



Artemis II Orion Capsule Splashdown and What Happened Next

By Marijan Jozic

There was a lot of publicity surrounding the Artemis II mission and the Orion capsule's flight around the Moon. Just to remind you, the astronauts flew from Earth to the Moon, made one orbit around it, and then returned safely to Earth. When I was a little boy, I was fascinated by that great adventure. Apollo 8 was the first crewed spacecraft to leave Earth's gravitational sphere of influence and the first human spaceflight to reach the Moon. The crew orbited the Moon ten times without landing and then returned to Earth. The three astronauts — Frank Borman, Jim Lovell, and William Anders — were the first humans to see and photograph the far side of the Moon and witness an Earthrise. All of that happened between 21 and 27 December 1968.

Many things happened after that, and eventually, after Apollo 17 in December 1972, there were no more crewed flights to or around the Moon. In the spring of 2026, mind you, 54 years after Apollo 17, NASA decided to send people around the Moon again. That was not an easy task because the blueprints and technology of Apollo could not simply be reused in a new environment. Technology has changed and improved, and new ideas and engineering approaches have made the spacecraft completely different. This time NASA sent four astronauts (three men and one woman), and the Orion spacecraft is significantly larger than the Apollo Command Module. The flight was successfully completed, and Orion splashed down in April 2026 at 00:07:27 UTC. The splashdown occurred within one mile of the target location. Orion was recovered by the U.S. Navy, and for the media that was essentially the end of the coverage.

But the story continues. If you are an engineer, you always ask yourself: what happens next? The rest of the story is just as fascinating. But let me start from the beginning. Space vehicles are, in many ways, similar to aerospace vehicles, and engineers always want to collect data and analyze it. You can always learn something from the information obtained and perhaps improve the design to make it even more reliable. That is exactly why NASA wanted to bring Orion back to the Cape. After a thorough investigation, there would always be time to send it to a museum and display it to the general public.

What could be investigated? Well, every aircraft maintenance program includes regular inspections of parts that have been subjected to stress. Orion experienced extreme stress during launch and throughout the mission. Think about the vibrations, enormous temperature changes, pressure differences between the cabin and the vacuum of space, and many other factors.

But first they had to transport that large spacecraft from San Diego, California, to the Kennedy Space Center (KSC) in Florida. If you transport bricks, you can find thousands of trucking companies willing to haul your cargo. If you transport wind turbine blades, there are only a limited number of companies capable of doing the job. But if you want to transport a spacecraft, you can probably count the qualified companies on the fingers of

one hand. It is highly specialized work that you may only do a few times in your lifetime. Yet there are companies that are both willing and able to take on such a challenge. They do this kind of work not because it is easy, but because it is difficult, and that makes completing it so rewarding.

The shipment was too large and too complicated to transport by aircraft. Therefore, NASA contracted Frontier Heavy Haul & Support Inc. to haul the Orion capsule from Naval Base San Diego, California, to the Kennedy Space Center, Florida.

Because it was such a delicate assignment, Frontier Heavy Haul & Support completed five practice runs. Altogether, they hauled the test capsule back and forth five times. These trial transports gave NASA the confidence that Frontier could safely transport the Orion capsule back to KSC. Needless to say, there were many technical coordination meetings. Every detail of how and when the capsule would be transported was carefully discussed.

Three trucks were used for the operation. The primary truck carried the capsule, a generator, and an air-handling unit. The generator and air-handling system were required to maintain a constant temperature inside the protective enclosure where the capsule was secured during transport. The idea behind this was to keep Orion in a stable temperature and humidity environment to prevent introducing additional stress to the spacecraft. You can imagine that if the capsule were transported through Arizona and New Mexico without temperature control, the spacecraft's outer skin could overheat, potentially causing additional microscopic cracks. NASA certainly did not want that to happen.

Because the convoy had to be completely self-sufficient, a secondary truck carried a spare generator, a spare air-handling unit, tools, and a forklift as backup equipment. The third truck was a bobtail tractor unit that served as a spare power unit in case one of the other trucks experienced a mechanical breakdown. The convoy was accompanied by two civilian escort vehicles from Frontier, two vehicles carrying seven NASA engineers, a security vehicle, and police escorts as required throughout the transport from California to Florida.

The first launch of Artemis II was originally scheduled for February but was postponed, so the entire transport project also had to be delayed. Frontier had to reschedule trucks and personnel for the next planned launch in March. The March launch was also postponed until April, when NASA finally succeeded in launching the rocket.

After splashdown in California, it took five days to load the capsule and all of its supporting equipment onto the trucks. The loaded dimensions of the primary transport vehicle were 80 feet long, 17 feet 6 inches wide, and 14 feet 6 inches high, with a gross weight of 96,000 pounds. On April 20, 2026, at 8:00 p.m., the convoy departed Naval Base San Diego and traveled across the southern United States, covering approximately 2,700 miles before arriving at the Kennedy Space Center on April 28, 2026,

at 5:00 p.m. During the journey, six different state police agencies escorted the convoy through their respective states. Every night, a two-person security team guarded the load while the NASA engineers continuously monitored the condition of the capsule throughout the trip.

A tremendous amount of planning and effort went into selecting the transportation route because permits had to be obtained for every state along the journey. Frontier also had to comply with state curfews, road restrictions, and construction schedules while still maintaining the planned delivery date. In Arizona, the convoy had to wait for a day and a half before it could continue because of highway construction. Despite these challenges, the load was delivered safely and on schedule, with zero accidents and zero incidents during the eight-day journey.

The spacecraft is now safely secured by NASA at the Kennedy Space Center in Florida. I briefly spoke with people from Frontier about the project and quickly realized that they do this work not because it is easy, but because it is difficult. Quite often, NASA and the astronauts receive all the recognition for a successful mission, while important details such as transporting a spacecraft 2,700



The Orion capsule was too large and too complicated to transport by aircraft, so NASA decided to send it home by truck. Frontier Heavy Haul & Support image.

miles across the United States receive only a brief mention in a local newspaper. Most people never realize how large and complicated such a transportation project is, or how many NASA requirements must be met to move a spacecraft safely from coast to coast.

Frontier Heavy Haul & Support Inc. is located in Fairfield, Texas. They specialize in transporting high, wide, heavy, and super loads. **AM**



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