In first, SpaceX launches recycled rocket and spaceship (Update)

December 15 2017

This photo provided by NASA, the SpaceX Falcon 9 rocket with the Dragon spacecraft launches from Space Launch Complex 40 at Cape Canaveral, Fla., on Friday, Dec. 15, 2017. The unmanned Falcon rocket blasted off with a just-in-time-for-Christmas delivery for the International Space Station. The first-stage booster took flight again after a six-month turnaround. On board was a Dragon supply ship, also a second-time flier. It's NASA's first use of a reused Falcon and only the second of a previously flown capsule. (NASA via AP)

For the first time, SpaceX on Friday blasted off both a rocket and a cargo ship that have flown before, a step forward in the company's goal to lower the cost of spaceflight.

After the launch, the California-based company headed by Internet tycoon Elon Musk landed its rocket booster upright on solid ground at Cape Canaveral, Florida.

SpaceX has now managed to return 20 of its rocket boosters after launch, whether on land or on a floating ocean platform, as part of its effort to re-use instead of jettison costly components.

The gleaming white Dragon spacecraft and Falcon 9 rocket soared into the blue sky over Florida at 10:36 am (1536 GMT).

Three minutes later, the booster and second stage of the rocket separated.

SpaceX's live video webcast showed the two components arcing away from each other in the sky.

The second stage continued to propel the Dragon toward the International Space Station, while the tall portion of the rocket powered its engines and maneuvered its grid fins to guide it back to Landing Zone 1 at Cape Canaveral Air Force Station.

As live images showed the first stage glide down, steady and upright, from the air to the launchpad, cheers erupted at SpaceX's Hawthorne, California headquarters, where employees regularly gather to watch rocket launches.

"That marks the second successful visit to and from space for this particular booster," said a SpaceX commentator on the webcast.

The Falcon rocket booster previously propelled a space station resupply mission in June, called CRS-11.

The Dragon capsule was flown to the ISS in 2015.

SpaceX confirmed that the launch sent the Dragon into a "good orbit" and it was "on its way to the International Space Station."

'The beginning'

"This is the beginning of rapid and reliable reusability," said SpaceX Dragon mission manager Jessica Jensen, at a press briefing Monday.

Though the early days of rocket landings saw many of them topple, miss the target or blow up, SpaceX has successfully recovered 14 of its boosters this year alone.

Friday also marked the fourth time SpaceX is re-flying a used booster for one of its clients.

However, it was the first such effort for NASA, SpaceX's most important customer.

NASA's ISS program manager Kirk Shireman said rocket experts from around the agency had reviewed safety for the mission, and that re-used components were seen as no more dangerous than new ones.

"The net result is about equivalent risk," he told reporters Monday.

The unmanned spaceship is packed with 4,800 pounds (2,200 kilograms) of food, supplies and experiments—including one to study thyroid cancer and another to grow barley in space.

The mission is SpaceX's 13th of 20 under a $1.6 billion contract with NASA.

The Dragon is scheduled to arrive at the ISS on Sunday.

Citation: In first, SpaceX launches recycled rocket and spaceship (Update) (2017, December 15) retrieved 19 April 2024 from
https://phys.org/news/2017-12-spacex-poised-recycled-rocket-spaceship.html