*This is the Juno space vehicle, which was used by NASA during the period 1958–61 to launch various Earth satellites and space probes. Marshall Space Flight Center assumed responsibility for the Juno after the Center was created in 1960.*

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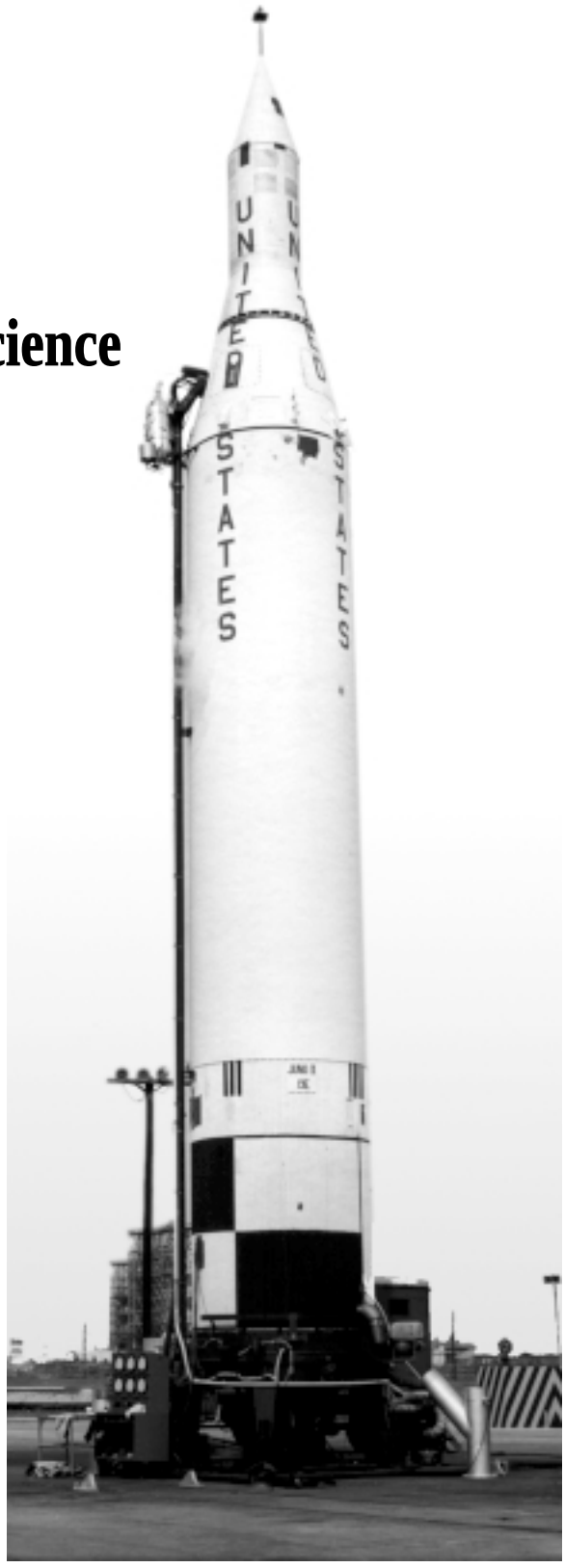
# Juno Rockets for Space Science

America's growing interest in space exploration in the late 1950's led to the desire for launch vehicles able to lift increasingly larger scientific payloads. The four stage Jupiter C (sometimes called Juno I) used to launch Explorer I had minimum payload lifting capabilities. In fact, Explorer I weighed slightly less than 31 pounds. Huntsville's Juno II was part of America's effort to increase payload lifting capabilities.

Among other achievements, a Juno II successfully launched a Pioneer IV satellite on March 3, 1959, and an Explorer VII satellite on October 13, 1959. Pioneer IV was a joint project of the Army Ballistic Missile Agency in Huntsville and the Jet Propulsion Laboratory in California. It passed within 37,000 miles of the Moon before going into permanent solar orbit. Explorer VII, with a total weight of 91.5 pounds, carried a scientific package for detecting micro-meteors, measuring the Earth's radiation balance, and conducting other experiments.

Responsibility for Juno II passed from the Army to the Marshall Center when the Center was activated on July 1, 1960. On November 3, 1960, a Juno II sent Explorer VIII into a 1,000-mile deep orbit within the ionosphere. Explorer VIII was significant in Marshall's history since the Center was involved in the mission



in at least three different ways. First, the Center had responsibility for the Juno stage of the vehicle. Second, it had responsibility for conducting the launch from the Launch Operations Directorate at Cape Canaveral. Finally, Marshall shared responsibility with Goddard Space Flight Center for designing, preparing, and testing the satellite.

Other launch vehicles later replaced the Juno II as the primary launcher for the Explorer satellite series. However, another Juno II provided by the Marshall Center was fired on April 27, 1961, and launched Explorer XI into orbit to conduct a complex gamma-ray astronomy experiment. The spacecraft was referred to as the S–15 astronomy satellite and was developed by the Massachusetts Institute of Technology.