

SPACEPORT

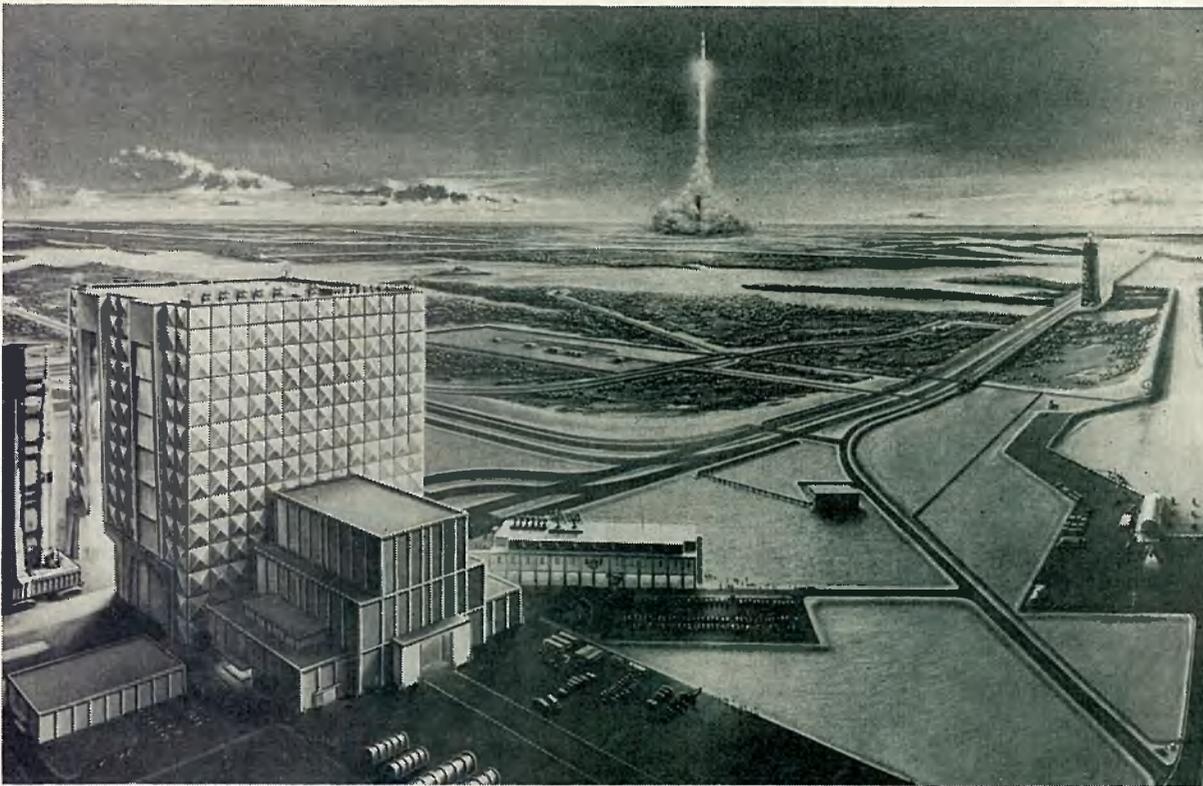


NEWS

Volume 2, Number 34

NASA Launch Operations Center, Cape Canaveral, Florida

August 22, 1963



THIS WILL BE the scene on Merritt Island in a few years when Saturn Vs are launched from the Vertical Assembly Building. Pile driving work on the VAB has already begun. Art is by Don Mackey.

WORK ON 52-STORY VAB BEGINS

The world's largest building is emerging today from the swamplands of the Merritt Island Launch Area—where American astronauts will embark for the moon by 1970.

Called the Vertical Assembly Building (VAB), the structure, when completed in 1965, will enclose 128 million cubic feet of space—more than half again as much as the Pentagon.

Tallest in South

Its high bay area will be 52 stories high, making it the tallest structure south of the Washington Monument. Overall dimensions of the building will be 670 feet long, 515 feet wide and 524 high. This includes a 19-story low-bay area.

It will be constructed on a foundation of more than 4,000 concrete filled tubular steel pilings, each 16 inches in diameter. If placed end-to-end the pilings would stretch about 128 miles. They will

be pounded down to a depth of 160 feet to bedrock.

The first of these pilings were driven into place last week by Blount Brothers Construction Co., Montgomery, Ala., under an \$8 million contract for the foundation.

Some 50,000 tons of steel for the VAB are being provided by United States Steel Corp. under a \$23.5 million contract, the largest single pact so far awarded for a construction project in the Cape Canaveral area.

Contracts for the VAB are being administered by the Corps of Engineers, acting as agent for NASA's Launch Operations Center.

The VAB will cost more

than \$100 million and is an integral part of the \$450 million Launch Complex 39.

Essentially a large steel-framed building with a metal skin, the VAB will be used to prepare the 7.5-million-pound-thrust Saturn V rocket and the three-man Apollo spacecraft will be assembled in an upright position inside the VAB within a controlled environment. Customarily, such preparation is accomplished on the launch pad.

After preparation, the Saturn V/Apollo will be transported to the launch pad by the world's largest land vehicle, called a crawler-transporter. The Saturn V/Apollo will be vertically assembled in the VAB on its own launcher-umbilical-tower (LUT) and the entire package—rocket, spacecraft, and LUT—will be moved in an upright position to the launch pad some 3.5 (See VAB Work, Page 6)

THE INSIDE STORY

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Saturn Barge Unloads SA-5 First Stage

The NASA barge "Promise" docked at Canaveral yesterday and began unloading the first stage, instrument unit and payload for the fifth Saturn I flight vehicle—SA-5.

The barge followed a winding, 2,200-mile route from the Marshall Space Flight Center in Huntsville, and took 10 days to complete the journey.

SA-5, the first complete Saturn I configuration, is scheduled for flight later this year from Launch Complex 37.

The second stage of the vehicle, the S-IV, has been successfully static fired in a full-duration, seven-minute run at Sacramento, and will be flown to the Cape.

