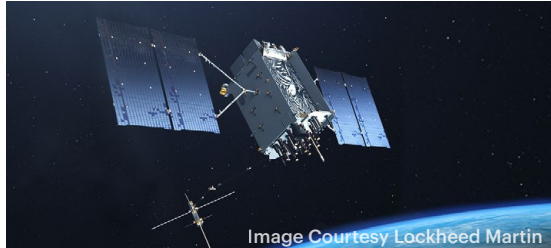


MISSION

A United Launch Alliance (ULA) Delta IV Medium+ (4,2) rocket will deliver the second GPS III spacecraft, "Magellan," to a medium earth orbit (MEO) for the U.S. Air Force Space & Missile Systems Center. Liftoff will occur from Space Launch Complex-37 at Cape Canaveral Air Force Station, Florida.

It is estimated that more than four billion military, commercial and civil users worldwide connect with the Global Positioning System (GPS). Today this advanced technology, developed for and operated by the U.S. Air Force, is an essential part of daily life.

As essential as GPS is, the Air Force has committed to modernizing the entire system – from the



ground system to the satellite constellation—with new technology to make way for advanced capabilities and to build in flexibility to address future mission needs.

Contracted by the U.S. Air Force, Lockheed Martin develops and builds GPS III, an entirely new GPS satellite, more powerful than any GPS space vehicle previously launched. The key baseline features for GPS III include:

- **Improved Accuracy:** 3x better accuracy for military users than any previous GPS satellite.
- **Enhanced Anti-Jamming:** Up to 8x improved anti-jamming capabilities to help ensure important signals used by our warfighters are not interrupted.
- **More Robust Design:** Adding to the satellite's resiliency, spacecraft life will extend to 15 years, 25 percent longer than any other GPS satellites on-orbit today.
- **New L1C Civil Signal:** This makes GPS III the first GPS satellite broadcasting a compatible signal with other international Global Navigation Satellite Systems, like Europe's Galileo, improving connectivity for civilian users.

LAUNCH VEHICLE

Payload Fairing (PLF)

The PLF is a composite bisector (two-piece shell), 4-meter diameter fairing. The PLF encapsulates the spacecraft to protect it from the launch environment on ascent. The vehicle's height, with the PLF, is approximately 207 ft.

Delta Cryogenic Second Stage (DCSS)

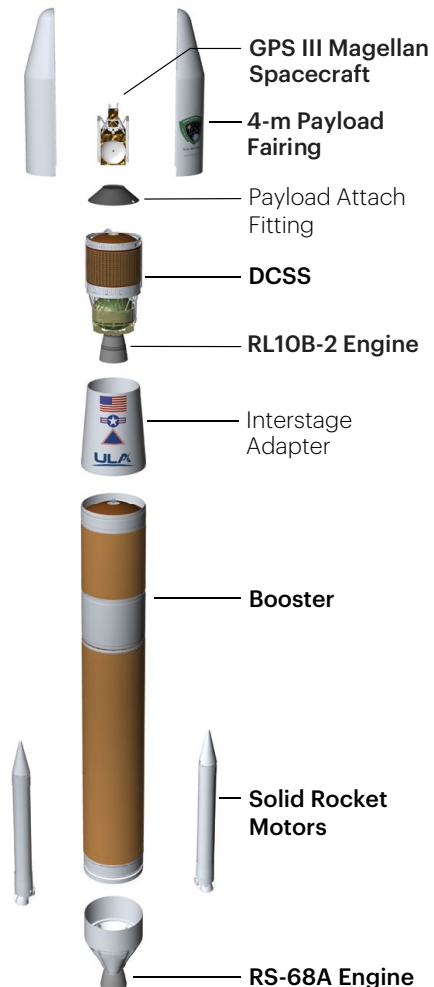
The DCSS propellant tanks are structurally rigid and constructed of formed aluminum plate, spun-formed aluminum domes and aluminum ring forgings. It is a cryogenic liquid hydrogen/liquid oxygen-fueled vehicle, powered by a single RL10B-2 engine that produces 24,750 lbf of thrust. The DCSS cryogenic tanks 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 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 lbf 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 and flight control.

