# SPACEPORT NEWS

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**IF YOU'RE PLANNING to take the NASA-Nassau cruise over the Labor Day weekend, this is one of the colorful sites you'll see. It shows part of the downtown area, the harbor, and a portion of Paradise Island. There are still a few berths available, particularly in the three-to-a-room accommodations, which include private baths. NASA Exchange supervisor/treasurer Ralph Harkness said a waiting list of non-NASA or contractor employees will be opened August 1st, and suggested all who are interested in tickets to contact him immediately at UL 3-6089.**

## SATURN I'S DESTRUCT SYSTEM DESIGNED TO RUPTURE FUEL TANKS

Built into the giant 162-foot tall Saturn I space vehicle is a delicate system which Marshall Space Flight Center technicians hope they'll never have to use.

It's the Saturn "destruct" system, a primer cord network woven into the rocket and armed about 10 seconds before launch. The cord, with 50 to 400 grains of explosives per foot, is designed to rupture the propellant tanks.

Engineers say the destruct system is a method of "eliminating propellants" in the event of a malfunction.

It sure does. It also eliminates the rocket.

The manually - operated ground destruct button has been pushed deliberately twice in scientific experiments at the end of powered flight. Both times, the rockets blew up to release 95 tons of water and form the first space clouds — which dissipated in seconds.

Scientists wanted to see what happened when the water was released. An electrical storm was created in the ionosphere.

It proved, moreover, that the huge propellant - laden rocket can be destroyed if the ground decision is made. So far, except for the two intentional destructs after the goals of the launches had been met, the system has been excess baggage. All Saturns have flown perfectly.

Each Saturn has antennas designed to pick up the destruct signal from the ground.

In later Saturn models, a more sophisticated system, expected to disperse the propellants with less blast pressure, will be used.

In the case of astronauts aboard, the Saturn system will be wired to delay booster and other stage destruction until the Apollo spacecraft escapes via its own escape tower. The astronauts will be pulled free by rockets and then the launch vehicle will be destroyed.

### Syncom Rescheduled

The second NASA - Syncom active repeater communications satellite was still atop its Delta booster at Canaveral this morning.

The 125-pound satellite was to have been launched early yesterday, but technical troubles grounded it for at least 24 hours.

## Dr. Mueller To Direct Space Flight

NASA has named Dr. George E. Mueller to head its Manned Space Flight Program.

Dr. Mueller, Vice President for Research and Development of Space Technology Laboratories, was appointed to the new position of Deputy Associate Administrator for Manned Space Flight.

He will have responsibility for NASA's Office of Manned Space Flight and NASA's field centers directly concerned with manned space flight, Marshall Space Flight Center at Huntsville, Manned Spacecraft Center at Houston, and Launch Operations Center at Cape Canaveral.

He will assume his new duties on September 1.

Dr. Mueller succeeds D. Brainerd Holmes who resigned.

NASA Administrator, James E. Webb, said, "The realignments now being effected in the United States' Manned Space Flight Program will strengthen it and

(See Dr. Mueller, Page 5)

**Dr. Mueller**

# SPOTLIGHT

## NEED FOR SUPERVISORS

A continuing need to select and develop effective supervisory personnel in the Federal service was stressed recently by Civil Service Commission Chairman John W. Macy, Jr.

In hearings before the Government Activities Subcommittee of the House Committee on Government Operations, Macy said:

"I think there needs to be a constant effort in the Federal service and any other enterprise to see to it that we are bringing people of leadership and capability into positions that involve the guidance and supervision of others. I feel that one of the most important decisions that has to be made in every organization is the selection of a supervisor who is going to guide others because this is the point at which motivation is going to be generated. This is the point at which standards are going to be applied.

"I am talking about all levels of supervision and we can write all kinds of standards. You can legislate all kinds of new programs but the final achievement of this in terms of public interest is in the hands of the man who is making the day-to-day decisions with respect to the people who are under his direction.

"I do not think any of us ever have acquired enough knowledge or enough skill to really do the supervisory job to the fullest possible extent. We can always learn new techniques. We can read the literature that has been put out and we can press for more research so that we know how people react to various stimuli.

"This is a continuing need and the men and women who exercise this supervisory responsibility are the key people in our organization."

## BELT TIGHTENING – LOCAL LEVEL

With NASA's battle of the budget waging openly on Capitol Hill these days, perhaps it's time to look around the home-front and see if anything helpful can be done here.

Too often it is easy to say, "what can I do? I'm only one person."

Regardless of whether the budget stays cut or is restored, a little bit of individual belt tightening, when multiplied by the thousands of employees at NASA centers across the country, would surely make a significant contribution to any economy drive.

And what office workers hasn't thrown away good scrap paper or discarded a still usable pencil, or even been extravagant with government supplies?

This is not to say that such extravagence is intentional. But, surely, by reminding ourselves that a penny here, a nickel there, will add up, the overall effort will prove worthwhile.

NASA officials must have sound justification for each dollar allotted.

It's our job to see that these justifications are lived up to from this end.

SPACEPORT NEWS

Published each week by the National Aeronautics and Space Administration's Launch Operations Center, Cape Canaveral, Florida.

