NROL-101 Launch Press Kit

NATIONAL RECONNAISSANCE OFFICE

NROL-101

The National Reconnaissance Office (NRO) is proud to partner with United Launch Alliance (ULA) on our 17th launch aboard an Atlas V launch vehicle. The NROL-101 mission will launch from Cape Canaveral Air Force Station, Florida, and carry a national security payload designed, built and operated by the agency. NROL-101 supports NRO's overall national security mission to provide intelligence data to the United States' senior policy makers, the Intelligence Community and Department of Defense. This is our 29th launch in partnership with ULA, alongside other mission partners at U.S. Space Force Space and Missile Systems Center and the 45th Space Wing. The NRO's next launch, also from Cape Canaveral Air Force Station, will be NROL-108 on a Falcon 9 with SpaceX.

One Patch to Rule Them All—The #NROL101 mission patch pays tribute to the Lord of the Rings stories, with a gold ring and Elvish script that translates to "Goodness Persists".

NRO Mission

The National Reconnaissance Office (NRO) is an Intelligence Community element and Department of Defense organization responsible for developing, acquiring, launching and operating America's reconnaissance satellites, as well as operating associated data processing facilities in support of national security. Using NRO data, the National Security Agency, National Geospatial-Intelligence Agency, and other NRO mission partners produce intelligence products for the President, Congress, national policymakers, warfighters, and civil users. The NRO uses a variety of satellites to meet these mission needs—from small sats to more traditional, larger satellites. This approach allows the NRO to pursue a 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.

Rocket & Launch Facts

United Launch Alliance's Atlas V is a heavy-lift launch vehicle and is the latest evolution of this legendary family. Atlas V uses a standard common core booster, up to five solid rocket boosters (SRBs), a Centaur upper stage in a single- or dual-engine configuration, and one of several sizes of payload fairings. This launch vehicle, in an Atlas V 531 configuration, has a 5-meter (18 ft.) diameter payload fairing, three solid rocket boosters, and stands at 63 meters (206 ft.) tall. At liftoff, the launch vehicle will weigh 1.08 million lbs and the thrust will be 1.76 million lbs. The Atlas V 531 first launched on Aug. 14, 2010 and has launched three times to date.

GEM 63

NROL-101 will be the first ULA launch vehicle flying the new Graphite Epoxy Motors (GEM) 63 that burn solid propellant and augment the lifting capacity of rocket's first stage. ULA will be transitioning from Aerojet Rocketdyne AJ60-A Solid Rocket Boosters to the Northrup Grumman GEMs throughout 2021.

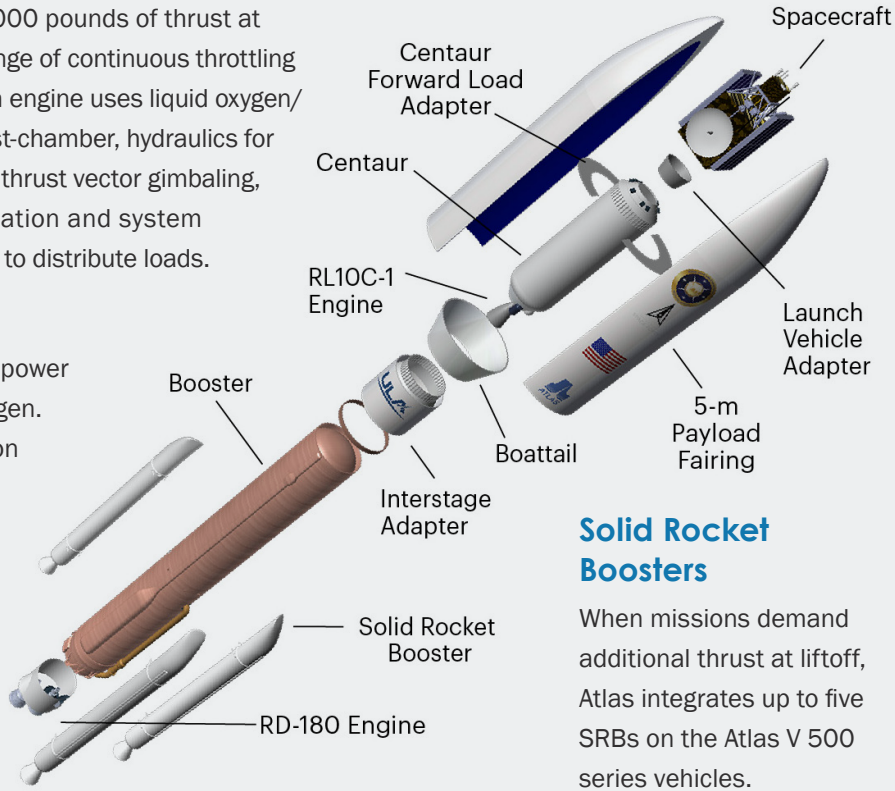
With more than a century of combined heritage, ULA has successfully delivered 140 missions to orbit that aid meteorologists in tracking severe weather, unlock the mysteries of our solar system, provide critical capabilities for troops in the field, deliver cutting-edge commercial services and enable GPS navigation.

