

# SPACEPORT



# NEWS

Volume 2, No. 14

NASA Launch Operations Center, Cape Canaveral, Florida

April 4, 1963

## Delta Racks Up 16th In A Row As S-6 Orbits

NASA's S-6 Atmospheric Structures Satellite was launched into an earth orbit Tuesday night atop a 90-foot-tall Delta rocket.

It was the 16th consecutive successful launch of the ever-reliable booster.

The 405-pound payload is carrying experiments to measure the density, composition, pressure and temperature of the atmosphere at altitudes between 155 and 580 miles above earth.

Trouble with the satellite's mass spectrometer, a delicate device which counts neutral gas particles, caused a five-day postponement of the launch. It had originally been scheduled as the second half of a NASA "doubleheader" last Thursday, following the launch of SA-4.

### Extra Benefits

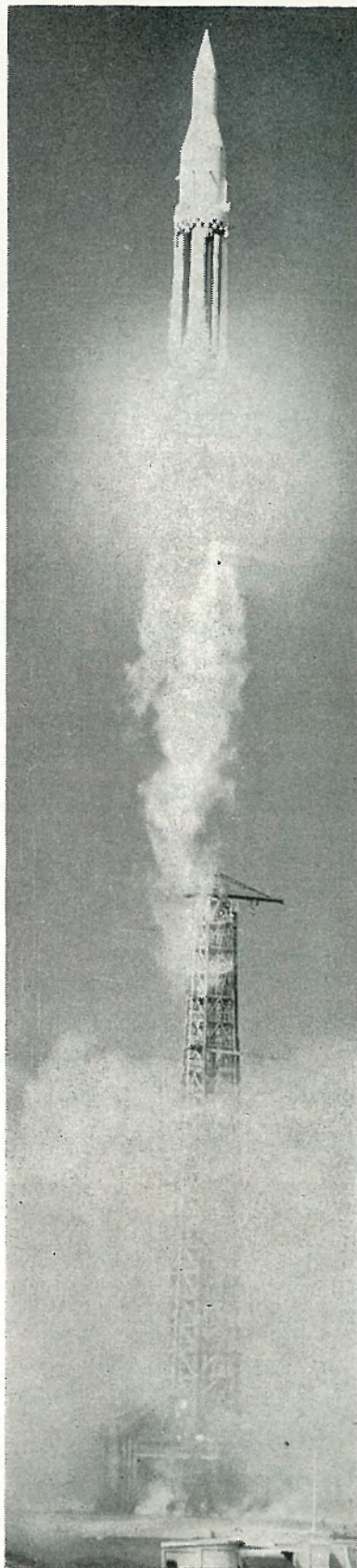
The primary mission of S-6 is atmospheric research, but future manned and unmanned spacecraft will also benefit from the direct temperature and pressure measurements being made. These will be useful in predicting orbital characteristics of other craft.

The spherically-shaped, stainless steel satellite is expected to have a useful lifetime of two to three months.

It carried eight primary detectors into space: two neutral spectrometers, four vacuum (pressure) gauges, and two electrostatic probes.

S-6 is designed to be near "leak-proof", thus minimizing contamination of the atmosphere of space as it orbits at a speed of more than five miles a second.

Electrical energy to the craft is being supplied solely by approximately 150 pounds of silver zinc chemical batteries.



SA-4 Liftoff

## Saturn Still Batting 1,000 In Space Launch League

Saturn I, closing out its Block I configuration tests with a 4-for-4 record of success, will attempt to orbit an 18,000-pound payload in the first flight of the Block II later this year.

Dr. Wernher von Braun, Director of the Marshall Space Flight Center, announced the orbit attempt during a press conference after the launch of SA-4.

### McDONNELL AWARDED \$456 MILLION GEMINI SPACECRAFT PACT

The National Aeronautics and Space Administration has signed a \$456,600,000 prime contract for Project Gemini Spacecraft with the McDonnell Aircraft Corporation of St. Louis, Missouri.

Development of the two man Gemini craft began at McDonnell in December 1961 under technical direction of the Manned Spacecraft Center with a preliminary letter contract which amounted to \$145,000,000 and is included in the \$456.6 million total.

Manned Gemini missions, to begin in 1964, will develop docking and rendezvous techniques in space with a previously launched Agena vehicle in preparation for the Apollo lunar mission which will land U. S. Astronauts on the moon.

Under the contract the firm will provide 13 flight-rated spacecraft. Twelve are to be used for space flights and the 13th is to undergo ground testing. McDonnell also will provide 16 Gemini-Titan II adapter modules and nine Agena target vehicle docking adapters.

### THE INSIDE STORY

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He said the second stage of the Saturn as well as the nine-ton payload will be put into orbit for SA-5. The total weight of the orbiting "package" will be about 33,000 pounds.

On SA-6, the payload will be a boiler-plate version of the Apollo spacecraft.

SA-4, meanwhile, kept the record of the three previous Saturn I's intact. After three holds—the first such for technical reasons in the Saturn test program — it was launched shortly after 3 p.m. Friday.

SA-4 climbed some 77 miles over the Atlantic and dropped into the water about 229 miles down the Atlantic Missile Range.

### No Appreciable Change

At precisely 100 seconds after the 16-story-tall rocket climbed from Launch Complex 34, one of its eight engines was deliberately shut off in a test to see how the booster would react. The rocket continued its journey with no appreciable change, bearing out a theory that it could function with one — or perhaps even two — engines off.

The engine out test was a "first" in the field of American rocketry.

The SA-4, like its three predecessors, carried dummy upper stages, ballasted to approximate the weight of live stages. SA-5 will be the first Saturn I to carry a live second stage. It will be powered by engines which burn liquid hydrogen.

