

# GPS III SV01 MISSION

## MISSION OVERVIEW

SpaceX is targeting Saturday, December 22 for launch of the United States Air Force's first Global Positioning System III space vehicle (SV) from Space Launch Complex 40 (SLC-40) at Cape Canaveral Air Force Station, Florida. The 26-minute launch window opens at 8:55 a.m. EST, or 13:55 UTC. The satellite will be deployed to medium Earth orbit approximately 1 hour and 56 minutes after liftoff.

A 26-minute backup launch window opens on Sunday, December 23 at 8:51 a.m. EST, or 13:51 UTC.

Due to mission requirements, SpaceX will not attempt to land Falcon 9's first stage after launch.



Official SpaceX GPS III SV01 Mission Patch

## PAYLOAD

The United States' Global Positioning System delivers positioning, navigation, and timing services supporting vital U.S. and allied operations worldwide, and underpins critical financial, transportation, and agricultural infrastructure that billions of users have come to depend on daily.

The United States Air Force's first GPS III satellite will augment the current constellation of 31 operational GPS satellites. This newest generation of GPS satellites is designed and built to deliver positioning, navigation, and timing information with three times better accuracy, and up to eight times improved anti-jamming capability. GPS is used by over four billion users and supports critical missions worldwide.

GPS is a National Security Space (NSS) mission, critical to national defense. In April 2016, SpaceX was awarded its first NSS mission, GPS III SV01. SpaceX currently has an additional four GPS III missions on contract, all of which will be launched on Falcon 9.



## MISSION TIMELINE (ALL TIMES APPROXIMATE)

### COUNTDOWN

Hour/Min/Sec	Events
- 00:38:00	SpaceX Launch Director verifies go for propellant load
- 00:35:00	RP-1 (rocket grade kerosene) loading underway
- 00:35:00	1st stage LOX (liquid oxygen) loading underway
- 00:16:00	2nd stage LOX loading underway
- 00:07:00	Falcon 9 begins engine chill prior to launch
- 00:01:00	Command flight computer to begin final prelaunch checks
- 00:01:00	Propellant tank pressurization to flight pressure begins
- 00:00:45	SpaceX Launch Director verifies go for launch
- 00:00:03	Engine controller commands engine ignition sequence to start
00:00:00	Falcon 9 liftoff

### LAUNCH AND SATELLITE DEPLOYMENT

Hour/Min/Sec	Events
00:01:04	Max Q (moment of peak mechanical stress on the rocket)
00:02:44	1st stage main engine cutoff (MECO)
00:02:48	1st and 2nd stages separate
00:02:50	2nd stage engine starts
00:03:22	Fairing deployment
00:08:16	2nd stage engine cutoff (SECO-1)
01:08:51	2nd stage engine restarts
01:09:37	2nd stage engine cutoff (SECO-2)
01:56:17	GPS III SV01 deployment

### LAUNCH FACILITY

#### Space Launch Complex 40 at Cape Canaveral Air Force Station, Florida

SpaceX's SLC-40 at Cape Canaveral Air Force Station is a world-class launch site that builds on a strong heritage. The site, located at the north end of Cape Canaveral Air Force Station, was used for many years to launch Titan rockets, among the most powerful in the U.S. fleet. SpaceX took over the facility in May 2008.

The center of the complex is composed of the concrete launch pad and flame diverter system. Surrounding the pad are four lightning towers, propellant storage tanks, and the integration hangar. Before launch, Falcon 9's stages and payload are housed inside the hangar. The payload is mated to the Falcon 9 inside SLC-40's hangar on the transporter erector. The rocket and payload are then rolled out from the hangar to the launch pad and lifted to a vertical position.

### RESOURCES

SpaceX Contact | James Gleeson, Communications Director, 202-649-2633, [media@spacex.com](mailto:media@spacex.com).

Photos | High-resolution photos will be posted at [flickr.com/spacex](https://www.flickr.com/photos/spacex/).

Webcast | Launch webcast will go live about 15 minutes before liftoff at [spacex.com/webcast](https://www.spacex.com/webcast).