JOHN PANIZZA loads Mary Colman, (center) and Libba Johnson of the Financial Management Office's Budget Branch, with books during their recent move to the Apollo Building in Cocoa Beach.

## SPACE ALMANAC

A CHRONOLOGY OF EVENTS IN SPACE EXPLORATION AND RESEARCH.

**5 Years Ago**

July 29, 1958 — President Eisenhower signed H. R. 12575, establishing the National Aeronautics and Space Administration.

**3 Years Ago**

July 29, 1960 — Project Apollo, advanced manned spacecraft program, was first announced at NASA's Industry Conference.

### Spare Hands Needed

If you're handy with figures, can count cash fast, or like to meet people, the NASA-MILA Credit Union is looking for you.

They need volunteer workers to help in the office. If you can spare just a few minutes from the daily routine, call C.U. Education Chairman Bob Mercer at UL 3-6575.

★ ★ ★

## SEVERAL OFFICES COMPLETE BIG MOVE TO APOLLO BUILDING

The big move to the Apollo Office Building, 333 North Atlantic Avenue, Cocoa Beach, has been completed.

Financial Management, Procurement and Contracts, Legal, Industrial Relations, Security, Community Development and Personnel are now all under one roof.

Community Development was the final office to move, making the transition Saturday. They share the Apollo Building's first floor with Personnel, Industrial Relations and Security.

Procurement and Contracting fills the second floor, and the Legal and Financial Management Offices are on the third story level.

LOC's Management Analysis, Public Information and Protocol (visitors' bureau) offices remain in the Holiday Office Building in Cocoa Beach.

Phone numbers for all offices remain the same.

Review security instructions frequently.

# VEHICLE RENDEZVOUS 'MOST DANGEROUS' BROOKS TELLS UNITS

Russell G. Brooks of MSC at Canaveral, told a joint meeting of Army and Navy Reserve Units at Patrick Air Force Base last week that physical rendezvous between orbiting vehicles is perhaps the most dangerous part of the planned journey to the moon.

"First, there is the hazard of impact while traveling at excessive speeds during complicated rendezvous maneuvers in space," said Brooks.

"Second, there is the peril of an electrical discharge from one rendezvouing vehicle to the other, possibly damaging or destroying one or both vehicles," he continued.

Vehicles while hurling through space, buildup a tremendous electrical charge. When a chase vehicle with a lesser charge (lower electrical potential) due to a shorter time in orbit, approaches an orbiting tanker for rendezvous, the tanker electrical charge (seeking the lower potential) may arc to the chase vehicle, possibly causing an explosion, he explained.

Measuring and equalizing the electrical charge (potential) of rendezvouing vehicles to prevent this discharge is the object of current studies.

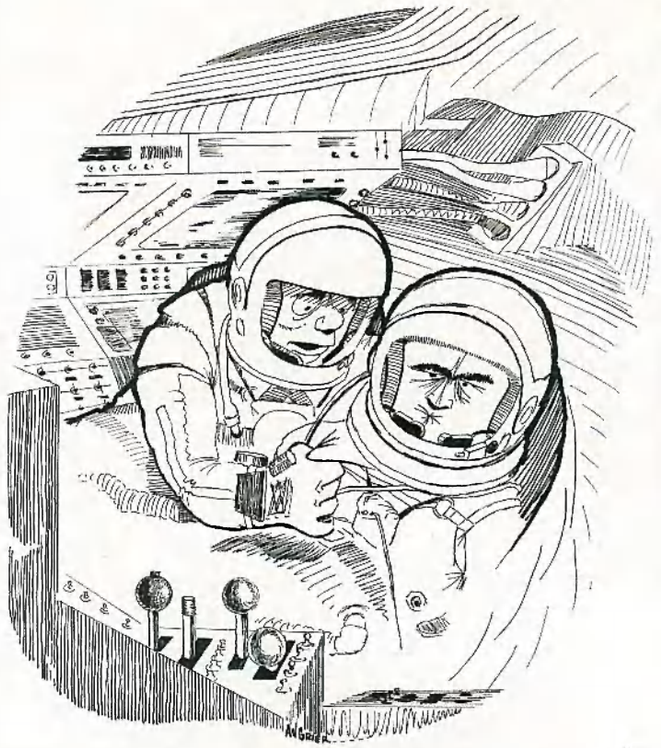
Brooks, who is a section head in NASA's Operations Support Office, MSC, Cape Canaveral, is responsible for coordinating Project Gemini operations support planning at the Atlantic Missile Range.

## Joint Bridge Party

The first NASA-Mercury Club and Boeing Bridge Club duplicate bridge party, Monday night was so successful, another joint match has been scheduled for Monday night, August 5, at 7:15 p.m.

Players will compete for a full master point as well as cash prizes. Admission is 75 cents, and coffee will be served.

All sub-contractor players are welcome. If interested, call Henri Kent, Chairman of the Mercury Bridge Club, at UL 3-4538.



"CHARLIE, YOU DIDN'T EAT THE RETRO KNOB? ... CHARLIE? ..."

