

SpaceX launches its third rocket in two weeks [Updated]

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6am ET Saturday Update: Just before sunrise along the Florida coast, a Falcon 9 rocket successfully lifted off on Saturday. The rocket performed nominally, ultimately delivering its payload of three SkySats and 58 Starlink satellites into orbit. This was the eighth flight of the current design of Starlink satellites, and the ninth launch of a large batch of them.

After the mission, the first stage successfully landed on a drone ship. SpaceX has now landed 55 first stage boosters.

Original post: Early on Saturday morning, SpaceX will go for its third launch in two weeks with another Starlink mission into low Earth orbit. This will bring the total number of Starlink Internet satellites launched to date to nearly 540.

For most US residents, watching this launch will require either real dedication or a severe case of insomnia. The launch of the Starlink-8 mission is scheduled for 5:21am ET (09:21 UTC) from Cape Canaveral Air Force Station. Despite the early hour, the mission is worth tracking for several reasons.

Cadence

On May 30, a Falcon 9 rocket launched the Crew Dragon mission for NASA. And on June 3, a Falcon 9 rocket launched the Starlink-7 mission. Now, SpaceX returns to the pad for this flight, which will be the company's 10th launch of the year.

This would put SpaceX on pace to meet or exceed its record total for an annual number of launches—21 in 2018.

The company appears to be accelerating its cadence of launches after the Crew Dragon mission, which necessitated extra preparation due to the fact that it involved launching humans. It's possible that SpaceX will complete three more launches this month: this one, another Starlink flight, and the launch of a GPS III satellite for the US Space Force.

Starlink rideshare

This will be the first time SpaceX has flown a Starlink mission with other payloads attached, and it's the first of the company's SmallSat Rideshare Program launches. The company will remove two Starlink satellites from its normal stack inside the payload fairing—bringing the total down to 58—to accommodate the launch of three SkySat imaging satellites for Planet. Another Falcon 9 rocket will launch three more SkySats on a subsequent Starlink flight later this summer.

This deal came together quickly, with a contract only signed within the last six months. Planet Vice President of Launch Mike Safyan told Ars, "This is the result of SpaceX dramatically cutting the cost of access to launch. They cut the price so much we could not believe what we were looking at."

Booster details

This will be the third flight for this Falcon 9 rocket's first stage, having previously flown two Cargo Dragon resupply missions for NASA. The *Of Course I Still Love You* dronship will attempt to catch the rocket as it returns to Earth.

It is notable that SpaceX did not conduct a static fire of the first stage before this attempt. This probably is part of an effort to demonstrate that a static fire test of a previously flown booster is not necessary, thus saving time and cost in reusing first stages.

[embedded content]

Starlink-8 mission.

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