallops show (left) a Scout vehicle at liftoff, used to launch small satellites for high altitude proves and atmospheric reentry tests; a Mercury spacecraft mounted on a Little Joe booster (center) just after lift-off April 18, 1961; and (right) an Aerobee sounding rocket liftoff. Aerobee is the only liquid-fueled vehicle launched at Wallops and is used for a variety of experiments.

The only launch facility completely owned and operated by NASA and under civilian control, Wallops Station at Wallops Island, Va. was established in 1945 to supplement wind tunnel and laboratory investigations into the problems of flight.

It was a part of Langley Research Center's Pilotless Aircraft Research Division (PARD), headed at that time by present MSC Director Robert R. Gilruth.

Not Research Center

Wallops is not a research center with scientific laboratories, although many of its personnel are scientists, engineers and technicians versed in the techniques of launching, tracking and data acquisition.

It's role is operational, conducting scientific experiments to gather information about space both within and without the atmosphere. The rocket-borne scientific experiments conducted at the facility are conceived, designed and built by scientists in laboratories and research centers of NASA, other Government agencies, colleges, universities, and the worldwide scientific community.

"Imported Payloads"

The payloads are brought, by teams of experimenters, to Wallops Station where they are checked out and prepared for flight and mated to the appropriate launch vehicle. Wallops personnel participate in these functions, and when the occasion arises, build special types of instrumentation and equipment which are needed to complete a payload and which are not readily available otherwise.

However, the basic mission of the facility is to launch the experiment—get it to where the scientists want it to go—to track it and acquire and record the data desired. In many cases the data must be machine processed or reduced to intelligigle form. Then it is turned over to the scientists to be analyzed and used as appropriate.

Much of the work conducted at Wallops falls in the category of basic testing and development of components, systems, subsystems, and instrumentation to be flown in later types of vehicles and spacecraft.

As an example, during the period 1959-61, a number of small-scale and full-scale Project Mercury capsules were scientifically investigated and/or tested in support of the manned space flight program before the astronauts were launched from Cape Canaveral.

Mercury Series

These tests included such things as abort tests and parachute deployment tests, as well as the series of Little Joe firings to check out the components of the Mercury spacecraft including the escape system, recovery system, and some of the life support systems. Two rhesus monkeys, Sam and "Miss Sam" were sent aloft during this series and both were recovered safely.

Another example of manned space flight-related experiments performed at Wallops was the recent launching of a reentry payload on the 72-foot, 18-ton Scout launch vehicle. Purpose of the experiment was to obtain data on aerodynamic heating and heat transfer during reentry into the atmosphere at speeds approaching those to be reached by spacecraft returning from lunar missions.

Each supervisor is responsible for the protection of classified information in his organizational unit and shall be held accountable for the derelictions of any of his subordinates.

or Scientific Experiments And Spacecraft Testing

AERIAL VIEW OF NASA WALLOPS STATION Main Base, the former Chincoteague Naval Air Station, looking northeast. Hangar building at lower right houses Range Control Center where launchings from Wallops Island, five miles away to the southeast, are monitored and controlled. Building at extreme lower right hand corner is site of a prototype Mercury tracking station, now used as an engineering and training station.

The reentry payload weighed approximately 155 pounds and contained scientific instrumentation for transmitting data to ground and ship receiving stations. The vehicle reached an altitude of about 135 statute miles, after which the payload was driven back through the atmosphere like a meteor, attaining a speed of

Robert L. Krieger
Director, Wallops Station

about 19,000 miles an hour, or some 3,000 miles an hour faster than the reentry velocities of earth-orbiting vehicles and approximately 7,000 miles an hour slower than the speeds of spacecraft reentering the atmosphere on return trips from the moon.

This and similar experiments are part of the NASA supercircular Reentry Research Project, to study reentry heating and its effect on selected materials, and to gather information for efficient design of future spacecraft and their protective heat shields.

Experiments in the reentry physics program are flown at Wallops on a multi-stage configuration called the Trailblazer. Payloads flown on the Trailblazer have reached speeds in excess of 40,000 feet per second (some 30,000 miles an hour), almost twice as fast the earth-orbiting astronauts are traveling when they reenter the atmosphere, and so far as is known, the fastest that any man-made object has ever been propelled through the atmosphere. These speeds are certain to increase as the project proceeds.

Sounding Rockets

Much of the Wallops research effort is in support of the National sounding rocket program. Experiments flown on sounding rockets provide a variety of information, including high altitude wind velocity, density of the upper atmosphere, measurements of radiation from the stars, and natural radiation surrounding the earth, characteristics of the ionization phenomena as space vehicles reenter the atmosphere, and other problems, including many related to manned space flight.

