

# SPACEPORT



# NEWS

Volume 2, Number 6

NASA Launch Operations Center, Cape Canaveral, Florida

February 7, 1963

## Centaur-Agena Launches Transferred To GSFC Branch

Launch responsibility for NASA's Agena and Centaur space vehicle programs has been assigned to the Goddard Space Flight Center's Field Projects Branch at Cape Canaveral.

The launches will be conducted under the technical direction of the Agena and Centaur manager of the Lewis Research Center, Cleveland, Ohio.

The transfer of launch direction of the two projects from the Launch Operations Center to Goddard is in accord with a NASA decision announced last month by Associate Administrator Robert C. Seamans to define areas of responsibility between manned space flight and other NASA missions.

The Goddard Field Projects Branch, headed by Robert Gray, has been responsible for the launching of the highly successful Delta space vehicle at Cape Canaveral. The Delta has provided the boost for 14 successful missions in a row including the Tiros weather satellite, Telstar and Relay communications spacecraft and the Orbiting Solar Observatory.

Last December Dr. Seamans transferred overall project responsibility for the Agena program with its related Atlas and Thor boosters from the Marshall Space Flight Center to the Lewis

Center. The Atlas-Centaur project was similarly transferred last October.

The transfer in launch responsibility permits the Launch Operations Center to concentrate its efforts on manned space flight programs, to include Saturn and the preparation and management of the 87,000-acre Merrit Island Launch Area.

The Agena, which provides 15,000 pounds of thrust and a restart capability atop the Atlas booster, has been used for NASA's lunar and planetary program.

## Tests To Seek Answer To Re-Entry Problems

The Air Force will launch six space vehicles from the Cape this summer which may find the key to eliminating the communications blackouts experienced by Mercury astronauts as they reentered the earth's atmosphere from their orbital flights.

The space vehicles to be unmanned and non orbital — will carry experiments to probe the "ionized sheath" created when a fast moving object such as a space capsule reenters the denser atmosphere of Earth.

Such a "sheath" surrounded the spacecraft of the Mercury astronauts and caused some tense moments, particularly during the reentry phase of Scott Carpenter's flight.

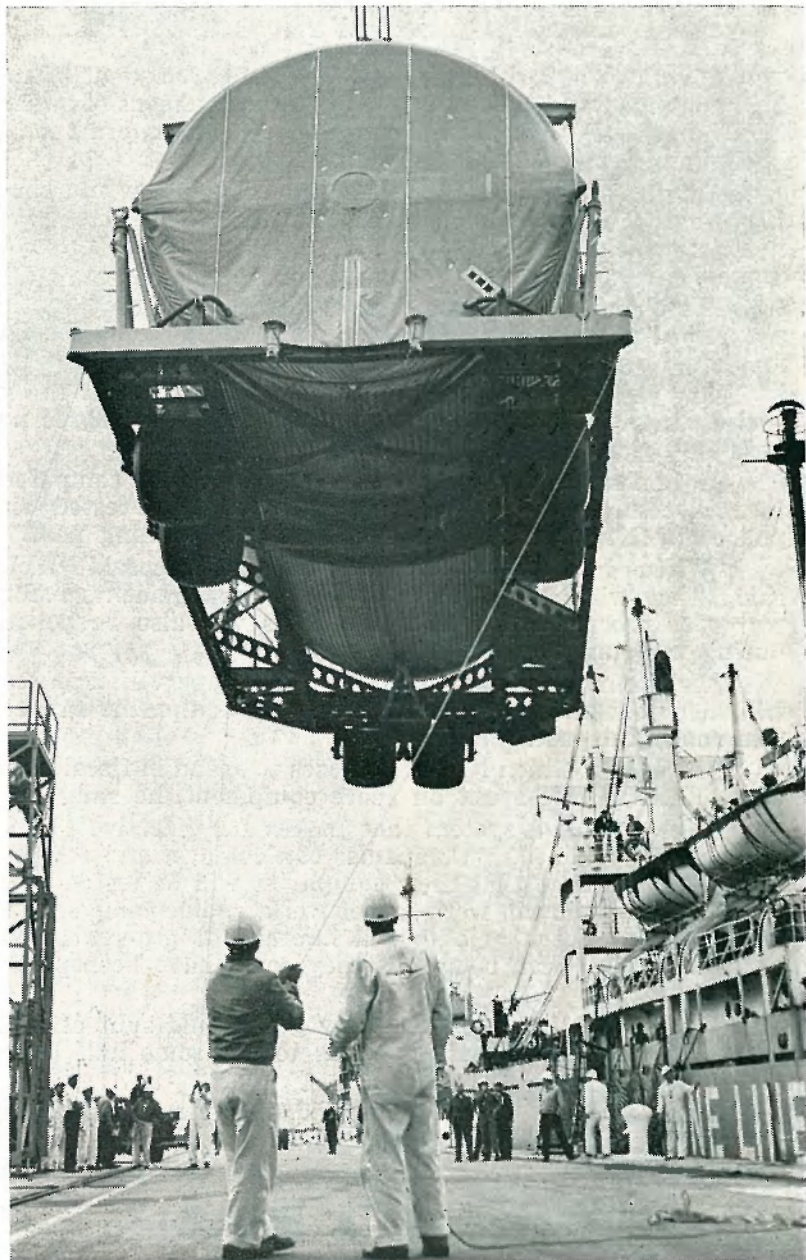
Some researchers believe the ionized sheaths transmit radio waves or other impulses which "jam" communications.