The SA-5 launch will be the first test of the Saturn's block II, finned configuration, and the first time it will carry a live second stage. It will also be the initial launch from 37's pad B.

The 41-foot-tall S-IV will be powered by a cluster of six RL10-A3 liquid hydrogen-liquid oxygen engines, capable of developing 90,000 pounds of thrust.

The S-I booster has a cluster of eight H-1 engines which develop 1.5 million pounds of thrust, burning RP-1 and liquid oxygen.

Nassau Tickets

Tickets for the Labor Day weekend cruise to Nassau may be picked up at Joline's Travel Bureau, 103 Beach Plaza, Cocoa Beach, just a couple of blocks south of the Cocoa causeway.

Joline's is open daily from 8 a.m. to 5 p.m., and on Saturday from 8 until 1 p.m.



PEOPLE MAKE THE ORGANIZATION

The story on NASA's Launch Vehicle Operations Page 4, is basically an explanation of mission responsibilities and how LVO is organized to meet them.

The organizational chart, Page 5, and the article do not, however, tell the story of the engineers, the technicians, the aerospace mechanics, the administrators, the secretaries—the people of LVO.

Many have been teammates for years, some for a decade or more. And all of LVO's people—from the highest ranking veteran to the most recently-hired clerk typist—can take pride in a unit that has carefully compiled an outstanding record of mission successes.

The milestones of missilery to which LVO people have contributed include the first American satellite and many of its successors, as well as four consecutive Saturn successes.

LVO's record was built by individuals who spent the time and personal effort to get the work done right.

Throughout the job descriptions of LVO offices, branches and sections, is the phrase "... insures the reliable performance of ..."

It is a tribute to the people within LVO that they have unfailingly lived up to these demanding words.

SMELLY SITUATION

The old saw "one man's meat is another man's poison" is really brought to mind occasionally.

In the hall the other day a pretty, perfumed girl passed by leaving a 25-foot wake of overpowering scent behind her. While it is nice, indeed, to smell like a rose, to a neighbor with an allergy to roses, inhaling your scent may be sheer torture. Some people even get headaches from prolonged exposure. A neighbor who planted a blooming lemon tree beneath her bedroom window was rewarded with a bad case of insomnia. And as for that overpowering nightblooming jasmine, it has been known to keep the neighborhood awake within a 500-foot radius when the wind is right.

A natural transition from the foregoing could be to the ardent gardener who plants a ripe fishhead under each plant in his hedge. Given a good hot August night, a keen sense of smell, and who can sleep? (But don't I have a beautiful hedge says the fisherman cum planter!). Spare us too much of a good thing whether it comes from a perfume bottle or the local river!

SPACEPORT



NEWS

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



SPACE SUIT and computers are used with a mockup of NASA's Apollo moonship at the Aeronautical Division of Honeywell. Engineer Bill Sommers (left) adjusts a computer which will feed simulated flight data to engineer-test pilot Jim O'Neil when he is inside the spacecraft.

SPACE ALMANAC

A CHRONOLOGY OF
EVENTS IN SPACE
EXPLORATION AND
RESEARCH.

5 Years Ago

August 24, 1958 — EXPLORER was successfully launched by ABMA-JPL. Jupiter-C and all stages fired, but orbit was not achieved because of collision between parts of booster and instrument compartment.

3 Years Ago

August 23, 1960 — Bell Laboratory technicians successfully transmitted a voice and music message from New Jersey to Jodrell Bank, England, via ECHO I.

1 Year Ago

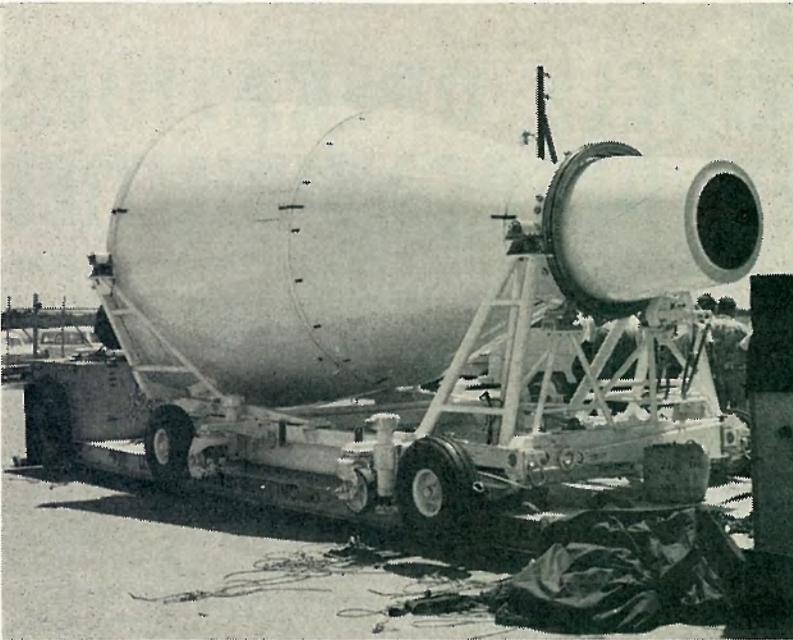
August 27, 1962—An Atlas Agena B vehicle carrying the MARINER II Venus probe was launched from Cape Canaveral.

STEAM PRODUCING BOB-TAILED ENGINE BEING DEVELOPED

A "bob-tailed" rocket engine that produces steam instead of thrust is being developed to test other rocket engines at Rocketdyne, a division of North American Aviation, Inc.

The unique engine is the product of a new space age requirement: the test firing of rocket engines in the simulated atmosphere of near space. This takes vast quantities of steam—enough to spin the turbines of the electrical power generators of a city of 1,600,000 persons.

Engineers are answering the challenge with a sawed-off engine. They call it a Hyperflow Steam Generator, but it is the combustion chamber of a rocket engine minus the narrow throat that normally supports propulsive reaction.



A HOLLOW, mock Gemini spacecraft arrived at Canaveral Friday to test Project Ground Support Equipment. This actual-size model will be placed in test stands to insure fittings are snug. A full-scale "boilerplate" flight model is expected at the Cape soon.

