

SpaceX capsule and NASA crew make 1st splashdown in 45 years

August 2 2020, by Marcia Dunn



In this frame grab from NASA TV, the SpaceX capsule is lifted onto a ship, Sunday, Aug. 2, 2020 in the Gulf of Mexico. Astronauts Doug Hurley and Bob Behnken spent a little over two months on the International Space Station. It will mark the first splashdown in 45 years for NASA astronauts and the first time a private company has ferried people from orbit. (NASA TV via AP)

Two NASA astronauts returned to Earth on Sunday in a dramatic, retro-

style splashdown, their capsule parachuting into the Gulf of Mexico to close out an unprecedented test flight by Elon Musk's SpaceX company.

It was the first splashdown by U.S. astronauts in 45 years, with the first commercially built and operated spacecraft to carry people to and from orbit. The return clears the way for another SpaceX crew launch as early as next month and possible tourist flights next year.

Test pilots Doug Hurley and Bob Behnken arrived back on Earth in their SpaceX Dragon capsule named Endeavour, less than a day after departing the International Space Station and two months after blasting off from Florida. The capsule parachuted into the calm gulf waters about 40 miles off the coast of Pensacola, hundreds of miles from Tropical Storm Isaias pounding Florida's Atlantic coast.

"Welcome back to planet Earth and thanks for flying SpaceX," said Mission Control from SpaceX headquarters.

"It's a little bit overwhelming to see everybody here considering the things that have gone on the last few months since we've been off planet," Hurley said after arriving back home in Houston Sunday evening where they were greeted by a small masked-gathering of family and officials, including Musk.



NASA astronauts Robert Behnken, left, and Douglas Hurley are seen inside the SpaceX Crew Dragon Endeavour spacecraft onboard the SpaceX GO Navigator recovery ship shortly after having landed in the Gulf of Mexico off the coast of Pensacola, Fla., Sunday, Aug. 2, 2020. The Demo-2 test flight for NASA's Commercial Crew Program was the first to deliver astronauts to the International Space Station and return them safely to Earth onboard a commercially built and operated spacecraft. Behnken and Hurley returned after spending 64 days in space. (Bill Ingalls/NASA via AP)

Musk had rushed to Houston from SpaceX headquarters in Hawthorne, California, to welcome them. He was clearly moved—and relieved—while addressing the group.

"I'm not very religious, but I prayed for this one," he said.

The astronauts' ride back to Earth was fast, bumpy and hot, at least on the outside.

The spacecraft went from a screaming orbital speed of 17,500 mph (28,000 kph) to 350 mph (560 kph) during atmospheric reentry, and finally to 15 mph (24 kph) at splashdown. Peak heating during descent was 3,500 degrees Fahrenheit (1,900 degrees Celsius). The anticipated top G forces felt by the crew: four to five times the force of Earth's gravity.

Within a half-hour of splashdown, the scorched and blistered 16-foot capsule was hoisted aboard a SpaceX recovery ship with a staff of more than 40, including doctors and nurses. To keep the returning astronauts safe in the pandemic, the recovery crew quarantined for two weeks and were tested for the coronavirus.



NASA astronaut Douglas Hurley waves to onlookers as he boards a plane at Naval Air Station Pensacola to return him and NASA astronaut Robert Behnken home to Houston a few hours after the duo landed in their SpaceX Crew Dragon Endeavour spacecraft off the coast of Pensacola, Fla., Sunday, Aug. 2, 2020. The Demo-2 test flight for NASA's Commercial Crew Program was the first to deliver astronauts to the International Space Station and return them safely to Earth onboard a commercially built and operated spacecraft. Behnken and Hurley returned after spending 64 days in space. (Bill Ingalls/NASA via AP)

The opening of the hatch was held up briefly by extra checks for toxic rocket fumes outside the capsule. After medical checkups, the astronauts were flown by helicopter to Pensacola and then to Houston.

There was one unexpected problem that could have endangered the operation: Once the capsule was in the water, private boats "just made a beeline for it," and got too close, said NASA Administrator Jim Bridenstine, promising to do better next time at keeping sightseers on pleasure boats safely away. NASA video showed one vessel flying a large campaign flag for President Donald Trump.

The Coast Guard in Pensacola said it had deployed two vessels to keep the public at least 10 miles away from the capsule.