Wallops launches research vehicles having from one to seven rocket stages, depending upon the information desired. Multiple-stage vehicles are fired in sequence, with each stage usually programmed to separate from the payload after burnout.

Tracking

Scientific information is telemetered from the experiment to ground receiving stations. This information is supplemented with records made in tracking the free-flight test vehicles through radar and high-speed photography. Characteristics through which the test vehicles fly are determined either before or immediately after launching by means of radiosonde sounding balloons and meteorological rocket payloads.

Space Research

Wallops Station plays an important role in NASA's program of international cooperation in space research. Some 40 countries have sent representatives to Wallops to observe its operations or seek assistance in establishing a sounding rocket launch facility of their own. Several of these countries have brought experiments to Wallops for launching. Other have sent technical personnel here for training in methods and techniques of launching sounding rockets, and Wallops in turn has provided technical assistance to several countries in the selection and construction of their own launch sites and in the launching of their first experiments in space research.

Outside Experiments

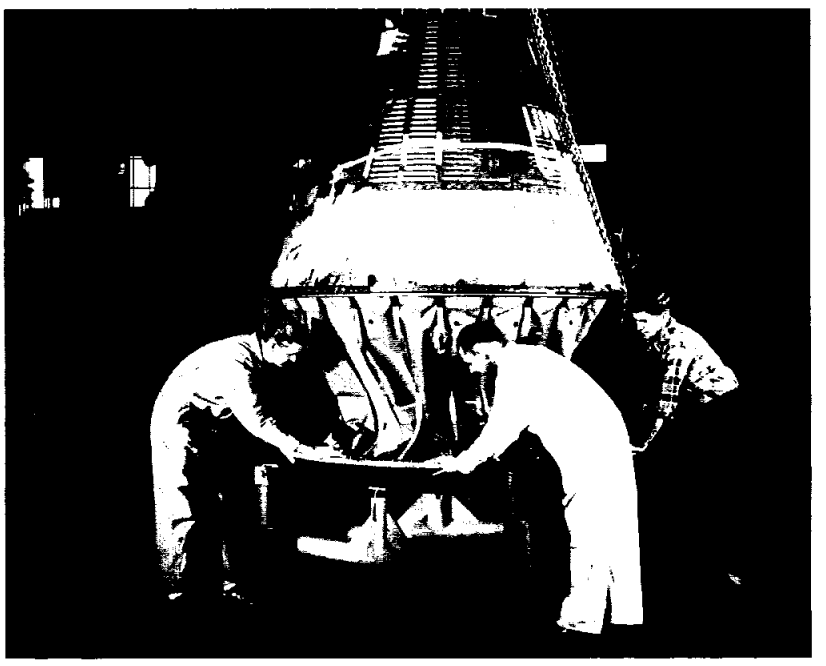
Wallops also is engaged in tracking and data acquisition functions for experiments launched elsewhere, for example, the Tiros Weather Satellites which are launched from Cape Canaveral.

Robert L. Krieger is Director of the Wallops Station. A graduate of Georgia Institute of Technology, he has headed the Wallops facility since 1948. John C. Palmer, a graduate of Virginia Military Institute, is Chief of the Wallops Station's Flight Test Division which has the prime responsibility for vehicle launches.

This is the seventh in a series of feature articles about the activities of other NASA installations. The information concerning Wallops Station and its program was supplied by Wallops Station Public Information Office.

TECHNICIANS make checks on the Little Joe booster vehicle prior to launch. Little Joe was used to perform check-out tests on the Mercury spacecraft from Wallops Island launches prior to manned launches from Cape Canaveral. It consists of four solid-propellant Castor rockets and four small Recruit rockets clustered within the air frame.

AN ENGINEER at Wallops Station plots positions of various ships off the coast of Wallops Island. This information is relayed by aircraft to the radio operator shown in the background, who in turn gives it to the engineer for analysis and plotting, so that Range Control Center personnel can observe the movement of ships in the impact area.



IMPACT CURTAINS are installed on the Mercury spacecraft to be tested by Little Joe VI. This picture was taken in March of 1961, before a test run on the Mercury escape system at Wallops.

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 Affairs Officer . . . . . John A. Powers
Chief, Internal Communications . Ivan D. Ertel
Editor . . . . . Anne T. Corey

On The Lighter Side

How's That Again?

Joe, the "filling station" attendant, is headed for trouble in the Space Age. He'll never get by with just a friendly grin and the uncomplicated question: "Regular or Ethyl?"