The Air Force experiments may provide information which will enable the communication problem to be overcome.

### MANY PEN-PALS

Astronaut John Glenn has received more than 100,000 letters since his historic flight in "Friendship-7", the first Mercury orbital mission.

Answering the letters, signing and mailing autographed pictures has required the establishment of a special mail room.



SEA VOYAGE over, the Saturn SIV second stage seems to dwarf the superstructure of the ship which brought it from California as it is unloaded by cranes at Port Canaveral. It will be coupled with a dummy booster later for a facilities check of Launch Complex 37.

## STRIKE MAY OFFSET CAUSEWAY LEAD TIME

The Florida East Coast railway strike may erase the ahead-of-schedule state of the 520 Causeway improvement program.

J. T. Barber, project superintendent for the W. L. Cobb Construction Company, said a shortage of surfacing stones had developed due to the strike. "That could create a

delay in our schedule," he explained.

Arrangements are being made to ship stone in as quickly as possible by other carriers.

The four-laning project is well ahead of schedule. February 15 had been set as the date for completion of major portions of the work.





## BIG BUDGET, CAREFUL SPENDING

Advocates of greater efficiency in big government spending should be heartened greatly by an announcement of sweeping changes in NASA's equipment procurement program made by Administrator James E. Webb.

America's multi-billion dollar space equipment purchasing program will, he said, undergo changes in the next few months which should save the country enormous sums of money.

The changes involve purchase of materials used in the support of space flights. The savings realized should be immediate, he said.

New facilities in the Southeast will enable NASA to exercise supervision of equipment procurement to a degree not possible before.

In the future, most materials — ranging from computers to rocket engines — will be "pre-judged," pre-tested and policed by NASA from drawing board to launching pad.

"When companies come in with a proposal," Webb said, "they will have to agree to these arrangements before we order procurement. The companies will also be policed during building of the equipment."

The administrator said he believes the supervision process will help to eliminate the kind of costly equipment failures common in the past.

Of the \$4.2 billion NASA proposes to spend in fiscal 1964, \$3.1 billion will be spent on space equipment, he said.

"We've made a system that makes for effective competition," he explained. "Companies can come in and compete with the assurance that their equipment will be tested thoroughly to see if it will work or not work. Some companies in the past have been able to sell impractical proposals that would not have been bought if they could have been put to a test."

"The period is over when fifty guys could split off and form a new company and expect us to buy some half baked proposal."

The complex of facilities, he said, will enable the agency to enforce a hard boiled business policy.

## COMPARED TO A HOUSEFLY

The optimism with which many theoretical space projects are usually viewed is balanced occasionally by a view from the opposition.

"If we should receive communications from outer space during current communication research with huge listening antenna, should we attempt to answer it?"

This question, put to a scientist from Cal Tech during a television interview elicited an interesting answer:

"Probably not."

"In all history," the theorist went on, "the first meeting between two alien societies has inevitably been followed by conflict — with the weaker group losing."

"There may be societies in space so advanced that they would view our earth society with the same interest — and with the same concern for our welfare — as we view houseflies!"

The moral to this little story is:

If you hear a voice from outer space, don't answer, just hang up. The caller may have a big fly swatter.



R. H. GRAY, Reggie Viotor, center, and Mary Brammer, all of Field Projects Branch, Goddard Space Flight Center, talk with Goddard test conductors during recent tests and demonstrations.

## ☆ ★ ☆ Goddard Secretaries Chat Via Satellite

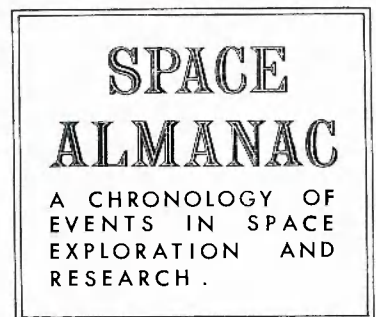
Two secretaries in the Cape's Field Projects Branch Office of the Goddard Space Flight Center enjoyed a brief visit with mutual friends at the NASA center in Greenbelt, Md., via the Relay satellite which was then over Montana.

Reggie Viotor, secretary, and Mary Brammer, Travel and Security, were invited by R. H. Gray, Field Branch Chief, to share a line during recent tests and demonstrations.

Four simultaneous conversations were relayed by the satellite during its 363rd orbit. In addition to the three from the Cape who were talking to Robert Mackey, test chief, in Maryland, were three other two-way conversations.

NASA Administrator James E. Webb was speaking to Dr. Jerome B. Wiesener, Scientific Advisor to President Kennedy. Astronaut John Glenn was discussing the test with Jack James of NASA's Mariner project, and Leonard Jaffee, Goddard Space Flight Center, was speaking to Dr. Harry Goett, Center director.

The Relay satellite was launched Dec. 13 from Cape Canaveral. Because of ab-



### Five Years Ago

Feb. 10, 1958—MIT's Lincoln Laboratory confirmed that radar signals had been reflected from the planet Venus, more than 27 1/2 million miles away.

### Three Years Ago

Feb. 10, 1960—Pres. Eisenhower toured Cape Canaveral.

Feb. 10, 1960—DOD announced that a "mystery satellite" in near polar orbit might be the ejected recovery capsule of Discoverer 5 that was launched in August, 1959.

normal power drain on its storage batteries the satellite could not at first function properly. By Jan. 3, however, the problems had been partially resolved.

The four simultaneous conversations were a test to see if any "cross talk" or interference developed.

