NROL

162 | 199

NATIONAL RECONNAISSANCE OFFICE

NEW ZEALAND

NRO Mission

For sixty years, the NRO has developed, acquired, launched and operated the satellites that are the foundation for America's advantage and strength in space. Using a diversified and resilient architecture of spacecraft, NRO collects and delivers the best space-based intelligence, surveillance, and reconnaissance content on the planet. NRO data supports the National Security Agency, National Geospatial-Intelligence Agency, and other NRO mission partners to produce intelligence products for the President, Congress, national policymakers, warfighters, and civil users. The NRO's hybrid overhead architecture designed to provide global coverage against a wide range of intelligence requirements, carry out research and development efforts, and assist emergency and disaster-relief efforts in the U.S. and around the world.

photos courtesy of Rocket Lab and NRO

NROL-162 & 199

The National Reconnaissance Office is scheduled to launch the NROL-162 & 199 missions aboard a pair of Rocket Lab Electron rockets from Mahia Peninsula, New Zealand. These missions demonstrate NRO's capability to launch multiple rockets from overseas locations back-to-back, and both carry national security payloads designed, built, and operated by NRO. NROL-162 & 199 are NRO's third and fourth launch of 2022, and are part of more than a half-dozen planned launches for the year.

In the NROL-162 patch, the frilled neck lizard is a reptile primarily located in northern Australia and much like the lizard, it represents the small, agile nature of the payload to be launched. NROL-162 is significant for NRO as the Australian Department of Defence is a project partner, and the frilled neck lizard chosen for the logo recognizes Australia's involvement. For the Australian Department of Defence, this is an opportunity to partner with an experienced space acquisition organization as it prepares to acquire its own national security satellite capability towards the end of the decade. Hence the Latin term, Sapiens Qui Prospicit; **"Wise is the person who looks ahead."**

In the NROL-199 patch, the dingo is an Australian native mammal primarily located in northern Australia. It represents a small to medium-sized canine built for speed, agility, and stamina. These qualities are reflected in the payload to be launched. For the NRO, this launch will provide the capability to serve our current and future customers, and for the Australian Department of Defence, it builds on the opportunity to partner with an experienced space acquisition organization. Hence the Latin term, Ad Astra Per Aspera; **"Through hardships to the Stars"**

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

Rocket & Launch Facts

Electron is a two-stage rocket designed and manufactured by Rocket Lab for dedicated access to space of small satellites. This will be the 27th and 28th launch of the Electron rocket.

Rutherford Engine(s)

Proven performance. The world's first 3D-printed, electric-pump-fed rocket engine.

First Stage

- 9 Sea-level Rutherford Engines
-Lift-off Thrust: 190 kN (43,000 lbf)
- Peak Thrust: 224 kN (56,000 lbf)
- ISP: 311 seconds

Interstage

Pneumatic Pusher

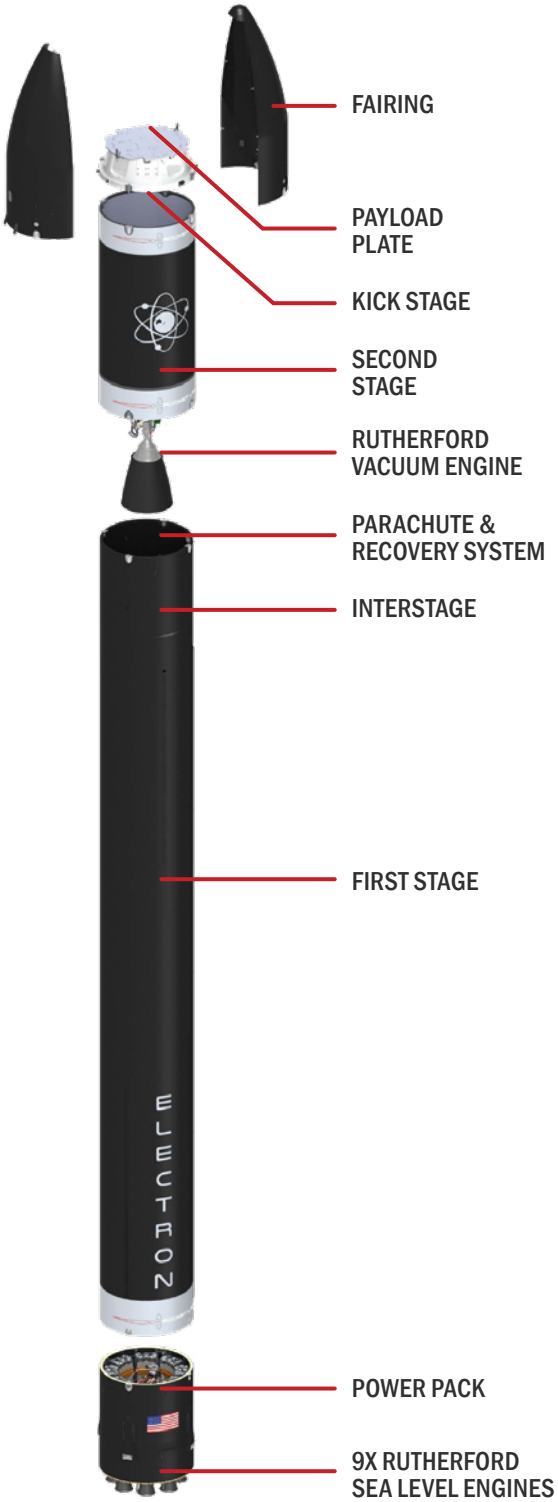
Second Stage

- Single Vacuum Rutherford Engine
- Total Thrust: 25.8 kN (5,800 lbf)
- ISP: 343 seconds

Kick Stage

Electron's unique Kick Stage is designed to deliver small satellites to precise and unique orbits, whether flying as dedicated or rideshare.

- Deployment of payloads at multiple planes/inclinations
- Higher altitude deployment
- Hosted payload support
- Multiple trajectory changes
- Sustained low altitude orbits
- Deorbiting payloads to eliminate space debris



Site Info

Rocket Lab offers the world's only private orbital launch range in Mahia, New Zealand. An FAA-licensed spaceport, **Launch Complex 1** can provide up to 120 launch opportunities every year. From the site it is possible to reach orbital inclinations from sun-synchronous through to 30 degrees, enabling a wide spectrum of inclinations to service the majority of the satellite industry's missions to low Earth orbit.

Recent Success

The NRO is the best in the world at providing overhead intelligence, surveillance, and reconnaissance to more than **a half-million government users**—including every member of the Intelligence Community, two dozen domestic agencies, our nation's military, lawmakers, and decision makers.

In February 2022, NRO launched the **NROL-87** mission aboard a SpaceX Falcon 9 for the first launch of 2022. **The rocket body from NROL-87 was used during NROL-85, an NRO first.** NROL-85 was also the second SpaceX Falcon 9 launch produced through the National Security Space Launch Contract.

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

NROL-87 booster return at VSFB, February 2022.

Future Launches

NRO has a busy launch year planned for 2022, with more than a half-dozen dozen payloads scheduled for orbit. Our next mission is scheduled to launch from Vandenberg Space Force Base in early August. Millions of people depend on the vital intelligence NRO capabilities provide every day. Additional information on upcoming launches will be made available at **www.NRO.gov.**

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