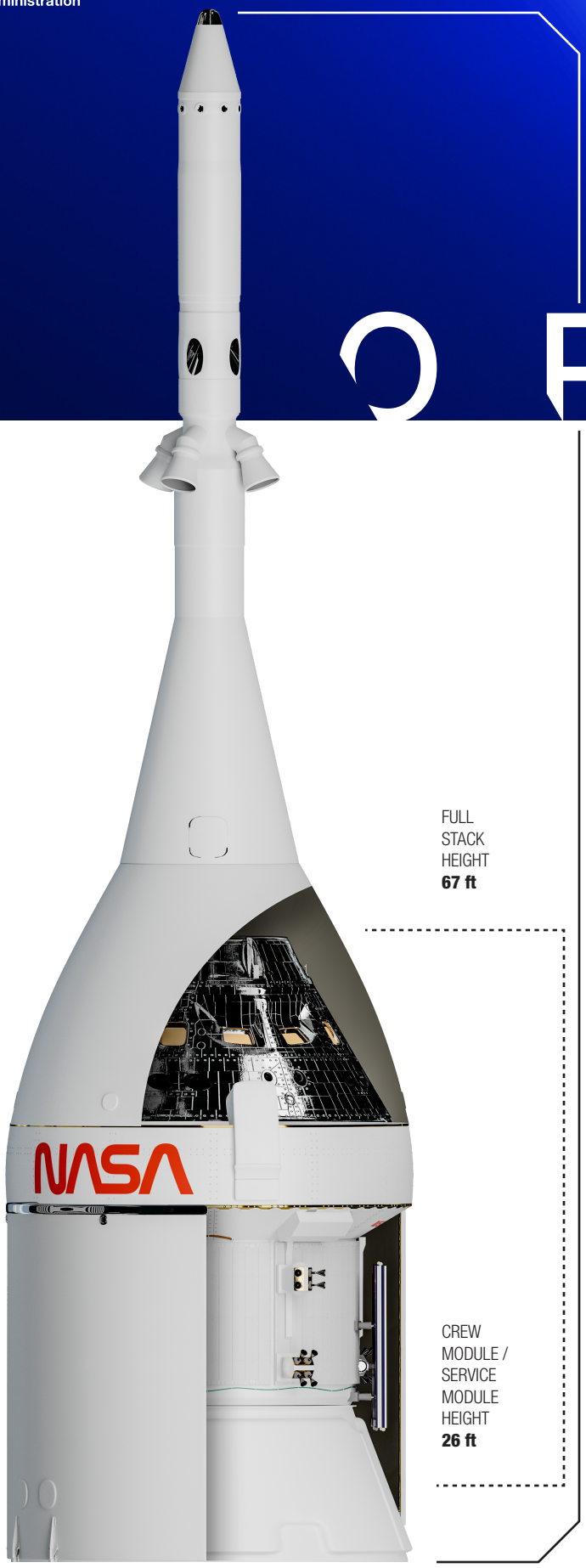
National Aeronautics and Space Administration

ORION



NASA's Orion spacecraft is built to take humans farther than they've ever gone before.

Orion will serve as the exploration vehicle that will carry the crew to space, provide emergency abort capability, sustain the crew during the space travel, and provide safe re-entry from deep space return velocities. Orion will launch on NASA's new heavy-lift rocket, the Space Launch System.

NUMBER OF CREW	**4**
MISSION DURATION	**21 DAYS**

	ARTEMIS I	ARTEMIS II
GROSS LIFTOFF MASS	**72,000 lbs**	**78,000 lbs**
TRANS-LUNAR INSERTION MASS	**53,000 lbs**	**58,500 lbs**
POST TRANS-LUNAR INSERTION MASS	**51,500 lbs**	**57,000 lbs**
USABLE PROPELLANT	**16,000 lbs**	**19,000 lbs**

Launch Abort System

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

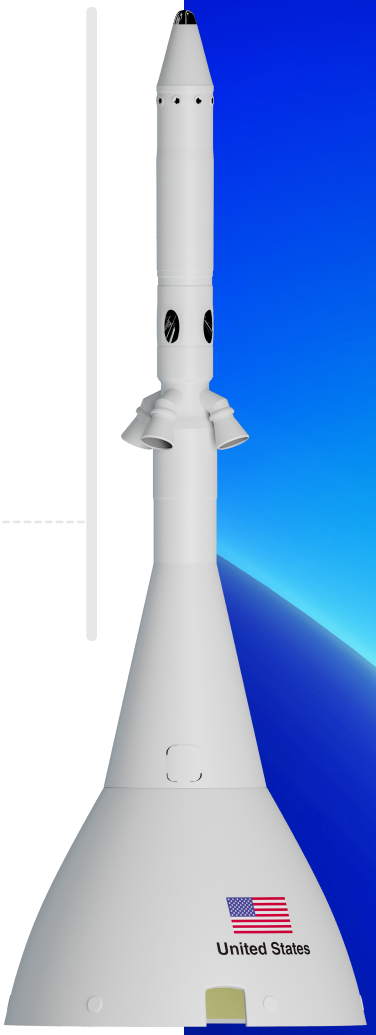
HEIGHT ..... **50 ft**

DIAMETER ..... TOWER: **3 ft**
BASE: **17 ft**

WEIGHT AT LIFTOFF..... ARTEMIS I: **16,700 lbs**
ARTEMIS II: **17,000 lbs**

TOTAL PROPELLANT MASS..... **5,700 lbs**

	MASS	PROPELLANT MASS	THRUST
ABORT MOTOR	**7,600 lbs**	**4,700 lbs**	**400,000 lbs**
ATTITUDE CONTROL MOTOR	**1,700 lbs**	**650 lbs**	**7,000 lbs**
JETTISON MOTOR	**900 lbs**	**350 lbs**	**40,000 lbs**



Crew Module

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

HEIGHT ..... **11 ft**

DIAMETER ..... **16.5 ft**

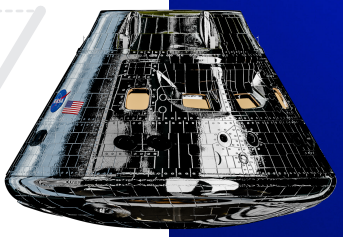
HABITABLE VOLUME ..... **330 cu ft**

PRESSURIZED VOLUME ..... **690.6 cu ft**

LUNAR RETURN PAYLOAD MASS ..... **220 lbs**

REACTION CONTROL SYSTEM..... **12 THRUSTERS**
160 lbs THRUST EACH

	ARTEMIS I	ARTEMIS II
WEIGHT AT LIFTOFF	**20,600 lbs**	**22,900 lbs**
NOMINAL LANDED MASS	**18,200 lbs**	**20,500 lbs**



Service Module

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

HEIGHT ..... **15.7 ft**

DIAMETER ..... **16.5 ft**

SOLAR WINGS ..... **4 SOLAR ARRAYS**
15,000 SOLAR CELLS
62 ft WIDE
11KW POWER

REACTION CONTROL SYSTEM..... **24 THRUSTERS**
50 lbs THRUST EACH

AUXILIARY ENGINES ..... **8 ENGINES**
110 lbs THRUST EACH

ORION MAIN ENGINE ..... **6,000 lbs THRUST**

	ARTEMIS I	ARTEMIS II
MASS AT LIFTOFF	**30,900 lbs**	**34,300 lbs**

Spacecraft Adapter

Attaches the Orion spacecraft to the Space Launch System rocket.

SPACECRAFT ADAPTER MASS ..... **2,800 lbs**

JETTISONED FAIRINGS MASS ..... **1,000 lbs**