Quick-look data indicated the SA-4 flight test was near perfect in all phases.



## CLOSING THE DEVELOPMENT LOOP

It is essential in the early design phase of a space vehicle that the operations it will undergo be considered in design. This means the operational concept of space vehicle preparation, checkout, and launching must be considered in the design phase and the designer must make ample provisions for this type of operation.

These provisions are sometimes cumbersome. For example, if operations require access, there may have to be a hatch or door at a certain point. The designer of course takes a dim view of this as he doesn't want to include additional doors or hatches.

Everytime the development centers send components or vehicles to the Cape, they expect to be told what is right, what is wrong, what is a marginal design and what is a good design.

Whenever a component or vehicle arrives here it requires competent engineers and technicians, and in their competence must be an experience factor. During actual inspection and checkout phases, launch engineers are sent to the development centers where they participate for many months as the hardware is developed, manufactured, tested and inspected. By the time the hardware arrives here it is met by well-trained and experienced people.

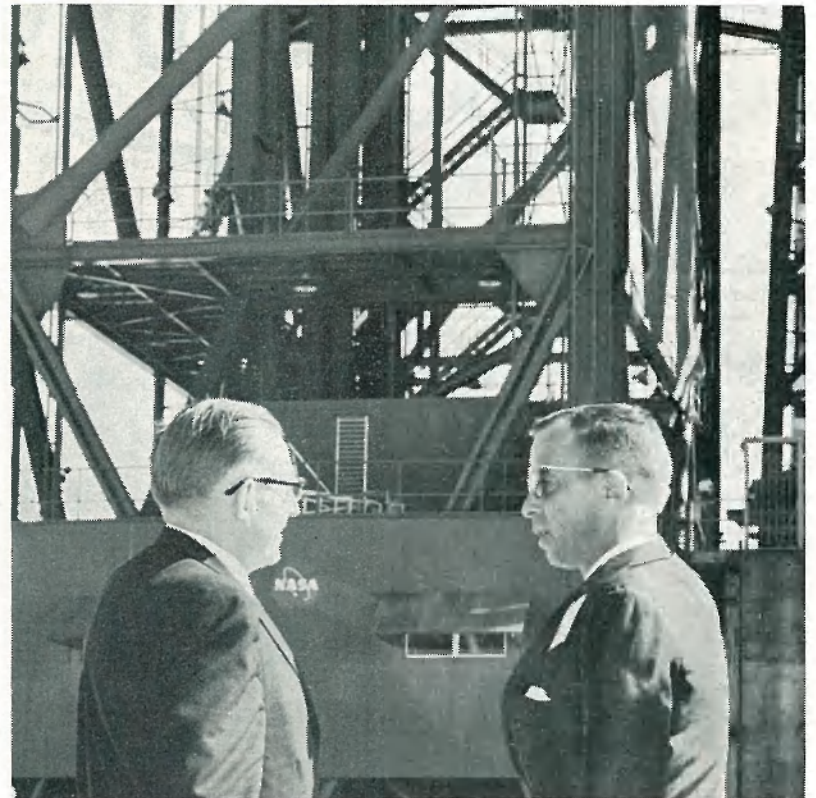
In addition, the designer should be here in the early phases of testing. While the designer is here, if certain shortcomings are uncovered, he is readily available to make the necessary design changes. Shortcomings are reported to him and design changes are reported to the launch engineers.

In this flow of putting the design into operation, training operators, determining unsatisfactory conditions, immediately feeding it back for design and re-design considerations, we have what we call the "closed development loop."

## VALUABLE VERSE

In the SPACEPORT NEWS mailbag last week was the following poem, promoting the payroll deduction savings bond plan, submitted by correspondent Lorene Virden of LOC's Financial Management Office.

- . . . Now if we could only grow
- . . . A big, fat money tree,
- . . . Our country wouldn't need to depend
- . . . On Folks like you and me!
  
- . . . Consider the threat to our nation,
- . . . Let's call it a big, red bug
- . . . Whose bite is the monster "inflation,"
- . . . More powerful than bullets or blood!
  
- . . . But if we fight with all our might
- . . . By each one joining the Payroll Plan
- . . . Our budgets will conquer inflation,
- . . . And first on the moon we will land!



THE SATURN SYSTEM at complex 34 is explained to Representative Wayne Aspinall (D. - Colo.), left, by Joe Robertson of LOC's Saturn Office. The Congressman toured Cape facilities during a recent visit.

## Mercury Social Club Announces April Plans

The Mercury Social Club has announced plans for a bridge party next Wednesday night and a spring dance April 20.

The bridge session will begin at 7:30 p.m. in Cocoa Beach's Crossway Inn, and is open to all NASA employees and contractors. There will be cash prizes for winners and refreshments will be served. Tickets are 50 cents per person.

The dance, also open to all NASA and contractor personnel, will begin at 9 p.m. at the Copa Club in Satellite Beach. It will be preceded by a cocktail hour and hors d'oeuvres will be served free. There will be an orchestra and a floor show.

Tickets are one dollar, or 75 cents for Club members, and may be purchased from Jeri Panritta E and O building, Elmer Horton, Hangar S, or Carolyn Shilling, Hangar AF.

## Pirates Vs. Senators

There will be one final spring exhibition baseball game in the area this weekend. Saturday, the Pittsburgh Pirates play the Washington Senators at Daytona Beach.

## SPACE ALMANAC

A CHRONOLOGY OF  
EVENTS IN SPACE  
EXPLORATION AND  
RESEARCH.

### Three Years Ago

April 6, 1960—Four Saturn I first stage engines were successfully tested at MSFC.

April 6, 1960 — Russia's Sputnik 3 reentered after 692 days in earth orbit.

