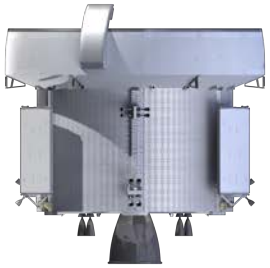
National Aeronautics and Space Administration

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 reentry from deep space.

NASA**facts**



Orion Summary

Number of crew 4
Total change in velocity ..... 4,390 ft/s
Gross liftoff weight ..... 78,010 lbs
Injected mass ..... 58,467 lbs

Launch Abort System – Emergency Crew Escape System

Mass Properties

Dry mass/propellant ..... 11,120 lbs
Gross liftoff weight ..... 16,850 lbs

Crew Module – Crew and Cargo Transport

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

Mass Properties

Dry mass/propellant ..... 22,397 lbs
Oxygen/nitrogen/water ..... 133 lbs
Propellant ..... 370 lbs
Landing weight ..... 20,500 lbs
Gross liftoff weight ..... 22,900 lbs

Service Module – Propulsion, Electrical Power, Fluids Storage

Mass Properties

Dry mass ..... 13,635 lbs
Gross liftoff weight ..... 34,085 lbs

Orion-to-Stage Adapter

Mass Properties

Jettisoned Fairings ..... 3,050 lbs
Spacecraft Adapter ..... 1,125 lbs

The Orion Spacecraft

Launch Abort System

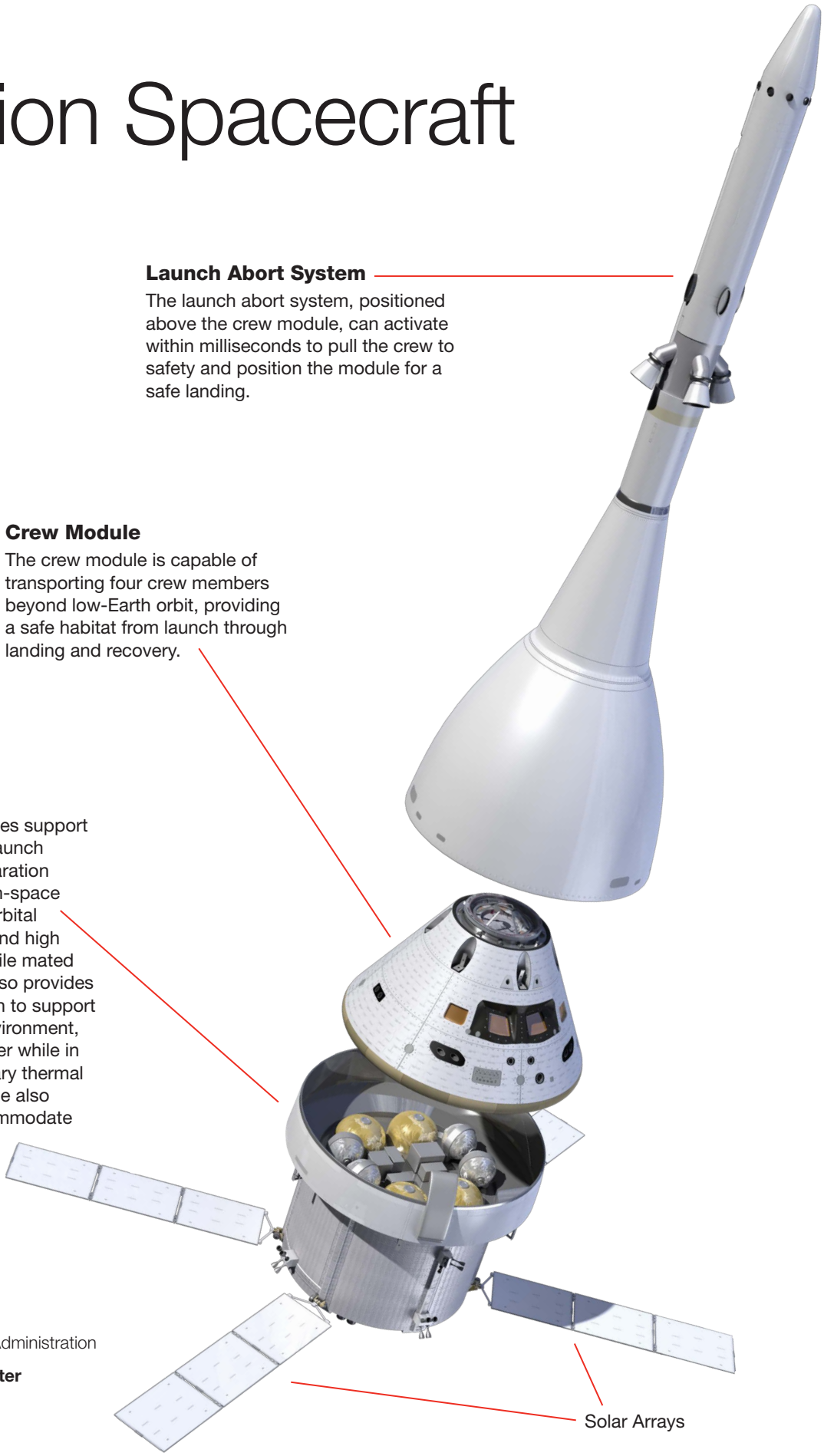
The launch abort system, positioned above the crew module, can activate within milliseconds to pull the crew to safety and position the module for a safe landing.

Crew Module

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



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