Solid Rocket Motors (SRMs)

Two solid rocket motors generate the additional power required at liftoff, with each SRM providing 281,000 lbf of thrust. The SRMs are 5 ft in diameter, 53 ft long and are constructed of a graphite-epoxy composite.



DELTA IV



The Delta IV family of launch vehicles combines design simplicity, manufacturing efficiency and streamlined mission and vehicle integration to meet customer launch requirements. The Delta IV Medium+ (4,2) configuration has launched a diverse set of missions including national security, science and six GPS satellites. GPS III Magellan is the final mission to fly on a Delta IV Medium rocket.

First Launch: Nov 20, 2002
Launches to date: 14

Performance to GTO: 6,160 kg (13,580 lb)
Performance to Reference 51.6° Inclination: 12,000 kg (26,450 lb)

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 130 missions to orbit that provide Earth observation capabilities, enable global communications, unlock the mysteries of our solar system and support life-saving technology.

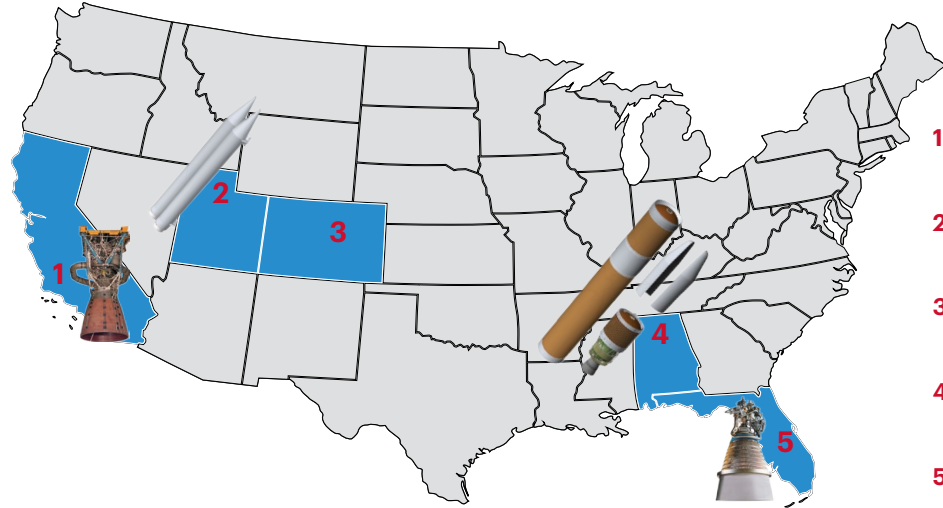
MISSION OVERVIEW



ulalaunch.com

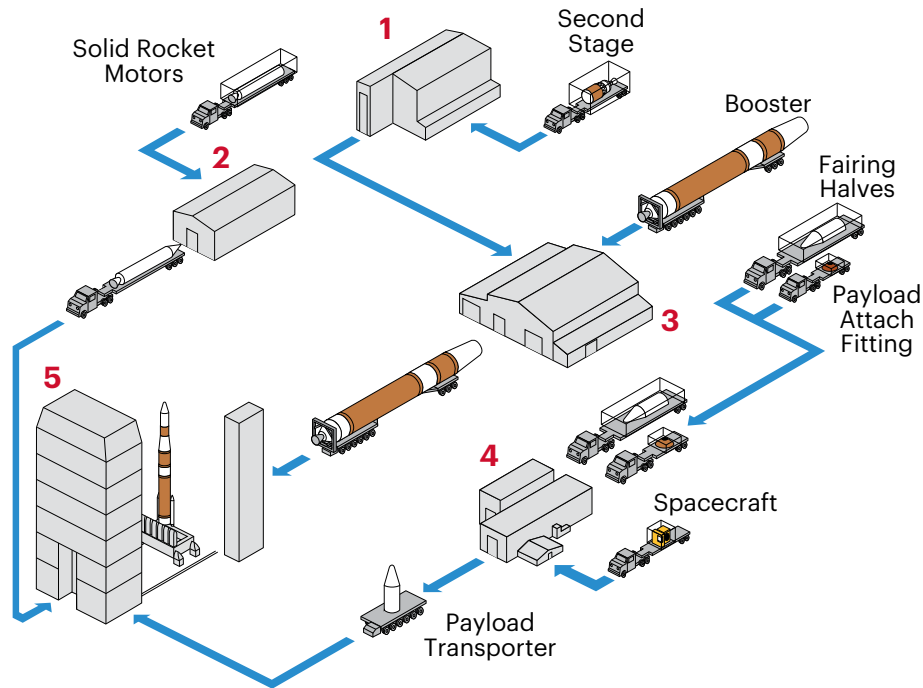
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PRODUCTION



