

SpaceX poised for cargo, rocket-recycle launch

January 9 2015



This undated SpaceX photo obtained January 5, 2015 from NASA shows the Dragon spacecraft and its Falcon 9 rocket, both made by SpaceX

SpaceX will try again Saturday to launch a load of cargo to the International Space Station and recycle its Falcon 9 rocket by landing a key part on an ocean platform.

The routine supply launch of the unmanned Dragon cargo ship is to be followed minutes later by an ambitious bid to return a 14-story piece of the Falcon 9 rocket to an upright landing on a barge in the Atlantic Ocean.

Liftoff is set for 4:47 am (0947 GMT) Saturday from a NASA launchpad at Cape Canaveral, Florida.

Weather conditions were 80 percent favorable for the launch, NASA said.

The US space agency's television and online broadcast coverage begins at 3:30 am (0830 GMT).

The launch was initially supposed to take place in December but was delayed due to a problem found during a launchpad test fire.

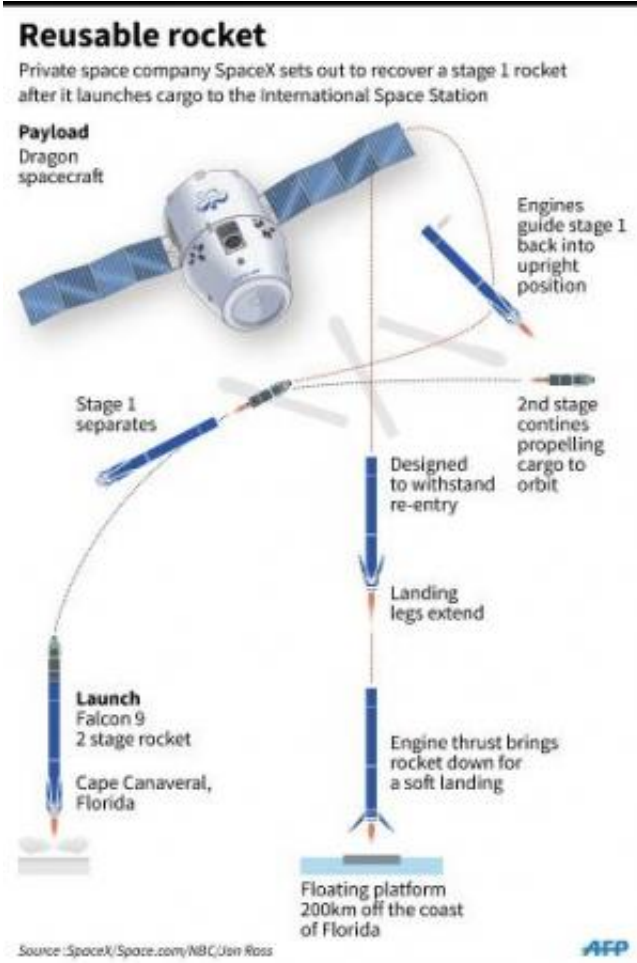
Then, an attempt on Tuesday was aborted at the last minute due to a glitch with the rocket's second stage, the part that lifts the cargo vessel to orbit after the first stage falls away.

After typical rocket launches, the pieces that propel the spacecraft skyward eventually fall into the ocean and are no longer usable.

Elon Musk, the chief executive of the California-based SpaceX, wants to change the rocket industry into one more like commercial airlines, which re-use planes over and over.

The effort requires the Falcon 9 rocket's first stage to refire its engines

in a series of maneuvers that guide it to a precision landing site.



Graphic on the SpaceX plan to recycle part of a rocket

SpaceX has described this effort as akin to balancing a broomstick in a storm, but the company has already seen some success in two attempts at controlling the rocket's first stage, maneuvering it with the help of fins installed on the sides, and slowing it to a hover before letting it splash into the ocean.

Saturday's test requires even greater precision, so the first stage can land

on the 300 by 100 foot (91 by 30 meter) platform, which SpaceX is calling an "autonomous spaceport drone ship."

Eventually, the company hopes to make rockets that can return to a landing spot on solid ground.

"A fully and rapidly reusable rocket—which has never been done before—is the pivotal breakthrough needed to substantially reduce the cost of space access," said a SpaceX statement.

Sole US cargo supplier

While the return of the rocket would mark the first time any company has accomplished such a feat, SpaceX says the mission's primary goal is to bring a load of supplies and food to the six astronauts aboard the International Space Station.

SpaceX has a \$1.6 billion contract with NASA to replenish equipment and gear at the orbiting outpost, and is the only US company able to fly such missions for the time being.

Its competitor, Orbital Sciences, which has a \$1.9 billion contract with NASA to supply the space station, suffered a catastrophic rocket failure in October, forcing an end to its supply missions until further notice.

After Orbital mission operators detected a problem with the Antares rocket engine moments after launch, the rocket was purposefully exploded, causing extensive damage to the Virginia launchpad and costing the company more than \$200 million in lost equipment.

Orbital has said it will still be able to complete its contract with NASA by 2016, but no launches are scheduled for its Cygnus cargo carrier until the [rocket](#) problem can be fixed.

If Saturday's launch goes ahead, the Dragon is scheduled to arrive on its fifth contracted trip to the ISS early Monday.

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