None at all, the delighted secretaries reported.

**SPACEPORT**  
  
**NEWS**



## Long Countdown

# Cape's Old Lighthouse Has Yet To Go Into Orbit

"See that striped missile with the bulge around the top? Watch it. Count-down has started and it oughta go pretty quick."

Rumor has it that more than one hapless newcomer to the Cape, having fallen victim to pranksters, has waited in vain for the Cape lighthouse to belch flame and go into flight.

### Isolated Location

The lighthouse has been a Cape landmark since it was built in 1868. Constructed originally of wood, it was later rebuilt with riveted steel plates lined with brick.

The only features to break the total isolation of the present Cape area in 1868 were a few scattered houses on the north beach and a pier and old hotel on the south shore. Clouds of mosquitos and horseflies swarmed over an area inhabited mainly by snakes, scorpions and the occasional alligator which came

waddling across from the Banana River.

The lighthouse stood on land that was slowly losing a battle with the encroaching Atlantic. So in 1894, specially built rails were laid down before it and spans of mules pulled it back from the sea to its present location.

The first light in the tower was a kerosene lamp. It burned in a five foot housing lined with prisms and moved by a series of weights.

Today's light is 165-feet above ground level. Light from its 500-watt bulb, magnified by prisms, can be seen at sea level for 18 miles. Small motors have replaced the weight system which moved it.

Coast guard personnel who live at Patrick AFB man the station.

By sitting on its pad for 95 years the lighthouse can claim the longest count down in Canaveral's history.



COAST GUARDSMAN Clint Larson points out Cape sights from vantage point of lighthouse to Renee Toulotte, left, Data Processing, and Carolyn Wilcox, Program Coordination, during tour of old landmark.

## Meeting With Space Life Predicted Within Decade

The Milky Way, the neighborhood of stars of which our sun is a member, contains perhaps 600 million planets bearing intelligent life, an astronomer theorized before a joint session of the Institute of Aerospace Sciences and the American Meteorological Institute.

Professor Lloyd Motz of Columbia University said he estimates the Milky Way galaxy contains 200 million stars similar to our sun. If these stars have planets like ours, he explained, each might have at least three planets which could be "abodes of an intelligent form of life."

The Milky Way galaxy contains from 20 billion to 200 billion stars, with our sun being a rather average star, he said.

### Other Space Life

"That life exists beyond the solar system is now taken for granted by most scientists, even though we have no direct evidence," Prof. Motz said.

"We know from astronomical observations that in our galaxy there are millions of stars similar to the sun. Recent developments in the theory of the evolution of stars show that all stars with

similar general characteristics originated in pretty much the same way from the same kind of cosmic dust and gas and have evolved in the same time though the same series of stages.

"Moreover, we know also that when stars like the sun are born from a matrix of gas and dust, a planetary system also arises.

"From this it follows that there are in the galaxy millions of planetary systems like our solar system with similar physical and chemical properties. Hence, life must have existed in many of these planetary systems, since biochemists have demonstrated that the complex organic molecules necessary to maintain life are synthesized if the physical and chemical conditions are proper.

"If a star has been burning long enough, and if the temperature is agreeable on a planet, highly intelligent life is bound to evolve."

### HEAVY MATTER

If nuclear matter could be condensed so that the space occupied by its electrons was filled by the matter itself, one cubic inch of matter would weigh one billion tons — and the cube would sink to the center of the earth.



SURROUNDED by gantrys and other signs of the space age, the 165-foot lighthouse dates back to 1868. First light was a kerosene lamp, magnified by prisms.



# Big Dredges Help Build Cape's Vital Roadways

The road to the stars may be strewn with bones of pre-historic creatures dredged up from 35 feet below the bottom of the Banana River.

Ponderous, rumbling dredges which inch their way through the Banana River-Merritt Island waterways and lowlands are engineering's answer to the exacting demands for passageways for the huge space vehicles which will start their journeys to

space from Cape launch complexes.

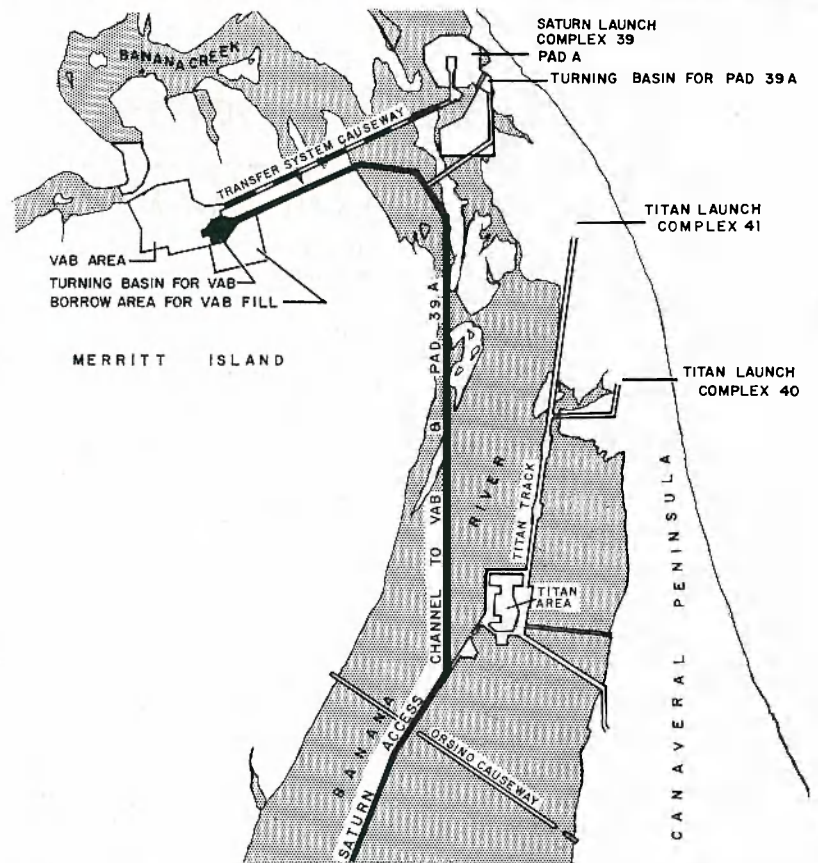
The best fill material for the crawlerway over which Saturn carriers will move the big rockets from the Vertical Assembly Building to their launch pads is the sand and shell which is dredged up from the river's bed and channels through the island. Massive bones recently dredged up were believed by crewmen to be parts of the vertebrae of some huge and ancient animals.