## NEXT: BANANA FLAVORED SPACECRAFT?

Post-lunar antronauts may have to eat their way, literally, out of future spacecraft.

Grumman Aircraft, under contract to NASA for the Lunar Excursion Module, has developed an edible spacecraft material.

The recipe calls for white flour, corn starch, powdered milk, powdered banana and hominy grits. This concoction is then mixed thoroughly, baked at 300° F for five to ten minutes under 3,000 pounds per square inch pressure.

Then the hot liquid is poured into molds for drawer knobs, partitions, levers, coat hooks or whatever an astronaut might need on a space ship or orbiting platform.

Upon hardening, the substance is stronger than fiberboard.

Spacemen who are delayed in transit and become hungry may simply knock off a piece of the material, soak it in warm water for two and a half hours, and then eat their fill.

# NASA Floods Neon Market With Orders

Thermonuclear rocket researchers at NASA's Lewis Research Center changed the entire complexion of the neon industry recently with an order for more than 100,000 cubic feet of bottled neon gas.

Before NASA entered the neon market, most of the U.S. neon supply went toward advertising beer in red illuminated signs. Since even a giant sign contains only a small amount of neon gas in its near-vacuum, mass production of neon was non-existent. What little neon there was sold for $50 a cubic foot.

Finding a supplier for 100,000 cubic feet was quite a problem. The Cleveland plant of Air Products and Chemicals, Inc., of Allentown, Pa., solved the problem with a new system to manufacture liquid neon in large quantities and at about three per cent of the former cost. Since there is only a trace of neon in air, Air Products distills neon as a by-product of its usual liquid air production.

Once at Lewis, the gas is re-liquified in NASA's own facility that can convert neon gas to cold liquid neon at a rate of 4,000 pounds a day.

Liquid neon at 415.7 degrees Fahrenheit below zero is a vital element of NASA's new supermagnet. The magnetic field, which will be 200,000 times as strong as that of the earth, will be used in research work related to harnessing a theomonuclear fusion reaction for propulsive power.

# WALKER PILOTS X-15 TO RECORD ALTITUDE ON 90TH FLIGHT

Joseph A. Walker, chief pilot of NASA's Flight Research Center, reached the record altitude of 350,000 feet (66.3 miles) Friday on a flight in the X-15 research airplane.

Walker topped all previous altitude marks for manned winged aircraft. Highest previous altitude attained was 314,750 feet.

Walker reached a maximum speed of 3,866 mph (mach 5.09) on the flight. He landed on Rogers Dry Lake, at Edwards 11 minutes after launch from the B-52 "Mother Craft."

Walker, a 42 year-old civilian and veteran pilot of many NASA research airplanes, set the record by running the X-15's rocket engine for 85 seconds at full thrust and reaching an altitude of 175,000 feet at burnout. The X-15 engine has 57,000 pounds of thrust.

The X-15 was originally built, under joint sponsorship of the Air Force, Navy and NASA, to obtain research data at speeds up to 4,000 mph and altitudes to a maximum of 250,000 feet. The flight was the 90th made in the three X-15 airplanes since the program began June 8, 1959.

# SAN MARCO INTERNATIONAL SATELLITE TO BE LAUNCHED FROM INDIAN OCEAN

NASA will launch a Scout rocket from a platform in the middle of the Indian Ocean by 1965, as the final phase of the joint U.S. - Italian space venture — San Marco.

A cooperative program between NASA and the Italian National Research Council, San Marco will terminate with the launching of a scientific satellite into an equatorial orbit within two years.

When in orbit, the San Marco satellite will perform high altitude measurements of atmospheric and ionospheric characteristics in the equatorial region — a pioneer venture.

The launch is to take place from a platform similar to a Texas Tower, located on the continental shelf in international waters off the east coast of Africa. The at-sea launch is necessary to achieve an equatorial orbit.

Two large platforms which can be towed from Italy through the Mediterranean Sea and the Suez Canal will stand firmly on the ocean floor on retractable legs.

One platform will contain the elaborate instrumentation necessary for the test and control systems for the launch vehicle and the satellite, while the other will be used for the actual launching and range operations.

The Italians are responsible for the concept, design and construction of the satellite, for the launch platforms and instrumentation, and for the tracking equipment.

NASA is responsible for technical training of the Italian team, for certain preliminary sounding rocket tests of the Italian satellite instrumentation, and for providing the Scout rocket vehicles which will be employed to place the satellite into orbit.

Already two Shotput suborbital sounding rockets have been launched from NASA's Wallops Island Station in Virginia. The most recent firing occurred last week.

The two flights were a continuation of a series of sounding rocket launches which started April 20 to test instrumentation for the San Marco satellite.

A third Shotput is scheduled for launching from a platform in the Indian Ocean near the equator during the fourth quarter of this year.

Following the Shotput test launches at Wallops Island and from the towable platform in the Indian Ocean, orbital Scout launches from Wallops are scheduled for 1964 prior to the final attempt at the Indian Ocean site.

At takeoff, Shotput develops 120,000 pounds of thrust. The complete assembly is 32 feet long, 33 inches in diameter and weighs 11,000 pounds at launch. It is a combination of standard solid propellant rocket motors.

