



*File*



KSC Electronic, Engineering and Instrumentation Systems Division employees have moved into their new quarters in the Launch Control Center at the Spaceport. Left to right are Ellen Pordon, Bob Krause, Bill Glaser and Sue Whigham.

## KSC 'Operation Big Move' More Than Half Completed

Operation "Big Move," the transfer of Kennedy Space Center employees from scattered sites at Cocoa Beach, the Cape and Huntsville, to new facilities at the Spaceport on Merritt Island, is now more than half completed.

More than 7,000 civil service and contractor employees have been settled in their new homes. By the end of fiscal year 1967, the move will be completed and 11,500 "office" employees will be permanently located at the Spaceport.

The total workforce will eventually be about 17,000.

Bill Calhoun, Chief of KSC's Plant Layout section, Base Operations, is Chairman of the Move Committee. He replaced Ray Nething, who handled the first phases of the move.

### Industrial Area

Calhoun said the move of personnel into the industrial area is almost complete. The bulk of people yet to be relocated will move into the Vehicle Assembly Building complex.

"Considering the immensity of such an operation," Calhoun said, "things have un pretty smoothly. We've

had fine cooperation from everyone."

Most of the moving has been handled by TWA personnel, although commercial movers have been called in for large operations. The relocating is accomplished on weekends so normal Center operations won't be disturbed.

Employees began occupying quarters in the Communications Building in January, 1964. During the past summer more than 1,700 employees were relocated in the KSC Headquarters Building, including Center Director, Dr. Kurt H. Debus.

On recent weekends KSC Launch Vehicle Operations and Launch Support Operations Division people have been moving into the VAB complex area, occupying new quarters in the low bay, the Launch Control Center and in equipment shops.

The major moves still to be made primarily involve Saturn V stage contractors who will use the high bay facilities of the VAB.

Calhoun said despite the thousands of pieces of equipment (See OPERATION, Page 4)

## Close Coordination Needed On Gemini 6

The upcoming Gemini 6 flight will be the most complex, demanding mission yet attempted in the U. S. manned space program, according to G. Merritt Preston, Deputy Kennedy Space Center Director for Launch Operations.

### FIRST S-IVB STAGE TO ARRIVE AT KSC VIA OCEAN VESSEL

The first flight S-IVB stage is scheduled to arrive at the Kennedy Space Center this weekend.

It is being transported from California via the ocean freighter "Steel Executive."

Built by Douglas Aircraft, the S-IVB is a larger, more powerful follow-on to the S-IV upper stage of the Saturn I launch vehicle. The S-IV scored a perfect success record in a six-flight test program which closed with the recent launch of SA-10.

### Second Stage

The S-IVB will fly as a second stage atop a Saturn IB booster. Such a vehicle will give the U. S. the capability for three-man space flights, in Earth-orbiting missions of the Apollo spacecraft expected in 1967.

Later models of the S-IVB will serve as third stage of the Saturn V, launch vehicle for the Apollo manned flights to the moon.

The S-IVB is a hydrogen-fueled vehicle powered by a 200,000 pound thrust Rocketdyne engine. The stage is 58 feet long and 21½ feet in diameter.

Following checkout tests in a hangar at Cape Kennedy the S-IVB will be erected atop the S-IB booster at reconverted Launch Complex 34.

First launch of the Saturn IB vehicle is planned for early 1966.

Preston will double as Deputy Mission Director for the Gemini 6 launch.

Briefly, the mission calls for an Agena target vehicle to be launched by an Atlas about an hour and a half before the Gemini.

The Gemini launch is planned to coincide with the Agena's first orbital pass over the Center. Once astronauts Wally Schirra and Tom Stafford are in orbit, they are to attempt rendezvous and docking maneuvers with the target vehicle.

Such a complicated and exacting flight plan requires the most stringent support ever afforded a mission.

"One of our biggest jobs is coordination," Preston says. "Essentially, we have about six major components that will be conducting simultaneous operations."

These include the Gemini spacecraft, the Agena target vehicle, the Gemini launch vehicle, the Atlas launch vehicle, the Mission Control Center in Houston, including the manned space flight network, and the Air Force Eastern Test Range.

"People in each of these components are working to a prescribed operations plan," Preston pointed out.