### 10 Miles of RR Tracks For Mississippi Site

Work has begun on a 10 1/2-mile railroad track into NASA's Mississippi Test Operations to serve the rocket testing site during its construction phases and after it goes into operation in mid-1965.

Under an agreement made last month, the Southern Railway System is building this access track, at no cost to the government, from its New Orleans and Northeastern line at Nicholson, Miss., to a planned railroad terminal in the southwestern section of MTO's 13,500-acre complex. Target date for completion is June 1.

**SPACEPORT**  
  
**NEWS**

## NASA-Relay Report Card Reads All A's

Relay I, NASA's communications satellite has successfully performed all of its experiments and missions.

The 172-pound spacecraft was launched last Dec. 13.

Its list of missions—drawn up before launch in a four-inch thick book — included testing intercontinental microwave communications, measuring energy levels of space radiation in orbit, and determining radiation damage to solar cells and electronic components.

Relay I, as did Telstar before it, has experimentally demonstrated the feasibility of low-altitude active repeater satellites.

### Next Launch

In view of the success of Relay I, it is not expected that radical changes will be made in the design of the second Relay which is scheduled for launch sometime after June.

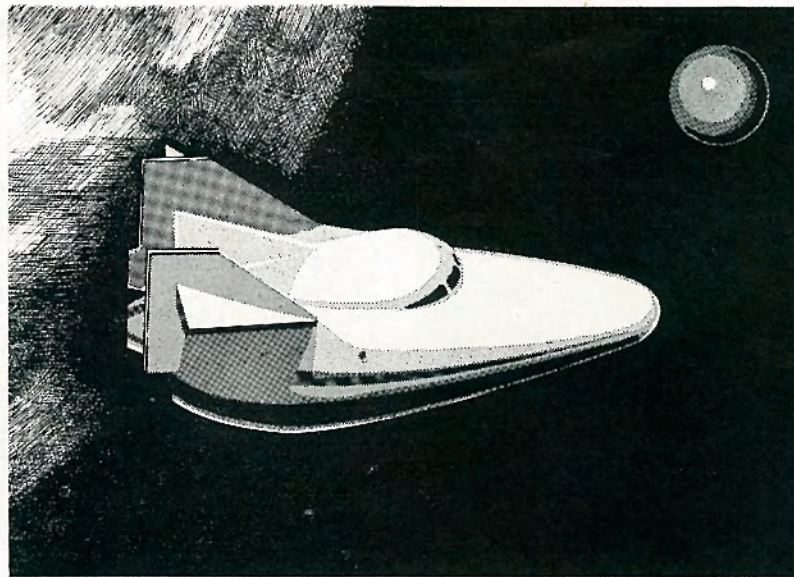
In performance of its communications experiments, Relay has demonstrated its capabilities in permitting television transmission between the United States and Europe and voice, facsimile and teletype transmission between the U.S. and Europe, the U.S. and Brazil and between Brazil and Europe.

Although all demonstrations originally planned for Relay have been completed, they will be continued while the satellite remains in operation.

About 500 communications tests and demonstrations (a total of 50 hours) were conducted in the 660 orbits of the Earth between launch December 13 and March 11, when it was shut down to cool off and rebuild power levels. Relay was again turned on and operated successfully March 13.

The test and experiments showed that Relay's performance closely followed pre-flight predictions of project engineers.

Performance has been uniformly excellent. Typical was the Washington-to-Europe telecast in January of President Kennedy opening the Mona Lisa exhibition in the United States.



## Blunt-Nosed M-2 Spacecraft To Be Flown This Spring

A wingless, maneuverable M-2 spacecraft — capable of orbiting the earth and landing like an airplane — is ready for full-scale flight research at NASA's Ames Research Center, Moffett Field, Calif.

Ames scientists say such a wingless "lifting entry" body, properly configured and

equipped with controls, can land as easily or better than the X-15.

The unconventional, blunt-nosed spacecraft could give an astronaut over 1,000 miles of lateral maneuverability after entering the earth's atmosphere from space flight, and allow him to land horizontally at almost any suitable area of his choice in the country.

Preliminary test results also indicated that acceleration stress on the astronaut during atmosphere entry would be reduced from about eight times the force of gravity to less than two times its force.

The M-2 has a high amount of useful payload volume and is re-usable after a horizontal landing. With no wings, its elevons, landing gear, vertical fins and canopy are the only identifiable features.

First piloted tests of the spacecraft will take place this spring at NASA's Flight Research Center, Edwards, Cal.

### Sun Sensor Developed

A highly-accurate sun sensor has been developed for NASA by Space Technology Laboratories.

Its development proceeded as part of the Orbiting Solar Observatory mission. Further applications are seen for stellar or planetary guidance in similar devices.

The sensor has a simple pinhole lens that focuses the sun on a detector. Information gained is used to control spacecraft jets and reaction wheels.

## PARACHUTE TESTS BEGIN THIS MONTH

Exhaustive parachute drop tests with the two-man Gemini spacecraft are scheduled to begin early this month off the coast of California.

Aircraft will drop boiler plate versions of the capsule into the Pacific to check out the landing chute and test the craft's seaworthiness.

The tests will continue for five or six months.

The first few Gemini flights, scheduled for next year, will end in parachute descents at sea.

Later, a paraglider will be used to bring the Gemini capsules down to controlled landings at pre-selected sites on the ground.

Some drop tests of the chutes have already been carried out at the Navy's parachute test range at El Centro, Calif. Weights comparable to that of Gemini capsules were attached to the chutes.

Check for proper clearance and "need-to-know" before giving classified access.

## LBJ Foresees Space Boon

Vice-President Johnson, who heads the Space Advisory Council, says space discoveries are contributing to such widely diversified activities as easing the pain of stroke victims and making hats.