The crawlerway fill, which will be 187 feet wide and six and one half feet high, provides a safe distance between the Vertical Assembly Building and the launch pad.

## Long Channel

Dredges are vital to Cape operations. The channel through which barges will be moved up the Banana River to the assembly area is being dredged a minimum of ten feet deep and 125 feet wide. Beginning in the river opposite NASA's Industrial Area on the Cape, the dredges will cut 11 miles of channels leading to both assembly and launching area. Land on islands as high as seven feet above the water will disappear before the dredges' big diesel-driven rotating cutter heads as they work through land and water. Big pipes carry the shell and sand to the Merritt Island side of the river where it is thriftily stockpiled for future use.

The floating dredges, which



**ELEVEN MILES** of channel being dredged in shallow Banana River will allow barges access to Vertical Assembly Building to be built on Merritt Island.

move forward on spuds in what is called a "walking stick" effect, will also bring up the huge pile of sand and shell which the engineers will use to pre-settle the earth under Saturn pad construction sites. Here, effective pre-planning comes strongly into view as the huge reservoir left by the dredges will be used as a turning basin for all floating barges used in the pad's construction and operation.

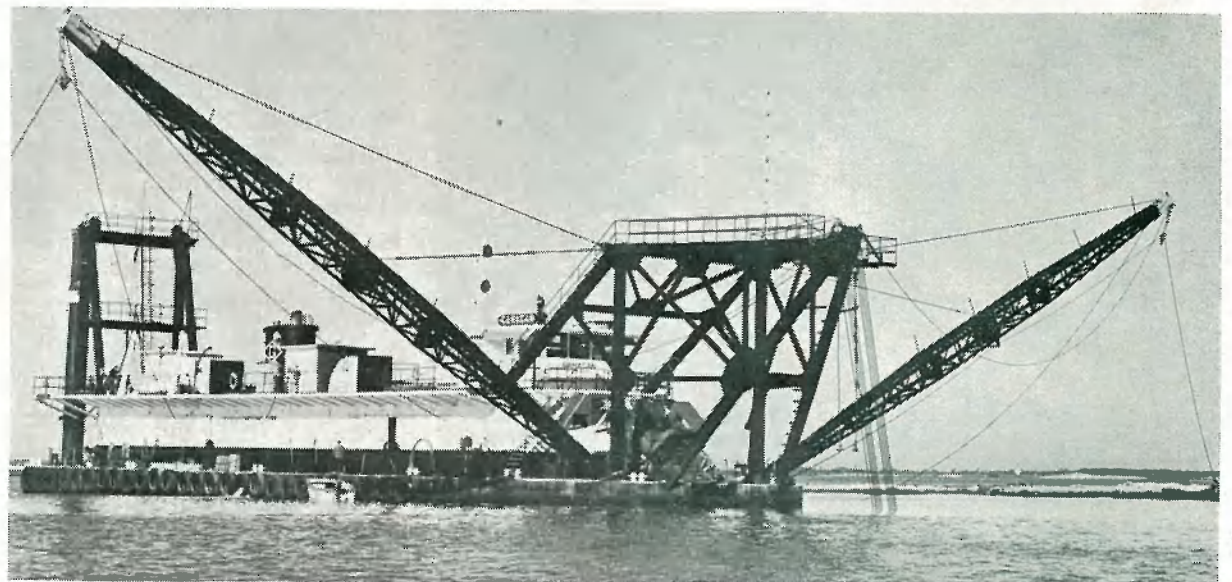
A second broad but little known activity in Cape con-

struction operations is land clearing. Surface growth, from palmetto scrub to orange groves, is being cleared by the contractors preparing construction sites.

Specialized equipment speeds up this operation. One piece, a palmetto plow, grubs up the growth at the roots, shakes it free of sand and stacks it in piles for burning. Bulldozers whose blades are equipped with heavy teeth knock down rows of trees and push them into piles to dry before being burned.



**TEST PILING** being set at construction site on Merritt Island is "oscillated" into ground by its own weight and by vibration introduced into piling by two diesel engines mounted mid-way on tower. Combination of weight and movement causes piling to sink rapidly into ground.



**DIESEL POWERED** cutting heads on dredge "Gahagan" are digging a channel in Banana River. Sand is pumped through long pipes to Merritt Island where it is stockpiled for future use as fill. All causeways in the Merritt Island Launch Area are built in this manner.