Because there are more systems and more organizations on this mission than any other in the past, it is reasonable there will be more problems arising. It's Preston's job to see that these are resolved.

A planning committee was formed a year ago to anticipate contingencies that might arise during such a mission, and mapping out solutions in

(See GEMINI, Page 2)



## GEMINI 6 COORDINATION

(Continued from Page 1)  
advance.

So far, Preston feels, things have been fairly smooth. A simulated dual countdown was held in conjunction with the recent Gemini 5 flight and only a few problems arose. These are being corrected.

Preston listed some of the unique requirements that will have to be met for Gemini 6:

—The launch radio guidance system must follow the Agena during its launch and, then it must be re-programmed to pick up the Gemini launch.

—Because of the dual launch — Gemini at Complex 19 and Agena at Complex 14 — a reliable communications net has to connect the two blockhouses in addition to several other key points.

—Should a hold occur in the countdown on one launch vehicle, the other one would also have to be held. There is a launch window on the Gemini of 23 minutes if only the spacecraft propulsion system is used for rendezvous. If the Agena propulsion system is used while in orbit to effect a rendezvous the launch window is about two hours.

If for some reason the spacecraft cannot be launched to coincide with the Agena's first pass over the Cape, the next launch window will be 22½ hours later.

Preston says all major elements here — the Air Force Eastern Test Range, the four launch vehicle and spacecraft prime contractors — Martin (Gemini launch vehicle), McDonnell (Gemini spacecraft), General Dynamics (Atlas launch vehicle), and Lockheed (Agena) — have all been cooperating fully with Kennedy Space Center and Manned

Spacecraft Center people.

KSC's Gemini Spacecraft Operations are directed by the Assistant Directorate for Spacecraft Operations. John Williams is the director, and Wiley Williams is the manager of Gemini Operations.

Preston said the support from the Eastern Test Range has been particularly good considering this will be the first time they have run live simultaneous countdowns on launches.

On the day of the dual flights, Preston will take a command post in the Cape's Mission Control Center. He and all others in key positions such as the blockhouses, central control, etc., will be in direct contact via the communications network and will make necessary decisions on the spot.

### VEHICLES READIED

First and second stages of the Centaur 7 launch vehicle were scheduled to be erected at Launch Complex 36, pad A, by yesterday.

Also due for erection was the first stage of an Atlas-Agena launch vehicle at Complex 12. It will be used later this year to launch an Orbiting Astronomical Observatory.

### Scholars To Tour KSC

A group of outstanding young government and industry executives, studying at the Massachusetts Institute of Technology under Sloane Fellowships, will tour the Spaceport tomorrow as guests of NASA.

Tomorrow night the group will dine and participate in panel discussions with members of KSC management.



PETE Reilly, left, and Robert Young, both of RCA Communications at the Kennedy Space Center, won cash awards in the recently established "Error Cause Identification" program.

## ERROR IDENTIFICATION PROGRAM INITIATED

To attain perfect job performance RCA/KSC Communications has initiated an "Error Cause Identification" (ECI) program, where each employee is asked to evaluate his job and identify causes of error.

When a solution is submitted with the ECI, the employee also becomes eligible for a cash award through the RCA Suggestion Plan.

To realize benefits from the ECI program RCA Reliability and Quality Assurance Engineers investigate the stated error causes and recommend corrective action.

Each month the best ECI submitted is selected by a committee comprised of the RCA's Personnel Administration and Reliability and Quality Assurance Engineers.

The ECI judged the best for the month of July was submitted by R. G. Young. A monetary award was given to

Pete Reilly for his suggestion relative to the KSC supply system.

### CENTAUR ACCURACY TERMED 'BEST YET'

Tracking data on the recent successful Atlas-Centaur launch from Cape Kennedy, indicated precise guidance system accuracy for lunar and planetary trajectories.

Data obtained from NASA's Jet Propulsion Laboratory's Deep Space Net shows that less than one-tenth of the mid-course correction capability in the Surveyor model payload would have been needed to put the spacecraft on the final trajectory for a soft-landing at a preselected site on the Moon.

This is several times better than any previous lunar or planetary launch.

## SPACEPORT



## NEWS

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### Multi-Linguists Sought At KSC

The Kennedy Space Center is seeking employees working at the Center who are fluent in such modern languages as Spanish, French and German.