Let's assume a spaceman pulls into "Joe's Space Service Station," driving one of Aerojet-General Corporation's Able series rocket engines. His order: "Inhibited Red Fuming Nitric Acid and Unsymmetrical Dimethylhydrazine."

The first part, IRFNA, is his "oxidizer," which means a chemical having lots of oxygen in it, because rocket engines can't use air oxygen like cars do. The other part, UDMH, will be his actual fuel.

Or if another space pilot pulls in and asks for hydrogen peroxide, he won't be ordering bleach for his wife's hair, he'll be ordering his oxidizer. And the fuel to go with it could be any of the following:

Aluminum-Enriched Polyethylene, Boron Trimethyl, Cyanogen, Diborane, Lithium Aluminum Hydride or Pentaborane.

The driver of a spanking new Aerojet Titan engine might pull up in a hurry and say: "N_2H_4/UDMH/-N_2O_4," which might sound to Joe like the guy's license number.

What he wants is Nitrogen Tetroxide for his oxidizer. The fuel that goes with it is a mix of Unsymmetrical Dimethylhydrazine and Hydrazine.

And Joe: If a driver of an older model Titan comes in and asks for LOX—don't suggest a half dozen bagels to go with it. He wants Liquid Oxygen as his oxidizer, which goes with kerosene, not bagels.

—Cartoon by Pete Bentovoja, Los Angeles Examiner.
Copy by Don Bailer. Reprinted courtesy of Aerojet-General.

EDITORIAL EXCERPTS

Washington Star
Dec. 7, 1962

NEW PAY RAISE RECOMMENDATION IS EXPECTED

The Civil Service Commission is expected to recommend to President Kennedy and the Budget Bureau that the administration propose Federal pay raises to the new Congress ranging from 2 to 26 per cent. The amounts range from $85 for those in grade 3 to $5,270 for those in top grade 18.

The increases would be added to those already approved for January 1, 1964.

There would be no increases for the first two grades which are considered comparable already with industry.

There are several factors that must be settled before President Kennedy makes a final decision on what kind of pay proposals will be sent to Congress.

First there is the administration's plan to cut taxes next year. Linked with this year's budget deficit of nearly $7 billion, the President has to take into account the cost of any proposed pay raise in relationship to reduced Federal revenues and increased deficits.

The CSC pay comparability proposal would average overall about 5 per cent, which would cost about $500 million.

The big question is whether Congress will be in the mood to tackle another Government classified and postal employee pay raise next year, so soon after this year's pay increases.

It could well be the sentiment of Congress to defer pay legislation until 1964.

MSC PERSONALITY

Administrative Services Chief Roy Aldridge Wears Two Hats

The chief of MSC's Administrative Services Division wears a couple of other hats besides. He is Roy C. Aldridge, president of the 10-month-old MSC Federal Credit Union, which has already hit the $100,000 in assets in less than a year of operation, and printing control officer for the Center.

Roy C. Aldridge

Administrative Services, a sizable job in itself, includes Graphics, Telecommunications, Office Services and Printing and Publications Distribution Branches. Broken down, that includes the mail room; all telephone, teletype and radio services; correspondence control; regular and special messengers; central files; the reference library; purchase and control of office equipment, furnishings and machines, and maintenance and repair of same; and office relocation services, among other things.

As Printing Control Officer he insures that only official publications and material are produced, in accordance with government regulations.

Aldridge set up the Exchange Council and Employee Morale Activities Association, which is financed by money from the vending machines installed in various sites.

Aldridge is a native of Pennsylvania, born January 12, 1921, in Chambersburg.

Finishing high school in his home town, in the Spring of 1940, he went to work for a clothing manufacturer repairing sewing machines, but quit because he "wanted to get into the aircraft industry."

He went to work for Fairchild Aircraft in Hagerstown, Maryland riveting wing assemblies in the fall of '41. There he had his chance to learn to fly, taking cival pilot training in flying, navigation, meteorology, aerodynamics and aircraft engineering maintenance under the CAA as a liason pilot trainee, USAF.

In the spring of 1943, all USAF NCO's were grounded as pilots and Aldridge graduated from an Air Force Intelligence School in Tampa and become an expert in combat and photo intelligence in the Far Eastern Theater until his discharge in January of 1946.

A few months later he went to work as a tabulating machine operator in Letterkenny Ordnance Depot in Chambersburg.

