

SPACE

# U.S. Orbit Age Ushered In

The first U. S. astronaut to circle the earth in space returned to tell his story after his trip was postponed ten times. Tove Neville reports an on-the-scene account.

## See Front Cover

► THE SAYING "seeing is believing" did not hold true when Astronaut John H. Glenn Jr.'s "bird," the gleaming Atlas rocket, slowly and unbelievably lifted off the launch pad to usher in the U.S. man-in-orbit age on Feb. 20.

After ten delays, caused by unfavorable weather conditions and technical difficulties, and weeks of waiting and looking at the rocket with its cone-shaped space-top pointing at the sky, newsmen, personnel and spectators felt the rocket lifting by their quickening heart beats and the tight feeling in throat and chest. But the eyes had difficulty in relaying the facts to the brain.

All eyes were glued to the rocket while a hush settled over the historic Cape Canaveral during the last minutes before launch.

Suddenly a burst of yellow fire emerged below the rocket which lifted slowly at first and then surged up into the sky as a surge of emotion rippled through the human sea watching.

The time of lift-off at 9:47 a.m. was 17 minutes past the deadline set for a three-orbit mission of four and a half hours. Three additional hours of daylight are considered necessary for recovery operations.

Astronaut Glenn's globe-girdling trip of about 81,000 miles lasted a little longer than scheduled, or 4 hours and 56 minutes. During the trip he was weightless 4 hours and 45 minutes. While weightless he controlled the space capsule's attitude, ate several snacks from squeeze tubes and made observations. The average speed of the flight was 17,545 miles an hour in an orbit 97.6 statute miles from earth when closest and 159.5

miles when farthest away. The period of each orbit was 88.2 minutes.

The orbital space shot indicates that the U.S. is capable of efforts equalling those of Russia that sent her first cosmonaut, Maj. Yuri A. Gagarin, on a one-orbit mission around the earth April 12, 1961. The first U.S. suborbital manned flight followed soon, on May 5. On this flight of 302 miles, Navy Cmdr. Alan B. Shepard Jr. achieved an altitude of 116.5 miles and a speed of 5,100 miles.

Astronaut Virgil I. Grissom, an Air Force captain, soon followed on the second U.S. suborbital manned flight on July 21. This flight of 303 miles at a maximum altitude of 118 miles almost duplicated Astronaut Shepard's flight. It further proved the Mercury vehicle and gave additional important data about man's reactions under the stress of weightlessness.

The Russian flight of 17 orbits by Maj. Gherman S. Titov in a 10,430-pound craft widened the gap of the manned program between the U.S. and Russia. Cosmonaut Titov was in flight 25 hours and 18 minutes. The rocket boosting Titov into orbit had 800,000 pounds of thrust, compared with the 360,000 pounds of thrust that boosted Astronaut Glenn's 4,100-pound capsule into space. However, the U.S. Saturn rocket, tested late in 1961, developed 1,300,000 pounds of thrust. The Saturn is expected to be ready for space flights in 1964.

Astronaut Glenn's flight seemed to prove that man is of value in space and superior to equipment for observations and tasks. His eyes observed and his brain interpreted events a machine could only record.

Glenn, seen on this week's cover, reported when the booster turned around behind his

spacecraft, and added the human touch, enjoyed by those listening, that it was a beautiful sight. He reported that the land masses appeared as they are seen on a map.

He commented on the brilliant blue horizon and observed thousands of glittering particles in the sunlight when he rounded the light side of the earth.

National Aeronautics and Space Administration scientists suggested the particles might be ice from the exhaust of the spacecraft, but checks by the astronaut ruled this out.

A touch of humor was added to the flight when the astronaut said: "That was sure a short day. That was about the shortest day I have ever run into," after finishing one orbit around the earth.

He also thanked the population of Perth, Australia, for turning on the lights in their city while he sighted it during one night phase of the journey.

On the dark side, he noticed a hazy layer seven or eight degrees above the horizon with the stars shining through it as they went down toward the horizon. He studied the cloud covers and reported seeing the moonlight shining on it.

Most of all the first U.S. orbital flight will tell scientists how man and craft behave in space and stand the stress of the strange environment of no wind, sound, or weight.

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**TAKE-OFF FOR ORBIT**—The Mercury-Atlas rocket, carrying the Friendship 7 spacecraft with Astronaut John H. Glenn Jr., takes off on the first U. S. orbital flight (above). Console stations are manned for flight tracking at the Mercury control center, Cape Canaveral, Fla. (left).