Much-Traveled Mariner II Completes 1st Solar Orbit

The Mariner II spacecraft, which successfully performed a fly-by mission of the planet Venus on Dec. 14, 1962, has now completed its first orbit of the sun.

The spacecraft was launched a year ago next Tuesday, and traveled a distance of approximately 540,000,000 miles to complete the first solar orbit.

The current position of Mariner in space is outside the orbit of Earth at a straight line distance of 47,000,000 miles from Earth.

Although its trajectory towards Venus was inside Earth's orbit, the path of the spacecraft was altered by the gravitational pull of Venus as Mariner performed the fly-by. The closest approach to Venus was 21,648 miles.

The current velocity of the spacecraft is 54,200 mph relative to the Sun. The velocity figure increases and decreases during the solar orbit to produce a period of 346 days for each orbit.

Data radioed to Earth as Mariner's instruments probed Venus, determined that the planet's surface temperature is 800 degrees F. with a temperature of -30 degrees F. to -70 degrees F. at the top of the clouds that shroud the planet.

The clouds begin at 45 miles above the surface of Venus and extend to 60 miles.

The total mission yielded 111 million bits of information on interplanetary space and Venus.

Contact with the spacecraft was lost on the 129th day of the mission, Jan. 3, 1963, at a distance from Earth of 53.9 million miles and 5.7 million miles beyond Venus. Although it was expected that the mission would be terminated after the fly-by of Venus, the cause of the loss of contact is unknown.

Future Astronauts May Be "Germ Prone"

Possible problems astronauts of the future may encounter — as expressed by Eugene Konecci, NASA's Director of Human Research Biotechnology:

After a lengthy interplanetary flight in the super-pure atmosphere of the spacecraft, astronauts may lose their natural ability to fight off earth germs, infections and poisons.

The moon's dust particles may be electrically charged in a way that would draw them to a spaceman as if to a magnet, and make him a walking dust ball.

Konecci said these and other potential problems are being considered and if they prove real, solutions will be sought.

Communications Satellites Must Increase Lifespans

Communications satellite systems will have to achieve a "useful lifetime" of two to 10 years before they will be economically feasible.

NASA has concentrated its research and development in the communications satellite area toward the achievement of this goal. High reliability of the satellite components is a prerequisite to establishing an operational system.

NASA scientists are seeking the best type of solar cell to provide power from the sun in space while offering high resistance to radiation. A number of different types are being tested, sometimes on the same experimental satellite.

NASA hopes to develop a communications satellite system capable of being used by any number of ground terminals at the same time. The systems designed so far have been basically two-party systems. The advanced synchronous satellite system will be the first communications vehicle to embody the multiple accessibility concept.

This multiple accessibility will provide for large capacity, wide-band (TV) communications between the United States and Japan and the United States and

Europe. In addition, research is being done with single side-band systems to cover smaller capacity routes.

Higher powered satellites also are being studied. The present Relay I and Telstar satellites operate at 10 watts and 2.25 watts, respectively. Syncom will operate at two watts. With higher powered spacecraft, 200 watts will be achieved in the foreseeable future.



RETIRING Facilities Chief, Colonel Clarence Bidgood, right, presented service pins Monday to, left to right: Arthur Carraway, 10 years; Mary Thornton, 10; Cyrus Stewart, 1; Annie Taylor, 10; John Parks, 10; Joseph Hester, 20; and Mildred Chretien, 1.

First Of A Series**LAUNCH VEHICLE OPERATIONS HAS VARIED RESPONSIBILITIES****Dr. Hans Gruene****ROCKETRY VETERAN DIRECTS LVO STAFF**

Dr. Hans F. Gruene, LOC's Assistant Director for Launch Vehicle Operations, has more than two decades of rocket and space vehicle experience.

He began his career as a research engineer at the Peenemuende, Germany, Guided Missile Center in 1943.

After the war, in 1945, he joined the staff of scientists at the Ordnance Research and Development sub-office at Fort Bliss, Texas.

In 1951, Dr. Gruene became Chief of the Guidance, Control and Networks Section of the Experimental Missile Firing Branch, and, five years later, transferred to the Army Ballistic Missile Agency at Redstone Arsenal. In July 1960, he transferred to NASA.

A native of Braunschweig, Germany, he received degrees in Electrical Engineering at the Technical University in his hometown, and in 1941, gained his Ph.D.

**Bob Moser**

EDITOR'S NOTE: To help explain the major divisions and offices in the LOC organizational structure approved August 6, Spaceport News will periodically publish features on these units and their functions.

The first organization in this series is Launch Vehicle Operations.

* * *

SA-5, the next Saturn to be tested, will undergo thorough pre-launch physical checkouts at Canaveral of every component in its 162-foot frame.

The organization responsible for the intensive checkouts is Launch Vehicle Operations, (LVO), directed by rocketry veteran Dr. Hans F. Gruene.

He is assisted by another veteran, Albert Zeiler, and two technical assistants, Al O'Hara at the Cape and Marvin Williams at Marshall.

The scope of LVO's responsibilities is wide, the Division reports to two organizations—the Launch Operations Center and the Marshall Space Flight Center with the majority of LVO's engineers and technicians working at Canaveral.

Specifically, LVO at the Cape is responsible for all Saturn operations from the time of its barge arrival, until it has completed its flight mission.

Organizational Setup

Since design and development of the vehicle is carried out at Marshall, however, LVO also maintains an operating force there.

To achieve maximum efficiency and maintain high reliability, LVO has functionally divided its division into three main operating elements and two supporting offices.

The operating elements are: (1) Electronic Engineering and Instrumentation Systems; (2) Electrical Engineering, Guidance and Control Systems; and (3) Mechanical and Propulsion Systems.

The two supporting offices are Technical Planning and Scheduling Office and Liaison Office.

Robert E. Moser, Chief Test

Conductor for all four successful Saturn I flights, is Chief of the Technical Planning and Scheduling Office.

