



SOUTHWEST OHIO ROCKETRY ASSOCIATION (SORA)

LAUNCH REPORT HISEY FALL FESTIVAL

OCTOBER 04, 2025

11:00PM TO 4:00PM NAR SECTION #624

Launch Conditions: clear skies, temps in mid 70s, wind 0mph

Total Number of Launches: 32 **Rockets Recovered:** 32 **Lost:** 0 **Found Rocket (not launched):** 0

Total Number of 100% Fully Successful Flights: 26 **Success Rate:** 81.3%

Number of Individuals Who Launched Their Rockets: 4 **Number of Family/Friends/Observers:** 75

Number of First-Time flyers: 0

Teams and Competitions: 0 **NARTREK:** 0 **Scouts/Home School/4-H:** 0

Types and Number of Motors: 32 total

Micro	1/4A	1/2A	A	B	C	D	E	F	G
0	0	0	1	8	15	4	1	3	

2-motor clustered rocket	0
3-motor clustered rocket	0
Two-stage rocket	0
Three-stage rocket	0

Total Newtons: 552.5

Failures: 6 total: 1 motor ejected, 3 chute separations, 1 chute tangle, 1 too low motor impulse

Ground Fires: 0 **Damage to vehicles/facilities:** 0 **Medical Incidents:** 0

Donations and drink/food sale, sale of merchandise:

straight out donations:	\$34	t-shirts:	0 at \$20 =	\$0	
mugs:	0 at \$10 =	\$0	stickers:	0 at \$0.25 =	\$0
food/drinks:	0 at \$1ea =	\$0	new memberships 1 @ \$5 =	\$5	
hats:	0 at \$10 =	\$0	Additional \$5 for replacement lanyard		

Total Deposited to account (\$44)

Rocket Topics and Issues:

1. This was a special launch that took place at Hisey Park as part of the Hisey Fall Festival. We had around 75 visitors and gave out about 20 rocket kits and SORA stickers to children and young adults. You never know who you might inspire!
2. With so much activity at the Park, we had many delays in launching so ensure the safety of pedestrians, tractors towing trailers with people on scenic drives around the park, etc. We only had one rocket land in the area near the dog park and everyone saw the rocket as it was slowly descending to a safe landing. We didn't land any in the Civil War reenactment camp like we did a few years ago.
3. Harold launched the most rockets with 13 while Dave took the record for higher power motos with 2 "C", 3 "D", 1 "E" and 3 "F" motors. These two rocketeers are definitely helping our Total Impulse goal for the year of greater than 5325 newtons. We are currently at 4845 with two more regular launches scheduled.
4. Rick's Semroc Mars Lander showed that the rocket really needs a "D" motor or a higher Average Thrust "C" rather than the "C6" it is designed for. It also needs a longer rod. Although it was undamaged, the lander arced over and gave the crowd quite a thrill as it landed on the grass!
5. It was great to see John's beautifully crafted rockets. He flew five this day with 100% nominal flights.
6. Thanks go to all those who helped answer questions at the information table from the visitors to the Hisey Fall Festival! Deb spent the most time and deserves a big round of applause.
7. Thanks to Rick for running Launch Control and Range Safety and for keeping the alpacas off the field!

NOTE!!!!!!!

Next business/lecture meeting: Because the Lebanon Library is going through a remodel, the next meeting will be at the Loveland Library. 6:30PM **Monday** November 3rd. 649 Loveland Madeira Road, Loveland Ohio 45140. Note the day of the week change due to the room being unavailable on Tuesday.

Next Launch: Sunday, October 12th, 2025. Meet at Hisey Park. Setup 11:00, launch 1:00PM

The Club's Motto....."Sapientia ducet ad astra" – "Wisdom leads to the stars!"



Hisey Fall Festival with rockets, alpacas, telescopes, gliders, civil war reenactors, etc. What a Blast!



Guys having fun!





The information table was constantly occupied by curious visitors.



Dave Bennett's Initiator on a F20



Harold's collection of scratch built rockets



Numki Nemesis



The new fire mats protecting the ground. No ground fires for us!



Dave's perfect launch

FUN FACT: What is Artemis III? Author: Catherine Williams (NASA website)

Artemis III: NASA's First Human Mission to Lunar South Pole

Humans have always been drawn to explore, discover, and learn as much as we can about the world—and worlds—around us. This isn't always easy, but it's in our nature.

