FACT SHEET

Minotaur I

Space Launch Vehicle

Minotaur I Has a Demonstrated Success Record and Flight-Proven Systems

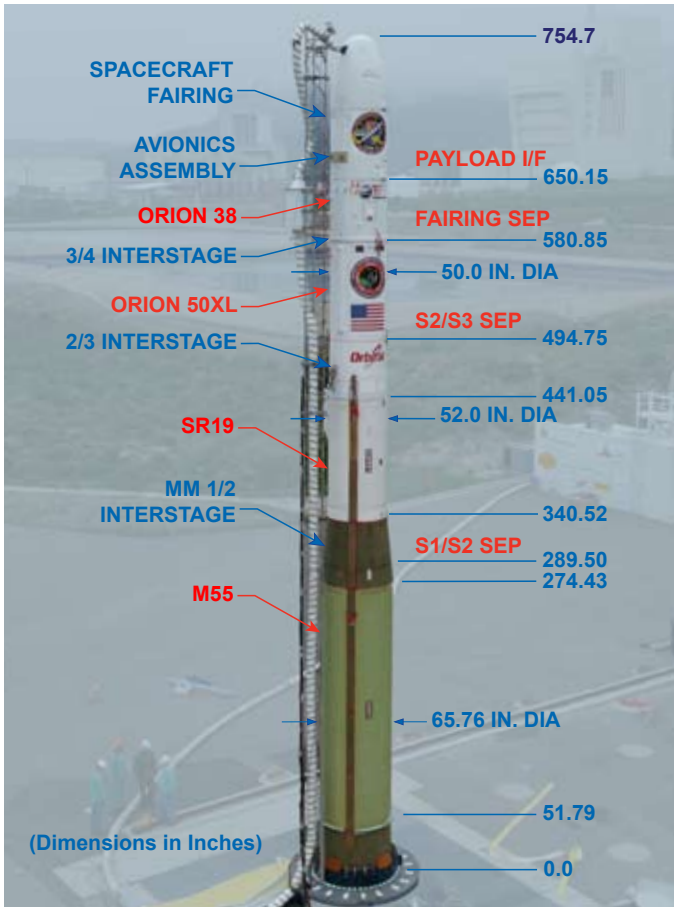
The Minotaur I Space Launch Vehicle

The Minotaur I Space Launch Vehicle (SLV) provides a responsive, reliable, and cost-effective launch solution for U.S. Government-sponsored spacecraft. It builds on a long background of dependable launch systems and has a demonstrated successful history over its initial and subsequent launches. The Minotaur I SLV uses residual Minuteman II first and second stage rocket motors along with the upper two stages shared with Orbital's Pegasus XL and Taurus XL commercial SLVs. The combination of decommissioned ICBM motors with commercial boosters and state-of-the-art hardware is one of Orbital's unique strengths from experience spanning several decades.

The Minotaur family of launch vehicles are provided via the Orbital/Suborbital Program 2 (OSP-2) managed by the U.S. Air Force Rocket Systems Launch Program (RSLP), under the Space and Missile Systems Center (SMC), Space Development and Test Wing.

Features:

- Full spacecraft integration support, including mission management, spacecraft interface support (power, telemetry, sequencing, attitude control, and deployment), through launch operations and post-launch performance evaluation.
- Standard 18 month mission response including mission integration and launch by Orbital's uniquely experienced team
- Responsive launch solutions from 6 months to a few hours available
- Mission success is ensured by mature systems and processes
  - Orbital's rigorous mission assurance program
  - Full Government insight and independent assessment
- Multiple spaceport launch capability (California, Florida, Alaska, Mid-Atlantic) using portable ground support equipment