He told a city development council in San Angelo, Texas, that space exploration promises to change human lives "as they never have been changed in any comparable period in man's experience."

As an example, he said medical scientists are using space suits similar to those worn by the astronauts to relieve the discomfort of victims of strokes.

### Wire Sensors

"In our hospitals and medical centers," he said, "the little wire sensors used to signal the earth about the physical conditions of the astronauts will be put to use to keep a constant check on the physical conditions of patients in their sick beds."

The Vice President said space developments helped a Lawton, Oklahoma, hat-making company turn a loss into a profit. He said the company found that the resin used to stiffen hats stuck to the heating blocks. The firm asked NASA for information on non-sticking coatings, used it in its presses and solved its problems.

Mr. Johnson said American leadership in space research is not cheap. He said the national program now costs 20 cents per week for each American.

### There Is Hope Yet!

Robert R. Gilruth, Director of NASA's Manned Spacecraft Center, recently came up with a choice answer to the oft-asked question, "Will there be girl astronauts?"

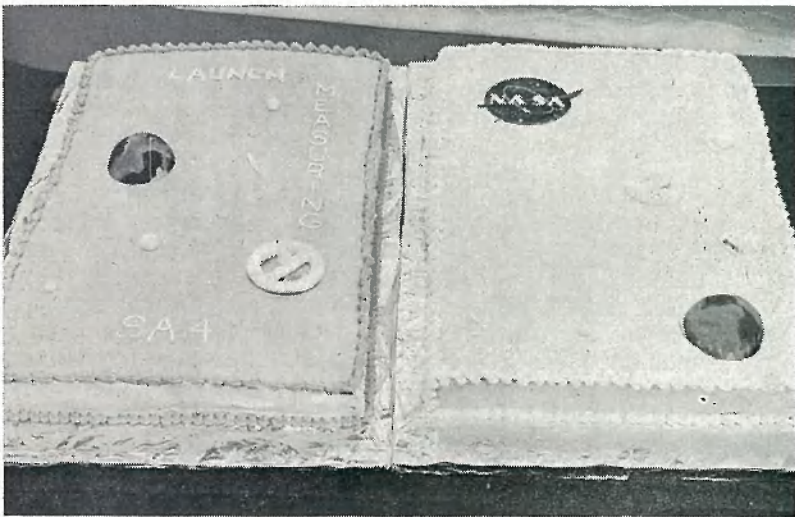
"There are no plans at present for the employment of women in the flight phase of the space program," he replied. "However, in the bill of supplies and materials for the manned lunar landing flight, there is provision for 120 pounds of recreational equipment."

# SATURN SCENES RECORD EXCITEMENT . . .

## COUNTDOWN BUILDS DRAMA IN BLOCKHOUSE ORCHESTRATION OF MEN AND MACHINES



**DURING A LULL** in the countdown, LOC Director Dr. Kurt H. Debus and Marshall Space Flight Center Dr. Werhner von Braun relax for a moment in blockhouse 34.



**LUSCIOUS LOOKING** cakes, baked by Pat Joslin, wife of John Joslin of Chrysler, were eagerly devoured at the SA-4 post-launch party Thursday night.



**SATURN SPECTATORS** shade eyes to watch the 16-story-tall rocket stretch for the sky.

**T-270 minutes:** The countdown is already five and a half hours old. Inside the blockhouse, with its concrete roof some 17 feet thick, 139 voices intermingle in a subdued babel of conversation. The occasional jingle of a phone provides an obligato. There is no tension as yet and there have been no technical holds so far. Four TV screens show the launch pad and the base of the giant Saturn booster with dragon-like wisps of vaporized LOX issuing lazily from its sleek body.

**T-170:** The canteen wagon is here. It is now 10:40 a.m., and they close the blockhouse doors.

**T-160:** Saturn reposes there, seemingly braced by some invisible means, but in fact gigantic green hold-down arms are clamped to its base. Debonair Dr. von Braun has just arrival. A scrub jay, straight-billed and dull-gray with a touch of blue on its head, hops along the parched grass. In the shade of the blockhouse a bored-looking guard is whittling away on a piece of wood. At a distance, the white-clad men ministering to the poised monster, look like pygmies. Several of the blockhouse personnel now grab a hasty lunch.

**T-129:** A voice crackles over the loudspeaker: "Attention personnel. An expected hold is coming up."

**T-100:** "One zero-zero and holding," announces the Chief Test Conductor. Hold is expected to take about 30 minutes. It is the first technical hold in the history of Saturn launches. Cause: a faulty stable platform. Twenty minutes later, the trouble has been corrected and the count continues.

**T-65:** Another hold, again for approximately 30 minutes. This time it's the failure of a theodolite tracking camera. Finally, the count is again picked up. "Clear blockhouse for road blocks," is the next order.

**T-60:** Lift-off one hour away. The tempo quickens. "Control voltage on?" "On." "Control Computer On?" "Computer On." The countdown clock moves swiftly: "52 minutes, 45 seconds . . . 44 seconds . . . 43 . . ."

**T-35:** More and more eyes focus eagerly on the closed circuit TV screens. The big white bird still rests there, impassive, motionless as a Buddha.

**T-28:** Dr. Debus on the intercom: "The weather looks good for the next half hour at least. We should go ahead."

**T-20:** Suddenly the voice of the CTC cuts in. "We seem to have a special problem, here. Shall we hold the count?" "Okay. Hold the count at T-19." "How long for?" "No idea. lox bubbling." The hold lasts more than 40 minutes which seems like 40 hours. Then: "T-19 and counting."

