

Here are four things we learned from Elon Musk before the first Falcon Heavy launch



Less than a day before the first scheduled launch of the SpaceX Falcon Heavy, CEO Elon Musk took questions about the rocket from reporters during a short news conference. He reiterated warnings about the potential failure of the mission, and added that his biggest worry is about how the three rocket boosters will behave next to each other. He added that if this launch is successful, the next one could be ready in three to six months. He also clarified some outstanding details about the Falcon Heavy's first flight – and it wouldn't be Elon Musk if he weren't making a few wild proclamations about the near future of SpaceX.

Falcon Super Heavy

Musk was asked whether SpaceX can increase the Falcon Heavy's performance over time, much like it has with the Falcon 9. That's when the CEO suggested the possibility of a Falcon Super Heavy – a Falcon Heavy with extra boosters. "We could really dial it up to as much performance as anyone could ever want. If we wanted to we could actually add two more side boosters and make it Falcon Super Heavy," Musk said. This five-rocket Falcon Super Heavy would have around 9 million pounds of thrust, Musk said, nearly doubling the rocket's current capability, and putting it in line with the Saturn V as the most powerful rocket ever built.

Tesla road tripping through the Van

Allen belts

In case you haven't heard, there's an original Tesla Roadster sitting atop the Falcon Heavy. As long as the rocket doesn't explode, the Roadster will be sent on a wide orbit around Mars. Musk revealed a new wrinkle in this plan on the call: Instead of separating the car from the rocket's third stage shortly after leaving Earth's atmosphere, the third stage (and the car aboard it) will instead enter a six-hour "coast" through the Van Allen radiation belts.

"It's going to get whacked pretty hard."

The goal is to demonstrate a new capability to the Air Force and other potential military customers. But it comes with some risk. "[The rocket stage is] going to experience a lot of radioactivity and high energy particles. It's going to get whacked pretty hard," Musk said. "The fuel could freeze, and the oxygen could be vaporize, all of which could inhibit the third burn which is necessary for [the Tesla's] trans-Mars injection." If something goes wrong during this time, the rocket stage – and the Roadster – might never fully escape Earth orbit, and would instead eventually burn up in our atmosphere.

But if all goes well, the rocket stage will eject the Roadster on a path toward Mars. At that point, Musk said he's not worried about the Roadster's health. The car has a "tiny, tiny chance" of crashing into Mars, Musk says. "It will be fine. I hope."

Three cameras on the Roadster

Musk shared on the call that there are three cameras strapped to the car, which he says "should really provide some epic views if they work and everything goes well." It's not totally clear what those cameras might capture, though. Maybe we'll see a closer-than-planned pass of Mars, or an unplanned

reentry into the Earth's atmosphere. Most likely it will just be footage of the inky blackness of space, perhaps with our speck of a home planet in the background. We'll all have to watch to find out.

No more trip around the moon (on Falcon Heavy)

Last year, Musk announced SpaceX was aiming to use the Falcon Heavy to send two paying tourists around the Moon sometime in 2018. It was supposed to be a sort of prelude to using the Falcon Heavy to shuttle astronauts to and from the International Space Station. But that plan appears to have changed.

When asked about the mission, Musk said the trip depends on the development of SpaceX's next monster rocket, the Big Falcon Rocket, or BFR. Last year, Musk said that soon SpaceX would put most of its resources into developing the BFR and eventually discontinue the Falcon Heavy and Falcon 9 altogether.

The two mystery tourists just got upgraded to an entirely new rocket

Today, Musk said as long as the BFR's development happens on schedule, SpaceX will send people, including the two tourists, into space on the new rocket. This would save the company the trouble of getting Falcon Heavy approved for human spaceflight only to turn around and replace it with the BFR. However, if the BFR takes longer to make than expected, then it's possible SpaceX will return to the idea of putting crews on Falcon Heavy.

In September, Musk said it would take just five years to develop the BFR. However, the SpaceX CEO is known for his – let's call them “aspirational” – timelines. So it may be a while before we see any tourism trips on either rocket.

<https://www.theverge.com/2018/2/5/16975850/spacex-falcon-heavy-launch-elon-musk-tesla-questions>