The San Marco Project was conceived by Professor Luigi Broglio, Chairman of the Italian Space Commission under the National Research Council, and has been developed under his direction by a select group of Italian scientists and engineers.

NASA's Program Manager is R. D. Ginter of the Office of Space Sciences.

## San Marco Second To Canada's Alouette

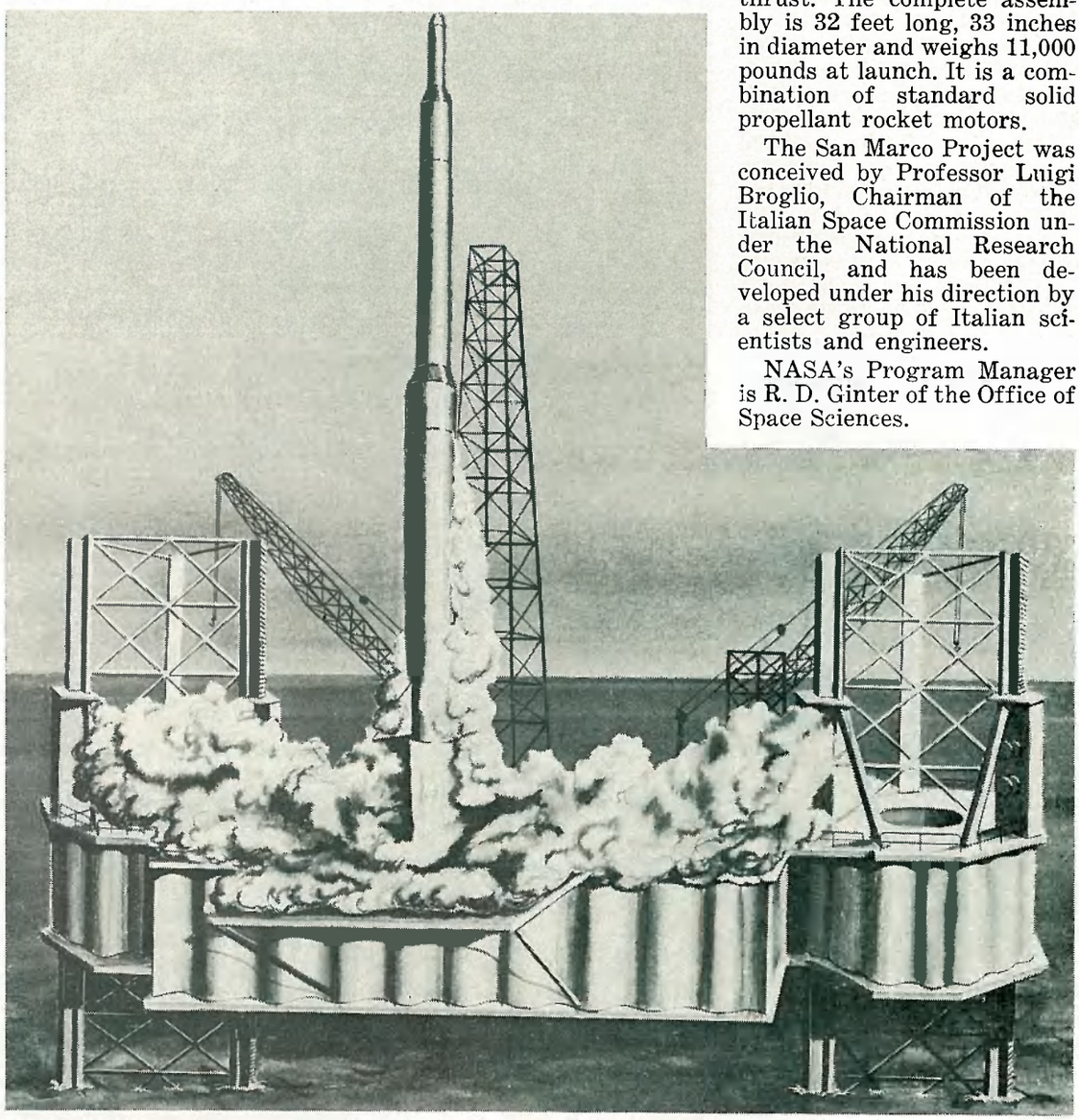
Canada's Alouette is the first satellite built completely by a nation other than the United States or the Soviet Union. San Marco will be the second.

The preparation of the payload for the project is being carried out by Italian university science groups under the Italian commission. The payload will weigh approximately 225 pounds at launch.

Since the beginning of the San Marco project last year, a growing feeling of awareness of the scope and complexity of the program among the members of the team from both nations has been increasingly evident.

## Big Flame Bucket

When NASA launches a Scout rocket from the Texas Tower-type complex in the middle of the Indian Ocean as part of the San Marco Project, there will be no worries about rocket engine exhaust damage to the pad. Fire will be funneled directly down into the cooling ocean — the largest "flame bucket" in the world.



