VANDENBERG

NATIONAL RECONNAISSANCE OFFICE

“Having hundreds of small satellites on orbit is invaluable to the NRO’s mission. They will provide greater revisit rates, increased coverage, more timely delivery of information—and ultimately help us deliver more of what our customers need even faster.”

Dr. Chris Scolese
NRO Director

NROL-186

NRO Mission

Since its inception more than 60 years ago, the National Reconnaissance Office has been on the leading edge of innovation – collecting and delivering critical information that can only be obtained from the vantage point of space.

From Warfighters to humanitarian responders, the NRO serves a wide range of customers. The Department of Defense and Intelligence Community depend on NRO capabilities for national security objectives. NRO systems are often the only tools able to access hostile territory or rugged terrain, and they can collect critical information without risking human lives or infringing on other nations' territorial sovereignty. Civilian customers depend on the NRO's space-based collections to assess damage from natural disasters, and help relief agencies determine how and where to deliver humanitarian aid.

The NRO is investing in the world's most advanced tools, information technology, and communications networks in order to meet customers' needs today and anticipate and adapt to the emerging demands of tomorrow. NRO capabilities on the ground, on orbit, and everywhere in between ensure customers get the information they need, where they need it, faster than ever before.

Courtesy SpaceX

NROL-186

LAUNCH PATCH

The launch patch represents a proliferated constellation. The small blue circles around a central black circle suggest an eye's iris and pupil, reflecting the NRO's mission of using space-based intelligence, surveillance, and reconnaissance capabilities to secure and expand the U.S. intelligence advantage. The four-point star illustrates the path to orbit over a limitless horizon.

To read more about NRO launches and previous patches, visit **www.NRO.gov/launch/**

Expanding Capability, Increasing Resilience

Today, the NRO's mission is more challenging than ever, driven by a host of forces including advancements in technology, the rapid pace of innovation, intensifying stakeholder demands, and ever-evolving threats. These forces are converging to create once-in-a-generation changes in how the NRO develops and acquires new technologies, applies innovation, and collaborates with partners and allies.

To stay ahead of the competition and ensure it can continue to operate in a heightened threat environment, the NRO is modernizing its architecture in space and on the ground – delivering more capability faster with increased resilience. A greater number of satellites – large and small, government and commercial, in multiple orbits – will deliver an order of magnitude more signals and images than is available today.

The NRO continues to build and fortify the largest government constellation in history, with proliferated launches continuing through 2029. Having hundreds of NRO satellites on orbit is invaluable to our nation and our partners. They will provide greater revisit rates, increasing coverage, faster delivery of information, and ultimately help us to more quickly deliver what our customers need.

Visit **www.NRO.gov/launch/** to learn more about NRO missions.

★ **NROL-146**
5.22.24

★ **NROL-186**
6.28.24

★ **NROL-113**
9.5.24

★ **NROL-167**
10.24.24

★ **NROL-126**
11.30.24

★ **NROL-149**
12.17.24

★ **NROL-153**
1.9.25

★ **NROL-57**
3.21.25

★ **NROL-192**
4.12.25

★ **NROL-145**
4.20.25

★ **NROL-48**
2025

Proliferated Architecture

On May 22, 2024, the NRO marked a new era of increased volume and diversity of on-orbit and ground systems with the first launch of its proliferated system, NROL-146. The NRO continued it's rapid expansion of this system with six successful launches in 2024. Approximately a half-dozen additional launches supporting NRO's proliferated architecture are planned for 2025, with additional launches expected through 2029.

The NRO's proliferated system will increase timeliness of access, diversify communications pathways, and enhance resilience. It will provide greater revisit rates and increased coverage, and eliminate single points of failure. With hundreds of small satellites on orbit, data will be delivered in minutes or even seconds. This will ensure the analysts, warfighters, and civil agencies NRO serves receive actionable information faster than ever before.

Rocket & Launch Facts

Falcon 9 is a reusable, two-stage rocket designed and manufactured by SpaceX for the reliable and safe transport of people and payloads into Earth orbit and beyond.

Fairing

Made of a carbon composite material, the fairing protects satellites on their way to orbit. The fairing is jettisoned approximately three minutes into flight, and SpaceX continues to recover fairings for reuse on future missions.

First Stage

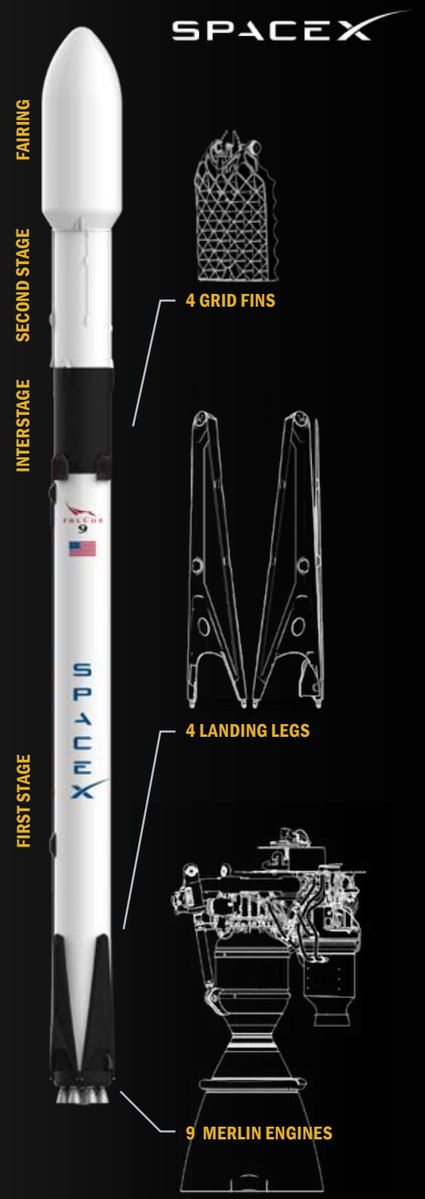
Falcon 9's first stage incorporates nine Merlin engines and aluminum-lithium alloy tanks containing liquid oxygen and rocket-grade kerosene (RP-1) propellant, generating more than 1.7 million pounds of thrust at sea level. After separation, the first stage will return to SpaceX's Landing Zone 4 at Vandenberg Space Force Base or SpaceX's autonomous droneship.