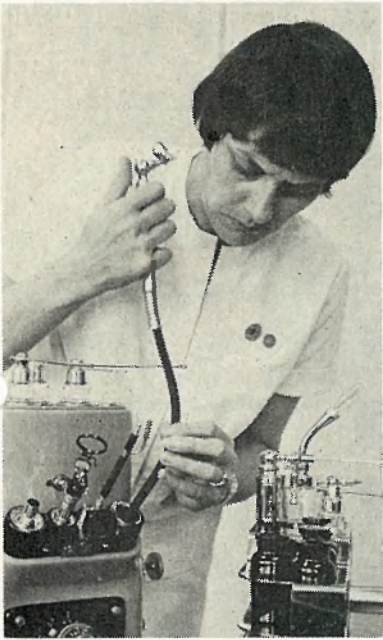
Such linguists are occasionally needed to help explain the Center's activities to official foreign visitors who come to view the Spaceport as guests of NASA.

A thorough knowledge of Center-wide activities is not essential, for anyone conversant in a language could act as an interpreter for regular KSC briefers.

Qualified linguists are asked to contact the Protocol Office.



# ASTRONAUTS CHECKED IN NEW MED LAB



**NURSE** Dee O'Hara, who first served in the astronaut program during Project Mercury flights, comes to the Kennedy Space Center weeks before a scheduled Gemini flight to prepare the new medical facility. Here, she checks eye, ear, nose and throat equipment.

## Engineers' Seminar

### On For September 25

The Central Florida Chapter of the American Institute of Industrial Engineers is presenting an all day seminar of Management Science and Data Processing Saturday, September 25th.

It will be held at the Quality Court Motel in Orlando. Registration for Florida AIIE members is \$20.

The seminar has been designed to present an introduction to management science and data processing concepts for managers and engineers in business, industry and government.

William M. Graves, Director of Scientific Programming for Management Science, Atlanta, Inc., and George H. Grimes, Project Engineering Consultant, will be guest speakers.

There will also be a fashion show and luncheon for members' wives. For further information, call John Feist of KSC at 867-4070, or contact any AIIE member.

Down the hall from the astronaut quarters, on the third floor of the Manned Spacecraft Operations Building at the Kennedy Space Center, is a group of rooms kept as clean as a hospital's surgery area.

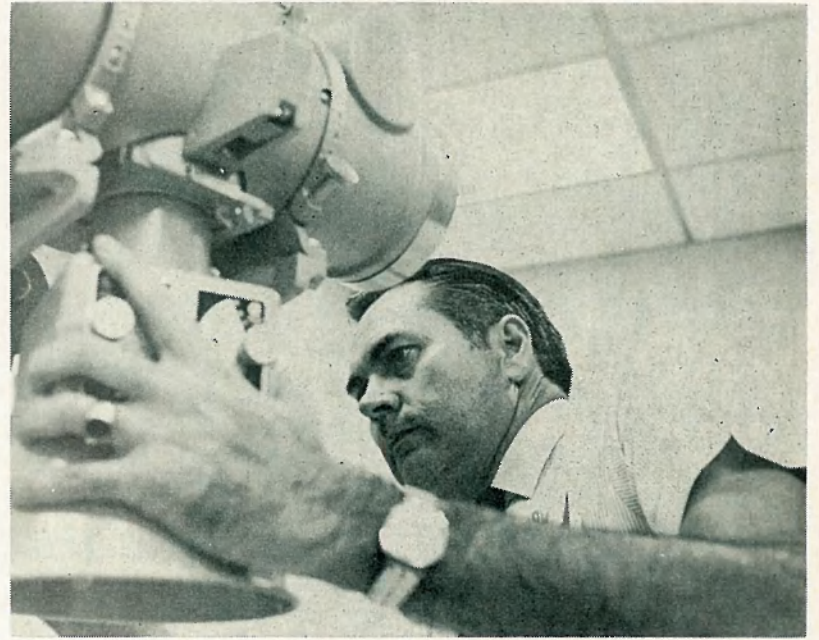
They have to be, for these rooms serve as the new medical facility where Gemini astronauts are given their all-important pre-flight physicals.

Gemini 5 pilots Gordon Cooper and Pete Conrad were the first spacemen to use the new facilities.