**FINAL PHASE of the San Marco Project, the launch of the satellite from a floatable "Texas Tower" using NASA's Scout solid fuel booster, is depicted in this artist's concept.**

# Dr. Mueller

(Continued from Page 1)

provide for an effective transition into the newer concepts and missions associated with Gemini and Apollo. Mr. Holmes has rendered outstanding service to his country, NASA and the Manned Space Flight Program in setting it on a course toward success and recovery from a position in which we have been behind the Russians. NASA appreciates his great contribution and we all wish him well as he retires to industry.

"We are most fortunate to obtain the services of Dr. Mueller to furnish the leadership and keep up the pioneering instilled in this program."

Dr. Mueller will bring to bear on this new position, his detailed experience in the management of large missile and space programs, gained through his years of work on the Atlas, Titan, Minuteman and Thor Ballistic Missile Programs and NASA's Pioneer and Explorer space programs, while employed at the Space Technology Laboratories.

In particular, he had overall responsibility for the design, development and testing of systems and components basic to the Ballistic Missile program, the development of the United States' first successful space probe, Pioneer I, for several other space and interplanetary probes, including Explorer VI and Pioneer V, and for the establishment of the first world wide satellite tracking network—The Span Network.

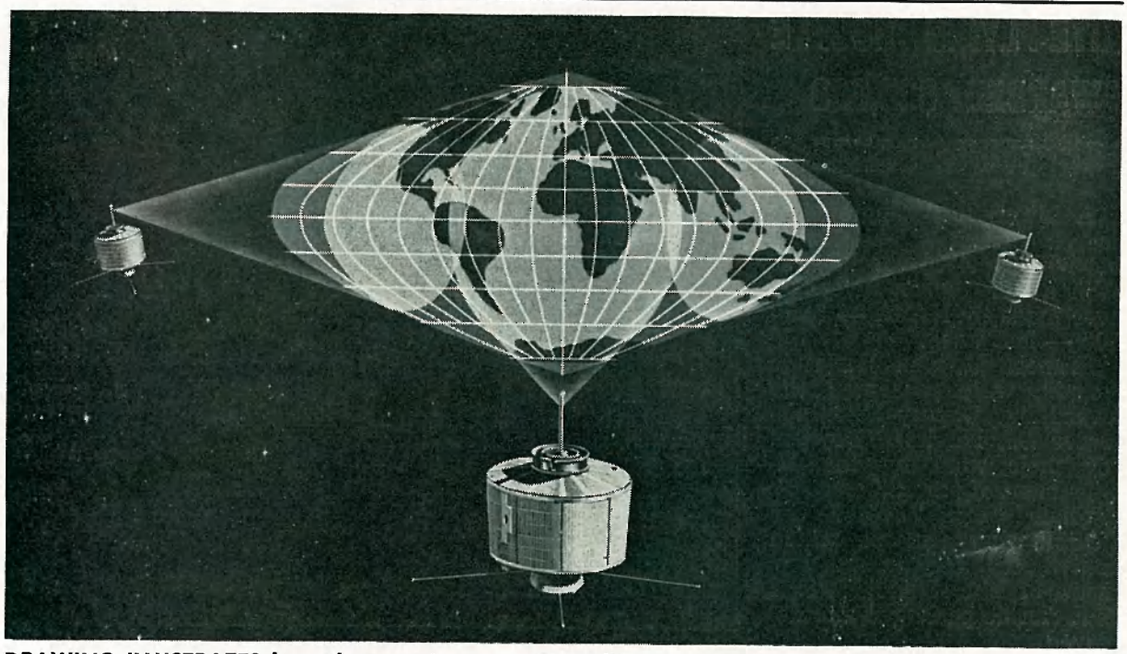
His 23 years of experience includes extensive research in electromagnetic theory and application, television, microwaves and microwave antenna, missile guidance systems, deep space communications, systems engineering and space payload design.

He was one of the originators of the concept and design of "Telebit," the first digital telemetry system to enter space.

He received a B. S. Degree in Electrical Engineering from the Missouri School of Mines in 1939. He earned his M. S. Degree in Electrical Engineering at Purdue University where he also was a research Fellow.

Following graduation, he worked for six years at the Bell Telephone Laboratories, first in television and then in microwave research where he was a pioneer in millimeter wave research.

While at BTL, he continued his study of physics at Princeton University, then transferred to the Ohio State University where he was awarded a Ph.D. Degree in Physics.



**DRAWING ILLUSTRATES how three stationary type satellites can provide a global communications network with uninterrupted, 24-hour a day television and telephone service. Each Syncom satellite, at 22,300 miles altitude, can "see" a third of the globe. Microwave signals can be relayed via the satellites from any ground station to any other within the network. The satellites travel at a speed that is synchronized with the earth's rotation, and appear to hang motionless in the sky.**

**COUNTY, STATE AND NATIONAL Civil Defense leaders met at Satellite Beach Friday for an Industrial Civil Defense seminar, to develop a greater awareness of the need for industry-defense preparedness against nuclear attack in Florida. Among the 200 who gathered were, left to right, front row: Marion Dross, Director, Office of Civil Defense, Department of Defense, region three; Mrs. Louise Gibbons, Brevard County Director of Civil Defense; and Virgil Couch, Director of Industrial Participation, Office of Civil Defense, DOD, Washington. Back row, from left: Charles Buckley, Chief of LOC's Security Office; Edwin Fowle, Civil Defense coordinator for the McGraw - Hill Publishing Company; U. Wright Kerns, Assistant Community Development Officer for LOC; C. E. Aldrich, Deputy Civil Defense Director for Florida; and Maxwell McKnight, staff officer for the Socony Mobil Oil Company.**

## NASA NEWCOMERS

LVO: Darrow L. Webb.