Interstage

The interstage is a composite structure that connects the first and second stages, and houses the pneumatic pushers that allow the first and second stage to separate during flight. Falcon 9 is equipped with four hypersonic grid fins positioned at the base of the interstage. They orient the rocket during reentry by moving the center of pressure.

Second Stage

Powered by a single Merlin Vacuum Engine, the second stage delivers Falcon 9's payload to the desired orbit. The engine ignites a few seconds after stage separation, and can be restarted several times to place multiple payloads into different orbits.



Site Info

Vandenberg Space Force Base is the headquarters of Space Launch Delta 30, which manages Department of Defense space and missile testing and the launch of satellites into orbit from the west coast.

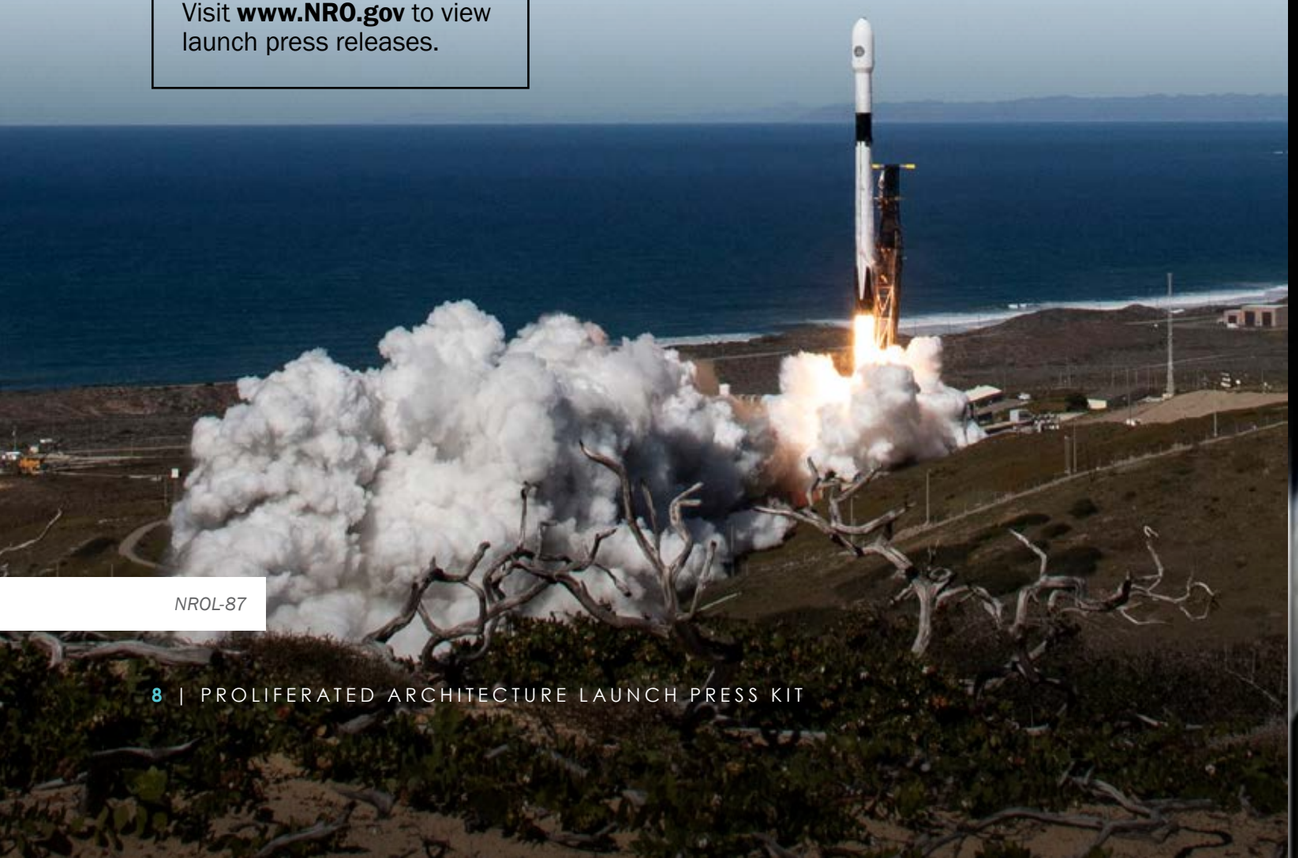
Space Launch Complex 4 East (SLC-4E)

SLC-4E was formerly used by Atlas and Titan rockets between 1963 and 2005. SLC-4E is leased by SpaceX as a launch site for the Falcon 9 rocket, which first lifted off from SLC-4E on Sept. 29, 2013 following a 24-month refurbishment program that started in early 2011.

Landing Zone 4 (LZ-4)

The Falcon 9 is distinct in that it has a reusable first-stage booster. After Falcon 9 lifts off from SLC-4E at VSFB and completes stage separation, the booster will return to landing on Landing Zone 4 or on a SpaceX droneship stationed in the Pacific Ocean off the California coast.

Visit **www.NRO.gov** to view launch press releases.



NROL-87

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NROL-146

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