



ORION



FULL
STACK
HEIGHT
67 ft / 20.4 m

CREW
MODULE /
SERVICE
MODULE
HEIGHT
26 ft / 7.9 m

NASA's Orion spacecraft
is carrying humanity to
the Moon.

Orion is the exploration vehicle that will carry and sustain the crew on Artemis missions to the Moon and return them safely to Earth. Orion will launch on NASA's SLS (Space Launch System) rocket, and is equipped with advanced systems for deep space travel such as life support, navigation, and emergency abort capabilities.

NUMBER OF CREW **4**

MISSION DURATION **21 DAYS**

GROSS LIFTOFF MASS **78,000 lbs / 35,380 kg**

TRANS-LUNAR
INSERTION MASS **58,500 lbs / 26,536 kg**

POST TRANS-LUNAR
INSERTION MASS **57,000 lbs / 25,854 kg**

USABLE PROPELLANT **19,000 lbs / 8,618 kg**

Launch Abort System

HEIGHT **50 ft** / 15.25 m
 DIAMETER TOWER: **3 ft** / 0.9 m
 BASE: **17 ft** / 5.2 m
 MASS AT LIFTOFF **6,700 lbs** / 3,039 kg
 TOTAL PROPELLANT MASS **5,700 lbs** / 2,585 kg

	MASS	PROPELLANT MASS	THRUST
ABORT MOTOR	7,600 lbs 3,447 kg	4,700 lbs 2,132 kg	400,000 lbs 181,437 kg
ATTITUDE CONTROL MOTOR	1,700 lbs 771 kg	650 lbs 295 kg	7,000 lbs 3,175 kg
JETTISON MOTOR	900 lbs 408 kg	350 lbs 159 kg	40,000 lbs 18,144 kg

Crew Module

HEIGHT **11 ft** / 3.35 m
 DIAMETER **16.5 ft** / 5 m
 HABITABLE VOLUME **330 cu ft** / 9.34 cu m
 PRESSURIZED VOLUME **690.6 cu ft** / 19.56 cu m
 LUNAR RETURN PAYLOAD MASS **220 lbs** / 100 kg
 REACTION CONTROL SYSTEM **12 THRUSTERS**
160 lbs / 73 kg **THRUST EACH**

MASS AT LIFTOFF **22,900 lbs** / 10,387 kg
 NOMINAL LANDED MASS **20,500 lbs** / 9,299 kg

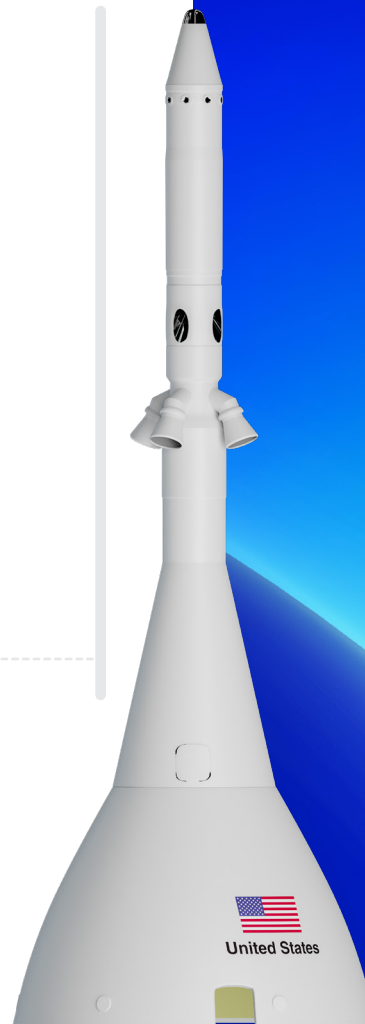
Service Module

HEIGHT **15.7 ft** / 4.79 m
 DIAMETER **16.5 ft** / 5 m
 SOLAR WINGS **4 SOLAR ARRAYS**
15,000 SOLAR CELLS
62 ft / 18.9 m **WIDE**
11KW POWER
 REACTION CONTROL SYSTEM **24 THRUSTERS**
50 lbs / 23 kg **THRUST EACH**
 AUXILIARY ENGINES **8 ENGINES**
110 lbs / 50 kg **THRUST EACH**
 ORION MAIN ENGINE **6,000 lbs** / 2,722 kg **THRUST**
 MASS AT LIFTOFF **30,900 lbs** / 14,016 kg

SPACECRAFT ADAPTER MASS **2,800 lbs** / 1,270 kg
 JETTISONED FAIRINGS MASS **1,000 lbs** / 454 kg

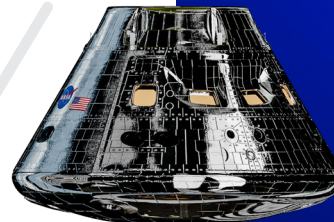
Launch Abort System

Will carry the crew to safety in the event of an emergency during launch or ascent atop the agency's SLS rocket.



Crew Module

The pressurized part of the Orion spacecraft where crew will live and work on their journey to the Moon and back.



Service Module

Provides propulsion, thermal control, electrical power generated by solar arrays, and life support systems including water, oxygen, and nitrogen.



Spacecraft Adapter

Attaches the Orion spacecraft to the SLS rocket.