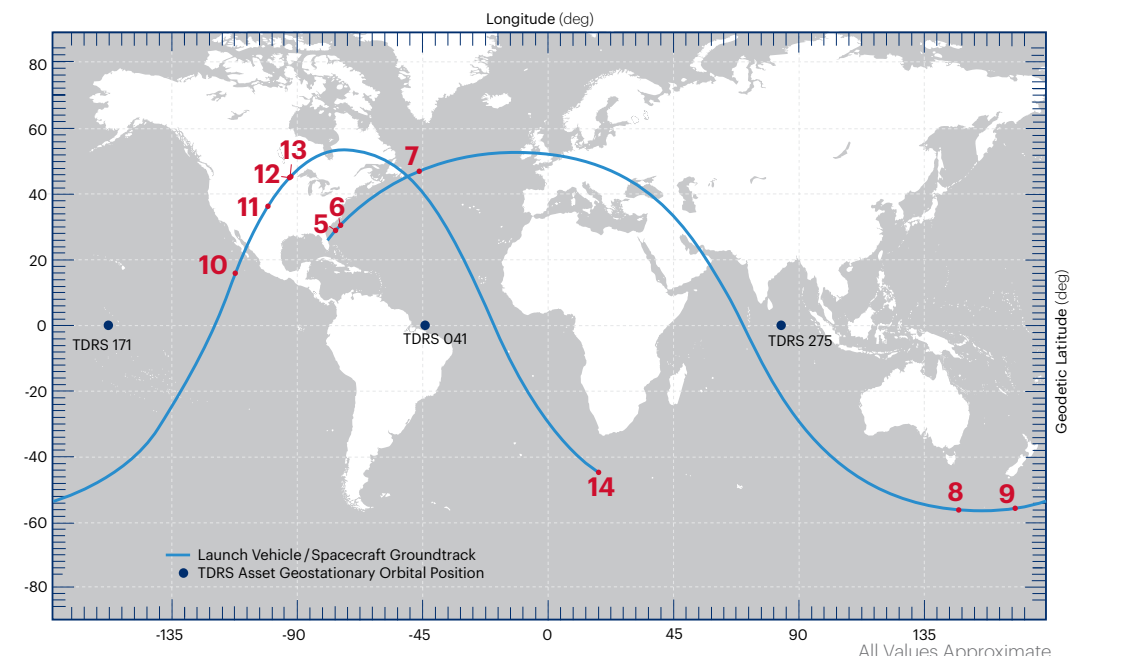
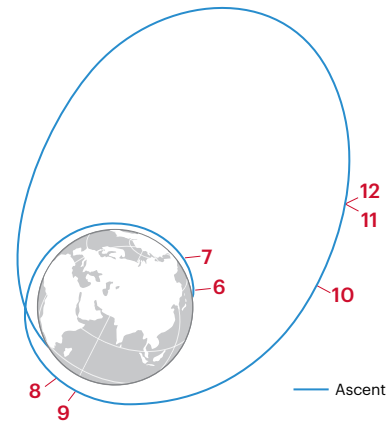
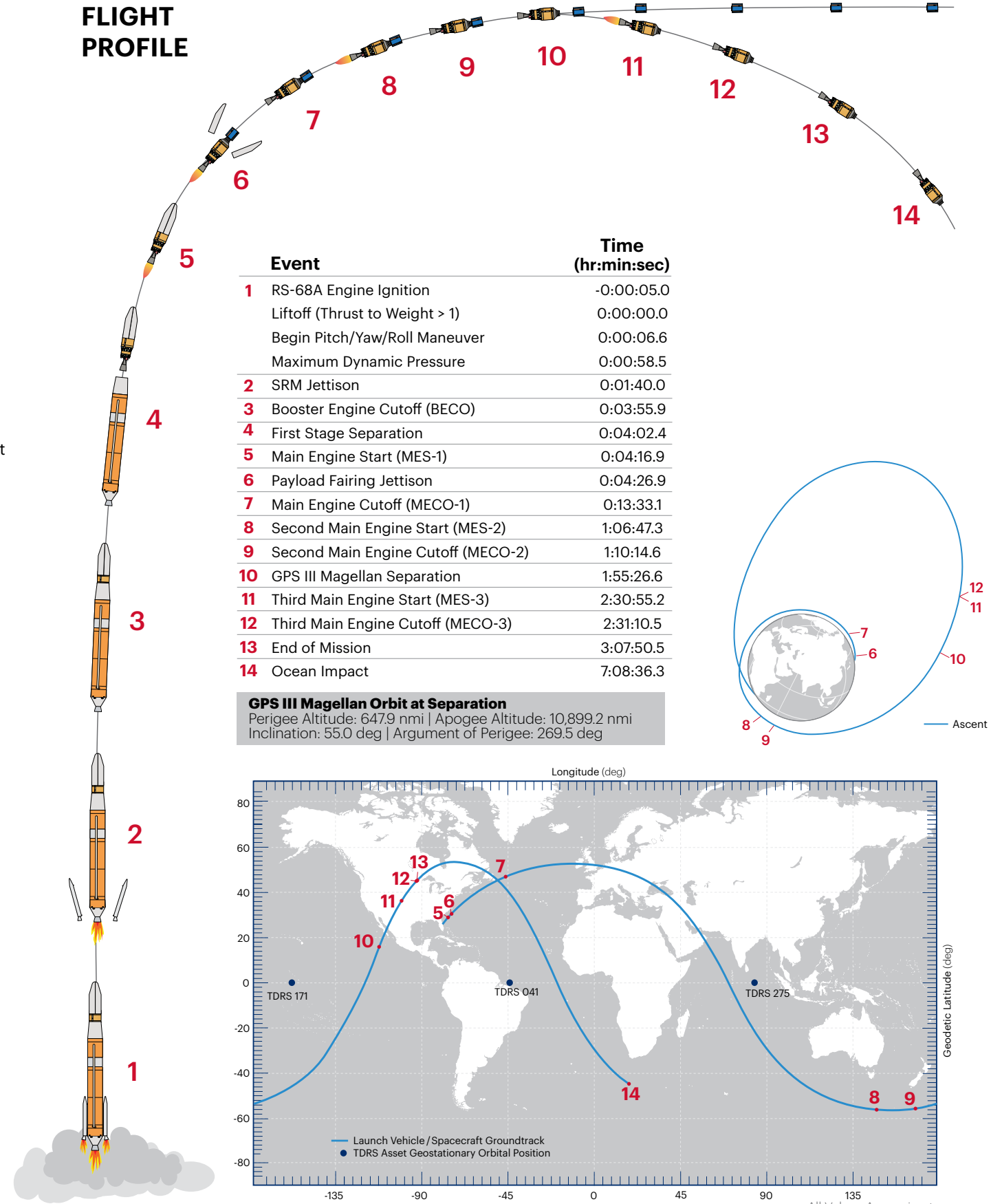
- 1 Canoga Park, CA**
RS-68A Engine Fabrication at Aerojet Rocketdyne
- 2 Brigham City, UT**
Solid Rocket Motor Fabrication at Northrop Grumman
- 3 Denver, CO**
ULA Headquarters & Design Center Engineering
- 4 Decatur, AL**
ULA Booster, Payload Fairing and Second Stage Fabrication
- 5 West Palm Beach, FL**
RL10 Engine Fabrication at Aerojet Rocketdyne

SPACE LAUNCH COMPLEX-37 PROCESSING



- 1 Delta Operations Center**
Mission Director's Center & Second Stage Processing
- 2 Receipt Inspection Shop**
Receiving, Inspection, Staging & Final Processing
- 3 Horizontal Integration Facility**
Receiving, Inspection & Vehicle Integration
- 4 Spacecraft Processing Facility**
Spacecraft Processing, Testing & Encapsulation
- 5 Mobile Service Tower**
Launch Vehicle Integration & Testing, Spacecraft Mate & Integrated Operations

FLIGHT PROFILE



All Values Approximate