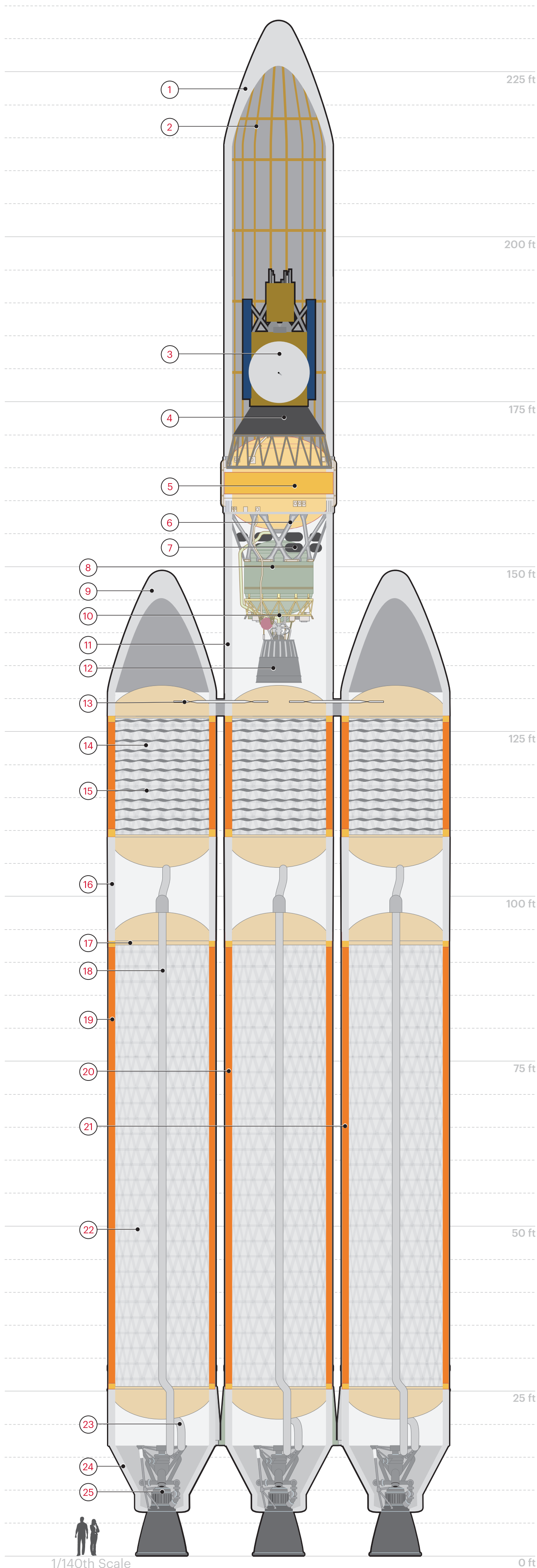


# DELTA IV HEAVY



The Delta IV Heavy is the world's most capable rocket delivering our nation's most critical national security and science missions for the National Reconnaissance Office, the U.S. Air Force and NASA.

Spacecraft are encapsulated inside the 5.1-m (16.8-ft) payload fairing (PLF), consisting of a composite bisector (two-piece shell) or optional trisector (three-piece shell) fairing.

The Delta Cryogenic Second Stage (DCSS) is 5.1 m (16.7 ft) in diameter and 13.0 m (42.8 ft) long. The propellant tanks are constructed of isogrid aluminum ring forgings, spun-formed aluminum domes, machined aluminum tank skirts and a composite intertank truss. The DCSS is a liquid hydrogen/liquid oxygen-fueled vehicle. It uses a single RL10 engine that produces 110 kN (24,750 lbf) of thrust. An equipment shelf attached to the aft dome of the DCSS liquid oxygen tank provides the structural mountings for vehicle electronics. The structural and electronic interfaces with the satellite are provided via the payload attach fitting (PAF).

The Delta IV common booster core (CBC) is 5.1 m (16.7 ft) in diameter and 40.8 m (133.9 ft) long. It is constructed of isogrid aluminum barrels, spun-formed aluminum domes, machined aluminum tank skirts and a composite centerbody. Delta IV booster propulsion is provided by the RS-68A engine system. The RS-68A burns cryogenic liquid hydrogen and liquid oxygen and delivers 3,137 kN (705,250 lbf) of thrust at sea level. The booster's tanks are insulated with a combination of spray-on and bond-on insulation and helium-purged insulation blankets. The Delta IV vehicle is controlled by an avionics system, which provides guidance, flight control and vehicle sequencing functions during booster and second stage phases of flight. The Delta IV Heavy configuration employs three CBCs to provide the necessary energy for heavy lift missions.

## Performance

GTO	13,810 kg (30,440 lb)
LEO	28,370 kg (62,540 lb)

GTO = Geosynchronous Transfer Orbit 35,786 x 185 km (19,323 x 100 nmi) at 27.0°  
LEO = Low Earth Orbit 400 km (216 nmi) circular at 28.5°

1. Payload Fairing
2. Acoustic Blankets
3. Spacecraft
4. Payload Attach Fitting
5. DCSS Fuel (LH2) Tank
6. DCSS Intertank Truss Assembly
7. High Pressure Helium Bottle
8. DCSS Oxidizer (LO2) Tank
9. Nose Cone
10. DCSS Equipment Shelf
11. Interstage Adapter
12. DCSS Engine (RL10)
13. Strut Assembly
14. Booster Oxidizer (LO2) Tank
15. Anti-slosh Baffle
16. Centerbody
17. Booster Fuel (LH2) Tank
18. Booster Oxidizer (LO2) Feedline
19. Port Common Booster Core
20. Center Common Booster Core
21. Starboard Common Booster Core
22. Isogrid Structure
23. Booster Fuel (LH2) Feedline
24. Thermal Shield
25. Booster Engine (RS-68A)

The Delta IV Heavy stands approximately 70.7 m (232 ft) tall.

Delta IV Heavy rockets are built at ULA's 1.6-million-square-foot, state-of-the-art production facility in Decatur, Alabama.

Delta IV Heavy rockets launch from Space Launch Complex-37 at Cape Canaveral Space Force Station in Florida and Space Launch Complex-6 at Vandenberg Space Force Base in California.

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