Is the Dream Chaser space plane ever going to launch into orbit?

“We wanted to have a fuel system that was green instead of using hypergolics, so we could land it on a runway and we could walk up to the vehicle without being in hazmat suits,” Tom Vice, then Sierra’s chief executive, told Ars in late 2023. “That was hard, I have to say.”

Apparently it still is because, according to Weigel, the process to finish testing of the propulsion system and certify it for an uncrewed spaceflight remains ongoing.

“We still have some of our integrated safety reviews to do, and we’re in the process with updating both of our schedules to try to understand where does that really put us,” she said. “And so Sierra’s working on that, and so I need to wait and just get information back from them to see where they think some of that work lines out.”

First mission may not berth with ISS

According to one source, Sierra is considering a modification to its first mission to shorten the certification period.

The company had planned to fly the vehicle close enough to the space station such that it could be captured and berthed to the orbiting laboratory. One option now under consideration is a mission that would bring Dream Chaser close enough to the station to test key elements of the vehicle in flight but not

have it berth.

This would increase confidence in the spacecraft’s propulsion system and provide the data NASA and partner space agencies need to clear the vehicle to approach and berth with the station on its second flight. However, this would require a modification of the company’s contract with NASA, and a final decision has not yet been reached on whether to perform a flyby mission before an actual berthing.

It appears highly unlikely that Dream Chaser will be ready for its debut spaceflight this year for these technical reasons. Another challenge is the availability of its Vulcan launch vehicle. After years of delays, Vulcan is finally due to make its first national security launch as early as this coming Sunday. Assuming this launch is successful, Vulcan has a busy manifest in the coming months for the US Space Force.

Given this, it is uncertain when a Vulcan launch vehicle will become available for Dream Chaser, which was initially designated to fly on Vulcan’s second flight. However, because Dream Chaser was not ready last fall, that rocket flew with a mass simulator on this second launch, back in October 2024.

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