

UPCOMING LAUNCH

# STARLINK MISSION

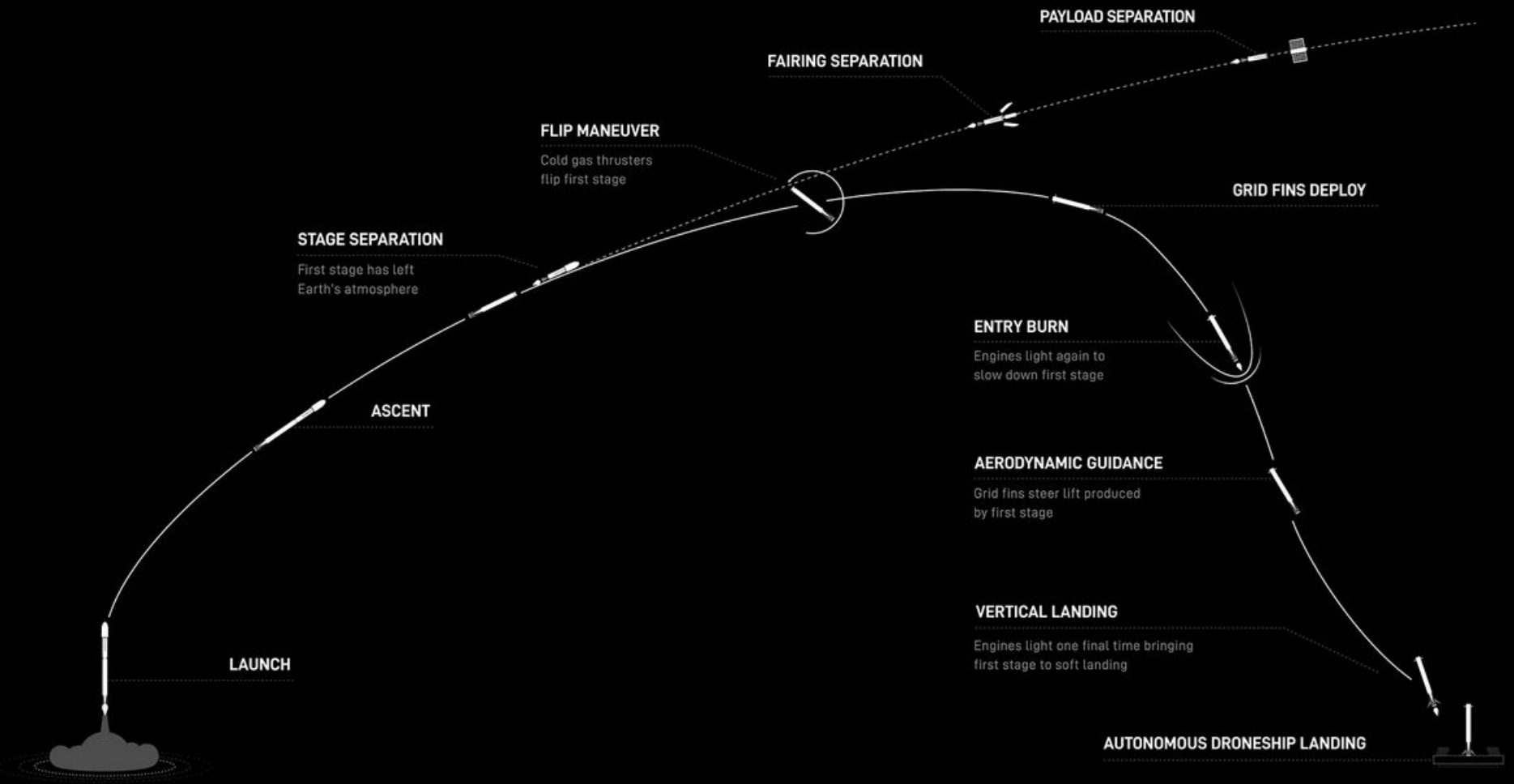


SpaceX is targeting Saturday, November 23 for a Falcon 9 launch of 20 **Starlink** satellites, including 13 with **Direct to Cell** capabilities, to low-Earth orbit from Space Launch Complex 4 East (SLC-4E) at Vandenberg Space Force Base in California. The four-hour launch window opens at 7:26 p.m. PT. If needed, an additional opportunity is available on Sunday, November 24.

This is the 15th flight for the first stage booster supporting this mission, which previously launched SDA-0A, Transporter-11, SARah-2, and 11 Starlink missions. Following stage separation, the first stage will land on the Of Course I Still Love You dronship, which will be stationed in the Pacific Ocean.

## 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 (Moment of peak mechanical stress on the rocket)
00:02:25	1st stage main engine cutoff (MECO)
00:02:28	1st and 2nd stages separate
00:02:35	2nd stage engine starts (SES-1)
00:03:04	Fairing deployment
00:06:00	1st stage entry burn begins
00:06:24	1st stage entry burn ends
00:07:45	1st stage landing burn begins
00:08:11	1st stage landing
00:08:39	2nd stage engine cutoff (SECO-1)
00:53:25	2nd stage engine starts (SES-2)
00:53:27	2nd stage engine cutoff (SECO-2)
01:00:19	Starlink satellites deploy