Following two Artemis test missions, [Artemis III](#), currently planned for 2027, will mark humanity's first return to the lunar surface in more than 50 years. NASA will make history by sending the first humans to explore the region near the lunar South Pole.

On the way:



NASA's Space Launch System rocket carrying the Orion spacecraft launched on the Artemis I flight test, Wednesday, Nov. 16, 2022, from Launch Complex 39B at NASA's Kennedy Space Center in Florida. NASA's Artemis I mission is the first integrated flight test of the agency's deep space exploration systems: the Orion spacecraft, Space Launch System (SLS) rocket, and ground systems. SLS and Orion launched at 1:47 a.m. EST, from Launch Pad 39B at the Kennedy Space Center. Photo Credit: (NASA/Joel Kowsky)

NASA's [Orion spacecraft](#) will be the crew's ride to and from Earth and into and out of lunar orbit. Orion is the only spacecraft capable of returning crews to Earth at lunar reentry velocities. On the successful [Artemis I](#) mission, Orion's uniquely designed [heat shield](#) was recently tested under these extreme reentry conditions. Four astronauts will depart from Launch Pad 39B at NASA's Kennedy Space Center in Florida atop SLS ([Space Launch System](#)), the only rocket powerful enough to send Orion, its crew, and their supplies to the Moon in a single launch. The crew will be selected from among the most diverse astronaut corps in history, each equipped with unique skills and intensively trained.

First the crew will launch to Earth orbit where they will perform systems checks and solar panel adjustments on Orion. Then, a powerful push from SLS's [interim cryogenic propulsion stage](#) will help Orion perform a [translunar injection](#) maneuver, setting its course to the Moon.

For several days, the crew will travel toward the Moon and perform corrective engine burns to intercept the Moon's gravitational field. At the right time and location, Orion will perform a series of two engine burns to place the spacecraft in a lunar [Near-Rectilinear Halo Orbit \(NRHO\)](#). From hundreds of potential orbits, NASA selected NRHO to achieve long-term Artemis goals. NRHO will provide near-constant communications with Earth and access to sites all over the Moon. Because it is gravitationally balanced between Earth and the Moon, this orbit will maximize fuel efficiency. On future missions, NASA and its partners will assemble the [Gateway](#) lunar space station in NRHO to serve as a hub for Artemis missions.

NASA has [selected SpaceX](#) to provide the human landing system that will transport Artemis III astronauts from Orion in lunar orbit to the surface of the Moon and back again. SpaceX plans to use a unique concept of operations to increase the overall efficiency of their lander. After a series of tests, SpaceX will fly at least one uncrewed demo mission that lands Starship on the lunar surface. When Starship has met all of NASA's requirements and high standards for crew safety, it will be ready for its first Artemis mission.

Before the crew launch, SpaceX will launch a storage depot to Earth orbit. A series of reusable tankers will carry propellant to the storage depot to fuel the human landing system. The uncrewed Starship human landing system will then launch to Earth orbit and rendezvous with the storage depot to fill its tanks before executing a translunar injection engine burn and traveling approximately six days to NRHO where it will await the Artemis III crew.

When both spacecraft have arrived in NRHO, Orion will dock with the Starship human landing system in preparation for the first lunar surface expedition of the 21st century. Once the crew and their supplies are ready, two astronauts will board Starship and two will remain in Orion. Orion will undock and back away from Starship to remain in NRHO for roughly one orbit around the Moon, lasting about 6.5 days. This will match the length of the surface expedition, so as Orion completes its orbit, the two person surface crew will finish their work on the surface in time to launch back up to meet the spacecraft.

NASA has its sights set on locations around the [South Pole](#) for the Artemis era of human lunar exploration. Extreme, contrasting conditions make it a challenging location for Earthlings to land, live, and work, but the region's unique characteristics hold promise for unprecedented deep space [scientific discoveries](#). Using advanced technology including autonomous systems, the crew inside of Starship will land at a carefully selected site within a 100-meter radius.

On the Moon:



Artist's concept of SpaceX Starship human landing system.

