SpaceX lands the same rocket for the fifth time [Updated]



Enlarge / With an updated camera and internet connection, Just Read The Instructions showed better video of the landing.

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9:50pm ET Update: Right on schedule, a Falcon 9 rocket lifted off on Wednesday evening from Florida. Several minutes later, the first stage came roaring back to Earth, and for the first time, the same rocket landed for the fifth time. The view from the *Just Read the Instructions* drone ship, with a better camera and internet connection, was quite good. The rocket descending at night light the ocean a bright blue before touching down.

Meanwhile, the second stage pushed onward into orbit,

deploying its payload of 60 Starlink satellites. SpaceX has now launched nine rockets this year.

Original post: A mere four days after its historic launch of NASA astronauts Doug Hurley and Bob Behnken to the International Space Station, SpaceX is preparing for another launch of its Falcon 9 rocket.

The company plans to make its eighth overall launch of Starlink Internet satellites into low Earth orbit. The 60 satellites, each weighing about 260kg, will be placed at an orbit a little above 200km, and the satellites will then use onboard thrusters to raise their altitude to 550km.

Launch from SpaceX's Space Launch Complex 40 pad, at Cape Canaveral Air Force Station, is due to occur at 9:25pm ET (01:25 UTC Thursday).

On Tuesday, the autonomous drone ship *Of Course I Still Love You* returned from the Demo-2 mission with the Falcon 9 rocket's first stage, and the company has dispatched *Just Read the Instructions* to the landing zone for the Starlink mission. This is the first time SpaceX has used both landing ships in the Atlantic for operational missions.

The first stage for this mission has four previous flights to its record: launches of the Telstar 18V and Iridium 8 satellites, as well as two Starlink missions.

- Demo-2 booster returns home: Falcon 9 with four legs folded in, supported solely by the octagrabber on the deck of "Of Course I Still Love You."
  Trevor Mahlmann
- Falcon 9 B1058, the first to launch Crew to the International Space Station, arrives just 3 days later in Port Canaveral on the droneship "Of Course I Still Love You."
  Trevor Mahlmann

- Close-up of the octagrabber holding on to the base of the Falcon 9 vehicle as crews work to prepare to raise the vehicle and move it to horizontal for transport to Cape Canaveral Air Force Station / Kennedy Space Center for post-launch processing.
  Trevor Mahlmann
- Straight on view of B1058 arriving in Port Canaveral, just 3 days after launching NASA Astronauts Doug Hurley and Bob Behnken to the ISS.
  Trevor Mahlmann
- Rainy day at Port Canaveral. Earlier in the day, crews worked to perform leg raise and lower the rocket to horizontal for transport back towards the Cape Canaveral Air Force Station./ Kennedy Space Center for processing.
  Trevor Mahlmann
- Falcon 9 B1058 with all four landing legs lifted alongside the vehicle and standing solely on the octagrabber (no crane attached at the top). This is the first time SpaceX has performed this. Usually it is done on a stand on land, not directly on the droneship “Of Course I Still Love You.”
  Trevor Mahlmann
- Falcon 9 with four legs folded in, supported solely by the octagrabber on the deck of “Of Course I Still Love You.”
  Trevor Mahlmann
- NASA worm. That is all.
  Trevor Mahlmann

This will be the second time that SpaceX has attempted to fly a Falcon 9 first stage five times. During the first time the company tried this in March, the rocket suffered an engine failure on the way to orbit. While the primary mission was successful (despite the shutdown of one of its engines), the first stage failed to make a drone-ship landing. SpaceX later traced the problem to a solution used to clean the engines between flights.

Wednesday’s launch, then, will offer another chance for SpaceX to continue to push the boundary of reusable rockets. The company hopes to eventually fly each Falcon 9 first stage 10 times before retirement or significant refurbishment.

The webcast below should begin about 15 minutes before liftoff.

[embedded content]
Starlink mission.
https://arstechnica.com/?p=1681007