In October of 1946, he began four years as a salesman with Century Metalcraft Corporation, a cookware firm, then spent a short time as an insurance investigator with the Retail Credit Corporation of Johnstown, Penna. before being recalled to active duty as senior intelligence operations technician with the Air Force in Greenville, S. C.

Released from active duty, he returned to Letterkenny Depot and in 1953 began seven years with the Department of the Air Force Contract Branch at Fairchild Aircraft in Hagerstown, Md.

A series of promotions ending with the title of Property Disposal Officer. Late in 1959, Aldridge transferred to Langley Research Center's Procurement Division as a purchasing agent; then switched to Space Task Group and was appointed contract specialist April 16, 1961, management analyst August 20, 1961 and chief of Administrative Services in March of this year.

Pennsylvanians both, Aldridge and his wife, the former Reida Finafrock, are raising three children in their home in La Porte: 19-year-old Dennis, a student at University of Texas; Joel, 14; and Randall, 7. Aldridge says his hobbies are hunting and fishing—he's been hunting once this year. Got an antelope—"at 600 giant steps."

WELCOME ABOARD

Manned Spacecraft Center acquired 46 new employees between November 11 and December 2, 1962.

Mercury Project Office: Dorothy G. Dunham, and William T. Mulcahey, Jr.

Gemini Project Office: Leonard T. Spence.

Apollo Project Office: William M. Speier.

Resident Office, White Sands: Marie D. Ramirez, and Bertha C. Gutierrez.

Spacecraft Technology Division: Hamboldt C. Mandell, Jr., Dorothy H. Cox, Willis M. Bolt, Norman A. Piercy, Catherine S. Slavik, and Katye H. Brown.

Space Environmental Division: Donald A. Flory.

Crew Systems Division: Claude S. Hargrave, and Joe L. Day.

Systems Eval. and Devel. Division: Richard J. Bozeman, and Earl Hensley, Jr.

Preflight Operations Division, Cape Canaveral: Charles W. Ingalls, James M. Wilson, and Ernest W. Walters.

Flight Operations Division: Jimmy R. Elk, Grady P. Henderson, and Shelia J. Myer.

Flight Crew Operations Division: Ferdinand G. Kelly and Harold E. Ream.

Ground Systems Project Office: Robert W. Stafford, and Peggy V. Hord.

Instrumentation and Electronic Systems Division: James E. Kessel.

Personnel Division: Dorothy R. Norwood, and Edwin R. Strickland.

Security Division: Linda C. McKay.

Procurement and Contracts Division: Robert A. Doucette, John I. Papac, Tressa E. Miller, and Leon A. Kister.

Technical Services Division: Alfred J. Lancki, Kenneth F. Thoma, Leona F. Germany, Joseph H. Barbour, and Roger H. Peterson.