Basically, it is this office's responsibility to plan and coordinate schedules and test procedures for the pre-flight preparation and checkout of all space vehicles assigned to LOC for launch operations. This also includes spacecraft and ground support equipment.

This office provides test conductors for preparation and checkout and launch operations.

The complete schedule for each launch vehicle assigned to LOC is mapped out from the moment of its arrival at Canaveral. A launch day is established in coordination with the Atlantic Missile Range scheduling office, and a master schedule is set up into which all phases of checkout work are included.

Liaison Office

Chief of LVO's Liaison Office is Edward G. House. A service organization, the Liaison Office serves as a point of contact at the Marshall Space Flight Center for coordination of administrative and supporting services problems.

The office is also responsible for providing such services as review of all LOC and MSFC administrative procedures and regulations, and handling visitor control services. They have processed more than 1,750 MSFC-to-Cape visitors since January 1.

Chief of the Electronic Engineering and Instrumentation Systems is Grady Williams. The engineers and technicians in this organization are responsible for operation and maintenance of the RF, Telemetry and Measuring Systems of the launch vehicles, their verification, and also for the active ground support equipment (GSE), and electronic and instrumentation systems.

They also conduct systems engineering analyses on all launch vehicles, and with MSFC, LOC and contractor

design elements, participate in the development of electronic and instrumentation vehicle and ground systems.

They work closely with the Assistant Director for Instrumentation to obtain support and engineering services as required.

Two Branches

Under Williams are two branches, Radio Frequency (RF) and Telemetry Branch, whose chief is Daniel G. McMath; and Measuring Branch, headed by James J. Fitzgerald.

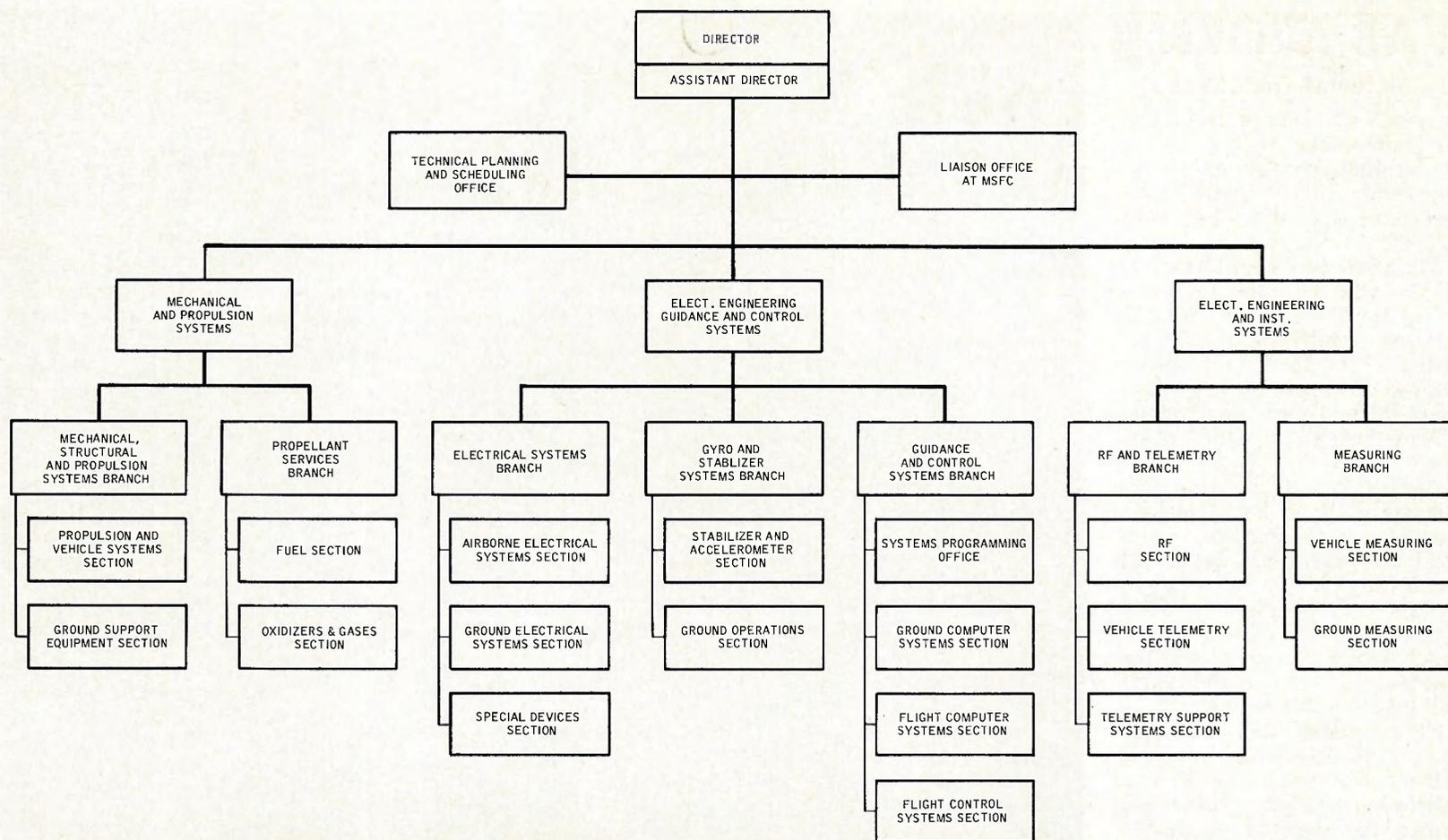
McMath's branch insures the reliable performance of telemetry components and systems. This branch also plans, designs, develops and fabricates such launch associated GSE and ground instrumentation systems within the launch complex as are required to accomplish vehicle checkout and launch.

Under McMath, Arthur Grunenfelder is Chief of the RF section, Marion D. Edwards is Chief of the Vehicle Telemetry Section, and Richard Cauble is Chief of the Telemetry Support Systems Section.

Under Fitzgerald's measuring branch such physical phenomena of the vehicle as pressure, temperature, acceleration and vibration are checked by the Vehicle Measuring Section, headed by Eldo Raley.

