

Early trouble for Boeing Starliner on key space mission

December 20 2019, by Gianrigo Marletta



The reputational stakes of the crewless mission are high for Boeing, embroiled in a safety crisis over its 737 MAX jet

Boeing launched its Starliner capsule Friday on a crewless eight-day journey to the International Space Station and back, but the mission ran into early trouble with its orbit procedure.

The [test flight](#) is a key part of NASA's plans to end US dependence on

Russia for [space](#) rides, with the reputational stakes high.

Starliner, which is fixed to the summit of a giant Atlas V rocket, took off shortly before sunrise at 6:36am local time (1136 GMT) from Cape Canaveral, separating 15 minutes later.

"Starliner is free flying for the first time in space," said an announcer on NASA TV.

But a short time later, Boeing announced on Twitter it had a "off-nominal insertion," indicating its orbital procedure had not gone as planned, as on-air announcers said that [mission control](#) was weighing all its options.

The mission's main payload is the bandana-clad dummy Rosie, named after Rosie the Riveter, the star of a campaign aimed at recruiting women to munitions factory jobs during World War II that featured her wearing blue overalls and flexing a bicep.

NASA has been forced to rely on Russian Soyuz rockets to transport its astronauts since the Space Shuttle program was shuttered in 2011 following thirty years of service.



A giant Atlas V rocket took off shortly before sunrise from the famed Cape Canaveral on Florida's coastline, where all US crewed flights are launched

Under former president Barack Obama, NASA opted for a shift in how it operates: instead of owning the hardware, it would hire [private companies](#) to take over the role, awarding Boeing and SpaceX billions of dollars to develop "Made in the USA" solutions.

Both companies are running two years behind schedule but appear almost ready, and approval now rests on the successful completion of final tests.

"By early next year, we're going to be launching American astronauts on American rockets from American soil again for the first time since the retirement of the space shuttles back in 2011," NASA administrator Jim Bridenstine told reporters Thursday at the Kennedy Space Center.

SpaceX already carried out its own successful uncrewed mission to the International Space Station (ISS) back in March, when its CrewDragon docked with the station and returned to Earth carrying the dummy "Ripley"—named after Sigourney Weaver's character in the film "Alien."

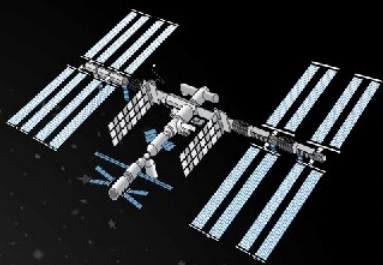
The dummies are packed with sensors to verify the voyage will be safe for future teams of humans.


"It's been eight and a half years, far too long, in my opinion," said Boeing astronaut Chris Ferguson, who commanded the last Shuttle mission in 2011 and is set to be on Starliner's first crewed mission.

Starliner spacecraft on mission


Boeing's first crew capsule to depart Cape Canaveral set for the International Space Station

- ▶ Scheduled takeoff: December 20
- ▶ Will dock with the ISS after a 25 hour flight
- ▶ Mission is an unmanned test flight, carrying a dummy called Rosie
- ▶ Duration: 8 days
- ▶ Expected return to Earth: December 28





Atlas V rocket
 Built by the United Launch Alliance
 Flying since August 2002
 Missions flown: over 70
 Height: 60 m
 Mass at liftoff: 590,000 kg
 Lift Capability to low Earth orbit: 18,850 kg
 Thrust: 10,600 kN



Diameter: 4.5 m

CST-100 Starliner

Can accommodate up to seven passengers, or a mix of crew and cargo

Weldless structure, reusable up to 10 times

Completely autonomous, features WiFi and tablet technology

Designed for land-based returns, uses parachute and airbag system to land

Return to Earth will follow a four-hour rapid descent in the New Mexico desert

Source: Boeing/UULA/NASA © AFP

Factfile on Boeing Starliner spacecraft

"But here we are right on the threshold of getting ready to do it," he added.

The developments are independent of the Artemis program to return to

the Moon by 2024, which will use a spaceship built for longer journeys into space, Lockheed Martin's Orion.

\$8 billion payment

About 25 hours after launch, the Starliner is supposed to dock autonomously with the space station, 250 miles (400 kilometers) above sea level.

Its return to the Earth, in the southwest US, is set for December 28.

NASA has committed to pay a total of \$8 billion to the two companies, who in return need to deliver six trips carrying four astronauts each time, up until 2024.

A recent report by NASA's inspector general said the cost per astronaut comes to about \$90 million for Boeing, against \$55 million for SpaceX, while the US currently pays Russia more than \$80 million for the same.



SpaceX already carried out its own successful uncrewed mission to the International Space Station in March

But both Bridenstine and Boeing contest the numbers, which were calculated by taking the total sums paid by the space agency to each company and divided by the number of missions and astronauts.

SpaceX has the benefit of receiving billions of dollars in earlier contracts to develop the Dragon's first version, for cargo, which was modified to make the crew version.

Bridenstine expressed his confidence in Boeing after its 737 Max debacle.

"I would also say that if you look at Boeing as an institution, the people that develop spacecraft are not the same people that develop aircraft," he said.

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Citation: Early trouble for Boeing Starliner on key space mission (2019, December 20) retrieved 25 April 2024 from <https://phys.org/news/2019-12-early-boeing-starliner-key-space.html>

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