# Explorer XIV Clears Throat, Resumes Normal Operations

Explorer XIV, the "sore throat" satellite, has resumed normal operations after being out of operation for fourteen days due to trouble in the satellite's encoder system.

First indications that the satellite had resumed normal operations came over the weekend and were confirmed yesterday by the Goddard Space Flight Center.

Goddard personnel believe a temperature change, a change in space weather, or a change in the spacecraft's alignment to the sun may have opened a stuck binary which had been suspected as the cause of the malfunction.

A binary is an automatic switching device controlling the order in which information is fed into the radio transmitter.

Explorer XIV was launched October 2, 1962, for the primary purpose of charting the boundaries of the Earth's magnetosphere and to measure the particle population and energies of electrons and protons and how they are influenced by magnetic fields.

It performed flawlessly for 100 days prior to the malfunction last month.

## Traffic Stopper

The Saturn S-IV section, coming in by truck on the south road from Port Canaveral, used both lanes of the highway and three feet of each shoulder.

## NASA NEWCOMERS

NASA-Cape employees have increased by seven since last week:

Support Services: Robert A. White.

Administrative Services: John C. Bentley.

Instrumentation and Planning: Elliott Zimmerman.

Technical and Scientific Staff: Janie L. Callahan.

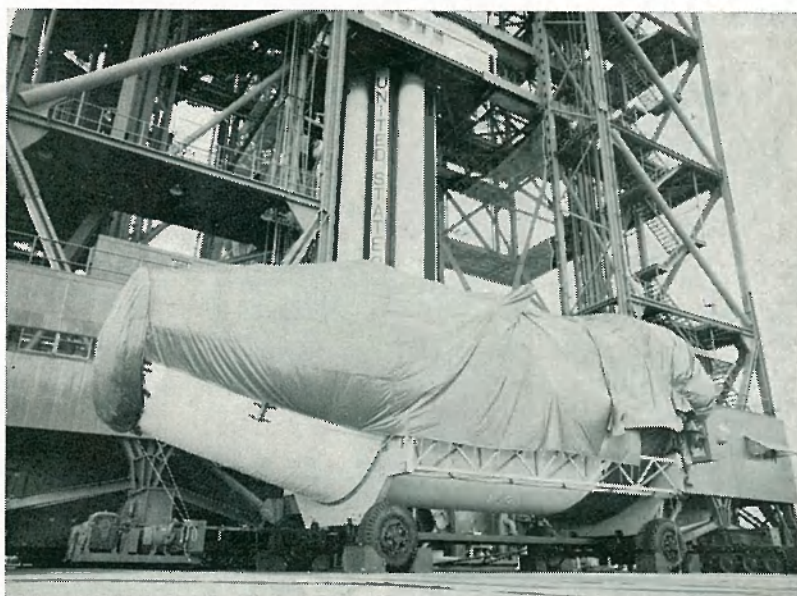
Technical Information Office: Richard H. Boster, Robert M. Mercer and Daisy L. Mikell.

## NASA Purchases Jet-Star For Research Flights

NASA's Flight Research Center at Edwards, Calif., has awarded a \$1,325,000 contract to the Lockheed-Georgia Company of Marietta, Ga., for a Lockheed-Jet Star.

The aircraft, to be used for research purposes only, will be modified to include a variable stability control system that will permit the aircraft to fly as a variety of future advanced aircraft.

Designated the General Purpose Airborne Simulator (GPAS), it will be used in many of the research projects that will be carried out by the Flight Research Center to investigate such areas as aircraft flying qualities, automatic and manual control systems, pilot instrument displays and pilot training.



NEXT-TO-THE-LAST destination for SA-4 is Saturn pad 34 where the S-1 clustered engine stage is shown erected, while the S-IV stage awaits being raised to upper position.

# 'Plastic Man' To Measure Space Radiation Hazard

A "plastic man" made of material resembling human flesh in texture is the newest American spaceman.

Dubbed "the plastinaut" by researchers, the dummy is formed of a material which has a base of isocyanate rubber.

Each plastinaut is, as far as possible, an "average man." He is five feet, nine inches tall and weighs 162 pounds — dimensions based on a survey of 4,000 Air Force flying personnel.

He has been created for studies of natural space radiation at all flying altitudes, in all the body positions a real flyer may assume. His plastic flesh stops or absorbs space radiation in a manner almost identical to human tissue.

### Dose Measured

This makes it possible to determine the radiation dose a man in space might receive at various depths within his body and in various organs. Few flights at present according to an Air Force report, subject astronauts to real radiation hazards. But at higher altitudes and on flights of long duration, they could be subjected to possibly dangerous ionization radiation from several sources.

Instruments attached to the plastinaut will determine the amount of radiation energy a man would absorb at five points of his body. They will measure the radiation ab-

sorbed in the area containing the heart and all other chest organs except the lungs.

The plastinauts will wear high strength flying suits and are designed to fly in any space vehicle capable of carrying a man. Flights to about 30,000 miles out in space are planned.

## Federal Accountants Form Local Chapter

The Cape Canaveral chapter of the Federal Government Accountants' Association held installation dinner February 1, at the Patrick AFB Officer's Mess.

The chapter was presented its charter by Martin Powers, Washington, executive secretary-treasurer of the international association of 4,700 members.

Among Officers elected were John Lisle, NASA Headquarters Audit Division, vice-president, and Malcolm Stringer, Internal Review, secretary.

### SPINNING SLOWER

The rate of rotation of the Earth is constantly decreasing as a result of effects produced by lunar tides. Currently, the rate of change is about 1/1000 second per century.



