Will we see a Starship test this week?

July 14 2020, by Matt Williams

Credit: SpaceX

As we speak, engineers at SpaceX's Boca Chica test facility are busy getting the fifth Starship prototype (SN5) ready. Having recently passed the crucial cryogenic load test, and with the installation of its SN27 Raptor engine, the ground crews are now gearing up for a static fire test. Assuming the SN5 doesn't explode in a massive fireball (as the SN4 did), it will be ready to make the first hop test of a full-scale Starship

prototype.

At present, it looks like this could all be happening by the end of this week. This is based in part on the most recent road closure filing SpaceX made with the county, which requests that roads around the Boca Chica facility be closed from July 10th to the 15th. At present, road closures for today and tomorrow (July 13th and 14th, respectively) have been cancelled, but a closure is still scheduled for Wednesday, July 15th.

According to these same filings, SpaceX hopes to make the hop test just three days later. That means that if the static fire test occurs on Wednesday (and doesn't result in a fiery explosion), we could be seeing the Starship SN5 conducting a 150-meter (~500 feet) hop test by Friday, July 17th. In so doing, the Starship will pick up where the Starship Hopper left off, which made the 150 m hop test in August of 2019.

It is worth taking this news with a grain of salt, considering that additional delays are possible. Originally, SpaceX was hoping to conduct a static fire on July 8th, but delays pushed that to July 10, and then to today (July 13). However, should the ground crews have the engine ready by mid-week, there'd be little reason not to conduct a hop test, since weather and prevailing wind conditions are predicted to improve in the area.

Moreover, a hop test still presents many challenges, which could also lead to delays. One of these has to do with the Starship's new landing legs, which stow inside the ship's engine section and swing down and out to deploy. According to recent statements made by Musk, the legs also "extend & telescope out, so are longer than they seem, but not as long as they will be for SN4+."

These landing legs are significantly shorter and stubbier than the Falcon 9's, which have been flight-tested and proven countless times. While it's

a foregone conclusion that SpaceX has tested these legs on the ground, a hop test with the SN5 would be a baptism by fire test. However, as with everything else with the SN prototypes, this would be in keeping with SpaceX's policy of rapid-prototyping/iteration and testing them to failure.

Similarly, SpaceX has also indicated that the launch of the Army/Navy/Air Force Satellite Information System 2 (ANASIS II) has been delayed. This satellite is South Korea's first dedicated military communications satellite, which was scheduled to launch tomorrow (July 14th) atop a Falcon 9 from Space Launch Complex 40, located at the Cape Canaveral Air Force Station in Florida.

On top of all that, SpaceX also pushed back the launch date of its latest batch of Starlink broadband internet satellites, which was scheduled to launch on July 11, but took place earlier today. Despite these delays, SpaceX is still going to be having a very busy summer. Hopefully, that includes a hop test of the Starship, followed by (fingers crossed) a 20-km (12-mile) hop before the end of the year. But one thing at a time

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