SpaceX’s Starhopper moves closer to its first flight

SpaceX hopes to launch its Starhopper test vehicle skyward on its first flights soon. The short tests, which will take place out of SpaceX’s launch site in Boca Chica, Texas, will send the rocket to just under 1,640 feet (500 meters) high for its low-altitude flights and up to 16,400 feet (5,000 meters) high for its high-altitude flights, according to a modified application filed with the Federal Communications Commission. The heights match those that the company indicated in a similar filing last year.

The Starhopper is a very basic version of Starship, the massive passenger rocket that SpaceX wants to build to send people to the Moon and Mars. In order to prepare for the first Starship’s flight to space, SpaceX has been tinkering with the test Starhopper in Boca Chica. The vehicle boasts a similar structure to the final rocket, though it’s slightly smaller in size. Starhopper’s most important task is to test out the new, powerful Raptor engines that SpaceX has developed for the future deep-space rocket.

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SpaceX fired up a Raptor engine on the bottom of the Starhopper for the first time in April. It only lifted a few inches since the vehicle was tethered to the ground. But now, SpaceX plans to perform what are known as “hop” tests with the vehicle (hence the nickname Starhopper), which will send the rocket to a low altitude above the Earth. The company will then attempt to touch the Starhopper back down on the ground with the vehicle’s three landing legs. The idea is to test out

the landing capabilities the rocket’s going to use to touch down on Earth and other worlds. SpaceX performed similar tests with a vehicle known as Grasshopper back in 2012 and 2013 to try out the landing technique its Falcon 9 rockets now use.

Starhopper’s tethered tests only had one Raptor engine attached, but SpaceX CEO Elon Musk indicated that, eventually, three engines would be added to the vehicle for higher flights. For now, images of the vehicle show that the Starhopper in Boca Chica doesn’t have *any* engines attached. That will change as the company gears up for the inaugural flights.

Cameron County, which is where Boca Chica is located, issued road closures around the launch site for May 28th, indicating that the flights could take place as soon as a week from now. However, SpaceX’s first round of tests occurred many weeks after the first round of road closures were issued, so it’s possible the first hop tests may still be a few weeks out.

https://www.theverge.com/2019/5/21/18634411/spacex-starhopper-starship-low-altitude-test-flights