...IF WORSE COMES TO WORST, I THINK WE MAY SAFELY RULE OUT THE POSSIBILITY OF OUTFLYING HIM!!!



**Capeside Inquirer**

# Cape People See Interest, Pride Vital To Space Race

The country's space effort may seem so vast in scope that one might well have the feeling that his effort is but a drop in the ocean. Spaceport News staff members asked the following question on personal effort:

The United States is now engaged in a vital space race.

How do you think an individual can contribute the most toward winning it?



**Carol Yancey**  
Program Coordination  
and Management

"It is not important that nations are engaged in a space race. The important thing is for the U.S. to accomplish its own goals in the best way it knows how, and we as individuals should unselfishly devote all our services strictly to NASA.



**Ernie Lautzenheiser**  
Facilities

"By maintaining interest in the job at hand, and pursuing that interest with hard work, loyalty and purpose."



**Bettye Latham**  
Protocol

"We can't all go out and put a match to a missile to fire it to the moon. But we can certainly maintain an attitude — which has been well defined and well stated before — by asking 'what can I do for my country' rather than 'what can my country do for me.'"

### 10 Feet High

Cape Canaveral's highest point of natural elevation is 10 feet.



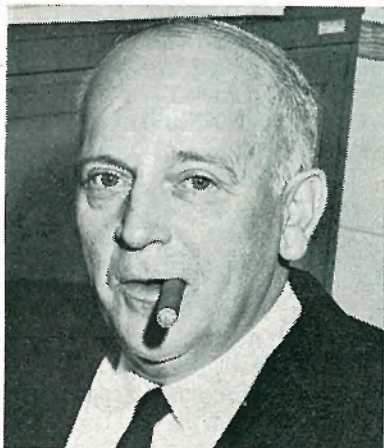
**Eugene Secreti**  
Reproduction

"By going about the daily work in a conscientious and diligent manner, never forgetting that the country's success in space will depend upon cooperation and teamwork."



**Evelyn Schwartz**  
Technical Library

"It seems clear that if one works to the best of her ability and takes pride and interest in her work, she will be contributing her share to the winning of the space race."



**Charles Hall**  
Facilities Management

"By carrying out each work assignment most effectively, cost-consciously, and with optimum teamwork — thereby strongly demonstrating one's faith and confidence as an active participant in the overall Space Program."

### BALLISTIC PASSENGERS!

First studies are now being made toward the construction of commercial aircraft with speeds in the Mach 2 or Mach 3 range (1,500 to 2,300 miles per hour).

Will this be the last word in commercial aviation?

Certainly not, say industry authorities.

The next step in aircraft will probably be "ballistic transport" — with speeds beyond Mach 5.

That means a guided missile — with passengers!

## Bids To Be Opened For Merritt Island Utilities

Bids will be opened February 14 on \$5.5 million worth of utilities for NASA's Merritt Island Industrial Area — enough to service a small town.

Contracts will be awarded by the Corps of Engineers, acting in behalf of NASA.

The utilities include a water distribution system, sewerage lines, an electrical system, a central heating plant and streets.

These will serve the some 40 NASA buildings which will be constructed near Orsino.

## LOC Accident Rate 31% Under Last Count

Launch Operation Center's accident rate for the second half of 1962 was 31 percent lower than the first half, according to a safety report issued last week. The frequency rate for the second half was 2.81, (lost time accidents per million man hours worked.)

Accidents were also less severe the second half of the year. The number of days lost per million man hours worked dropped 14 percent to 401.9.

Safety officials however, while encouraged by the decreases, pointed out that continued rapid expansion in both personnel and facilities will bring a corresponding increase in hazards and urged supervisors to continue to stress safety measures.



**Fred Merritt**  
Calibrations & Standards Lab

"In my work I can turn out items that exceed specifications. And I can be well informed as to the aims of the space program so that I will be in the position to inform those who oppose it just what they are opposing."



## U. S. Thanks Countries For Tracking

Sixteen cooperating countries have been thanked by Government representatives at a ceremony marking the fifth anniversary of the international tracking of space vehicles held at Goddard Space Flight Center, Greenbelt, Maryland.

Dr. Harry Goett, GSFC director, presided at the ceremony and Astronaut Walter M. Schirra, Jr. was one of the speakers. Participating in the ceremony were Vice President Johnson, Secretary of State Rusk and NASA Administrator James E. Webb.