The Ground Measuring Section, whose Chief is Albert Jorolan, calibrates vehicle equipment to insure it meets criteria set up by Marshall.

**Edward House**



Electrical Engineering Guidance and Control Systems, under Chief I. A. (Ike) Rigell, is responsible for operations and maintenance of launch vehicle and active GSE electrical and guidance and control systems.

The three branches under Rigell's direction are Electrical Systems, Gyro and Stabilizer Systems, and Guidance and Control Systems.

Electrical

Terry Greenfield is Chief of the Electrical Systems Branch, which is responsible for the reliable performance of the launch vehicle electrical systems and components. These include the miles of wires and cables from the blockhouse to the launch pad.

Greenfield's Branch contains three sections: Airborne Electrical Systems, headed by Carner Dowling; Ground Electrical Systems, whose Chief is Carroll Rouse, and Special Devices Section, James Davidson.

Milton Chambers is Chief of the Gyro and Stabilizer Systems Branch. It is his duty to insure the reliable performance of the gyro and stabilizer components and systems.

There are two sections in this branch, Stabilizer and

Accelerometer, headed by Charles Turner, and Ground Operations, whose Chief is George Ball.

As Chief of the Guidance and Control Systems Branch, Richard Jenke with his deputy, Carl Whiteside, must insure the reliable performance of the guidance and control components and systems.

Under this Branch, the Systems Programming Office conceives, develops and designs computer programs for control of sophisticated processes of prelaunch testing and launching activities.

There are also three sections under Guidance and Control. They are, with their chiefs: Ground Computer Systems, William Jafferis; Flight Computer Systems,

Robert Ostrander; and Flight Control Systems, James Terry.

Andrew J. Pickett is Chief of LVO's Mechanical and Propulsion Systems, which is responsible for operations and maintenance of launch vehicle propulsion and mechanical systems and all active and certain passive mechanical GSE.

Perform Analyses

They also perform systems engineering analyses of the vehicle and active GSE mechanical systems, and participate with MSFC, LOC and contractor design elements in the development of launch vehicle and ground mechanical systems, and implement modifications on the launch vehicle and connected GSE.

Pickett is also Chief of the Mechanical, Structural and Propulsion Systems Branch, which insures the reliable performance of the mechanical, structural and propulsion components and systems.

Propulsion and Vehicle Systems section, headed by Lionel F. Fannin; and Ground Support Equipment Section, whose Chief is Wallis C. Rainwater, are under this Branch.

Thomas Pantoliano is Chief of the Propellant Services Branch, which insures the reliable performance of the propellant services components and systems.

The two sections under this branch are Fuel, with Graydon Corn as Chief, and Oxidizers and Gases, Leroy Sherrer Chief.



Andrew Pickett



Ike Rigell



Grady Williams

VAB WORK

(Continued from Page 1)

miles away. There, the crawler-transporter will place its 11.5-million-pound cargo on the pad where final launch preparations will be completed.

The low bay section of the VAB will be the receiving point for the Saturn V's three stages as initial assembly begins. The first and second stages of the rocket are scheduled to be brought to Complex 39 by barge, the third stage by airplane.

After initial checkout, the stages then go into the high bay area for assembly. There will be four high bays, two back-to-back, each with its own 460-foot-high door opening onto the special roadway over which the crawler-transporter will move the vertically-assembled rocket.

The entire VAB—both low and high bay areas—will be air-conditioned. The air conditioning system will be so large that it could adequately control the temperature in the Empire State Building.

Design of the building is such that it will withstand winds of hurricane force. Doors in the high bay area are being designed not only to protect the rocket and spacecraft from the weather but also to dampen sound shock waves created when the Saturn V lifts off from the launch pad.

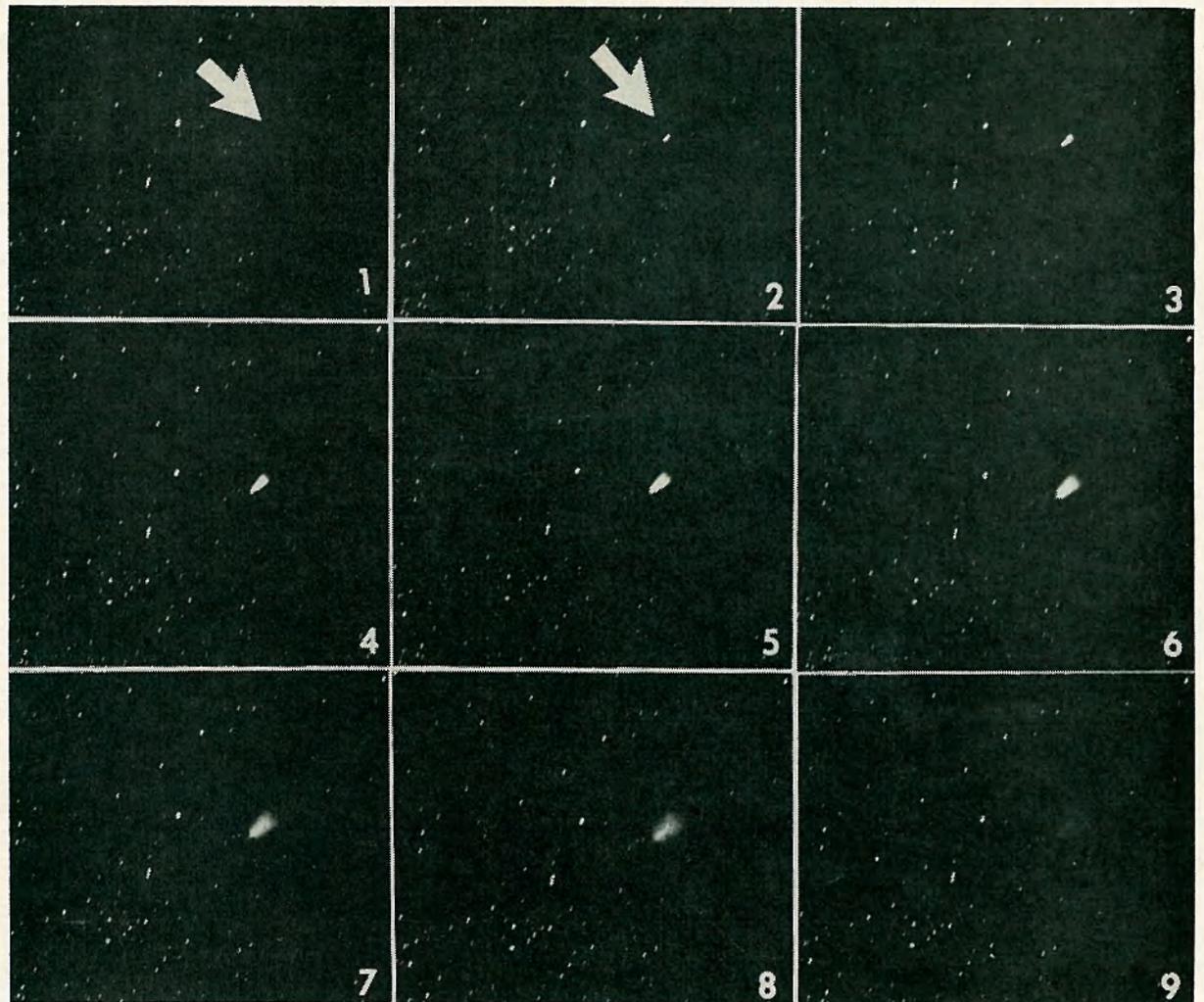
Laboratories, workshops, a Launch Control Center, a cafeteria, and adjacent utility annex will give NASA almost 1.7 million square feet of enclosed work space in the VAB.