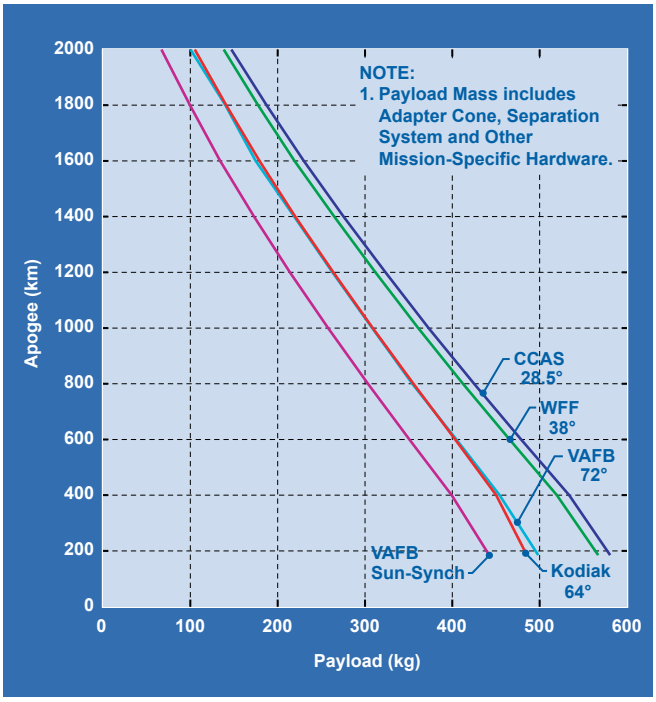


Minotaur I Space Launch Vehicle – Ready to Launch

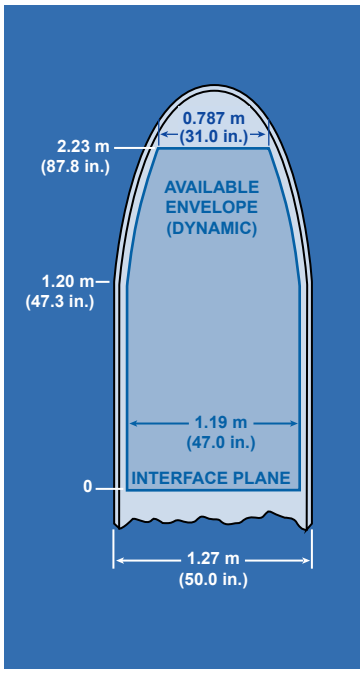
Minotaur I Specifications

Performance:

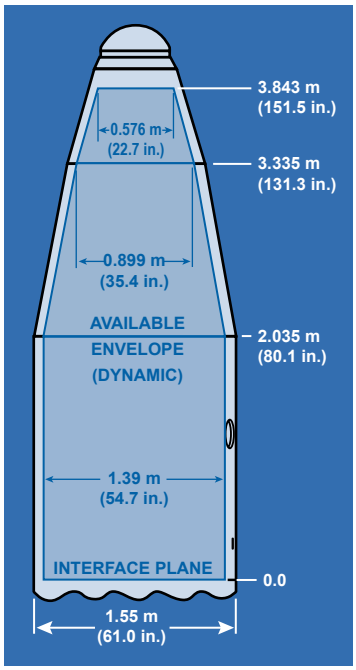
- Spacecraft mass-to-orbit of up to 580 kg to LEO (28.5 deg, 185 km)
- Typical orbit accuracy of better than ±5 km insertion apse, ±35 km non-insertion apse, and ±0.1 deg inclination (3-sigma values)
- Optional enhanced insertion accuracy better than 5 km in altitude and ±0.05 deg inclination (3-sigma values)
- Cold gas attitude control system readily accomodates a variety of spacecraft mission requirements, including precise separation pointing and post-boost maneuvers



Performance to Orbit Is Flight-Verified and Best in Class



Standard 1.27 m (50 in.) Fairing Envelope



Optional 1.55 m (61 in.) Fairing Envelope

Payload Accommodations:

- Standard 1.27 m (50 in.) dia. spacecraft fairing (Pegasus heritage design)
- Optional 1.55 m (61 in.) dia. spacecraft fairing for larger and/or multiple spacecraft missions
- Mission-specific fairing access doors for spacecraft support
- Well-defined launch environments validated with flight data
- Various flight-proven spacecraft separation systems available, including low-shock designs
- Thermally controlled fairing volume with standard Class M6.5 (100k) cleanliness
  - Optional Class M5.5 (10k) cleanliness
  - Optional spacecraft nitrogen purge

Simplified Horizontal Payload Integration for Single and Multiple Spacecraft

Point of Contact:

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