

# Lettuce, parking gear aboard SpaceX ship for Sunday launch

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An experiment to grow lettuce in space and a massive parking station for future spaceships are aboard SpaceX's unmanned Dragon cargo capsule, poised for a Sunday launch.

The blast-off of the white, gumbop-shaped spaceship atop the California-based company's Falcon 9 [rocket](#) is set for 10:21 am (1421 GMT) from Cape Canaveral, Florida.

Shortly after launch, SpaceX will make a third attempt to land its rocket on an ocean platform, as part of CEO Elon Musk's vision of revamping the rocket industry by making expensive rocket parts re-usable instead of discarded in the ocean, as is the current standard.

Moments after launch, when the Dragon is on its way to orbit, the tall section of the rocket, known as the first stage, will ignite its engines and guide itself back to a floating barge in the Atlantic Ocean for an upright landing.

SpaceX's first try in January ended in failure when the rocket collided with the drone ship platform, after running out of the hydraulic fluid needed to power its steering fins.

During a second try in April, the 67,000-pound (30,000-kilogram) rocket managed to set itself down on the platform in an upright position, but tipped over and exploded seconds later.

SpaceX blamed a malfunctioning valve controlling the rocket's engine power for unsteady landing.

SpaceX vice president of mission assurance, Hans Koenigsmann, said company experts have learned from past attempts, but it would be hard to predict the chances of success on Sunday.

"You look at the data, you evaluate this and then you make a correction and that is ultimately how you succeed," he told reporters on Friday.

"The fact that we had two so far gives me confidence we have two

problems that we solved."

## **Needed cargo**

The Dragon spacecraft will deliver 4,000 pounds (1,800 kilograms) of much-needed food, supplies and science experiments to the International Space Station, where two Russian cosmonauts and one American astronaut are living.

NASA's Scott Kelly and Roscosmos' Mikhail Kornienko are four months into their year-long stay in space. The space station commander is Gennady Padalka.

Right now, SpaceX is the only American company capable of sending cargo to space. Orbital Sciences' program is temporarily on hold, after one of its rockets exploded on the launchpad last year and destroyed its fully loaded Cygnus cargo carrier.

Russia's supply program also suffered a setback in April when it lost control of its Progress cargo ship and the unmanned capsule burned up on re-entry to Earth's atmosphere a couple of weeks later.

The Dragon's cargo includes the first of two International Docking Adaptors, which are essentially parking spots that are meant to make it easier for a variety of commercial supply ships to latch onto the orbiting lab in years to come.

"Our dream is to have one common docking system," said ISS program manager Mike Suffredini.

"This system is really designed for automated docking if that becomes necessary," he told reporters.

"Particularly in contingency cases, trying to save a spacecraft."

## **Greens in space**

Among the 35 science experiments on board is a type of greenhouse that will enable astronauts to grow their own lettuce in space.

A previous experiment at the [space station](#) allowed astronauts to grow red romaine lettuce, which was tested back on Earth for signs of dangerous space bugs, said ISS program scientist Julie Robinson. No dangers were found, she said.

This time, astronauts may get to sample the Tokyo Bekana cabbage—a bitter leafy green—that they grow.

"We don't have all the paperwork in place yet but we are quite hopeful that the crew will actually get to eat this cabbage after they grow it," Robinson told reporters.

"We are getting closer to that first bite of space lettuce."

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