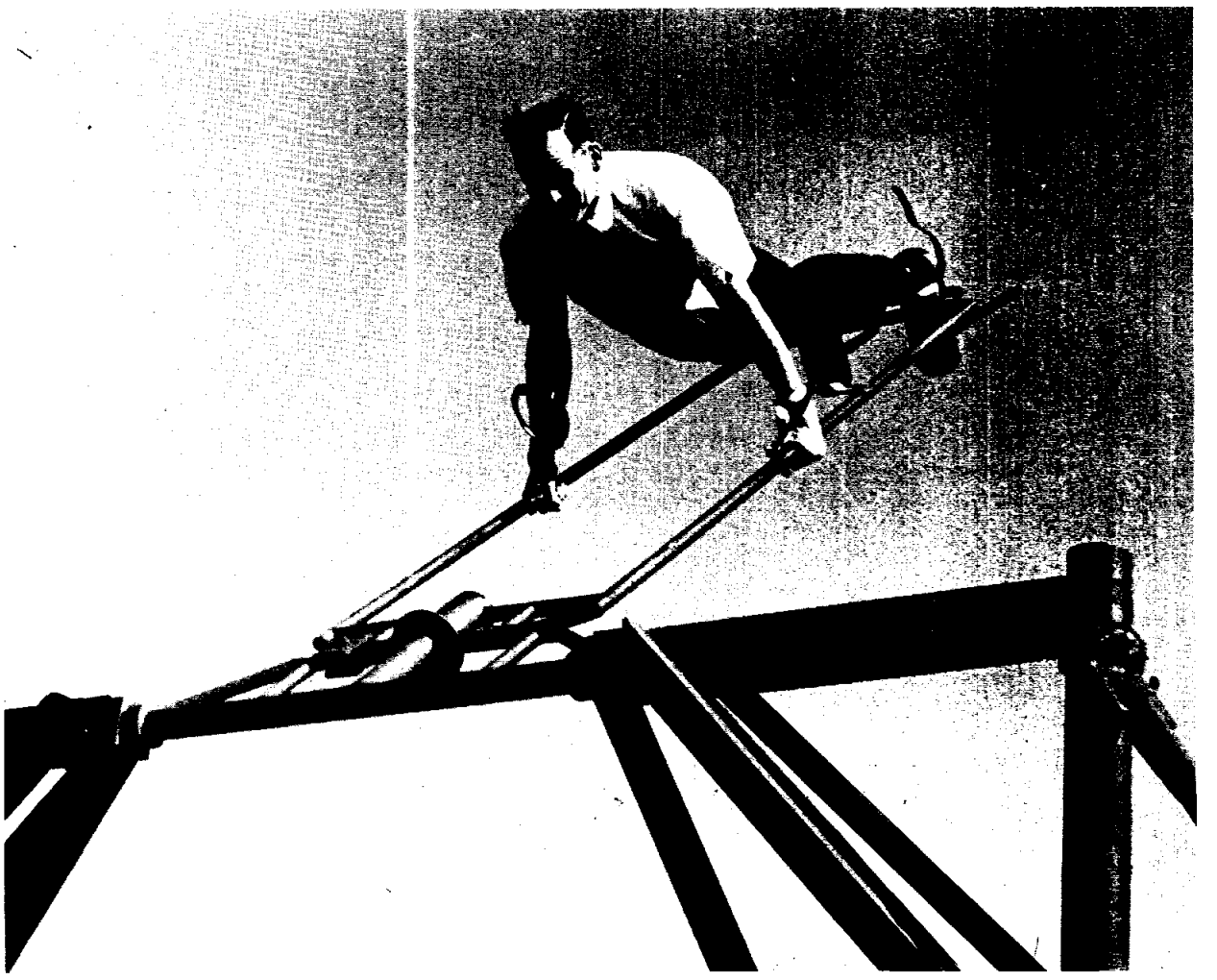
Technical Information Office: Ruth A. Schulz.

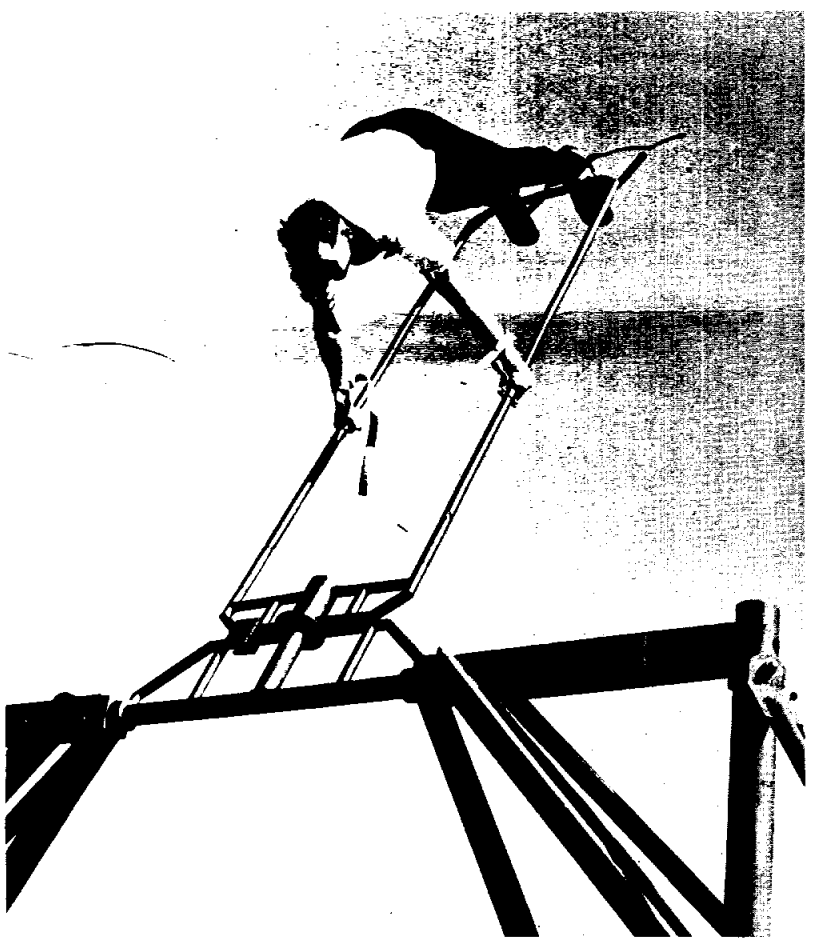
Logistics Division: Martha B. Simon, and Leroy Cotton.

