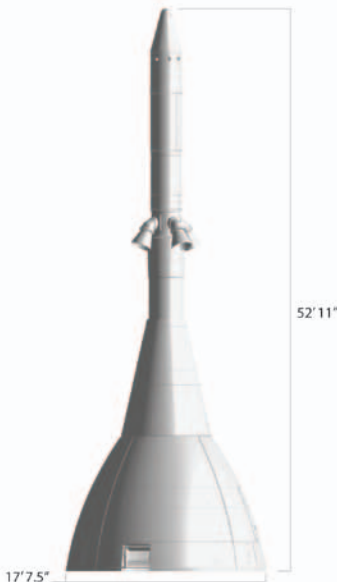


orion

Quick Facts

Orion is America's next generation spacecraft that will take astronauts to exciting destinations never explored by humans. It will serve as the exploration vehicle that will carry the crew to distant planetary bodies, provide emergency abort capability, sustain the crew during space travel, and provide safe re-entry from deep space.

NASAfacts



Launch Abort System

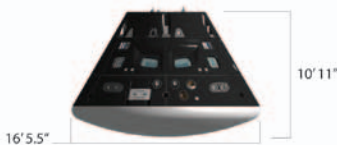
Orion Summary

Number of crew	4
Crewed mission duration	21-210 days
Total change in velocity	4920 ft/s
Gross liftoff weight	69,181 lbs
Effective mass to orbit	50,231 lbs

Launch Abort System – Emergency Crew Escape System
During Launch

Mass Properties

Dry mass/propellant	10,369 lbs
Gross liftoff weight	16,125 lbs



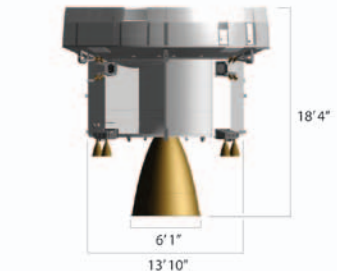
Crew Module

Crew Module – Crew and Cargo Transport

Pressurized volume (total)	690.6 ft ³
Habitable volume (net)	316 ft ³
Reaction control system (RCS) engine thrust	160 lbf/engine
Return payload	220 lbs

Mass Properties

Dry mass/propellant	21,350 lbs
Oxygen/nitrogen/water	77 lbs
Landing weight	19,463 lbs
Gross liftoff weight	21,650 lbs



Service Module

Service Module – Propulsion, Electrical Power, Fluids Storage

Mass Properties

Oxygen/nitrogen/water	694 lbs
Propellant weight	17,433 lbs
Gross liftoff weight	27,198 lbs

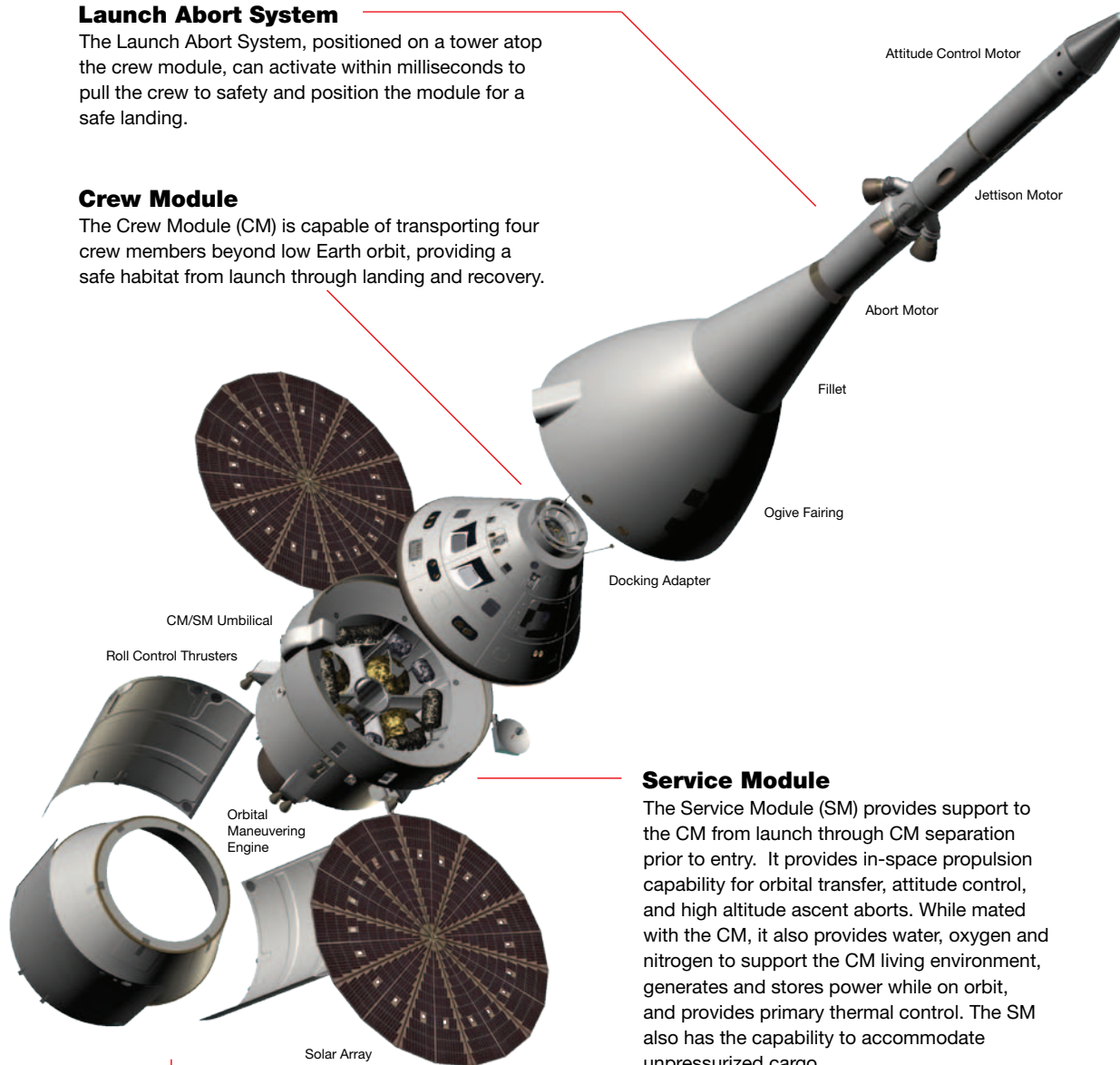
The Orion Spacecraft

Launch Abort System

The Launch Abort System, positioned on a tower atop the crew module, can activate within milliseconds to pull the crew to safety and position the module for a safe landing.

Crew Module

The Crew Module (CM) is capable of transporting four crew members beyond low Earth orbit, providing a safe habitat from launch through landing and recovery.



Service Module

The Service Module (SM) provides support to the CM from launch through CM separation prior to entry. It provides in-space propulsion capability for orbital transfer, attitude control, and high altitude ascent aborts. While mated with the CM, it also provides water, oxygen and nitrogen to support the CM living environment, generates and stores power while on orbit, and provides primary thermal control. The SM also has the capability to accommodate unpressurized cargo.

Spacecraft Adapter

The spacecraft adapter connects Orion to the Launch Vehicle.

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