LOC: Billie E. L. Harrison, Armond N. Barfus; Mildred I. Lockhart; Jean M. Carpenter; Charles C. Young; Wilma M. Murphy; Mary F. Fellows; A. Donald Dickson; Ronald C. Anderson; Annie Wright and Nelson B. Marley.

## LEM Subcontractor

Radio Corporation of America has been selected as a major subcontractor to Grumman Aircraft Engineering Corporation for electronic subsystems and engineering support in development of the Lunar Excursion Module (LEM) of the Apollo spacecraft.

# KITE-FLYING COUPLE AWARDED $35,000 FOR WING CONCEPT

A kite-flying Langley Research Center scientist and his wife received the highest cash award for an invention ever made by NASA — $35,000 — last week.

Francis M. and Gertrude Rogallo were presented the award by Deputy Administrator Dr. Hugh L. Dryden, for their work on the development of paragliders.

Their work covered the flexible-wing concept which contributed to the development of the flexible wings that can be packaged and deployed.

The innovation has led to large-scale work on paragliders by NASA.

A version of the paraglider is being considered for use as the principle recovery system in later phases of the Gemini program which will place two-man capsules in earth orbit for periods lasting up to two weeks.

The Rogallos' idea grew out of their hobby of kite flying.

## Beer Can Blitzing Disrupts GSFC Tests

There's been much talk recently about metallic trash cluttering up space, but officials at NASA's Goddard Space Flight Center in Greenbelt, Maryland, are having earthbound litter problems.

Seems Goddard officials selected a special area near the Center for sensitive test devices for spacecraft. The site was selected because it was free of mineral-bearing rocks. To further eliminate the possibility of magnetizing and thus distorting the test devices, workmen even combed the land of the smallest nails.

But area citizens haven't cooperated. They've littered the site with dozens of beer cans, two auto engines and an old kitchen stove.

A special security detail is being organized to scan the land and clear the cans.

# Sandy Seawall East Of 34 To Give Added Protection

A mile-long, 25-foot-high sea wall of sand is rising on the Cape oceanfront between Launch Complexes 19 and 34.

The wall, and a deep ditch just west of it, are being developed to help combat erosion and alleviate drainage in the 34 area.

Surly, wind-whipped seas pounded the beach last winter during several storms, and flooded the low terrain between the beach and 34, causing drainage problems.

A spokesman for Pan Am, the range contractor putting up the wall, said it could probably withstand a pounding equal to last winter's. He said although the wall isn't impenetrable, it will help the draining and erosion problem.

The spokesman said as much as 100 feet of beach front have been lost during severe storms. The frontage east of 34 facing the northeast has been particularly vulnerable to storms from that direction.

## KEY APPOINTMENTS BECOME EFFECTIVE

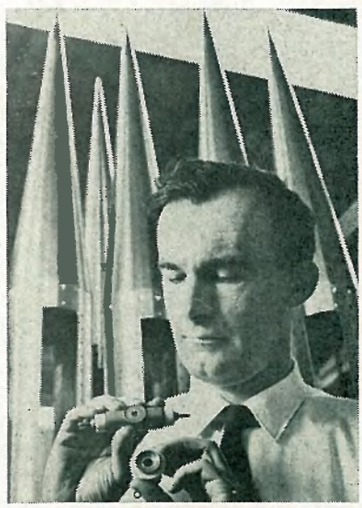
Three key personnel appointments to the NASA Headquarters staff have become effective.

Earl D. Hilburn has assumed the position of Deputy Associate Administrator for other than manned space flight centers.

He will be the primary representative of the Associate Administrator, Dr. Robert C. Seamans, Jr., for actions and relationships involving general management affairs.

Robert F. Garbarini, has been appointed Director of the Office of Applications.

Dr. Seamans also announced the appointment of Robert W. Long to his staff as a consultant on construction matters.



**DR. LESLIE SMITH of the Geophysics Corp. of America holds solar radiation sensory instruments used on six Nike-Apache sounding rockets fired into the ionosphere from Ft. Churchill, Canada, during the solar eclipse.**

# Scientists Add Theories About Moon

Two NASA scientists have added to the scientific controversy of whether the moon's surface is covered with a dust layer, just how deep it is, and whether it would support the weight of a landing vehicle.

They said it is estimated that it is from four inches to three feet thick and supported one group of scientists who say that its porous cobweb-like structure would crumble underfoot like a fairy castle.

The estimate was made in a paper, "Dust Bombardment of the Lunar Surface," presented at a Lunar Surface Materials Conference in Boston.

The authors are Curtis W. McCracken of NASA's Goddard Space Flight Center and Maurice Dubin of NASA Headquarters.

