MISSION

A United Launch Alliance (ULA) Delta IV Heavy rocket will launch the NROL-82 mission for the National Reconnaissance Office (NRO). Liftoff will occur from Space Launch Complex-6 at Vandenberg Air Force Base, California.

When the United States needs eyes and ears in critical places where no human can reach – be it over the most rugged terrain or through the most hostile territory – it turns to the NRO. The NRO is the 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.

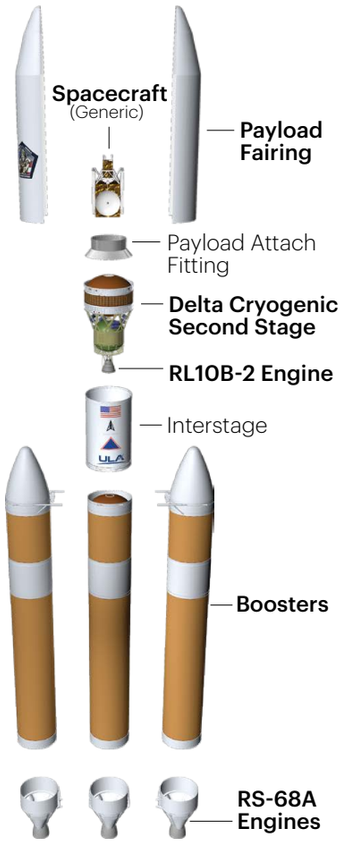
The NRO uses a variety of satellites to meet mission needs—from small sats to more traditional, larger satellites. This allows the NRO to pursue a hybrid architecture designed to provide global coverage against a wide range of intelligence requirements, carry out research and development efforts, and assist emergency and disaster relief efforts in the U.S. and around the world. The NRO never loses focus on who they are working to protect: our nation and its citizens.

LAUNCH VEHICLE

Payload Fairing (PLF)
The PLF is a composite bisector (two-piece shell), 5-meter diameter fairing. The PLF encapsulates the spacecraft to protect it from the launch environment on ascent. The vehicle's height, with the 63-ft (19.2-m) long PLF, is approximately 233 ft (71.0 m).

Delta Cryogenic Second Stage (DCSS)
The DCSS propellant tanks are structurally rigid and constructed of formed aluminum plate, spun-formed aluminum domes and aluminum ring forgings. It is a cryogenic liquid hydrogen/liquid oxygen-fueled vehicle, powered by a single RL10B-2 engine that produces 24,750 lbs (110.1 kilo-Newtons) of thrust. The DCSS cryogenic tanks are insulated with a spray-on insulation and helium-purged insulation blankets. An equipment shelf attached to the aft dome of the DCSS liquid oxygen tank provides the structural mountings for vehicle electronics.

Booster
The Delta IV common booster core (CBC) tanks are structurally rigid and constructed of isogrid aluminum barrels, spun-formed aluminum domes and machined aluminum tank skirts. Delta IV booster propulsion is provided by the throttleable RS-68A engine system which burns cryogenic liquid hydrogen and liquid oxygen and delivers 705,250 lbs (312.3 kilo-Newtons) of thrust at sea level. The booster's cryogenic tanks are insulated with a combination of spray-on and bond-on insulation and helium-purged insulation blankets. The booster is controlled by the DCSS avionics system, which provides guidance, flight control.



DELTA IV

With three common booster cores, the Heavy is the largest in the Delta IV fleet and is the nation's proven heavy lifter, delivering high-priority missions for the U.S. Air Force, National Reconnaissance Office and NASA. The Delta IV Heavy also launched NASA's Orion spacecraft on its historic Exploration Flight Test (EFT-1) in 2014.

First Launch: Dec. 21, 2004
Launches to Date: 12

Performance to GTO: 31,330 lb (14,210 kg)
Performance to LEO-Reference: 62,540 lb (28,370 kg)

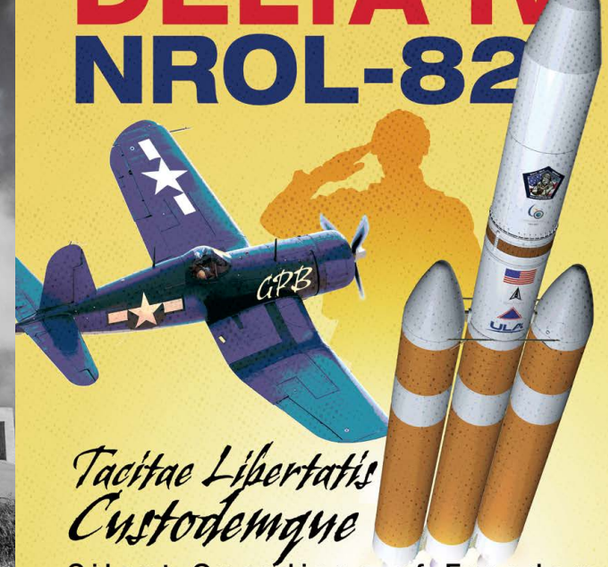
MISSION SUCCESS

With more than a century of combined heritage, ULA is the world's most experienced and reliable launch service provider. ULA has successfully delivered more than 140 missions to orbit that provide Earth observation capabilities, enable global communications, unlock the mysteries of our solar system and support life-saving technology.

