

UPCOMING LAUNCH

SPHEREX MISSION



SpaceX is targeting Monday, March 10 for Falcon 9's launch of NASA's **SPHEREx** Observatory and PUNCH satellites from Space Launch Complex 4 East (SLC-4E) at Vandenberg Space Force Base in California. Liftoff is targeted for 8:10 p.m. PT. If needed, a backup opportunity is available on Tuesday, March 11 at the same time.

A live webcast of this mission will begin about one hour prior to liftoff, which you can watch here and on **X @SpaceX**. You can also watch the webcast on the new X TV app.

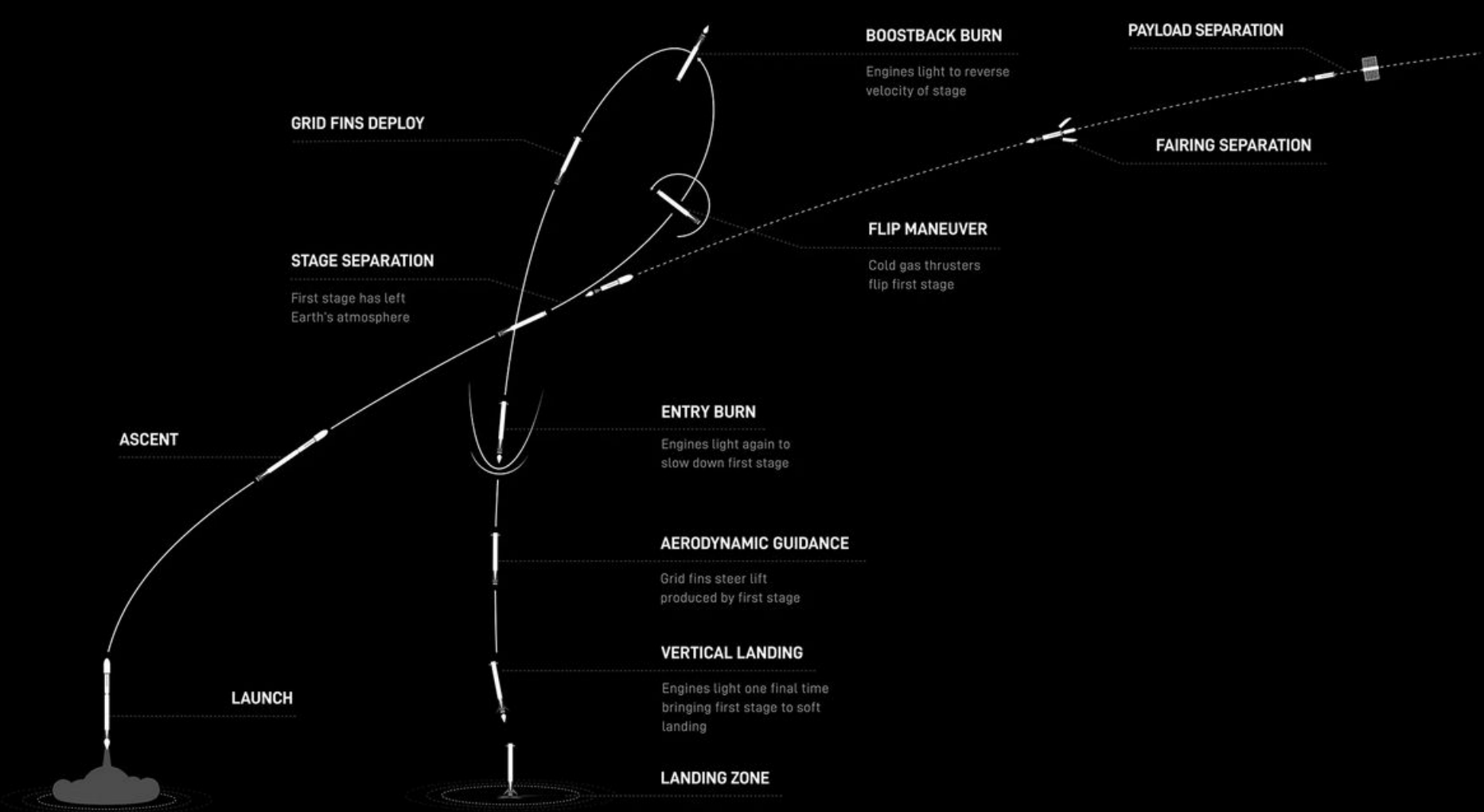
This is the third flight for the first stage booster supporting this mission, which previously launched NROL-126 and Transporter-12. Following stage separation, the first stage will land on Landing Zone 4 (LZ-4) at Vandenberg Space Force Base.

There is the possibility that residents of and visitors to Santa Barbara, San Luis Obispo, and Ventura counties may hear **one or more sonic booms** during the launch, but what residents experience will depend on weather and other conditions.

During its two-year mission, the **SPHEREx** (Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer) Observatory will collect data on more than 450 million galaxies and more than 100 million stars to improve our understanding of how the universe evolved while also searching for water and oxygen molecules. The **PUNCH** (Polarimeter to Unify the Corona and Heliosphere) satellites will observe the Sun and its environment to help scientists better understand the effect of solar winds on our solar system.

COUNTDOWN

HR/MIN/SEC	EVENT
00:38:00	SpaceX Launch Director verifies go for propellant load
00:35:00	RP-1 (rocket grade kerosene) loading begins
00:35:00	1st stage LOX (liquid oxygen) loading begins
00:16:00	2nd stage LOX loading begins
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, LANDING, AND DEPLOYMENT

All Times Approximate

HR/MIN/SEC	EVENT
00:01:08	Max Q
00:02:16	1st stage main engine cutoff (MECO)
00:02:20	1st and 2nd stages separate
00:02:28	2nd stage engine starts (SES-1)
00:02:33	Boostback burn starts
00:03:00	Fairing separation
00:03:28	Boostback burn ends
00:06:13	1st stage entry burn begins
00:06:32	1st stage entry burn ends
00:07:27	1st stage landing burn begins
00:07:54	1st stage landing
00:08:16	2nd stage engine cutoff (SECO-1)
00:39:28	2nd stage engine starts (SES-2)
00:40:10	2nd stage engine cutoff (SECO-2)
00:41:56	SPHEREx deploys
00:52:16	1st set of PUNCH deploy
00:53:07	2nd set of PUNCH deploy