Design of the VAB has been accomplished under a \$3.3 million joint-venture contract awarded in 1962 to Urbahn-Roberts-Seelye-Moran (URS-AM), New York architects-engineers.

Who Said That?

"Space is a place. Those of us who only stand on the fringe of scientific knowledge still appreciate that this place called space is a new sea whose shores are not completely charted, whose depth remains largely unmeasured, and whose significance will best be understood by generations yet to come."

—Senator Clinton Anderson



SEQUENCE OF PHOTOGRAPHS shows the firing of the apogee kick motor which sent Syncom II into near synchronous orbit some 22,300 miles above the east coast of Africa July 26. The solid propellant rocket aboard the 28-inch diameter spacecraft fired for about 20 seconds. The photographs were taken by a Baker-Nunn satellite camera at the Smithsonian Astrophysical Observatory in South Africa. SAO operates 12 satellite tracking stations under a grant from NASA.

Plum Brook's Ghost Towns To Be Razed

Final clearance of World War II TNT manufacturing facilities from the 6,000-acre site of NASA's Plum Brook Station is underway.

The work, clearing away the "ghost towns" of TNT days to make way for space age projects is being done by the Kaiser-Nelson Co., Cleveland.

One contract calls for razing unusable structures in the former TNT production areas; another for tearing down three old acid plants and certain obsolete buildings in the administration area.

Ravenna Arsenal technicians have been at work at Plum Brook removing major hazards caused by contamination of the areas by TNT chemicals so that the clearance work could be handled safely by a public contractor. Some 39 buildings were so highly saturated with the

chemicals that burning them was the only effective decontamination method.

The Army established an ordnance works for TNT manufacture at Plum Brook shortly after the outbreak of World War II. At the height of activity at the works, 12 TNT production lines were in operation and 6,000 workers were employed around the clock. After the war, the Army "mothballed" the site.

Plum Brook remained virtually unused until 1956 when officials of the Lewis Research Center selected it as a

site for a nuclear reactor. Ground was broken for the reactor in 1956. Later rocket test facilities were built as the Army turned over additional parcels to NASA.

Today Plum Brook is conducting a rocket engine test program to study complete rocket engine components and high-energy propellants, and is employing the reactor in basic research experiments associated with NASA's plans to develop a nuclear rocket and nuclear power generation systems for interplanetary exploration.

Some \$40-million in new construction for expansion of research activities at the Sandusky station was approved by Congress in the fall of 1962.

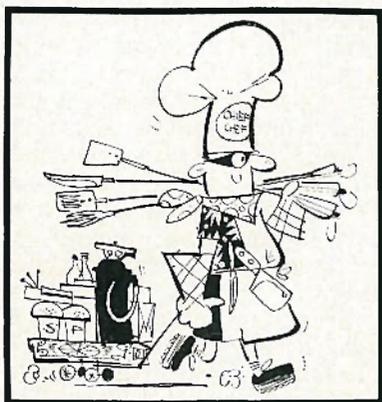
In addition, budget requests for \$12.4-million more in new construction are now pending Congressional action.

Four Per Cent

About 4 percent of all Federal jobs are surveyed each year to determine whether Government workers are properly qualified in accordance with Civil Service Commission standards.

Barbecue Tips To Keep Smoke Out Of Your Eyes

Editor's Note: Although outdoor barbecues are far from the field of outer space, they do provide much enjoyment these evenings to NASA employees. Here are a few down to earth tips that may help you enjoy your next outing even more.



Planning a cook-out?

Beware the pitfalls which lie on the way to the perfect barbecue. Here are some common barbecue 'beefs'—and what you can do to avoid them:

1. Smoke gets in your eyes.

If the barbecue equipment is portable, orient it so that any smoke will blow away from the chef and guests. If it isn't, arrange tables, chairs and cooking paraphernalia on the windward side of the fire.

Start the fire an hour before you're ready to cook. It takes that long to properly lay down a glowing bed of coals.

2. It's a raw deal.

Meat that's underdone, overdone or both can put a damper on your cook-out.

Cooking temperature isn't as easy to control over a barbecue pit as it is on an automatic kitchen range, but it can be done.

Be sure to make allowances for high humidity and cool air. Both atmospheric conditions slow the cooking. So in the damp chill of early autumn, leave the steak on the grill a little longer.

3. Menu monotony for the millions.

Surprise your guests with lamb, pork or veal now and then instead of steak. Seafood also takes to a grill like a fish to water.