ulalaunch.com

MISSION OVERVIEW

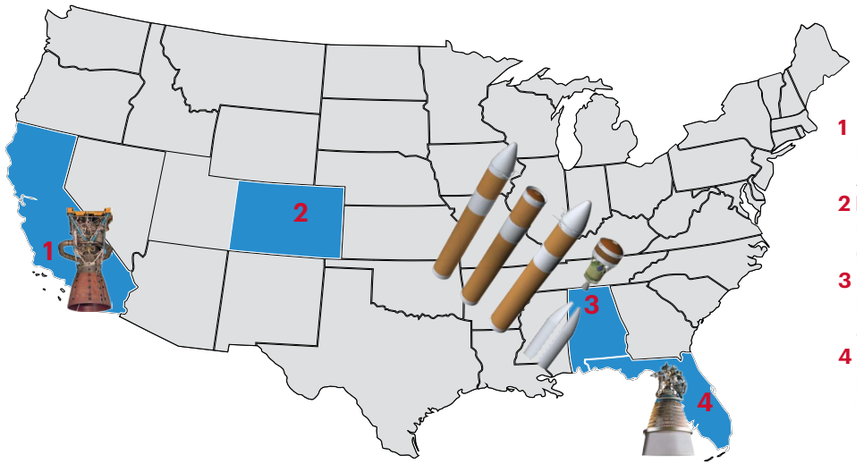
DELTA IV NROL-82



Tacitae Libertatis Custodemque

Silent Guardians of Freedom

PRODUCTION



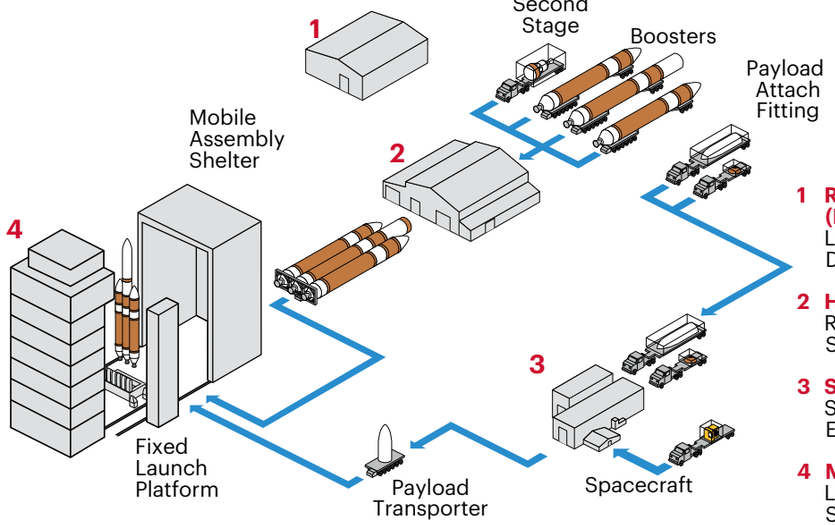
1 Canoga Park, CA
RS-68A Engine Fabrication at Aerojet Rocketdyne

