

# Spacecraft transit the Panama Canal

April 10 2015, by Ashley Morrow



The illustration above shows routes on which barges transported pieces of the Saturn V rocket to and from test facilities and the launch site in the mid to late 1960s. Credit: NASA's Marshall Space Flight Center

Apollo spaceflight would not have been possible without the Panama Canal, a major transportation hub more than 1,000 miles south of the Florida launch site. These two powerful examples of modern engineering

connected, literally, in 1965 to make critical NASA missions possible.

It was the age of the Great Space Race. Heeding President John F. Kennedy's call to action, NASA designed and commissioned the Saturn V to carry astronauts into orbit and eventually to the moon. Contractors across the country worked to build and assemble the three massive stages, or sections, that contained the rocket's engines.

Stages S-II and S-IVB together weighed 128,600 pounds dry and more than a million pounds fully fueled. S-II stood 81 feet, or about the height of two school buses placed end-to-end. S-IVB was a little shorter at 58 feet, or about the length of the average freight car on a train. These stages, built in California, were too large to transport by airplane, train or truck to the [launch site](#) at NASA's Kennedy Space Center in Cape Canaveral, Florida.

NASA engineers specially converted the USNS Point Barrow, a military transport ship measuring 70 feet wide by 460 feet long, to carry Saturn V rocket stages. Starting in California, it carried the stages through the Panama Canal, across the Gulf of Mexico and into New Orleans.

The S-II stage was off-loaded at the Michoud Assembly Facility in New Orleans. From there, it made its way to the Mississippi Test Facility via another barge on the Mississippi River. The S-IVB stage, which had already been tested in California, continued on to the Cape. The trip took 16 days in total. The S-II was later transported via another barge to Kennedy Space Center.



The USNS Point Barrow in the photo above carried two of the largest stages of the Saturn V rocket through the Panama Canal on their way to the launch site. Credit: Courtesy of Boat Photo Museum, Dan Owen

In the mid-1960s, Aero Spacelines developed the Super Guppy airplane to carry large rocket parts, despite NASA's lukewarm reaction to the idea. It was the only plane large enough to carry the S-IVB stage in its extended cargo area. The largest stage, S-II, continued to be transported by barge.

The Point Barrow made the trip periodically from 1966 through 1973, when NASA launched a Saturn V for the last time to put Skylab, America's first experimental space station, into Earth orbit.



The Saturn V rocket that launched the Apollo 11 mission begins its journey via crawler from the Vehicle Assembly Building at NASA's Kennedy Space Center to the launch site. Credit: NASA

Saturn V is still the largest and heaviest [space](#) vehicle ever brought to operational status. Only NASA's Space Launch System, currently in development, could rival Saturn V in size: about 320 feet tall in its initial configuration.

The James Webb Space Telescope will also transit the Panama Canal on its way to the Ariane 5 launch site in French Guiana. The telescope, with



a mirror that extends two stories high and a sunshield the width of a tennis court, will be too large to fit on many of the airplanes on which NASA transports its spacecraft.



NASA used the Super Guppy airplane to transport large pieces of the Saturn V rocket, including the S-IVB stage, across the country. Credit: NASA/Tony Landis

Provided by NASA

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