

SpaceX and NASA are 'go' for Cargo Dragon launch from Florida to ISS

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NASA and SpaceX teams are "go" for the next launch of a Dragon spacecraft with thousands of pounds of cargo destined for the International Space Station, mission managers said Wednesday.

Four officials gathered at Kennedy Space Center to discuss the 1:29 p.m. Thursday liftoff from pad 39A, the 22nd resupply mission for SpaceX since 2012. The autonomous Cargo Dragon is packed with 7,300 pounds of science experiments, supplies and hardware upgrades.

"We've done a number of reviews to make sure the team's ready to go," NASA's ISS Program Manager Joel Montalbano told reporters Wednesday. "We're trying to deliver 4,300 pounds of pressurized cargo to the International Space Station ... and in the trunk, we have 3,000 pounds of two new solar arrays."

Weather for Thursday's attempt – an instantaneous window that means SpaceX must launch exactly 15 seconds after 1:29 p.m. or delay to Friday – saw a slight downgrade Wednesday, according to the latest Space Force forecast. Conditions are expected to stand at 60% "go" due to the potential for rain and cumulus clouds hovering around the pad.

"The threat for lingering clouds and showers extending into the early afternoon hours over the waters and along the coast appears somewhat higher compared to earlier forecasts," Space Launch Delta 45 forecasters said Wednesday, dropping their favorable percentage from 70% to 60% "go."

If the mission dubbed CRS-22 flies on time as planned, Cargo Dragon should autonomously dock with the ISS around 5 a.m. Eastern time Saturday. In the event of a scrub due to technical or weather-related reasons, teams have a backup opportunity at 1:03 p.m. Friday.

New solar arrays

The 4,300 pounds of pressurized goods for the ISS crew includes usual batches of science experiments, food, and other items that need to be protected during the two-day trip. Things like sensitive experiments, for example, need to travel in the pressurized section to prevent damage from expansion, leaking, and other effects.

In Cargo Dragon's unpressurized "trunk," however, two new solar arrays designed to augment the station's existing hardware will be installed during two spacewalks on June 16 and 20. Over its more than two decades in orbit, the ISS' solar arrays have degraded and power generation is below what it was at launch.

"We're going to replace six of the eight solar arrays on the International Space Station," Montalbano said. "These new solar arrays will put us at a power generation equal to when we first flew arrays on the ISS."

The ISS Roll-Out Solar Arrays, or iROSA, were developed by Jacksonville-based Redwire Space under contract by Boeing. One of the main advantages of the new hardware is flexibility – astronauts will only need to "roll out" the new solar panels over the old arrays and connect them to existing systems.

"It's really an elegant technology," Andrew Rush, president and chief operating officer of Redwire, told FLORIDA TODAY. "We can fit two of these in a Dragon trunk. The original ones went up in much bigger vehicles, so addressing that challenge of solving the customer need with the current launch hardware we have is something ROSA and this program was able to achieve."

Rush said retractable, compact solar generation could also be a game-changer when it comes to future missions – in low-Earth orbit or otherwise.

"If you look at the ambitions for the Artemis program on the lunar surface and then extend that out to Mars, having compact, retractable solar generation is a game-changer," Rush said.

These rollout arrays, for example, could serve as on-hand backups in the event that main power systems are damaged or go offline.

No static test fire

Also on Wednesday, a SpaceX official confirmed the brand new Falcon 9 rocket slated to launch Cargo Dragon will not be test fired at pad 39A. SpaceX has sometimes opted to not test fire previously flown boosters, but this marks the first time a new booster sees the same treatment.

"All these engines have been tested at the engine level of full static fire," Sarah Walker, SpaceX's director of Dragon mission management, said at KSC. "And then we integrate these engines onto the first stage and it's static fired again (in Texas)."

"SpaceX and NASA worked together to determine an additional static fire at the pad wasn't necessary for this mission. We've bypassed static fire at the pad over a dozen times recently," Walker said.

If all goes well with the booster's flight and subsequent landing on the Of Course I Still Love You drone ship in the Atlantic Ocean, SpaceX will reuse this booster for the Crew-3 launch of astronauts Raja Chari, Thomas Marshburn, Matthias Maurer, and Kayla Barron in late October.

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