Considerable controversy has raged for some time over the interpretation of radio, radar and infrared observations of the lunar surface.

Some scientists have said that the lunar surface may be covered by deep layers of underdense material into which any landing vehicle might well sink out of sight.

However, McCracken and Dubin base their estimate of the thickness of the dust on data gained from spacecraft and ground observations of interplanetary dust particles. Most of these particles originate from comets.

The scientists said that available data on the flow of these particles show that the material accreted by the moon during the past 4.5 billion years amounts to approximately one gram per square centimeter if the flow has remained fairly constant. They believe it has.

Some scientists feel that the moon is continually being eroded away by these impacts and has to expose new surface material.

McCracken and Dubin suggest that the moon is gaining in mass because the impacting particles do not necessarily escape the moon's gravity and thus form a layer of dust on the surface.

**A LARGE CROWD gathered on Merritt Island last week to witness dedication ceremonies at the new Corps of Engineers Building, just south of the Barge Canal. The handsome, two-story building houses all Canaveral District Corps members.**

# $5½ Million AOSO Pact To Republic

NASA has selected Republic Aviation Corporation, Farmingdale, N. Y., for negotiation of a contract for the Phase I development of the Advanced Orbiting Solar Observatory (AOSO). The value of the contract is expected to be about $5 1/2 million.

Phase I of the AOSO development, which will require about one year for completion, will include detail design, systems engineering, reliability assessment, limited hardware development of critical systems and components and trade-off analysis.

A 300 nautical mile polar orbit is planned for AOSO. In this orbit, above the obscuring and distorting influences of the earth's atmosphere, it will make observations in the X-ray, gamma ray, ultraviolet, infrared and visible region of electromagnetic spectrum.

Studies based on these observations will lead to a more complete understanding of the structure, dynamics and composition of the sun and its effects on the environment of the earth, other planets, the moon, interplanetary space and manned flight.

The solar observatory series began with the successful launching of the Orbiting Solar Observatory I, March 7, 1962, which transmitted useful data during eleven weeks of continuous operation and several additional weeks of intermittent operation. Seven more of these spacecraft are planned for launch between now and the first AOSO.

# ASTRONAUTS TESTED ON AMES CENTRIFUGE

Seven of the nation's astronauts recently conducted simulated manned spacecraft missions at NASA's Ames Research Center, near Mountain View, California.

Astronauts Gordon Cooper, Walter Schirra, Donald "Deke" Slayton, Frank Borman, Elliot See, Thomas Stafford, and John Young were subjected to space flight stresses on the Ames motion simulator, or centrifuge.

The Ames tests required that the astronauts be spun around on the simulator at several times the force of gravity. During their flight, special stresses were superimposed on them to simulate the environment they may encounter during future manned space missions.

Astronaut "Deke" Slayton, spokesman for the group, said "ultimate fidelity in simulating various phases of a manned space mission has been an engineering goal of the program since its inception. We used the centrifuge at Ames because it is the only one in the country capable of superimposing the stresses we are interested in."

## Weight(less) Lifter

Jean Crook, a Lockheed Missiles & Space Co. engineer, demonstrates the lightness of a foam material which is being tested by Lockheed as possible insulation for the fuel tank of the giant RIFT nuclear powered space vehicle.

Made by a special machine which mixes chemicals and blows them in a creamy foam from a nozzle, the material is known as "Freon-blown rigid polyurethane." Hardened, a cubic foot of the foam shown in the photo weighs only 1½ pounds, or a fourth as much as balsa wood.

# MSC, Lewis Hire 265 Students, Professors For Summer Jobs

NASA's Manned Spacecraft Center has hired 190 college students and professors for temporary positions during the summer months.

The students were selected from about 800 applicants representing colleges throughout the country.

Most of the students are involved in scientific and engineering work, but some have business and public administration jobs.

Seventeen of the new MSC employees are assigned to other installations of NASA; thirteen are at Cape Canaveral.

### 75 At Lewis

Seventy-five college students and professors are acquiring valuable experience in their scientific specialties while assisting the space effort this summer at NASA's Lewis Research Center.

Many work as research assistants helping to plan and conduct research experiments, analyze the resulting data and prepare technical reports.

The summer work program is valuable not only for the contributions made to NASA but also as an opportunity for the young scientists to be brought into active contact with their fields of interest.

# Conserved Sick Leave A Benefit

The average Federal employee could not afford to buy sickness and accident insurance that will pay his full salary, say, at age 50 for a year and a half regardless of illness or disability.

But that is what your sick leave can offer if you conserve it for use in a real emergency. The legitimate use of sick leave — earned at the rate of 13 days a year for all employees — is wise and is encouraged. If you are fortunate, however, and can save sick leave and permit it to accumulate, your benefits mount as follows:

13 days sick leave accumulated for—

10 years — 130 days or 1,040 hours;
15 years — 195 days or 1,560 hours;
20 years — 260 days or 2,080 hours;
25 years — 325 days or 2,600 hours;
30 years — 390 days or 3,120 hours.

