



SpaceX launches Crew-9 to bring back Boeing Starliner crew

Description

An extraordinary SpaceX mission is currently in progress.

A Falcon 9 rocket took off from Space Launch Complex-40 (SLC-40) at Florida's Cape Canaveral Space Force Station today (Sept. 28) at 1:17 p.m. EDT (1717 GMT), initiating the Crew-9 astronaut mission to the International Space Station (ISS) for NASA.

"That was a remarkable journey," remarked NASA astronaut Nick Hague, the commander of Crew-9, to SpaceX's launch control upon reaching orbit with crewmate Alexandr Gorbunov of Russia. The astronauts are expected to reach the ISS on Sunday, Sept. 29. You can track the mission with our SpaceX mission live update page.

It marked the inaugural astronaut launch from SLC-40 — SpaceX's primary Florida launch pad, which has witnessed numerous unmanned launches over the years. SpaceX and NASA spent two years enhancing the pad with a new crew launch tower, access arm, and emergency escape slide to ready it for astronaut flights.

The Falcon 9 rocket and Dragon capsule on the Crew-9 mission, however, were not new. SpaceX had previously utilized the Falcon 9 rocket's first stage to launch an unmanned Starlink mission. Approximately 8 minutes after liftoff, the booster returned to Earth to achieve a smooth landing at SpaceX's Landing Zone 1 at Cape Canaveral Space Force Station. The Dragon capsule has undertaken three other missions to the ISS: NASA's Crew-4 flight and two commercial journeys for Axiom Space, Ax-2 and Ax-3.

The new launch pad is not the only novelty for Crew-9. The mission's Dragon capsule, named Freedom, is transporting only two individuals to the ISS instead of the usual four. Freedom has reserved two seats for Crew-9's return trip to Earth in February, as two NASA astronauts already aboard the ISS require transportation back home.

Those two spaceflyers are Butch Wilmore and Suni Williams, who arrived at the ISS in June on the maiden crewed mission of Boeing's Starliner capsule. Their pioneering flight was initially intended to last around 10 days; however, Starliner encountered thruster issues while in orbit, prompting NASA to extend the mission to address the anomaly.

Williams and Wilmore, therefore, remained aboard the ISS, and Crew-9 was adjusted to accommodate them on the return journey: NASA astronauts Zena Cardman and Stephanie Wilson were removed from the mission, leaving only Nick Hague and Aleksandr Gorbunov on the launch roster.

"It was challenging to witness that rocket take off without thinking, that's my rocket and that's my crew, but I understand that I am not the only one who can think that," expressed Cardman, Crew-9's initial commander, following the launch, her voice occasionally faltering. "There are numerous individuals who made this mission possible, and there are individuals in orbit who will bring this capsule home, and it fills me with pride to know that I am one of many who can say that's my crew."



NASA officials stated that they will strive to assign Cardman and Wilson to a future mission.

"A crew change is a significant event," remarked NASA's Deputy Administrator Pam Melroy, a former space shuttle commander, during a post-launch debriefing. "It's a challenging situation for Nick and Alex. It's equally tough for Zena and Stephanie. But I believe it underscores the fact that human spaceflight is complex and fluid, and we need to be adaptable and focused on the mission."

Mission specialist Gorbunov is employed by Russia's space agency, Roscosmos. Hague, the commander of Crew-9, is an experienced NASA astronaut and a colonel in the U.S. Space Force. In fact, this represents another first for Crew-9: No active member of the Space Force, established in December 2019, had embarked on a space mission previously, although NASA astronaut Mike Hopkins transitioned from the U.S. Air Force to the Space Force while aboard the ISS in 2020.

Crew-9 had been slated to launch on Thursday (Sept. 26), but the liftoff was delayed by two days due to Hurricane Helene. If everything proceeds as planned from here onwards, Freedom will dock with the ISS on Sunday (Sept. 29) at 5:30 p.m. EDT (2230 GMT), with the hatches between the two spacecraft opening roughly an hour and 45 minutes later. You can witness both of these milestones live via NASA and here at Space.com if, as anticipated, the agency broadcasts its stream.

As indicated by its name, Crew-9 is the ninth extended-duration astronaut mission to the ISS that SpaceX has launched for NASA.

Elon Musk's company also has six other orbital crewed missions to its credit — the Demo-2 test mission to the ISS in 2020, three flights to the orbital lab for Houston-based company Axiom Space, and two independent missions funded and led by tech mogul Jared Isaacman. The most recent of Isaacman's missions, Polaris Dawn, took place just last month.

Although Boeing also has a substantial contract to transport NASA astronauts to and from the ISS, it remains uncertain when Starliner will be authorized to commence operational crewed missions, given the challenges encountered during the recent test flight.

Mission extensions and roster adjustments are not uncommon on ISS astronaut missions. For instance, NASA astronaut Frank Rubio and cosmonauts Sergey Prokopyev and Dmitri Petelin launched to the ISS aboard a Russian Soyuz spacecraft for what was supposed to be a six-month stay in September 2022. However, their Soyuz developed a leak a few months later, causing the trio to delay their return to Earth until September 2023 when Russia dispatched an empty replacement Soyuz for their homecoming.

Editor's note: This article was updated to include post-launch remarks from NASA's Pam Melroy. SpaceX's Crew-9 astronauts are set to arrive at the International Space Station on Sunday, Sept. 29, commencing at 3:30 p.m. EDT (1930 GMT). Docking is slated for 5:30 p.m. EDT (2130 GMT). Follow our SpaceX missions update page to view the live docking of Crew-9.