Trump and Vice President Mike Pence, who both attended the launch, congratulated the SpaceX and NASA teams.



In this frame grab from NASA TV, a private boat with a Trump campaign flag goes by the SpaceX capsule after it is splashed down Sunday, Aug. 2, 2020 in the Gulf of Mexico. Astronauts Doug Hurley and Bob Behnken spent a little over two months on the International Space Station. It will mark the first splashdown in 45 years for NASA astronauts and the first time a private company has ferried people from orbit. (NASA TV via AP)

"Great to have NASA Astronauts return to Earth after very successful two month mission. Thank you to all!" Trump tweeted.

The last time NASA astronauts returned from space to water was on July 24, 1975, in the Pacific, the scene of most splashdowns, to end a joint U.S.-Soviet mission known as Apollo-Soyuz. The Mercury and Gemini crews in the early to mid-1960s parachuted into the Atlantic, while most

of the later Apollo capsules hit the Pacific. The lone Russian "splashdown" was in 1976 on a partially frozen lake amid a blizzard following an aborted mission; the harrowing recovery took hours.

Gemini and Apollo astronaut Thomas Stafford—the commander of the last crew to splash down—watched the reentry on TV from his Florida home. While pleased with the crew's safe return, he wasn't overly impressed. "It's what we did over 50 years ago," he said.



NASA astronaut Robert Behnken gives a thumbs up to onlookers as he boards a plane at Naval Air Station Pensacola to return him and NASA astronaut Douglas Hurley home to Houston a few hours after the duo landed in their SpaceX Crew Dragon Endeavour spacecraft off the coast of Pensacola, Fla., Sunday, Aug. 2, 2020. The Demo-2 test flight for NASA's Commercial Crew Program was the first to deliver astronauts to the International Space Station and return them safely to Earth onboard a commercially built and operated spacecraft. Behnken and Hurley returned after spending 64 days in space. (Bill Ingalls/NASA via AP)

Its throwback splashdown aside, SpaceX made history with the mission, which launched May 30 from NASA's Kennedy Space Center. It was the first time a private company launched people into orbit and also the first launch of NASA astronauts from home turf in nearly a decade. Hurley was the pilot of NASA's last space shuttle flight in 2011 and the commander of this SpaceX flight.

NASA turned to SpaceX and also Boeing to build capsules and ferry astronauts to and from the space station, following the retirement of the shuttles. Until Hurley and Behnken rocketed into orbit, NASA astronauts relied on Russian rockets. SpaceX already had experience hauling cargo to the space station, bringing those capsules back to a Pacific splashdown.

"We are entering a new era of human spaceflight where NASA is no longer the purchaser, owner and operator of all the hardware. We're going to be a customer, one customer of many," Bridenstine said from Johnson Space Center in Houston. "I would love to see a fleet of crew Dragons servicing not just the International Space Station but also commercial space stations."



Astronauts Doug Hurley and Bob Behnken prepare to return to earth on a SpaceX capsule, Sunday Aug. 2, 2020. It will mark the first splashdown in 45 years for NASA astronauts and the first return in the gulf. Unlike Florida's Atlantic coast, already feeling the effects of Tropical Storm Isaias, the waves and wind were calm near Pensacola in the Florida Panhandle. (SpaceX via AP)

SpaceX President Gwynne Shotwell called the mission a springboard to "doing even harder things," like collaborating on astronaut flights to the moon and then Mars.

"There's no question, it was an enormous relief after months of anxiety making sure we could bring Bob and Doug back home safely," Shotwell said.

SpaceX needs six weeks to inspect the capsule before launching the next crew around the end of September. This next mission of four astronauts will spend a full six months aboard the space station. Hurley and Behnken's capsule will be refurbished for another flight next spring. A Houston company run by a former NASA official, meanwhile, has partnered with SpaceX to send three customers to the space station in fall 2021.

"It took years to get here, we brought the capability back to America, and we came home safely to our families, and it took a lot of people a lot of time to make that happen," Behnken said back in Houston.