Before their flight, physical examinations were given in the Air Force Bio-Astronautics Laboratory at Cape Kennedy. But officials found the Gemini's astronauts had too tight a schedule during the last few days of their training here, and they had to cut down on time.

By locating a medical facility in the same building as the astronauts' quarters, officials feel they have loosened the schedule, allowing the space pilots to concentrate more fully on operational phases of their mission.

There are generally three pre-flight physicals given.



**MEDICAL** Support assistant Huey Crocker adjusts X-ray machine at the new facility located in the Manned Spacecraft Operations Bldg.

The first of these is at about T-10 days prior to the liftoff date. The second is two days prior to liftoff and the third physical, a short one, is given on the morning of the flight.

When the first two, more extensive physicals were given at the Cape, it took nearly a full day for each one. Now, with the medical

facilities in the MSO Building, each examination has been cut to about half a day.

Teams of medical specialists fly in to administer the physicals when the astronauts are in training at the Kennedy Space Center. Both the prime and backup crews are given all examinations.

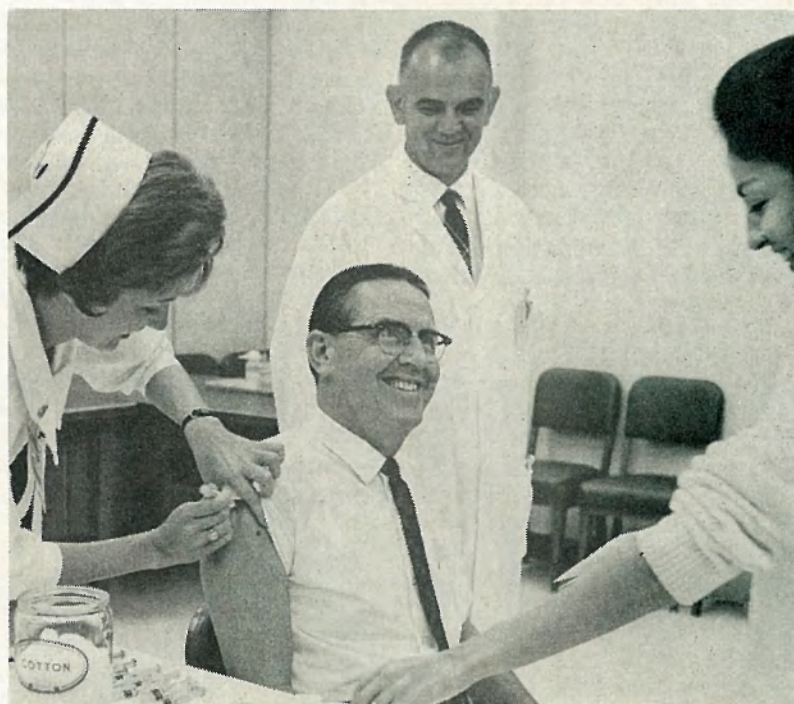
Included in the medical complex are an X-ray machine; a neurology room; an eyes, ears, nose and throat check area; a tilt-table room for blood pressure tests; a food processing area; a reception room and a lounge.

The more exhaustive post-flight physicals are given at the Manned Space Flight Center in Houston, but the MSO Building facilities could be adapted to perform this task if necessary.

Medical Support Assistant Huey Crocker is in charge of the facility, and in addition to the teams of medical specialists who come here for each flight, NASA Nurse Dee O'Hara usually precedes them to help set up things.

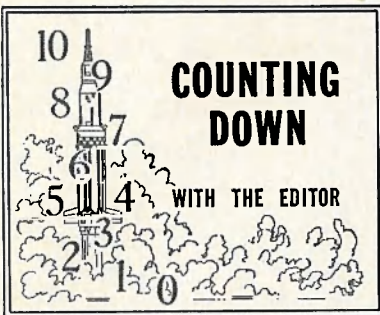
## WEIGHTIER PAYLOADS

The Saturn IB vehicle, the first of which is to be launched from Cape Kennedy next year, will have a payload carrying capability into Earth orbit of about 34,000 pounds. The Saturn I had a 22,000-pound capability.



**DEPUTY** Assistant KSC Director for Administration, C. C. Parker, was all smiles last week as he received his flu shot from TWA nurses Rosalind Martin, left, and Mary Balachia. Dr. Jack Hatfield supervises. Hundreds of KSC employees were innoculated and many more will receive shots during the next few days. For information call 867-2225.