Facilities Division: James E. Standley.

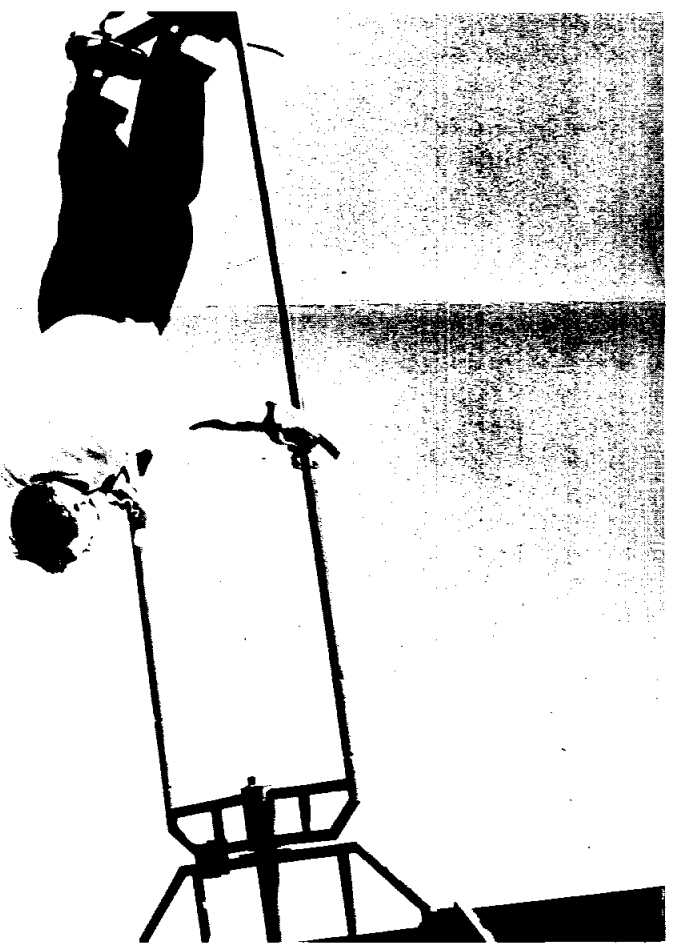
Program Analysis and Evaluation Office: John L. Ryan.

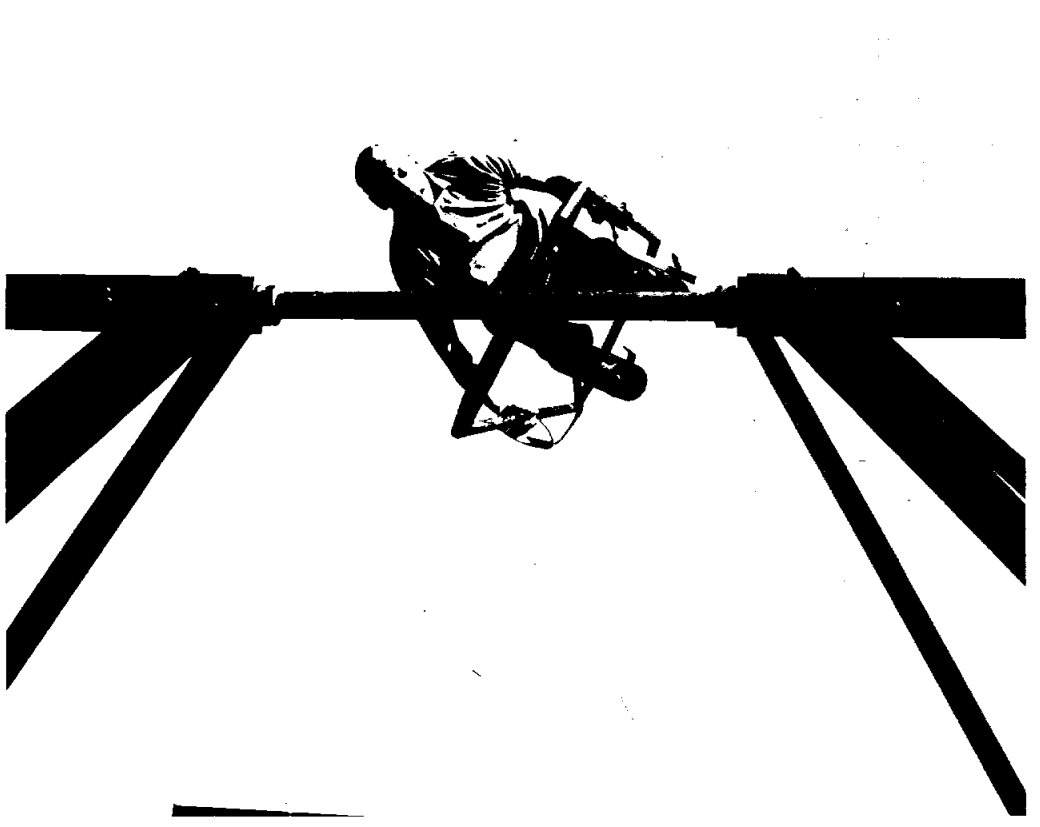
Business Liasion Rep., Downey, Calif.: Jack M. Murphy.