**T-18:** During the last few minutes, which literally race by, the Chief Test Conductor runs through another 119 check-out items, each time getting a fast affirmative reply. "Pre-flight calibration 100 percent?" "Roger." "Verify range safe?" "Range safe." And so it goes, swiftly and unerringly toward those final drama-charged seconds when every man in the blockhouse will hold his breath without knowing it.

**T-1:** Rapidly the count passes T-25 seconds, beyond which any further hold means scrubbing the mission. The last swing arm connecting with Saturn is retracted. The seconds tick by to T-O. On a common impulse, everyone in the blockhouse stands up to stare at the TV screens. "Ignition!" A tremendous peal of muted thunder hurls menacing shock waves which embrace the blockhouse, causing the TV cameras to rock as gigantic flames pour out of the booster, sending up blinding clouds of incinerated dust. For one incredible fraction of time, the rocket appears to hover, even fall back toward the pad, but this is only an illusion. The pad is now empty. And now everyone is beaming. There are handshakes and backslaps. Excited voices rise in volume as Saturn climbs ever higher. It has been a perfect launch despite the holds. Everyone joins in a feeling of exultation at a good job well done. Here, as perhaps nowhere else, there is a sense of team spirit that turns men into giants.

# . . . SIDELIGHTS OF SUCCESSFUL LAUNCH

## NOVICE "WATCHER" DESCRIBES FLIGHT

For Gene Aubry of Technical Information, who after several months work here, had yet to see the launch of a major rocket, last week's Saturn was a stirring sight.

This was his reaction:

"During the two hours of delay after the first announced launch time, one noticed a growing restlessness in those about him. And the blase, jaded attitudes one had always suspected as affectations of veteran employees had disappeared entirely in the last few minutes of count.

"On Cape roads, people alerted by announcements of a rapidly diminishing count, stood talking quietly in small groups. Three miles north, the Saturn loomed in solitary splendor against an azure Florida sky, its outlines marred by the heat waves shimmering up from the palmetto wastes around it.

"Ten seconds and counting!" announced a voice on the public address system and the sprawling, bustling Industrial Area was suddenly completely quiet.

"Then, in total silence, bright orange flames speared out from the base of the vehicle and one was shocked to realize that hundreds of square feet of the pad was engulfed in boiling, howling flame.

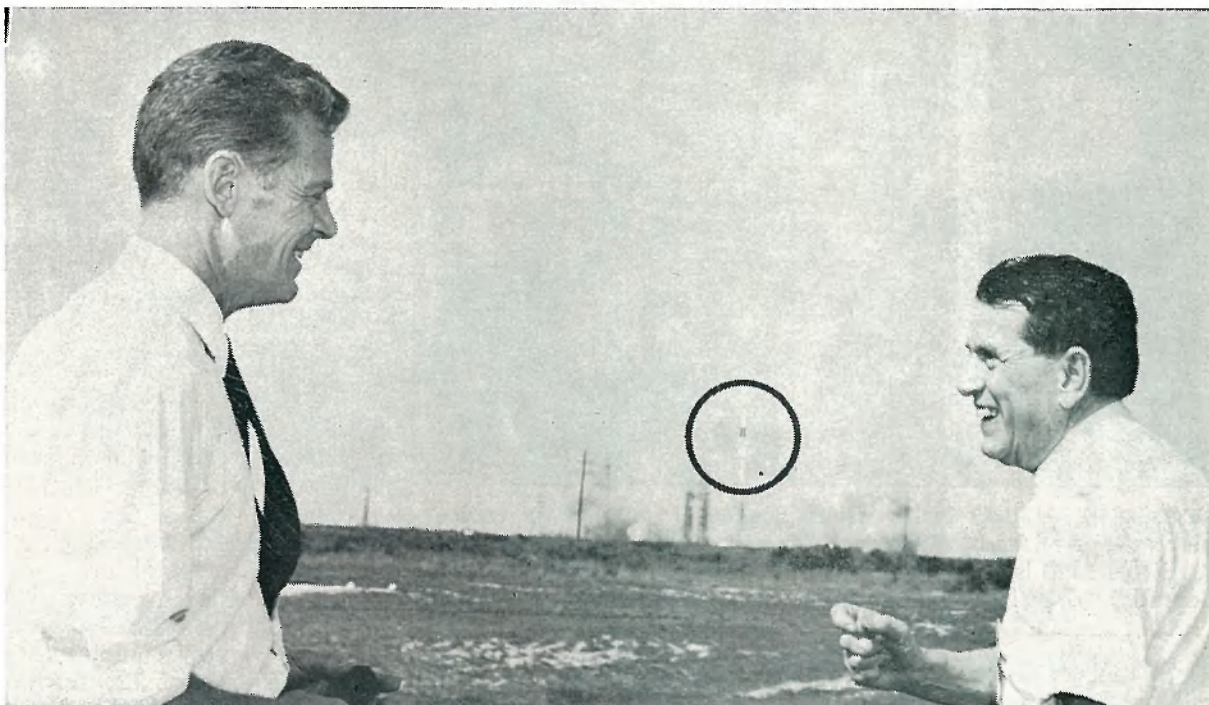
"The noise which burst upon the Industrial Area seconds later was strangely anti-climatic. But its pulsing, reverberating thunder bespoke awesome power of the Saturn's thundering engines.

"Glancing back at the pad, one saw that its umbilical tower and service structure were almost obscured by a billowing cloud of dust and smoke.

"Watchers stood riveted, silent, hands shielding eyes, as the huge rocket continued its majestic, arcing climb out over the ocean.

"There she goes!" someone close by said softly.

"Wow! That's gonna be a tough act to follow!" someone else said as the now smiling and chattering Cape people filed back into hangars, trailers and office buildings."



