

ASTRONAUTICS

Astronauts Need Patience

Project Mercury has slipped behind. The launching of the first U. S. spaceman is now scheduled for late in 1961, W. T. M. Grigg reports.

► BEFORE THE SEVEN Mercury Astronauts were picked, each went through elaborate psychological tests, presumably to make sure they would not crack up under the stresses of space flight. Today it appears they will need all the stability and patience they can muster just to sit it out on the ground until the project's now-distant launch date.

For whereas National Aeronautics and Space Administration officials once planned to orbit a man in space by early 1961 or, some hoped, late 1960, now they schedule only a preliminary non-orbital shot of a manned Mercury capsule within that time. NASA now has no plans to orbit a man before the last part of 1961.

Some observers are already beginning to wonder aloud whether even late 1961 is not an overly optimistic date for the grand finale. Many are convinced that even if the present schedule is met, the United States astronaut will only be duplicating what a Russian astronaut will already have done.

Just what has happened to Project Mercury?

It is the child of a young parent. NASA itself was created in the fall of 1958. Although it absorbed the experienced personnel of the National Advisory Committee for Aeronautics, the expanded NASA has had some growing pains. And although NASA inherited NACA's research centers, the new agency did not have all the facilities it needed.

NASA has taken over the Navy team for Project Vanguard. Where Army research was formerly done, under contract, at the Jet Propulsion Laboratory near Pasadena, Calif., NASA work is now done.

Army Facilities Go to NASA

Dr. Wernher von Braun, his team and the Army rocket facilities at which they worked have now been transferred from the Army to NASA. The official change was made a few weeks ago and the laboratories at Huntsville, Ala., were named the George C. Marshall Space Flight Center.

NASA will soon add another big facility, the Goddard Space Flight Center, now being built at Greenbelt, Md. Broad research will be conducted there. NASA headquarters personnel also need a new home. They now have their offices in the old Dolly Madison house, built for President Madison's wife near the White House.

With all the past and planned expansion, there inevitably have been some changes and red tape to hamper the Mercury Project. But Mercury has also found advantages in a new organization.

There were no entrenched lines of com-

mand and "ways of doing things" to be combated. In fact, since NASA looks on Mercury as its first priority job, the Project has been uniquely sheltered from upsets.

Much of the Mercury Project was kept in the hands of trusted personnel absorbed from NACA, and NASA's Space Task Group for Mercury was placed at NACA's former center, the Langley Research Center at Hampton, Va. Much of the personnel had worked there under NACA.

Four days after NASA became operative, its personnel produced Mercury plans. Simplicity was an objective. The plans specified that no major scientific breakthroughs would be required. Mercury was to be a magnificent job of engineering, using known techniques.

The publicity surrounding the Mercury plans and the later announcement of seven Astronauts to be trained for the flight immediately produced the atmosphere of a race with Russia—a race that NASA officials even then were far from sure of winning.

Almost as if they were already accom-

plished, the plans were unveiled: an Atlas rocket would carry the manned Mercury capsule into orbit and after three trips around the earth, the capsule would be pushed out of orbit by retro-rockets and fall into the Atlantic Ocean.

But later, Congress balked at NASA's big budget. It was reduced and some of the funds that were cut had to come from the Mercury Project. Later, funds were restored, but this money, coming late, did not permit the program to move as fast as the same amount would have if provided earlier.

And then, "sometimes you have a bad day," as one of the Astronauts is fond of saying. Bad days have been frequent for Mercury. In early stages of the program, it appeared the "bugs" would never be eliminated from the Atlas rocket. Then they finally seemed to be.

But, in the first of the major shots planned to lead up to the orbiting of a manned capsule, the Atlas failed again.

Built High Hopes

With chances for being first with a man in space so slim, NASA may have been mistaken in permitting the Mercury Project to take on the aura of an out-and-out race with Russia. The publicity built hopes for



ASTRONAUT IN PRESSURE SUIT—Astronaut Walter Schirra tests a full pressure suit for water tightness in a swimming pool. He is assisted by fellow Astronaut Alan Shepard. The suit, manufactured by B. F. Goodrich Company, was developed for the seven Astronauts for NASA's Project Mercury manned orbital flight program.

the project so high that if Russia succeeds first, the U. S. may face another Sputnik embarrassment.

At the time of the first Sputnik the U. S. also talked of an earth satellite but the USSR produced one before the U. S.

And being second in a two-nation race is just about as expensive to the taxpayer as being first. About the same number of rockets must be built; the same number of engineers and scientists must be hired.

The result of the work will be an exciting ride and some new data about man's abilities in space. This is how Dr. T. Keith Glennan, administrator of NASA, has described the finale:

"A young man in a pressure suit will step from a gantry tower into a checkered capsule atop a giant Atlas missile. About one hour later, with the pilot secure in a form-fitting couch facing upward, the hatch will be bolted. With a roar, the missile will streak into space.

"The Mercury vehicle will be launched from the Atlantic Missile Range, Cape Canaveral, Florida, in a direction just slightly north of east so that it will pass over Bermuda during the orbital injection process. Actually the vehicle will fly in a closed circular path around the earth, but when such a path is projected on a flat map representation of the earth's surface, the result is an apparent undulating or sinusoidal path.

"According to present plans, the vehicle will circle the earth three times, taking about one and a half hours an orbit for a total flight time of about four and a half hours. On the third pass, as the vehicle approaches the western coast of North America, the retro-rockets will be fired, reducing the flight velocity about 500 feet a second. This decrease in velocity will cause the vehicle to enter the atmosphere on a ballistic flight path, and it will eventually land in a recovery region in the western Atlantic Ocean. A recovery team of U. S. Navy and Air Force units will locate and retrieve the vehicle and the Astronaut."

If a Mercury Astronaut should not be the first man in space, U. S. scientists will still have gained important data on how a man will function in the weightlessness of space—on whether or not the lack of gravity seriously disturbs a man physically or mentally.

The U. S. also will have another proved method of returning objects from orbit. (The Air Force Discoverer experiments already have demonstrated one successful method.)

But what will be the cost to the U. S. prestige if a Russian is lauded by a future generation as Lindbergh has been by the generation past?

• Science News Letter, 78:186 September 17, 1960

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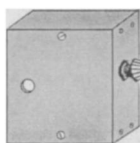
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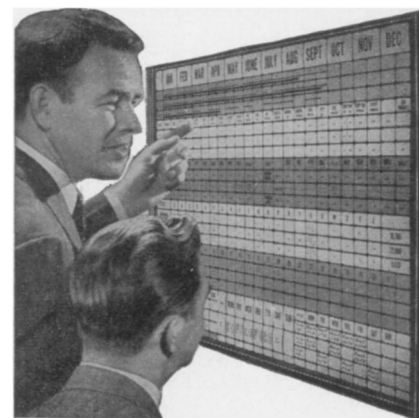
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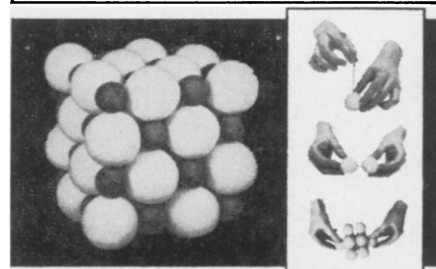
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