Support teams and curious recreational boaters arrive at the SpaceX Crew Dragon Endeavour spacecraft shortly after it landed with NASA astronauts Robert Behnken and Douglas Hurley on board in the Gulf of Mexico off the coast of Pensacola, Fla., Sunday, Aug. 2, 2020. The Demo-2 test flight for NASA's Commercial Crew Program was the first to deliver astronauts to the International Space Station and return them safely to Earth onboard a commercially built and operated spacecraft. Behnken and Hurley returned after spending 64 days in space. (Bill Ingalls/NASA via AP)



NASA astronauts Douglas Hurley, left, and Robert Behnken prepare to depart their helicopter at Naval Air Station Pensacola after the duo landed in their SpaceX Crew Dragon Endeavour spacecraft in the Gulf of Mexico off the coast of Pensacola, Fla., Sunday, Aug. 2, 2020. The Demo-2 test flight for NASA's Commercial Crew Program was the first to deliver astronauts to the International Space Station and return them safely to Earth onboard a commercially built and operated spacecraft. Behnken and Hurley returned after spending 64 days in space. (Bill Ingalls/NASA via AP)



SpaceX support teams are deployed on fast boats from the SpaceX GO Navigator recovery ship ahead of the landing of the SpaceX Crew Dragon Endeavour spacecraft with NASA astronauts Robert Behnken and Douglas Hurley onboard, Sunday, Aug. 2, 2020, in the Gulf of Mexico off the coast of Pensacola, Fla. The Demo-2 test flight for NASA's Commercial Crew Program is the first to deliver astronauts to the International Space Station and return them to Earth onboard a commercially built and operated spacecraft. Behnken and Hurley are returning after spending 64 days in space. (Bill Ingalls/NASA via AP)



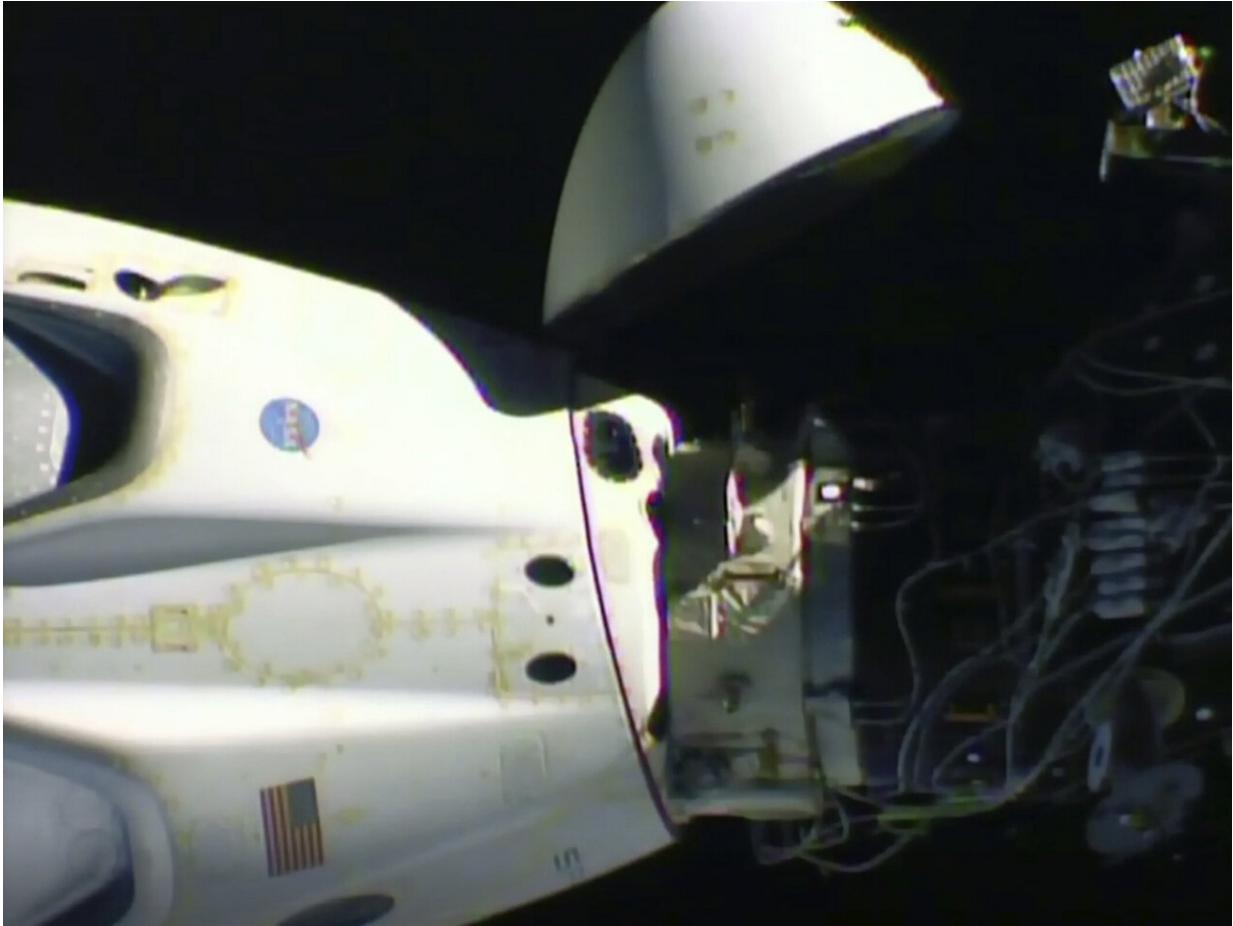
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NASA astronaut and Crew Recovery Chief Shane Kimbrough, left, and NASA Chief Astronaut Pat Forrester watch as SpaceX support teams are deployed on fast boats from the SpaceX GO Navigator recovery ship ahead of the landing of the SpaceX Crew Dragon Endeavour spacecraft with NASA astronauts Robert Behnken and Douglas Hurley onboard, Sunday, Aug. 2, 2020, in the Gulf of Mexico off the coast of Pensacola, Fla. (Bill Ingalls/NASA via AP)



