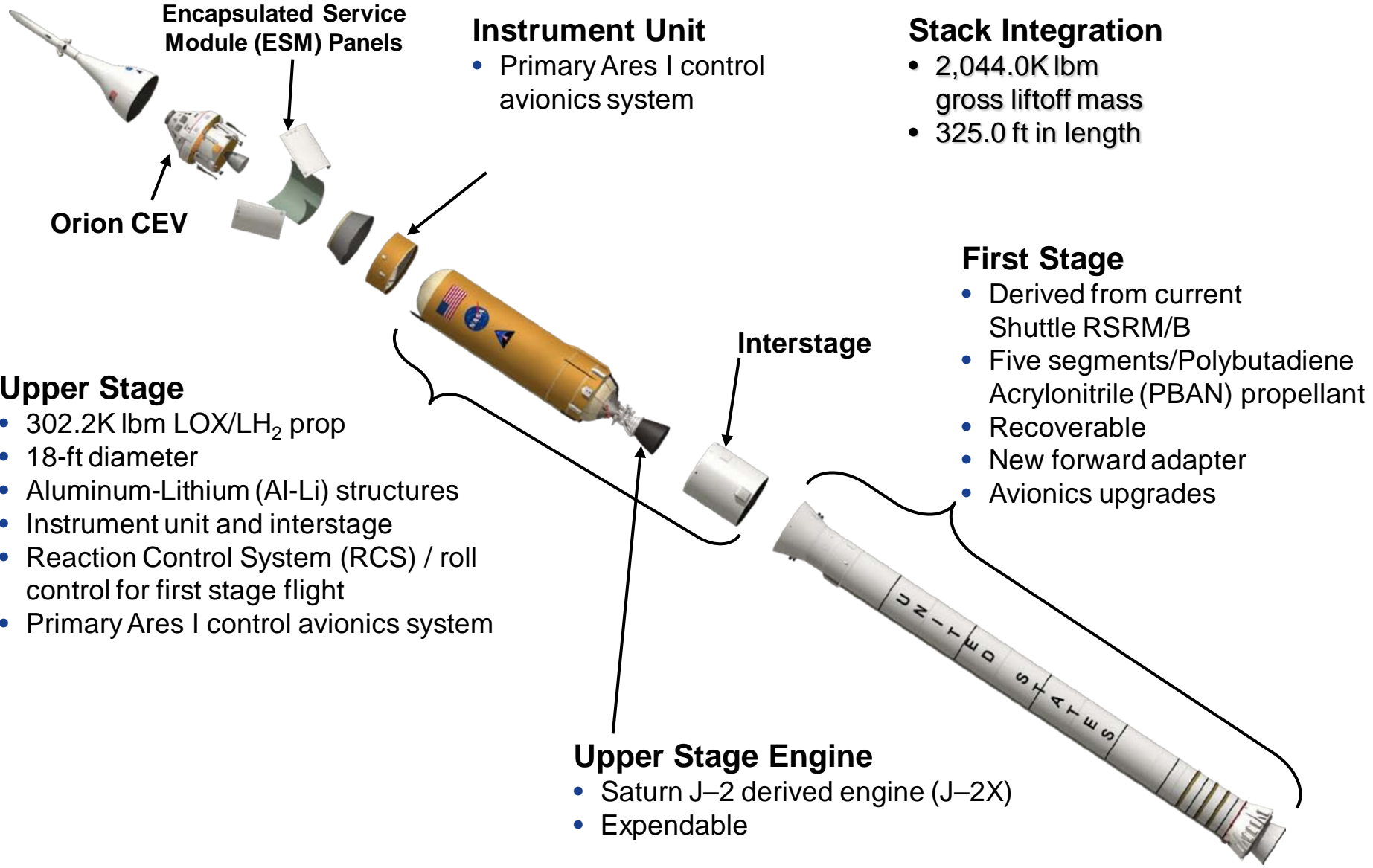




Ares I Rocket Elements



Encapsulated Service Module (ESM) Panels

Orion CEV

Instrument Unit

- Primary Ares I control avionics system

Stack Integration

- 2,044.0K lbm gross liftoff mass
- 325.0 ft in length

First Stage

- Derived from current Shuttle RSRM/B
- Five segments/Polybutadiene Acrylonitrile (PBAN) propellant
- Recoverable
- New forward adapter
- Avionics upgrades