2 Denver, CO
ULA Headquarters & Design Center Engineering

3 Decatur, AL
Booster, Payload Fairing and Second Stage Fabrication

4 West Palm Beach, FL
RL10 Engine Fabrication at Aerojet Rocketdyne

SPACE LAUNCH COMPLEX-6 PROCESSING



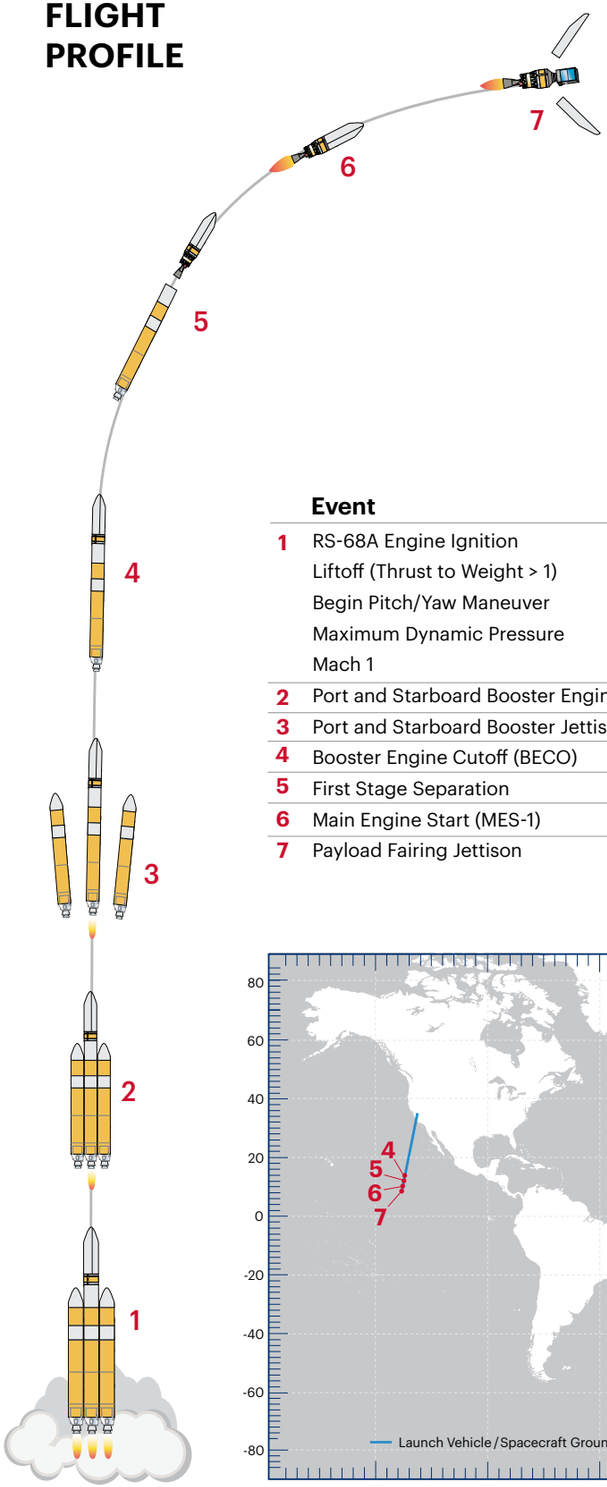
1 Remote Launch Control Center (RLCC)
Launch Control Center & Mission Director's Center

2 Horizontal Integration Facility
Receiving, Inspection & Second Stage Integration

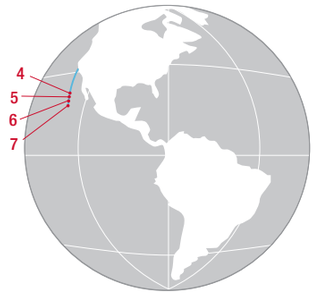
3 Spacecraft Processing Facility
Spacecraft Processing, Testing & Encapsulation

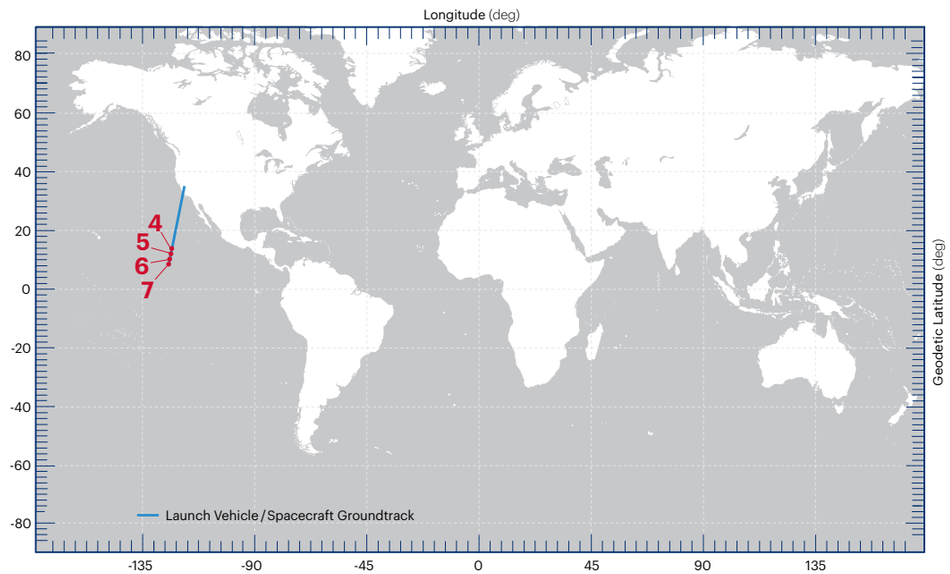
4 Mobile Service Tower
Launch Vehicle Integration & Testing Spacecraft Mate & Integrated Operations

FLIGHT PROFILE



	Event	Time (hr:min:sec)
1	RS-68A Engine Ignition	-0:00:05.0
	Liftoff (Thrust to Weight > 1)	0:00:00.0
	Begin Pitch/Yaw Maneuver	0:00:10.0
	Maximum Dynamic Pressure	0:01:19.6
	Mach 1	0:01:23.0
2	Port and Starboard Booster Engine Cutoff	0:03:56.3
3	Port and Starboard Booster Jettison	0:03:58.4
4	Booster Engine Cutoff (BECO)	0:05:37.5
5	First Stage Separation	0:05:44.0
6	Main Engine Start (MES-1)	0:05:56.9
7	Payload Fairing Jettison	0:06:07.0





All Values Approximate