ONE OF THE LATEST WRINKLES in astronaut training devices is this swing, which as yet has no official name, located in the training area at Cape Canaveral. Fitted with straps to hold hands and feet in place, it has rigid side pieces and can swing in a 360 degree circle up and over the top supporting bar, with enough pumping. In addition, it can swivel sideways if a locking device at the top is removed (see picture at bottom left). At top left, astronaut trainee Edward H. White II watches as his feet are strapped in place. A strenous few minutes of pumping (top right) get the device higher and higher until (center pictures) White takes it all the way up and over. At lower left, astronaut trainee Charles Conrad, Jr. gives it a try with the locking device removed so that the swing is free to swivel left and right. At lower right, astronaut trainee Elliot M. See works out in the swing. The astronauts themselves designed the device as an exercise medium.





Planning Group To Coordinate OSS, OMSF Planning Activities

A Manned Space Science Planning Group has been established to provide coordination between the Office of Space Sciences and the Office of Manned Space Flight in the planning for manned missions.

The functions of this group will be to recommend a detailed program of scientific exploration to the Office of Manned Space Flight; recommend to the Office of Space Sciences a program of data acquisition, to assure a timely flow of environmental information into the planning for manned projects; and to establish and maintain close liaison with the field centers, other government agencies and the universities in the development of an integrated scientific program for manned space flight.

The program recommendation of OMSF would include specific scientific tasks to be performed by the astronauts, scientific equipments required, and scientific background and training requirements for the astronauts.

The group will be expected to apply continuous effort in these areas, refining and modifying the programs as they develop.

Chairman of the Joint Working Group is Dr. Eugene Shoemaker, Assistant to the Director of Lunar and Planetary Programs in the Office of Space Sciences. He will be a functional member of both offices, though assigned to OSS for administrative purposes. Each office will provide personnel on a full-time basis to work for him.

The Manned Space Science Planning Group will be composed of members of both offices and from the NASA centers. The work will be carried out by a number of panels, each chaired by a member of the planning group and supported by the participation of other members of NASA and by consultants, as the need may arise.

An executive board, composed of members of the planning group from both offices, will organize periodic meetings of the entire working group, establish the panels and take action on the reports of the panels. Chairmen will be responsible for organizing the work and activities of their respective panels.

Among the panels planned to begin work immediately are a panel on requirements and objectives for unmanned lunar orbiting spacecraft and several on in-flight manned scientific missions for the remainder of Mercury project, for the Gemini project, for in-flight phases of the Apollo project and for programs that may follow Apollo, such as a manned orbiting space station.

Telemetry Systems Delivered To NASA

The first units of 20 telemetry transmitting systems for use in the research and development phases of Project Apollo have been delivered to NASA by the Pacific division of the Bendix Corporation, it was announced by David H. Brown, general manager of the division.

The units, built under a $627,000 contract awarded to Bendix by NASA's Manned Spacecraft Center will be installed on test models of the Apollo spacecraft—designed to carry astronauts to the moon and back to earth. The delivery of the systems will continue through the end of this year, Brown said.

He said the transistorized systems will transmit to tracking stations on earth more than 100 individual types of data concerning environmental conditions, including structural measurements, temperatures and pressures.

The Space News Roundup notes with deepest sorrow the passing of Thomas J. Porter, 59, chief of the Supply Branch, Logistics Division, who died suddenly at his home December 7 of coronary occlusion. Funeral services were held December 8 at the Colonial Funeral Home in Pasadena. Interment was in his native city, Boston, Mass.

Porter is survived by his wife Agnes, a son, Craig, and a daughter, Gayle all of the home; his mother and two sisters in Boston.

In April of this year he would have completed 40 years of continuous Government service. He had been with Manned Spacecraft Center for almost three years in procurement and supply capacities.