And as a sure-fire way of luring your guests back for seconds, try these sauces:

For lamb, bring out the best that's in it with minted orange sauce, concocted thus:
1½ cups mint jelly, 1 tbsp. grated orange rind, ½ tbsp. steak sauce.

Melt jelly over low flame, stirring until smooth. Mix in orange rind and steak sauce. Makes 1½ cups. Serve warm on lamb.

Then there's this piquant sauce, tailored to the Dixie-style taste and equally good with chicken, beef or pork:

1 cup catsup, 1 pt. vinegar, 1 cup prepared mustard, ¼ cup steak sauce, ⅛ tsp. black pepper, dash red pepper, 1 lb.

butter or margarine melted.

Combine catsup, vinegar, mustard and steak sauce. Bring to a boil. Remove from heat and blend in pepper and melted butter or margarine. Makes 1¼ quarts.

4. It's a long time between servings.

Anything that can be prepared ahead of time ought to be. Shish kabob can be spiked in advance. Corn on the cob, bread and even bananas can be wrapped in aluminum foil before company arrives and popped onto the coals as needed.

A handy do-it-yourself hamburger mold can be made by cutting the bottom out of an empty tuna can. Place the ring on a five-inch square of wax paper and fill it to the desired thickness. Lift the ring and put aside the molded burger, paper and all. Replace the paper square and repeat, stacking the patties three or four deep if necessary to save space.

5. Chef or galley slave?

Overwork can spoil your backyard party and leave you with a never-again grouch.

Buffet-style barbecues not only take a work load off the host and hostess but give them a chance to mingle with their guests.

Low Calorie Diet Offered In Letter To The Editor

The following was received as a letter to the editor:

(While this diet is not approved by the AMA—it is guaranteed to take the pounds away!)

Monday

Take one bouillon cube in weak tea
Gargle please, and do not sigh . . .
For dinner is a delicious and tasty
Dehydrated, butterless pigeon's thigh!

Tuesday

Dilute three ounces of prune juice
Add the scrapings from burnt toast
One doughnut hole without any sugar
And a juicy leg-of-grasshopper roast!

Wednesday

Thirteen shredded egg shell skins
With one-half dozen poppy seeds
Two bees' knees and a mosquito knuckle
All wrapped up in swamp-marsh reeds!

Thursday

One "belly-button" from a naval orange
Broiled with stains from an old table cloth
Three diced eyes of an Idaho potato
All steeped in hot sauerkraut sauce!

Friday

Two Maine lobster antennae
Will supply all your need
Combined with a pickled seahorse tail
And one jellied vertebra from a centipede!

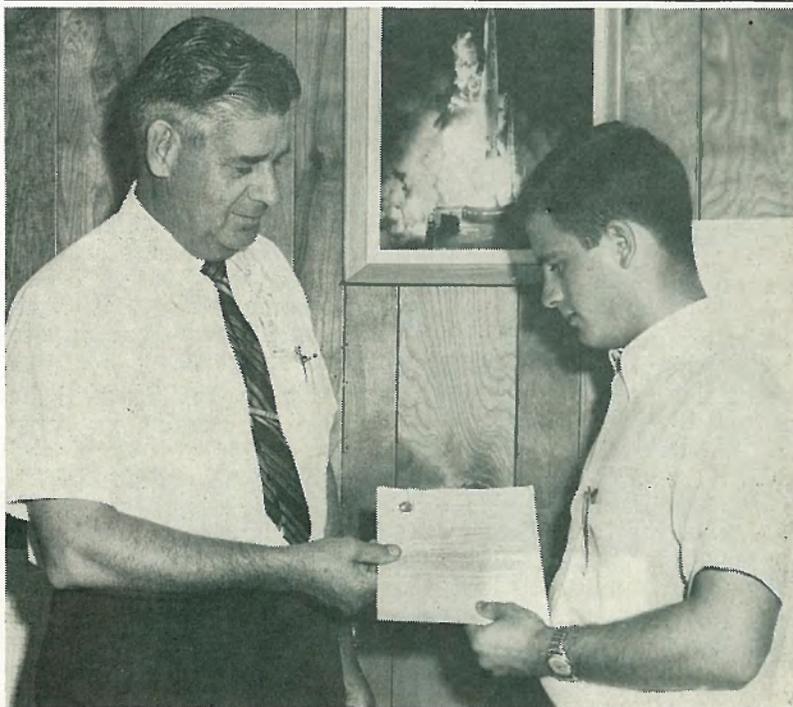
Saturday

From the tip of an alligator's tongue
Shave off a two-ounce sliver
Add one pink guppy fillet,
And broil with a butterfly liver!