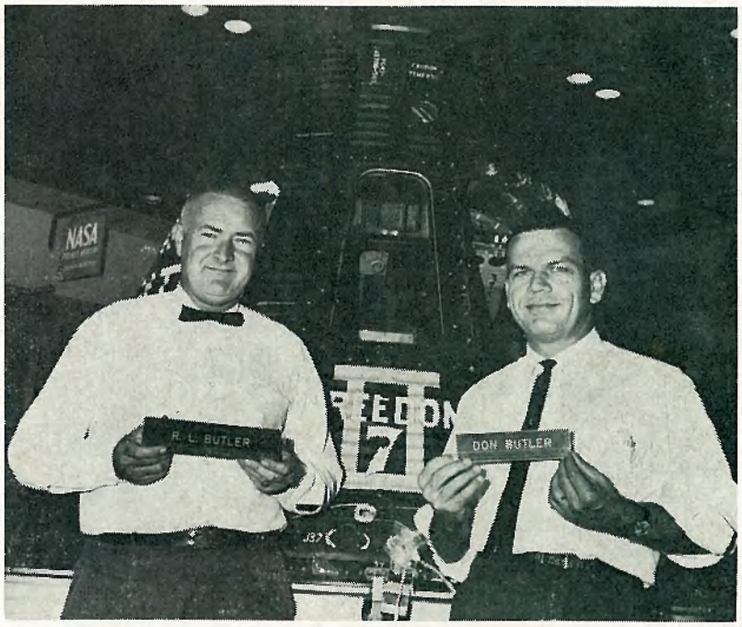
As you get older, extended illness is more likely to strike. Used conservatively, your sick leave "insurance" will give you benefits you otherwise would not have.

We are not all blessed with good health. But those of us who are should remember — sickness often strikes suddenly and without warning. Recovery from lengthy illness is difficult enough without having the additional worry of providing for your own expenses, or if married for those of your family. Your sick leave "insurance" will soften the financial blow and relieve you of worry that might otherwise impede your recovery.

One day, perhaps when you least expect, your sick leave "insurance" may prove invaluable. It will pay off in dollars — and sense.

### Dr. Brevard

Brevard County was named for a Dr. Brevard, said to have been the author of the Mecklenburg, N. C., Declaration of Independence.




**A COUPLE OF BUTLERS with strikingly similar backgrounds bumped into each other in Hangar S recently. Ralph Butler, left, formerly with McDonnell, is now a North American Aviation employee. Don Butler, a ex-North American worker, is currently with McDonnell. Needless to say, their associates get confused sometimes when the wrong Butler answers the phone.**


Dear Sir:

"I picked up a book from the library for which I am very grateful that it got into the hands of a native born citizen instead of Commie hands. I found the book contained information that could give very vital facts in order to orbit the moon or send men into space.

"I would let Canaveral use it as long as they choose to take notes on it, but when they are through, I'd like to have it back. I will not mail this book, for fear it may get into the wrong hands, but should you care to send a reputable person who can prove he isn't a Commie, I'll let them take the book. Its title is "From the Earth to the Moon," and it was written by Jules Verne."

Eileen R.
Mansfield, Ohio

## SATURN BOOSTERS TO BE RECOVERED?

Use of recoverable Saturn boosters is being explored by a pair of scientists at the Marshall Space Flight Center.

L. T. Spears and C. H. Rutland of the center's Future Projects Office, say that such a recoverable vehicle now seems the best and cheapest approach to handling the high volume of passenger and cargo traffic between earth and earth orbit, expected in the 1970's and 80's.

One idea under study is the possibility of putting wings on the Saturn V and even larger boosters so they may be flown back to earth and used again and again.

Frequent earth-to-orbit trips will be made in the next 20 years, the two engineers state, and in order to haul equipment, supplies and fresh crews to space outposts, staggering costs would be required if the big booster rockets are used just once.

### Associations

Credit unions are associations of people, owned and democratically controlled by their members. Should they cease to be such, they cease to be credit unions.


If you're planning to take the NASA Exchange's Labor Day cruise to Nassau and it's your first such trip, here are a few tips from a voyage veteran:

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If you're a gambler, take plenty of change — nickels, dimes and quarters. Once the ship passes the three-mile limit, slot machines magically appear out of the walls and gambling is suddenly legal.

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Even if you're a moderate imbiber, don't miss the Captain's cocktail party. If memory serves us correctly, the choice included martinis, screwdrivers, bourbon and possibly scotch. All drinks are on the house, 'er ship. But the party lasts only one hour, so don't be late.

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The first thing you'll run into after docking is the straw market. Unless you're looking for a skimmer to shield you from the sun, or a bag to carry shopping purchases, don't buy right away. Before you leave all prices will have been cut in half. Bargain a little, it's part of the game.

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If you're a camera bug, be sure to ascend the tall water tower. It affords a fine scenic panorama of the island.

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If you've a flair for the unusual, try the Ardastra Gardens, where you'll see the world's only marching Flamingos. Be sure to wear knee-length Bermuda shorts though. They'll turn you back if you knees are bare — honest.

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Don't buy any conch shells in the market places. When you board the ship to come home, native boys will be along with the prettiest shells attainable — for two bits apiece.

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Bon voyage.