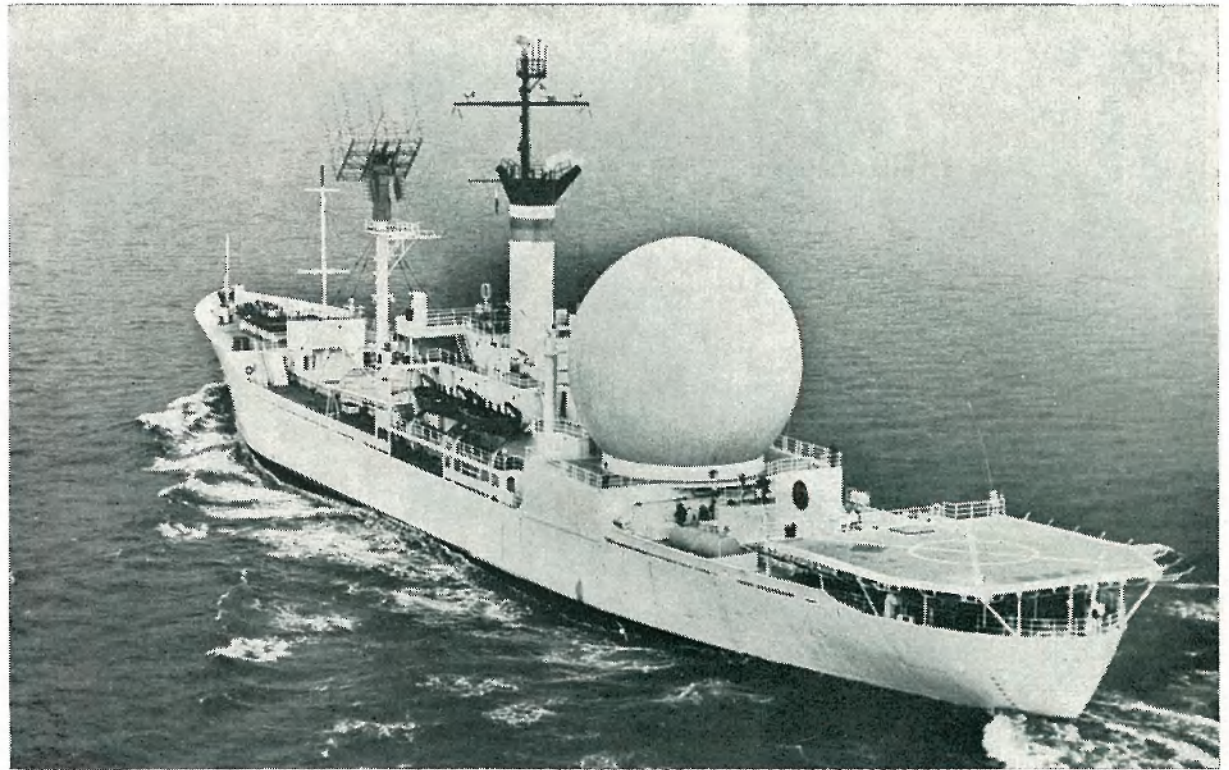
The Vice President, as Chairman of the National Aeronautics and Space Council, awarded scrolls of appreciation to the ambassadors of the countries which cooperated with the U.S. in the establishment of the world-wide networks used in tracking manned and unmanned satellites.

### 5 Years Old

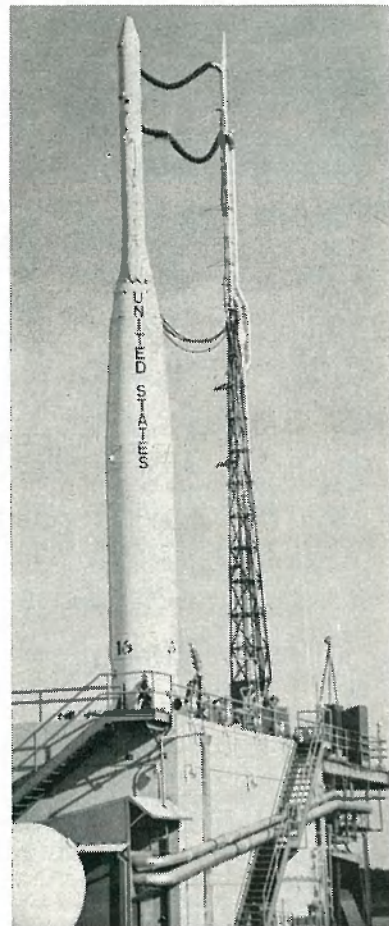
The tracking station network was activated to track Explorer 1, launched on January 31, 1958. Explorer 1 carried the International Geophysical Year scientific experiment of Dr. James A. Van Allen and discovered the radiation belt around the earth. The satellite is still in orbit, although no longer transmitting information from space.

Astronaut Schirra, whose Sigma 7 spacecraft orbited the earth six times last October 3, expressed his personal appreciation, and that of his fellow astronauts, for the Manned Space Network which kept Astronauts Glenn, Carpenter and himself in constant communication by voice and signal with men on the ground during their orbits around the earth.

Countries which received scrolls as symbols of thanks from the Vice President for their aid were Argentina, Australia, Brazil, Canada, Chile, Ecuador, Great Britain and Northern Ireland, India, Iran, Japan, Mexico, The Netherlands, Nigeria, Peru, Republic of South Africa and Spain.



**UNNS KINGSPO** will serve as a ground station base for tracking and communications for NASA's Project Syncom. Communications tests will be conducted between a transportable ground station at Lakehurst, N. J., and the ship which will be at anchor in Lagos harbor, Nigeria. Once in the synchronous orbit, the satellite will hover over a fixed longitude over the Atlantic Ocean and move in an elongated figure 8 pattern approximately 30 degrees north and south of the equator.



**DELTA LAUNCH VEHICLE** which will boost the Syncom active repeater communications satellite into orbit 23,000 miles above the earth is shown with gantry pulled back in one of final series of tests. The Delta has had 14 consecutive successes.

## Woman Flyer Making Plans To Be First 'Astronautte'

Joining America's male astronauts in space is the burning ambition of 23-year old Mary Wallace Funk of Manhattan Beach, California.

The brunette aviatrix is chief pilot and flight instructor for an aviation company at Hawthorne Airport and has already qualified as one of 12 "female astronauts".

However, the program under which she qualified does not have the sanction of NASA.

The twelve women selected as possible future astronauts were chosen from a field of 20 by the Lovelace Founda-

tion, through a grant made by the famous flyer, Jacqueline Cochran.