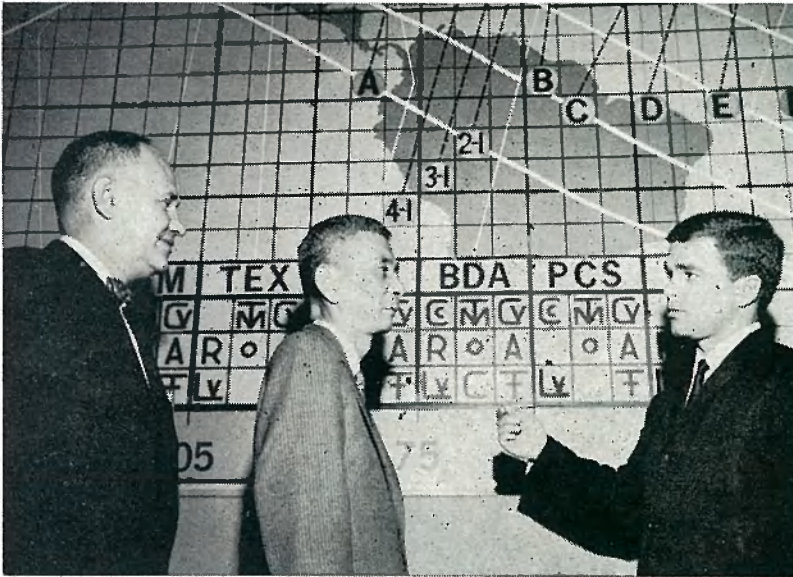
HOUSE SPACE Committee Member Ed Gurney, left, Republican from Florida's 11th District which includes Cape Canaveral and ranking Republican Space Committee Member James Fulton of Pennsylvania express happy feelings at successful liftoff of SA-4.



CROWD GATHERS at the roadblock near the Cape's number one cafeteria.



ENTHUSIASTIC TWISTERS set a fast tempo at the SA-4 post-launch party last Thursday night.



**JAPANESE AUTHOR** Hideo Sekino, center, is briefed on Mercury Control operations by Harry Handley of LOC's Technical Information Office. At left is State Department interpreter James Wickel. Sekino toured the Cape last week gathering material for space-related books.

## NASA May Inflate Saturn V For New York World's Fair

Paul R. Screvane, President of the Council of New York City, conferred with NASA Administrator James E. Webb in Washington recently concerning the possibility of having NASA loan to the New York World's Fair a 361-foot inflatable Saturn V rocket replica, which would house about 10,000 square feet of models and exhibits.

For some time NASA has been considering, for its traveling exhibits program, a full-size inflatable Saturn V replica which would rest horizontally on the ground so that visitors could walk through the rocket, viewing displays enroute, from the engine compartment to the Apollo Spacecraft, including the Lunar Excursion Module.

Screvane asked NASA to consider permitting the first showing of the proposed NASA Saturn replica, which is planned for use in its education program over the rest of this decade, at the World's Fair and adjacent to the Hall of Science.

Webb emphasized that the plan for the NASA Saturn replica is still under consideration and no estimates have been made for its cost. However, he assured Screvane consideration would be given to his request.

NASA will cooperate with other governmental agencies in a federal pavilion at the New York World's Fair.

Report missing classified matter to security at once.

## NEW SATELLITE FAMILY TO SCAN REMOTE AREAS

NASA is considering a new family of "practical" satellites that will collect data from remote areas of the earth.

NASA will sponsor a study to determine the interest in such a system, the number of satellites necessary and their orbits. This will be followed by a feasibility and design study if warranted.

Since the first successful launch of an artificial earth satellite in 1957, the number and variety of spacecraft have increased steadily. Increasingly, attention is being given to practical uses of satellites.

One of the promising new uses is in data collection from floating buoys distributed over the ocean surface. Sensors in the buoys could measure both sea and air temperatures at the surface, wave height and a variety of readings at various depths.

As the satellite passed anywhere above the horizon, it would interrogate each buoy by means of a code and store the information on magnetic

tape.

Upon command from a ground retrieval station, the satellite would transmit the information for distribution to oceanographers and other users.

Buoys could be located by the satellite to give data on ocean currents and to measure the depth of water if suitable sounding equipment were installed in the buoys.

Analysis of the data collected on a world-wide basis would result in a better knowledge of the sea. More effective weather routing of ships to reduce weather damage and improve the economics of ship operations are possible benefits.

A similar application would allow the satellite to track icebergs or pack ice and relay the information to the International Ice Patrol and other services.

Meteorologists are interested in data from the ocean and from various heights above the surface. A network of small balloons floating at a constant pressure altitude might carry sensors and transponders to provide simultaneous weather data over wide areas.