Main Engine

Delivering more than 860,000 pounds of thrust at liftoff and an impressive range of continuous throttling capability, the RD-180 main engine uses liquid oxygen/liquid kerosene, a two-thrust-chamber, hydraulics for control valve actuation and thrust vector gimbaling, pneumatics for valve actuation and system purging, and a thrust frame to distribute loads.

Upper Stage

RL10 engines harness the power of high-energy liquid hydrogen. The RL10 boasts a precision control system and restart capability to accurately place payloads into orbit. The Atlas V Centaur upper stage is powered by the RL10C and can be configured with either one or two engines.



Graphic credit: ULA

Solid Rocket Boosters

When missions demand additional thrust at liftoff, Atlas integrates up to five SRBs on the Atlas V 500 series vehicles.

Site Info

Space Launch Complex 41 (SLC-41)

NROL-101 will launch from Space Launch Complex 41 (SLC-41) at Cape Canaveral Air Force Station, Florida. In addition to Atlas V launches, SLC-41 is also home to ULA's newest launch vehicle, the Vulcan Centaur. Previously, it was used by the U.S. Air Force for Titan III and Titan IV launches. Titan was a family of expendable rockets used between 1959 and 2005; Titan III and IV vehicles were used to lift U.S. military and intelligence payloads, as well as all of the Project Gemini crewed flights of the mid-1960s. After the last Titan launch, SLC-41 was renovated to support the Atlas V, with the first ever Atlas V launched from SLC-41 on August 21, 2002. Atlas V rockets are assembled vertically on a mobile launch platform (MLP) in the Vertical Integration Facility located to the south of the pad. The MLP is then transported to the launch pad on rails before launch.

Space Launch Complex 41 at Cape Canaveral Air Force Station, Florida. Photo credit: ULA

Recent Successes

The combination of commercial capabilities, technological advancements, and government-developed systems provides opportunities to expand the supplier base, improve performance, reduce cost, and enhance resiliency.

-Dr. Chris Scolese, Director, National Reconnaissance Office (NRO)

NROL-101 will be the NRO's fourth launch of 2020 and will carry a national security payload designed, built and operated by the agency.

The NRO collaborated with NASA, Northrop Grumman, and Mid-Atlantic Regional Spaceport in July 2020 on our first dedicated launch out of NASA's Wallops Flight Facility in Virginia. NROL-129 carried a classified payload designed, built and operated by the NRO, and it launched aboard a Northrop Grumman Minotaur IV rocket.

NROL-129 launches out of NASA's Wallops Flight Facility, Virginia, on July 15, 2020.

In June 2020, NRO collaborated with Rocket Lab to launch our second mission of 2020 aboard a Rocket Lab Electron rocket from the Mahia Peninsula, New Zealand. The launch was procured under the NRO's Rapid Acquisition of a Small Rocket (RASR) contract, announced in April 2018. RASR enables NRO to explore new opportunities for launching small satellites through a streamlined, commercial approach. This approach allows the NRO to pursue the use of both large and small satellites for an integrated architecture designed to provide global coverage against a wide range of intelligence requirements. This launch was named "Don't Stop Me Now" by Rocket Lab and carried three payloads designed, built and operated by NRO, as well as two additional CubeSats – one for NASA and the other from the University of New South Wales, Canberra Space.

In January 2020, NRO collaborated with Rocket Lab and the New Zealand Space Agency to launch NROL-151, our first dedicated mission from New Zealand. NROL-151 was the first launch under the NRO's RASR contract.

Visit **https://www.nro.gov/News/Press-Releases/** to view the latest launch press releases.

Future Launches

- NRO's next scheduled launch from Cape Canaveral Air Force Station is NROL-108, launching NET 18 Nov 2020.
- NROL-44, also launching from Cape Canaveral Air Force Station, is currently indefinite on range.
- The next launch from NASA Wallops is scheduled for 2nd Qtr CY2021
- The next launch from New Zealand is scheduled for 2nd Qtr CY2021

Watch Live! ULA will broadcast the NROL-101 countdown on launch day here

Follow @NatReconOfc on Twitter and Instagram on launch day

NROL-44 is pictured on a Delta IV Heavy on Space Launch Complex-37 at Cape Canaveral Air Force Station, Florida. Photo credit: ULA