Upper Stage

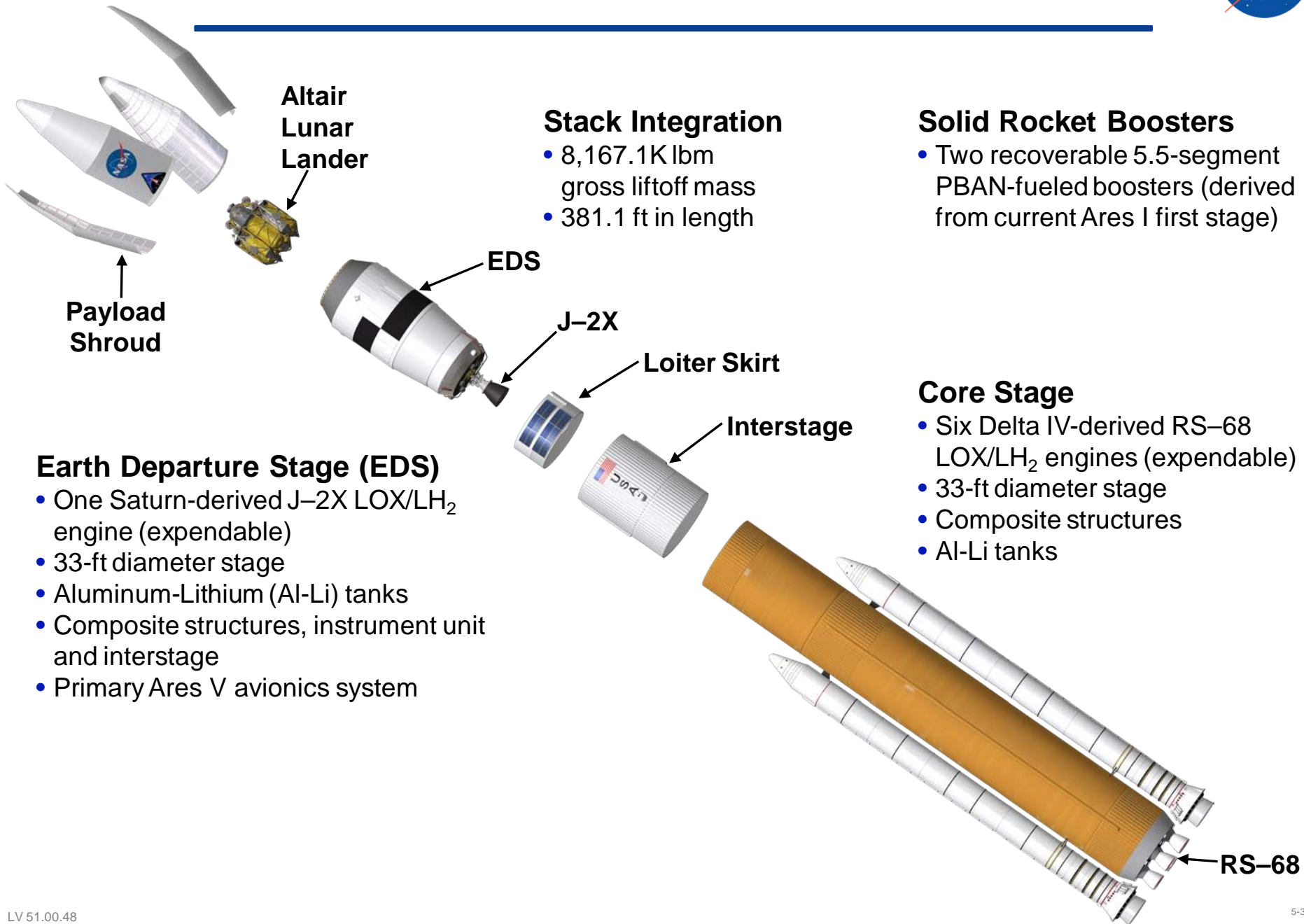
- 302.2K lbm LOX/LH₂ prop
- 18-ft diameter
- Aluminum-Lithium (Al-Li) structures
- Instrument unit and interstage
- Reaction Control System (RCS) / roll control for first stage flight
- Primary Ares I control avionics system

Interstage

Upper Stage Engine

- Saturn J-2 derived engine (J-2X)
- Expendable

Ares V Heavy Cargo Launch Vehicle Elements



Earth Departure Stage (EDS)

- One Saturn-derived J-2X LOX/LH₂ engine (expendable)
- 33-ft diameter stage
- Aluminum-Lithium (Al-Li) tanks
- Composite structures, instrument unit and interstage
- Primary Ares V avionics system

Stack Integration

- 8,167.1K lbm gross liftoff mass
- 381.1 ft in length

Solid Rocket Boosters

- Two recoverable 5.5-segment PBAN-fueled boosters (derived from current Ares I first stage)

Core Stage

- Six Delta IV-derived RS-68 LOX/LH₂ engines (expendable)
- 33-ft diameter stage
- Composite structures
- Al-Li tanks