In this image from video made available by NASA, astronauts Doug Hurley, left, and Bob Behnken prepare for undocking from the International Space Station, aboard the SpaceX Crew Dragon capsule on Saturday, Aug. 1, 2020. (NASA via AP)



This image from video made available by NASA shows the SpaceX Crew Dragon capsule, left, before it undocks from the International Space Station on Saturday, Aug. 1, 2020. (NASA via AP)



NASA Chief Astronaut Pat Forrester, left, and NASA astronaut and Crew Recovery Chief Shane Kimbrough, along with other NASA and SpaceX support teams onboard the SpaceX GO Navigator recovery ship, prepare for the landing of the SpaceX Crew Dragon Endeavour spacecraft with NASA astronauts Robert Behnken and Douglas Hurley onboard, Sunday, Aug. 2, 2020, in the Gulf of Mexico off the coast of Pensacola, Fla. (Bill Ingalls/NASA via AP)



In this May, 30, 2020 file photo, NASA astronauts Douglas Hurley, left, and Robert Behnken walk out of the Neil A. Armstrong Operations and Checkout Building on their way to Pad 39-A, at the Kennedy Space Center in Cape Canaveral, Fla. Behnken and Hurley riding the Dragon SpaceX capsule are headed toward a splashdown Sunday, Aug. 2, 2020, in the Gulf of Mexico to close out their two-month test flight. It will mark the first splashdown in 45 years for NASA astronauts and the first return in the gulf. Unlike Florida's Atlantic coast, already feeling the effects of Tropical Storm Isaias, the waves and wind were calm near Pensacola in the Florida Panhandle. (AP Photo/John Raoux, File)



The SpaceX Crew Dragon Endeavour spacecraft is lifted onto the SpaceX GO Navigator recovery ship shortly after it landed with NASA astronauts Robert Behnken and Douglas Hurley onboard in the Gulf of Mexico off the coast of Pensacola, Fla., Sunday, Aug. 2, 2020. The Demo-2 test flight for NASA's Commercial Crew Program was the first to deliver astronauts to the International Space Station and return them safely to Earth onboard a commercially built and operated spacecraft. Behnken and Hurley returned after spending 64 days in space. (Bill Ingalls/NASA via AP)

Boeing doesn't expect to launch its first crew until next year. The company encountered significant software problems in the debut of its Starliner capsule, with no one aboard, last year. Its capsules will touch down in the U.S. Southwest desert.

By beating Boeing, SpaceX laid claim to a small U.S. flag left at the

space station by Hurley and the rest of the last shuttle crew. Minutes after splashdown, Musk tweeted a flag emoji followed by "returned."

Also on board: a toy dinosaur named Tremor, sent into space by the astronauts' young sons. The two boys recorded a wake-up call for their fathers Sunday morning.

"Don't worry, you can sleep in tomorrow," said Behnken's 6-year-old son Theo, who was promised a puppy after the flight. "Hurry home so we can go get my dog."

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