Republic Selected To Develop Info

Republic Aviation has reported that it has been selected to develop human factors information which will be used in NASA's Project Apollo space suit program. The suit will be used by the astronauts who go aloft in the Apollo lunar spacecraft.

The contract was awarded by International Latex Corporation which will fabricate the suit for United Aircraft's Hamilton Standard division, prime contractor to the National Aeronautics and Space Administration.

Dr. William M. Helvey, chief of Republic's Space Environment and Life Sciences Laboratory, said the company will assist in the investigation of suit materials and construction techniques, testing and evaluation of suit mobility in connection with tasks to be performed, analysis of physiological factors and selection of biomedical monitoring and telemetry techniques, and development of tools to be used by the crew while in space and on the lunar surface.

TIGHTENING THE LAST BOLT, a Lockheed Propulsion Company technician readies an inert Apollo launch escape motor before on-schedule delivery to North American's Space and Information Systems Division. The Redlands, Calif. firm is developing the escape rocket under sub-contract to NAA for the Apollo program. This one will undergo vibration tests and various "fit" operations and returned for late changes which may be required to prepare it for its flight role.

Space News NASA ROUNDUP!

SECOND FRONT PAGE

Apollo Test Conference Is Conducted At White Sands

A Review Conference concerning the Apollo Spacecraft Test Program at White Sands was held recently at White Sands, N. M. between NASA Manned Spacecraft Center personnel and the North American Aviation Company.

The review covered construction procedures and costs for building the test facilities and the number of contractor personnel required to accomplish the test program.

While no definite figures have been agreed upon, it was estimated that approximately several hundred people would be employed by the contractor. NASA employment eventually will be in the order of 100 administrative and engineering personnel. There are currently 25 employees on the NASA payroll at White Sands.

North American Aviation Apollo work at White Sands Proving Grounds will include testing the service propulsion module and vehicle flight tests.

In the second quarter of 1963, the White Sands Apollo Test Program will be expanded to include the Lunar Excursion Module of the Apollo spacecraft. The initial LEM contract is currently being negotiated with Grumman Aircraft Corporation.

The LEM Test Program will require roughly the same number of Grumman employees as the North American program.

The MSC Federal Credit Union has declared a four per cent dividend to be paid December 31 on all shares of $5 each for every full month on deposit if deposited before December 31.

Ford, Bacon, Davis Gets Contract For Acceleration Facility

Ford, Bacon and Davis industrial design firm of New York has been awarded a $656,500 contract for the detailed design of a flight acceleration facility to be built at Manned Spacecraft Center's Clear Lake site.

A notice to proceed with the detailed design of the centrifuge was issued December 14 to the New York firm by the Army Corps of Engineers, which is constructing the center for NASA.

The design contract is scheduled for a nine-month completion, with specifications for the main drive motor, which will weigh about 80 tons, to be ready in three months and those for the computer complex of the facility to be completed in six months.

Specifications for the main drive motor and the computers will be turned over to NASA for procurement.

Associated with Ford, Bacon and Davis in the detailed design work will be the McKiernan-Terry Corporation of Dover, N. J.; Raytheon of Weyland, Mass., and the Franklin Institute Laboratories for Research and Development of Philadelphia, Pa. All three firms participated in the preliminary design studies.

NFFE Meetings Scheduled

The National Federation of Federal Employees will meet with interested employees during the week of January 7, to discuss the advantages available to members of NFFE.

To facilitate the presentation of this message from NFFE, the conference rooms of several of the MSC buildings, plus a conference room at Ellington Field, will be utilized.

All employees have the right to attend or refrain from attending these meetings, which are scheduled during the lunch period.

Date	Location of Meeting	Time	For Employees In
Jan. 7	Office City, Room 201	11:30	Office City
		12:00	Office City
		12:30	Office City
	Office City, Room 123	11:30	Rich
		12:00	Rich
		12:30	Rich
Jan. 8	Hous. Pet. Center, Rm B153	11:30	HPC
		12:00	Stahl Meyer
Jan. 9	Farnsworth Chambers, Rm 270A	11:30	F and C
		12:00	Peachey
		12:30	Franklin
	Ellington Field Bldg. 1057	4:35	Ellington
Jan. 10	Lane Wells, Room 242	11:30	Lane Wells
		12:00	Mpls. Honeywell
		12:30	Canada Dry
Jan. 11	East End State Bank, Rm 16	11:30	EESBB
		12:00	VA Bldg.
		12:30	Univ. of Houston