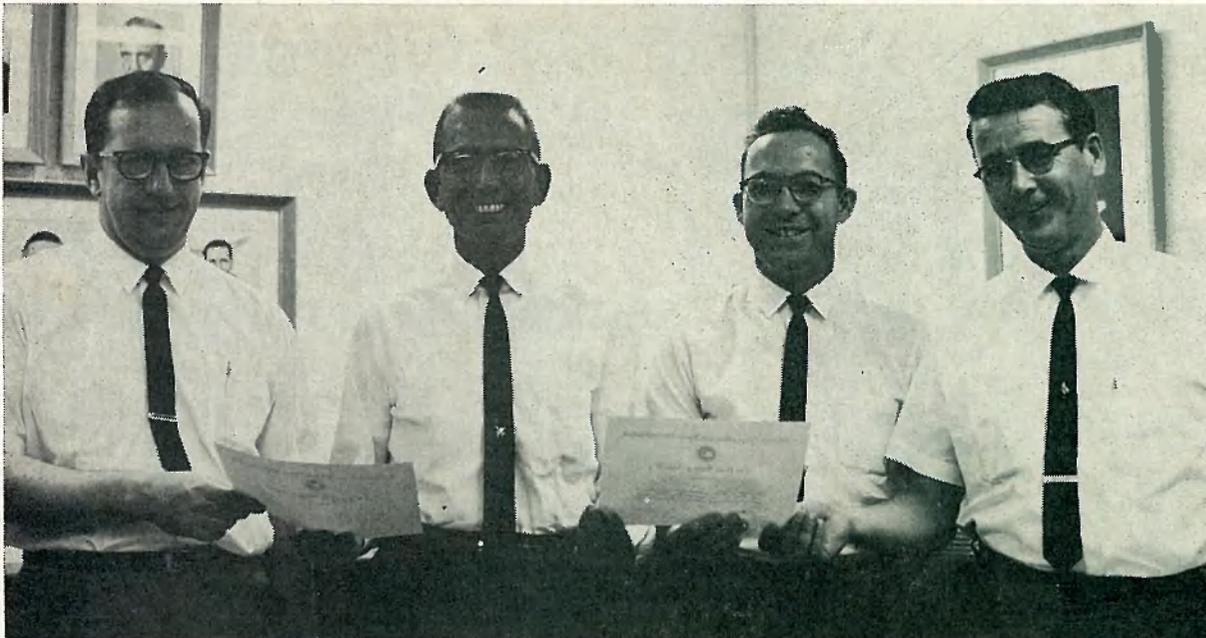
Sunday

A spiced humming bird wing
With a tossed four-leaf clover
Add one prime tadpole rib
And your diet week is all over!

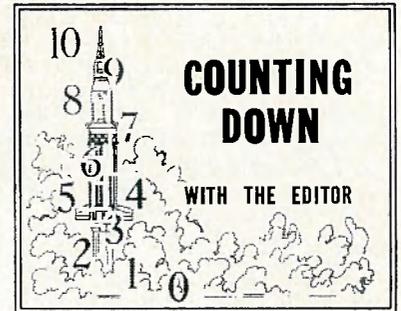
(Adapted and modified from the low calorie diet of Brower Office Supply, Inc., especially for NASA employees by Lorene Virden, Financial Management Office.)



A LETTER of appreciation was presented to summer student Tim Kerns, right, from Base Operations Manager S. E. Carlson Thursday. Kerns, a History major at Florida State University, is leaving to enroll for the fall term. He's a junior.



DANIEL McMATH, left, Chief of Launch Vehicle Operation's RF and Telemetry Branch, and Eldo Raley, second from right, Chief of LVO's Vehicle Measuring Section, were honored last week by their bosses for completing 30 years of government service between them. Grady Williams, second from left, Chief of LVO's Electronic Engineering and Instrumentation Systems presented McMATH his 20 year award, and James Fitzgerald right, Chief of LVO's Measuring Branch, awarded Raley his 10 year certificate.



The hollow, dummy Gemini capsule that arrived at Canaveral Friday was hauled half-way across the country by a pair of veteran truck drivers, J. C. Combs and A. B. Shell. They pulled into Hangar AF at the Cape around noon Friday after leaving McDonnell Aircraft headquarters in St. Louis last Monday evening.

Traveling only during daylight hours, and at speeds of 35 to 45 mph, they made successive overnight stops at Mt. Vernon, Illinois, Nashville, Tennessee, Barnesville, Georgia and Orlando. The trip covered about 1,050 miles.

The mock Gemini was under heavy covers and Combs said several people enroute asked him what it was.

"I just told them it was something for the government," he said. "They did take pictures of us on TV when we left St. Louis," he added.

Their truck was escorted by two other vehicles, one in front, the other following. Twice their 13-foot-high load couldn't squeak under low clearances, and they had to detour.

The trip was relatively uneventful, although they did run into a lot of rain. When they crossed a bridge spanning the Missouri and Illinois state lines, state police escorted them, and further along the route traffic had to be stopped while their truck lumbered across narrow bridges.

Special air-ride shock absorbers took the lumps out of rough roads, giving the Gemini dummy a near "weightless" ride.

Combs and Shell agreed it was their most unusual cargo.

Technical Population

The National Science Foundation reports there are some 2.7 million scientists, engineers and technicians in the United States.



Martha Barnes

MOTION GENERATOR TO BE DEVELOPED BY SMALL CONCERN

Genisco Inc., a small business concern located in Los Angeles, has been selected by NASA for negotiation of a development, fabrication, and assembly contract for a man-carrying motion generator for research into guidance and psycho-physiological problems of space flight.

The motion generator is the major component of an advanced space navigation simulator to be located at the NASA Ames Research Center, Moffett Field, California. Ames is a leading NASA Center for advanced research into problems related to life sciences and man's capability to operate in space.

The new facility will be capable of simulating every known factor of control and navigation of space flight, except weightlessness. With it, scientists will be able to run realistic flights from earth take-off through orbital flights, mid-course change, landing on the moon or other planets and returning to earth. The equipment will include two simulated spacecraft or capsules, to provide flexibility in payload and performance.



Dear Sir:

"If you put a man in a rocket, wouldn't the heat from below kill him?"

Gary E. Glassport, Pa.

NASA NEWCOMERS

Fourteen employees have joined local NASA offices in the past two weeks.

They are, LOC: Alvin D. Miller, Edward W. Graham, Carolyn M. Gravel, Marlene O. Chadick, Sharon Stomoff, James C. Stanley, Bonnie B. Lux, James R. Rowe, Florrie Curry Vannoy, Alice R. Morris, Ronald J. Wojtasinski, Patricia D. Blalock, and Eugene F. Balstad.

Goddard: William F. Huseonica.

Cooperative Launches

During 1962 the National Aeronautics and Space Administration launched two international satellites and 21 sounding rockets in cooperation with other nations.

Imaginative Ladies Rewarded For Ideas

A trio of imaginative LOC ladies, active in NASA's Suggestion Program, have been rewarded for their efforts.

Martha Barnes of Personnel recommended a time-saving instruction sheet for new employees, the idea was adopted, and she won a cash prize of \$15.

Simonne Cameron, also of Personnel, received a letter of appreciation for her idea involving an employee's chart depicting pay periods, pay days and holidays.

Annie Taylor of Facilities was presented a letter of appreciation for her proposal regarding the improvement of facilities in the E & L Building lobby.