Vocabulary List:



1. **Inaugural** /ɪˈnɔːɡjʊərəl/ (adjective): Marking the beginning of an institution activity or period.
2. **Capsule** /ˈkæp.səl/ (noun): A small container or compartment in which astronauts travel.
3. **Anomaly** /əˈnɒməli/ (noun): Something that deviates from what is standard normal or expected.
4. **Adaptable** /əˈdæp.tə.bəl/ (adjective): Able to adjust to new conditions.
5. **Augment** /ɔːgˈmɛnt/ (verb): To make something greater by adding to it.
6. **Mission** /ˈmɪʃ.ən/ (noun): An important task or duty assigned to a person or group.

Comprehension Questions

Multiple Choice

1. When did the Falcon 9 rocket take off for the Crew-9 mission?
Option: Sept. 26 at 1:17 p.m. EDT
Option: Sept. 28 at 1:17 p.m. EDT
Option: Sept. 29 at 1:17 p.m. EDT
Option: Sept. 30 at 1:17 p.m. EDT
2. Which launch pad was used for the inaugural astronaut launch for Crew-9?
Option: Space Launch Complex-39A (SLC-39A)
Option: Space Launch Complex-40 (SLC-40)
Option: Space Launch Complex-41 (SLC-41)
Option: Space Launch Complex-42 (SLC-42)
3. Who is the commander of the Crew-9 mission?
Option: Stephanie Wilson
Option: Alexandr Gorbunov
Option: Nick Hague
Option: Zena Cardman
4. How many astronauts is the Dragon capsule Freedom transporting to the ISS?
Option: Two
Option: Three
Option: Four
Option: Five
5. Which company has a substantial contract to transport NASA astronauts to and from the ISS besides



SpaceX?

- Option: Blue Origin
- Option: Northrop Grumman
- Option: Boeing
- Option: Sierra Nevada Corporation

6. What delayed the initial launch of Crew-9 scheduled for Sept. 26?

- Option: Technical malfunction
- Option: Astronaut health concerns
- Option: Hurricane Helene
- Option: Equipment damage

Answer

Multiple Choice: 1. Sept. 28 at 1:17 p.m. EDT 2. Space Launch Complex-40 (SLC-40) 3. Nick Hague 4. Two 5. Boeing 6. Hurricane Helene

Vocabulary quizzes

Multiple Choice (Select the Correct answer for each question.)

1. Which term describes something widespread or commonly occurring?

- Option: Captured
- Option: Prevalent
- Option: Enigmatic
- Option: Innovative

2. What word is used to describe the impact of objects crashing into each other?

- Option: Adaptable
- Option: Collision
- Option: Inertia
- Option: Distribution

3. Which term means to confirm or support a statement or finding with evidence?

- Option: Dislodgment
- Option: Capable
- Option: Corroborates
- Option: Interplanetary



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4. What word typically refers to a small compact container?
- Option: Resilience
 - Option: Firmware
 - Option: Capsule
 - Option: Cataclysms
5. Which term is used to describe the process of combining different elements into a coherent whole?
- Option: Integration
 - Option: Augment
 - Option: Mission
 - Option: Unresolved
6. Which word means to make something less severe serious or painful?
- Option: Accessible
 - Option: Mitigate
 - Option: Approval
 - Option: Bureaucratic
7. Which term is commonly used to describe the first of a series or an event?
- Option: Inaugural
 - Option: Ambition
 - Option: Debris
 - Option: Distribution
8. What term refers to something that deviates from what is standard normal or expected?
- Option: Formidable
 - Option: Anomaly
 - Option: Inertia
 - Option: Access
9. Which term indicates that something is easy to approach reach obtain or use?
- Option: Colossal
 - Option: Augment
 - Option: Accessible
 - Option: Approved
10. What word describes the action of officially agreeing to or accepting something as satisfactory?
- Option: Approval
 - Option: Enigmatic
 - Option: Prevalent
 - Option: Innovation



Gap-Fill (Fill in the blanks with the correct word from the vocabulary list.)

11. _____ is the resistance of any physical object to any change in its state of motion.
12. An _____ person is able to adjust to new conditions efficiently.
13. The _____ of resources among the population was not equal.
14. The team faced a _____ opponent in the final match.
15. The painting was _____ and left viewers questioning its meaning.
16. The new software has enhanced capabilities that were not present in the previous version.
17. The government department had a _____ structure that led to delays in decision-making.
18. Historians studied the impact of natural _____ on ancient civilizations.
19. The company decided to _____ its workforce to meet the increased demand for products.
20. The photographer _____ stunning images of the sunrise over the mountains.

Matching Sentences (Match each definition to the correct word from the vocabulary list.)

21. The space agency launched a new spacecraft to explore Mars.
22. The issue of climate change remains a contentious and debated topic globally.
23. The earthquake resulted in the of several boulders on the mountain slope.
24. Influenza is during the colder months of the year.
25. The technician updated the on the device to improve its performance.
26. The software developer various features into the new application.



27. Users need a valid username and password to gain to the secure system.
28. The company prides itself on its approach to product design.
29. The DNA evidence the suspect's alibi for the time of the crime.
30. Exploring planets beyond Earth's orbit is part of the mission of the space agency.

Answer

Multiple Choice: 1. Prevalent 2. Collision 3. Corroborates 4. Capsule 5. Integration 6. Mitigate 7. Inaugural
8. Anomaly 9. Accessible 10. Approval

Gap-Fill: 11. Inertia 12. Adaptable 13. Distribution 14. Formidable 15. Enigmatic 16. Capabilities
17. Bureaucratic 18. Cataclysms 19. Augment 20. Captured

Matching sentence: 1. Mission 2. Unresolved 3. Dislodgment 4. Prevalent 5. Firmware 6. Integrated 7. Access
8. Innovative 9. Corroborates 10. Interplanetary

CATEGORY

1. Sci/Tech - LEVEL6

Date Created

2024/09/29

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