According to Dr. W. Randolph Lovelace, head of the foundation, Miss Funk came through her tests with ease. He said he had no doubts that she could fly through space with the best of the male astronauts.

"I just fell in love with the idea of being the first woman into space, or perhaps even to the moon," Miss Funk said.

Why?

"Well, I am eager to be first for my country and for my fair sex. It would be a tremendous honor, and women should lead, or at least help lead, in our space effort."

The green eyed pilot, who stands a trim 5 feet 8 inches and weighs 127 pounds said she has no doubts she could survive the rigors of an orbital flight. She has checked out in all the tests which the original seven male astronauts took before their selections. This included the arduous centrifuge test at the University of Southern California, where she took three "G's."

### PURELY PERSONAL

W. N. McClintock, Property Management Branch, has been elected Chairman of the Safety Committee.

Miss Jean Hardin, daughter of Donald W. Hardin, Support Services Office, was married in a military ceremony at Fort Rucker, Alabama, to 2nd Lt. John Helms, on January 26. She worked in the Personnel Office during the summer of 1962.





**SEEMING CONTRADICTION** in speed limit stenciled on side of one of six Saturn rocket engines is explained by Harry Handley, Technical Information, to Gerry Hyatt, Property Management. Slow towing speed on engine carrier is a precaution in the handling of the engines.

## Space Spending May Hinge On Soviet Developments

The United States' chances of beating the Soviet Union to the moon are good if Russia doesn't unveil a new rocket comparable to Saturn in the next few years, James E. Webb, NASA Administrator told an audience in Charlotte, North Carolina.

The nation which gets to the moon first will not necessarily have won the race for space leadership, however, he pointed out.

U.S. space spending in the future will depend to a large extent upon the Russians, Webb said.

"We simply cannot know what level of investment they expect to make on a long range space program," he said. "We do know that we must not be trapped into a narrow, one-purpose program such as the one limited to a lunar landing."

He noted that because of Russia's more powerful rockets, it was reasonable to expect some additional Soviet triumphs.

In an earlier interview, he told newspapermen that they have the responsibility to clarify to the public what the

Complex 37's service structure will weigh more than seven million pounds.

U.S. space program is, what it does, and what it means to citizens.

He also lauded the communications satellite system and said it could bring about an understanding between men of opposed armed camps.

## NASA- Industry Conference Scheduled February 11, 12

Private industry, which receives about 90 per cent of NASA's budget, will hear the agency's plans for industry's participation in its programs at the second Industry Program Plans Conference to be held February 11 and 12 in Washington.

The first of these meetings was held in July of 1960. Since then, NASA has grown and changed to the extent that there is a growing demand for a second such session.

The conference is particularly designed for current or potential contractor firm personnel who direct long range planning. More conferences may be held later on at NASA field centers involved in major procurement.

## Sixteen-Inch Cannon Fires Capsule In Test

A 16-inch United States cannon, aimed almost straight up, shot a 475-pound capsule of weather instruments 15 miles into the upper atmosphere in the West Indies.

It was claimed to be the first launching of a high altitude probe by a gun instead of a rocket, and the first undertaken by a non-government agency — McGill University of Canada, which has the backing of the United States Army.

The shot was the first in a series of seven planned. It was preceded by one test firing in which the converted Navy cannon hurled a 700-pound wooden projectile two miles up.

McGill researchers hope that vehicles eventually can be fired as high as 600 miles. Dean D. L. Mordell, head of the McGill faculty of engineering, said a gunshot is more accurate than one by rocket and that the instru-

ment's landing area can be predicted more accurately.

The instruments in the steel cased capsule sent back data on conditions in the upper atmosphere to ground tracking stations. Cameras placed along the south coast of the West Indies recorded its flight.

An army observer who witnessed the shot called it "an imaginative concept" and said the Army thinks it a "good thing." Upper atmosphere research will help in improving air defense missiles, he added.



**EMIL BERTRAM**, Heavy Vehicle Systems Office, made a presentation in Cocoa Beach Sunday to the Pilgrim Fellowship Youth group of the Cocoa Beach Community Church on the relationship of religion to the space age.

## Satellites To Change Numbering Systems

All satellites launched this year will be designated with Arabic numerals rather than Greek letters, the National Academy of Sciences has announced.

Until now, satellites have been named internationally in the order of the letters of the Greek alphabet, beginning over each year.

The first satellite, Sputnik I, for example, was designated 1957 Alpha. The first in 1958, Explorer 1, was 1958 Alpha.

The first satellite or space probe of this year will be designated 1963-1, and so on.

The new system was agreed upon by members of a committee on space research, including the U.S. and Russia, at its meeting in Washington in May.

A group of American scientists has urged that it be made a matter of national policy that the planet Mars be kept as a "biological preserve" — that is, free of contamination from any organisms from earth — during all exploration to the planet.

## NASA Women Plan Valentine Dance

Final preparations for the NASA Womens' Social Clubs Valentine Dance will be made at a business meeting to be held Tuesday, February 12, at 5:30 in the conference room of the CAC Building.

The dance will be Friday, February 15, at the Patrick AFB Officers' Club.

Proceeds will go to the Brevard Training Center in Rockledge for the purchase of special equipment for the center.

Tickets are \$1.50 per person and may be purchased from Marilyn Krause or Helen Egan, E & L Building; Polly Rudolph, Kabbard Building; Cathy Posavec, CAC Building; Shirley Taylor, NASA Test Support Office, and Anne Hull, Manned Spacecraft Center Office.