

High school students build lockers for trip to the International Space Station

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The student-built HUNCH lockers loaded onto the SpaceX Crew Dragon capsule prior to flight. The signatures of students who contributed to the project can be seen on the front of the locker. Credit: SpaceX/NASA

Pulling that final zipper closed on a stuffed suitcase or getting the tailgate of a packed car shut is a true feeling of victory at the start of any road trip. Sending supplies to the International Space Station—including on NASA's SpaceX Demo-2 test flight that launched the first astronauts Robert Behnken and Douglas Hurley on SpaceX's Crew Dragon capsule May 30 from NASA's Kennedy Space Center in Florida—requires a different packing method and special lockers to transport supplies.

Four such lockers launched on Demo-2 were built by students from around the country through a program called NASA HUNCH—High school students United with NASA to Create Hardware. HUNCH's goal is to empower and inspire students through a project-based learning program and by providing opportunities to students to play an active role in the [space program](#).

One [student](#)-built locker also will return to Earth from the [space](#) station at the end of the mission. The lockers contain important supplies for space station maintenance and daily operations.

"It is exciting for us and the students," said Bob Zeek, NASA HUNCH co-founder and project resource manager at NASA's Marshall Space Flight Center in Huntsville, Alabama. "Even with 70 HUNCH-built lockers delivered to the International Space Station Program and 58 of those flying to the space station, the Demo-2 flight adds a new flavor."

Each locker is comprised of approximately 280 components, including 41 parts machined by the students and more than 200 rivets, fasteners and bearings. The pieces are manufactured with high precision to the tight tolerances required of any piece of hardware making the journey to the orbiting laboratory.



NASA astronaut Doug Hurley moves one of the student-built HUNCH lockers inside of the Crew Dragon capsule on June 1. Credit: NASA

Schools in all four [time zones](#) across the United States contributed to the creation of the lockers, including schools that regionally supported the Johnson Space Center, Glenn Research Center, Kennedy Space Center, Marshall Space Flight Center and Langley Research Center. For example, students from Grissom High School in Huntsville, Alabama, created the rear close-out plates, while the integration of the lockers was done at Clear Creek High School in League City, Texas.

Industrial Machining Specialists—a commercial firm and a NASA HUNCH partner located near the Career Academies of Decatur—helps manufacture parts for SpaceX employing HUNCH graduates.

Launched in the four lockers stowed beneath the seats of astronauts Hurley and Behnken were:

- Liquid cooling ventilation garments used by astronauts to help maintain proper body temperature during spacewalks.
- Glenn Harnesses, which are used to ensure astronauts can properly run on the [space station](#)'s treadmill. Exercise helps to keep the crew's bones and muscles strong during their time in

space.

- Shoes and other miscellaneous items.

Each student and instructor signs the lockers they helped build and when the units are in orbit, the astronauts take pictures with the lockers, providing the builders a memento of their efforts.



Lockers built by students in the HUNCH Program undergo final assembly at Clear Creek High School in Houston prior to their deliver to the space station program at NASA's Johnson Space Center. Students from around the country helped manufacture the units for the International Space Station. Credit: NASA/Bob Zeek

HUNCH is an important asset for the International Space Station program, and the demand for the lockers the program creates is only increasing.

"We are contracted to deliver 40 or more lockers per year, and that is up from 20 required before the Commercial Crew Program and other resupply vehicles came online," Zeek said.

Despite the coronavirus pandemic, which forced schools to finish their [academic year](#) virtually, Zeek and fellow Marshall HUNCH mentor, Bill Gibson, were allowed to complete locker production to meet the flight deadline. They used the fabrication facility set up at the Career Academies of Decatur.

"We picked up where the students left off," Zeek said.

Provided by NASA

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