Three new members are to be installed tonight in one of the nation's most exclusive organizations—the Turtle Club.

The three, William Pearson of the Sani-Jon Company; David Hunter of Morrison-Knudsen - Perini - Hardeman Construction Company; and Keith Norton of the Canaveral District of the Corps of Engineers, all qualified for membership while working in the Vehicle Assembly Building.

The Turtle Club, devoted to safety on construction projects, has this motto: "Shell on head, we're not dead."

Anyone who has been hit on the head by falling objects and survived while wearing a protective hard hat, qualifies for the club.

Pearson was banged on the head with a one-pound steel form tie that fell 400 feet. Norton got hit by a one and a half pound steel bolt that had plummeted 110 feet, and Hunter was smacked with a 75-pound crane block! All suffered only minor injuries. Without their head gear it is doubtful if they would have survived.

They will be feted at a safety dinner tonight, sponsored by Morrison-Knudsen-Perini-Hardeman, prime contractors for the construction of the VAB.

In addition to their membership certificates, they will each receive a new hard hat. Their old ones were "slightly" dented.

\* \* \*

Flu shots for Kennedy Space Center personnel at the Cape will be given next Wednesday and Thursday.

Wednesday, they will be dispensed at Launch Complex 34 from 8 to 11:30 a.m., and in room 1128 of the E and L Building from 1 to 3:30 p.m. Thursday, hours will be from 8 to 11:30 a.m. in the E and L, and from 1 to 4:30 p.m. at 34.

Shots will also be given at the Occupational Health Facility on Merritt Island.



MARJORIE Beal and Peter Petro of the Airlines Traffic Office, recently opened in the KSC Headquarters Building, process tickets for customer Ed Wright.

## Airline Services Available

An Airlines Traffic Office, (ATO), has been established in Room 2255 of the KSC Headquarters Building under an agreement between the Air Traffic Conference of America and NASA.

This is the second office of its kind to be set up. The first ATO became operational at the Manned Spacecraft Center in Houston last July 15.

Personnel staffing is by airline company members of the Air Traffic Conference of America, and each participating airline shares the salaries and expense for operation.

Peter R. Petro is the manager and Marjorie D. Beal is his assistant.

The function of the ATO is to furnish all KSC personnel with a complete commercial ticket office service. This service is available for official Government travel through the KSC Passenger Travel Section, and for contractor and personal travel through direct contact by phoning 867-6274, or by personal contact with Airlines Traffic Office personnel.

### Ben Hursey Elected

Ben Hursey, Chief of Personnel at the Kennedy Space Center, was elected to the Titusville city council Tuesday.



Bill Calhoun

### Operation Big Move

(Continued from Page 1)

ment and furniture that have been moved, there have been surprisingly few lost articles.

One of the most difficult moves involved delicate instrumentation equipment for the KSC Information Systems Building. For this, special vans with built-in shock absorbant systems were used.

As many as 280 people have been moved over one weekend, Calhoun noted.

The Move Committee is an organization set up to coordinate all moves.

# EMBLEMS ADOPTED

NASA has adopted official emblems for the Gemini and Apollo programs and has authorized their immediate use by all participating organizations in Government and industry.

The Gemini emblem was originated by the Martin-Marietta Corp., and has been in unofficial use by some elements of the program for some time.

It is a disc with a dark blue background. A gold zodiac Gemini symbol is centered on the disc, with a white star on each of the two vertical curves of the Gemini symbol.

The Apollo emblem is a composite, derived from the best proposals submitted by NASA and contractor personnel.

It is a disc circumscribed by a wide band displaying the words APOLLO above and NASA below. Centered on the disc is the letter A and the constellation Orion, positioned so the three central stars form the bar of the letter.

In the upper left of the disc is a full moon, with a Greek face representing the mythical god, Apollo, and in the middle right is the Earth with the continent of North America predominating.

Suggested uses for the emblems include: on wearing apparel, machinery, major tools, ground handling equipment and similar items used in the Gemini and Apollo programs; pamphlets, manuals, handbooks, bulletins, general reports, posters, signs, charts etc.; personal items such as jewelry (cuff links, charms, earrings, etc.); and decals on personal automobiles.