SpaceX

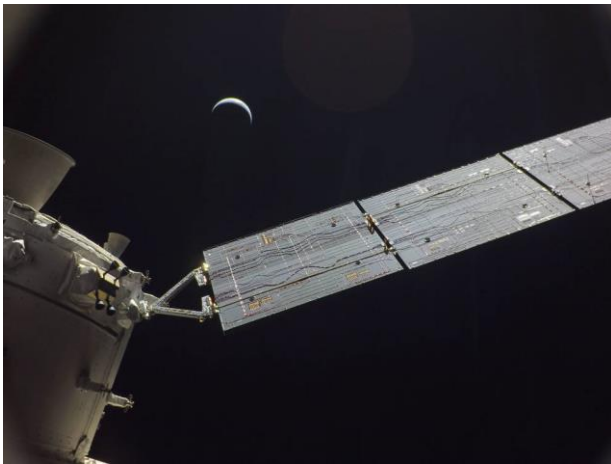
After touchdown, the surface crew's first task will be to ensure all systems are ready for their lunar surface stay. Then they will rest, eat, and recharge for the first full day of the expedition.

During their time on the Moon, the astronauts will do scientific work inside Starship and conduct a series of moonwalks, exiting Starship to explore the surface. The astronauts will don advanced spacesuits, exit through an airlock, and descend on Starship's elevator. NASA has [selected Axiom Space](#) to provide the Artemis III surface suits and spacewalk systems. These suits will give the astronauts increased range of motion and flexibility to explore more of the landscape than on previous lunar missions.

During their moonwalks, the astronauts will take pictures and video, survey geology, retrieve samples, and collect other data to meet specific [scientific objectives](#). The view from the lunar South Pole region will look very different from the [photos taken on Apollo missions](#) in the Moon's equatorial region. The Sun will hover just above the horizon, casting long, dark shadows across the terrain, which the crew will explore using headlamps and navigational tools. The information and materials collected by Artemis III astronauts will increase our understanding of the mysterious South Pole region, the Moon, and our solar system.

Mission control teams on the ground will be in contact with the crew as they relay what they see, hear, and feel. Through mission coverage and the ability to send high quality images and video to the ground with advanced communication technology, they will be sharing a unique new human experience with the world.

On the journey home:



The Orion spacecraft photo of itself with the moon in the distance.

When their surface expedition is complete, the two astronauts will lift off the surface of the Moon and head back to NRHO in Starship to reunite with their crewmates in Orion. After docking, the crew will spend up to five days in orbit, transferring samples between the vehicles and preparing for the journey back to Earth.

When they reach the optimal NRHO departure point, with all four astronauts back in Orion, they will undock and ignite Orion's engines, slinging the spacecraft past the Moon, and allowing it to coast toward Earth. The crew will travel about 24,855 miles (about 40,000 kilometers) per hour during reentry into Earth's atmosphere. Assisted by 11 parachutes, the spacecraft will splash down in the Pacific Ocean where it and the crew will be retrieved with support from the U.S. Coast Guard and U.S. Navy.

Artemis III will be one of the most complex undertakings of engineering and human ingenuity in the history of deep space exploration to date. The astronauts' observations, samples, and data collected will expand our understanding of our solar system and home planet, while inspiring the next generation.