### Construction Contract Awarded For Towers

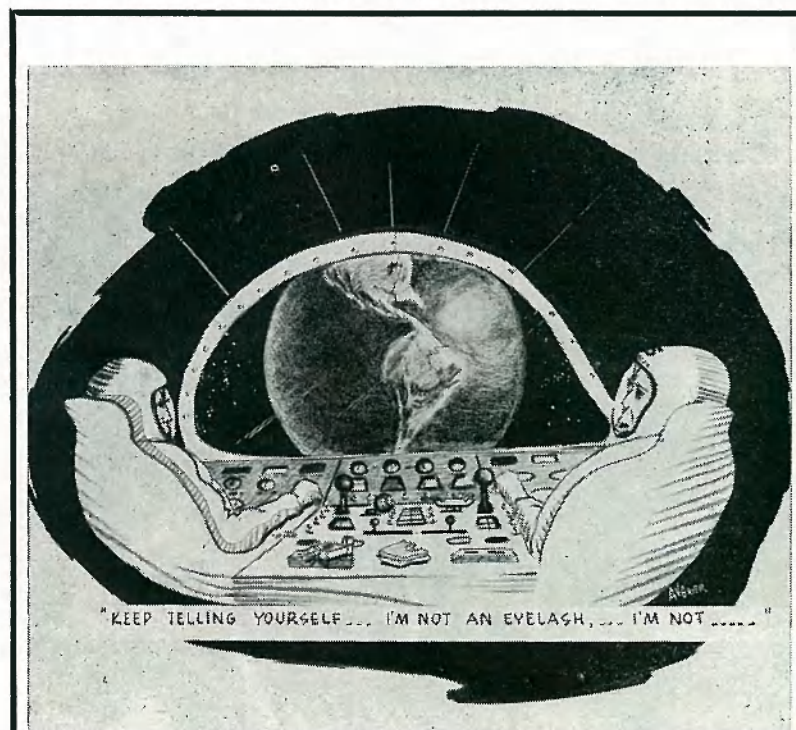
A \$2,923,160 contract for the construction of a two-bay building and steel test tower for load testing of full size Saturn V rocket structures has been awarded by the NASA-Marshall Space Flight Center.

Construction of the two part structure — a high-bay building with an adjoining low-bay area — is expected to be completed in March of 1964.

The high-bay building will house a 30 million pound load test tower which will be capable of testing space vehicle structures more than 50 feet in diameter.

### Diving Debris

The great bulk of cosmic debris is believed to consist of particles too small to be visible, and they may hit satellites at speeds ranging from seven to 45 miles a second.



### ASTRONAUTS TO GET SCENIC VIEW

Project Gemini astronauts will be able to view earth from space through specially-built, eye-shaped windows.

Capable of withstanding heat up to 2,200 degrees, the windows consist of three parallel, flat panels of glass, separated by space to inhibit heat transfer.



RAYMOND A. WOODBURY, Chief of LOC's Accounting Branch, who also serves as Treasurer of the Brevard Training Center, accepts a \$200 check for the Center from members of the NASA Women's Social Club. Left to right are Charolette Shankle, Anne Hull, Kay Fidler and Woodbury. The money was raised during the Club's Valentine Dance.

## SPACE TECHNOLOGY IMPACT ON CITIES TOLD IN OAKLAND

One hundred fifty leading Americans gathered in Oakland last week to discuss the impact of space-age technology on metropolitan areas.

The occasion was the nation's first space, science, and urban life conference held March 28-30.

Prominent government figures, distinguished aerospace industrialists, eminent scholars, and leading research scientists working on the frontiers of knowledge contemplated the political, sociological, physical, and economic effect of their massive space and scientific research and development programs on the average American and his community.

The participants attacked the question of specific implications that expanding technology may have on the problems of metropolitan areas. They discussed applications of advanced scientific knowledge to such urban problems as air pollution, water supplies, and public health.

And they examined technical developments which will affect the transportation, communication, power resources, and construction industries in the immediate future.

## SCIENTISTS PONDER SIZE DESIGNATION SATURN V RATES "GIANT" STATUS

Housewives confused by the loss of "small, medium and large" designations for soap or cereal packages — in favor of such superlatives as "large, giant or economy" sizes — have the sympathetic understanding of space scientists.

The growth of their industry has brought about the same type of problem in designation of rockets and missiles.

Time was, like back in the 1940s, when a 25-foot high rocket such as the Aerobee was called "large."

So when the 67-foot high Minuteman and the 103-foot high Titan II came along, they were larger than the large and were called "very large."

Now they're working on the Saturn V, which will tower 360-feet high, and they're describing it as "huge" or "giant."

Where do we go from there? Aerojet-General Corporation's proposed "Sea Dragon" will be a 500-footer, floated to sea for launching. This size gets into the "Monster" or "Colossus" category.

But despite the superlatives — the space scientists solve their problem just the way the housewife does — by looking at the pounds and ounces in the fine print specifications.

That "large" Aerobee, for example, weighs only 3/4 of a ton and gives 2,600 pounds of thrust. The very large Titan II weighs 150 tons and generates 530,000 pounds of thrust. The giant Saturn V will weigh 3,000 tons and create 7.5 million pounds of thrust.

And the monster Sea Dragon: Weight, 20,000 tons, thrust, 80 million pounds. Which, admittedly, is pretty big fine print!

## Pensacola Firm To Build 450-Foot Test Tower

Greenhut Construction Co., Pensacola, Florida, has been awarded a contract to build a 450-foot-high dynamic test facility at the NASA Marshall Space Flight Center.

The Florida firm, one of

seven companies bidding for the work, won the award with a bid of \$3,345,836.

The facility will be used in determining the bending and vibration characteristics of the Saturn V space vehicle.

## 1967 TARGET DATE SET FOR SATURN V MANNED LAUNCHES

Marshall Space Flight Center Director Dr. Wernher von Braun told congress recently that the first manned Apollo flight will occur with the seventh Saturn V launch, scheduled for 1967.

In testimony before the House space committee's subcommittee on manned space flight, von Braun said there was a possibility the flight would be a circumlunar mission, in which the Apollo spacecraft would orbit the moon without landing and return to earth.

The possibility of the mission would depend on success of flights leading up to number seven.

First test of the Apollo spacecraft configuration is to be made on the flight of SA-6, scheduled late this year.

First flight of the Saturn V is scheduled in 1965. It will carry dummy second and third stages and an unmanned developmental Apollo spacecraft.

Von Braun said the second S-V test will include a live second stage and the third flight will test all three stages.

## Centaur Gets "Boost" Of 250 Extra Pounds

NASA's liquid-hydrogen-fueled Centaur vehicle, scheduled to loft lunar-aimed spacecraft, has been given an added kick.

Dr. Abe Silverstein, director of the Lewis Research Center, told Congress recently that 250 pounds have been added to the vehicle's payload capability.

This added power will allow Centaur to lift the 2,100-pound Surveyor Landing spacecraft, with a margin of 200 pounds, should extra weight be added to the payload.

Two test launches of the vehicle are scheduled at Canaveral later this year.

A large part of the increased payload resulted from the determination that a shorter time is required between the end of the first stage Atlas burning and the Centaur second stage ignition — from 45 to six seconds.



Kenneth Kindsvater



William Underwood

## LOC PAIR RECEIVES "SUPERIOR" AWARDS

The first two sustained superior accomplishment awards to be given since the organization of LOC's Incen-

tive Awards Committee were presented Friday by Director Kurt Debus.

Kenneth Kindsvater, aerospace technician, technical management, received his award for superior performance in support of Automatic Data Processing systems development.

He was nominated by Alan Guthrie, Chief of the ADP section.

Accountant William Underwood's award was based on his outstanding contributions to the initial organization of LOC's Financial Management Office, particularly in the area of reconciliation of office records. His supervisor, Raymond Woodbury, submitted the nomination.

## NASA NEWCOMERS

Thirty-eight new employees have joined NASA-Cape operations in the past two weeks. They are:

Jimmy D. Allison, Edward P. Beatty, Robert O. Buck, Fuller C. Jones, Frances Nicholas, Lester E. Rudy, Creighton Terhune, Ralph H. Barksdale, William A. Berndt, Allen W. Niles, John D. Gossett, Francis Knauer, Frank R. Searle, and Annette B. Johnson, all of Goddard Space Flight Center's Field Projects Branch.

John P. Mitchell, Edgar A. Dalke, Donald A. Nelson, Edwin K. Blevins, Gordon I. Turner, James F. Hughes, Frank Glen Crow, James C. Kirkpatrick, Jaroslav F. Valek, and Thyra Kayse Shankles, all of MSC's AMR operations.

Leroy Barnes, George B. McGuire, James F. Kanipe and John T. Roberts, of Facilities Office.

Robert R. Sabella and James H. Gardner, of Instrumentation Planning Office.

Norman John Pierce and Eugene L. Grunewald, of Management Analysis Office.

Arthur L. Crosswell and Michael S. Saliba, of LVOD.

Leo J. Cote of Procurement and Contracts.

Edna Vaughn of Support Services.

Fred Bauer and James A. McCullough of Technical Information Office.

# MANY AWARDS OPEN FOR SUPERIOR SERVICE

The President's Award for Distinguished Federal Civilian Service is the highest award the Federal government can offer.

It is given national recognition each year and is presented to usually not more than five persons in the Federal Career Service for extraordinary achievement. Nominations for this award are made by heads of departments and agencies.

The highest award given by

NASA is the Distinguished Service Medal, awarded for outstanding contributions to the public service.

NASA also offers the Outstanding Leadership Medal, given for excellent leadership in administrative or aerospace technological programs; the Exceptional Scientific Achievement Medal for notable contributions to the engineering or scientific programs of NASA, the Defense Department, or to other Government agencies; and the Medal for Exceptional Bravery for courageous action in times of emergency. These three awards rank equally as NASA's second highest.

Nominations for these awards are submitted by office chiefs to the LOC Incentive Awards Committee on or before July 1 of each year.

LOC Form 16B-8 is used for this purpose and should be submitted in seven sets, complete with justification. Also included should be a proposed citation limited to 50 words.

Those who receive these awards are invited to attend the NASA Headquarters annual awards ceremony held each October.

Among other awards sponsored within NASA are the Special Service Award — a cash award for unusual performance or special service; and the Group Achievement Award — a certificate award, and in extraordinary cases a cash award, for superior group accomplishment. Nominations are submitted to the local Incentive Awards Committee by the immediate supervisor on LOC Form 16B-8.

Still other awards available are those given for honorary service, safe driving or mobile equipment operation, industrial accident prevention, scientific and technical contributions, and for inventions resulting in patent applications being filed by NASA.

Supervisors at all levels are encouraged to nominate individuals who are worthy of special recognition by use of any of the awards procedures, and to solicit continuing employee participation in the Suggestion Program.



Dear Sir:

"I am 11 years old, but very interested in science and missiles. I may be a girl but girls like missiles just as much as boys."

Debbie T.

St. Petersburg, Fla.

## NASA Womens' Club Plans Dance, Party

Election of officers and plans for an installation dance and party will be part of the agenda at the NASA Women's Social Club meeting next Tuesday at 7:00 p.m. in Ramon's Restaurant, Cocoa Beach.

Club President Burt Williams, Procurement and Contracts, said the Installation Dance will be presented April 27th in the Cape Colony Auditorium. Tickets are \$1.75 each and proceeds will go for special equipment for the Brevard Training Center.

A seven-piece band will provide music for the dance, Mrs. Williams said, and part of the special entertainment at the dance will be a "Name the Band" contest.

Only four hundred tickets are available, she added, because of the size of the auditorium.

## PURELY PERSONAL

Co-workers of Carol Bomsted, secretary to Personnel Chief Ben Hersey, threw her a surprise birthday party Friday. Carol was 21.

In last week's Sea Grape Garden Club Flower Show at the Cape Colony Inn, Ruth Bernstein of LOC's Saturn Office copped a first, second and two fourth place prizes.

Said Ruth: "And it was the first time I've ever entered in competition."

## Chicago Space Fair Opens Wednesday

One of the largest space exhibits ever assembled will open in Chicago next Wednesday at the Museum of Science and Industry.

The display, "America in Space," will continue through June 2.