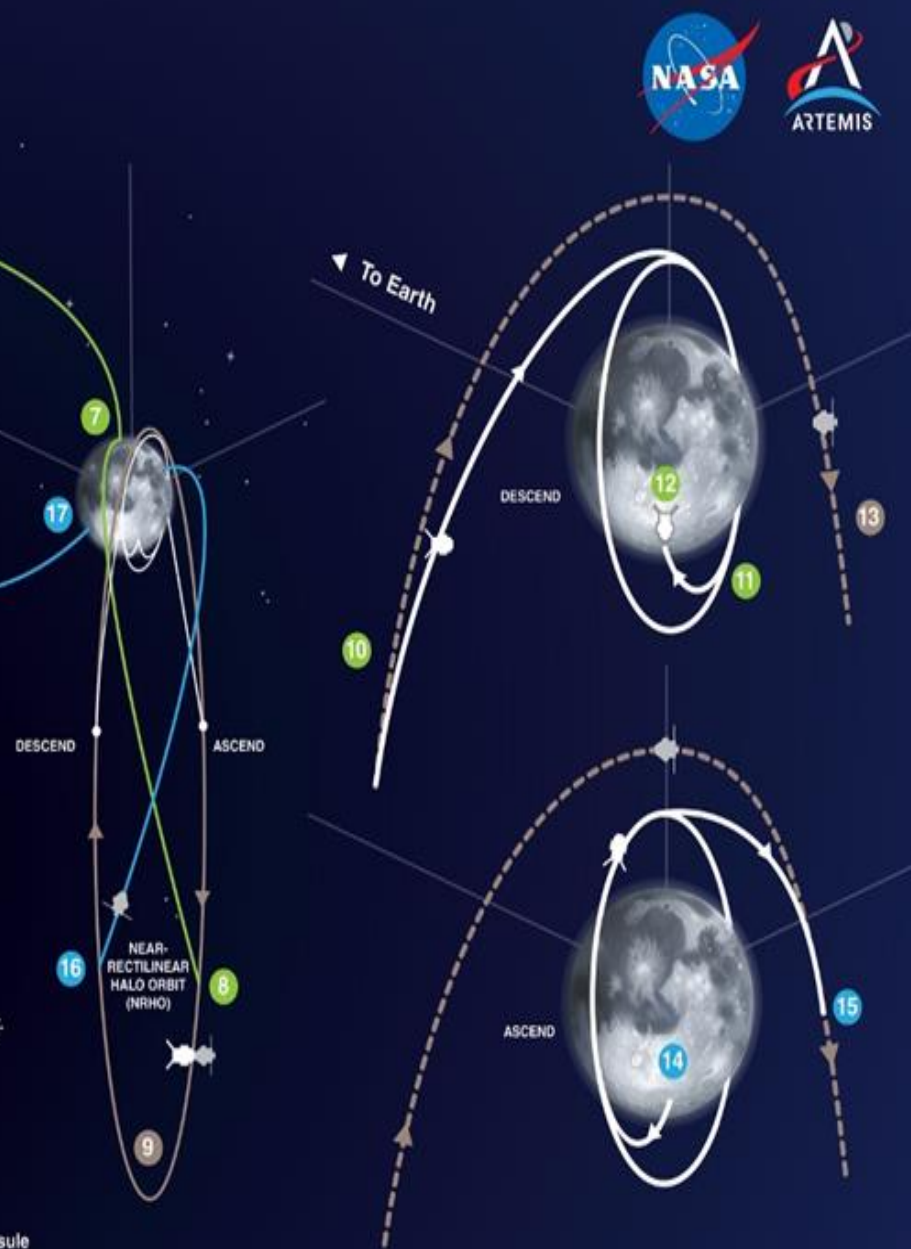
This mission will usher in a future in which humans consistently access the Moon, and human planetary exploration missions are within reach. Each Artemis mission will increase our knowledge, refine our operations, and prove our technology as we prepare for the first human mission to Mars.

Artemis III Mission Map: Next Page

ARTEMIS III

Landing on the Moon

- 1 **LAUNCH**
SLS and Orion lift off from Kennedy Space Center.
- 2 **JETTISON ROCKET BOOSTERS, FAIRINGS, AND LAUNCH ABORT SYSTEM**
- 3 **CORE STAGE MAIN ENGINE CUT OFF**
With separation.
- 4 **ENTER EARTH ORBIT**
Perform the perigee raise maneuver. Systems check and solar panel adjustments.
- 5 **TRANS LUNAR INJECTION BURN**
Astronauts committed to lunar trajectory, followed by ICPS separation and disposal.
- 6 **ORION OUTBOUND TRANSIT TO MOON**
Requires several outbound trajectory burns.
- 7 **ORION OUTBOUND POWERED FLYBY**
60 nmi from the Moon.
- 8 **NRHO INSERTION BURN**
Orion performs burn to establish rendezvous point and executes rendezvous and docking.
- 9 **LUNAR LANDING PREPARATION**
Crew activates lander and prepares for departure.
- 10 **LANDER UNDOCKING AND SEPARATION**
- 11 **LANDER ENTERS LOW LUNAR ORBIT**
Descends to lunar touchdown.
- 12 **LUNAR SURFACE EXPLORATION**
Astronauts conduct week long surface mission and extra-vehicular activities.
- 13 **ORION REMAINS IN NRHO ORBIT**
During lunar surface mission.
- 14 **LANDER ASCENDS TO LOW LUNAR ORBIT**
- 15 **LANDER PERFORMS RENDEZVOUS AND DOCKING**
- 16 **CREW RETURNS IN ORION**
Orion undocks, performs orbit departure burn.
- 17 **ORION PERFORMS RETURN POWERED FLYBY**
60 nmi from the Moon.
- 18 **FINAL RETURN TRAJECTORY CORRECTION (RTC) BURN**
Precision targeting for Earth entry.
- 19 **CREW MODULE SEPARATION FROM SERVICE MODULE**
- 20 **ENTRY INTERFACE (EI)**
Enter Earth's atmosphere.
- 21 **SPLASHDOWN**
Ship recovers astronauts and capsule



7/13/22