

Virgin Galactic VF01 Cabin Test and Training Program Overview

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Abstract

Virgin Galactic is the world's first commercial space line. We are developing and operating a new generation of space vehicles to put humans into space and return them safely to Earth on a routine, consistent, and affordable basis. Using our proprietary and reusable technologies, and supported by a distinctive, Virgin-branded customer experience, we are developing a spaceflight system designed to offer customers a unique, multi-day experience culminating in a spaceflight that includes several minutes of weightlessness and views of Earth from space. The system is in the final stages of development, having already completed multiple crewed flights of our vehicle into space in anticipation of initial commercial launch.

With respect to the suborbital research community Virgin Galactic is opening space to scientists, engineers, teachers, and students. Virgin Galactic's SpaceShipTwo system provides the scientific research community access to space for affordable and repeatable high quality microgravity, as well as to generally inaccessible regions of the upper atmosphere.

On December 13, 2018 Virgin Galactic's SpaceshipTwo, VSS Unity, reached space for the first time with two pilots and several research payloads on board. VSS Unity was the first commercial space vehicle to put humans into space and the first crewed space launch from US soil since 2011.

On February 22, 2019 VSS Unity reached space again with two pilots, several research payloads, and the author on board. The author served as the sole mission specialist in the passenger cabin and conducted an engineering evaluation of the passenger systems and cabin dynamics within SpaceShipTwo. In this talk, the author will provide an overview of the cabin test that was conducted on VF01. The author will discuss lessons learned from that test to aid researchers planning missions on SpaceShipTwo.

The author also serves as the inaugural Chief Astronaut Instructor for Virgin Galactic. The author will describe Virgin Galactic's training program and updates to that program resulting from preparation and flight on VF01.



Figure: Virgin Galactic Chief Astronaut Instructor In Space. *Beth Moses*. February 22, 2019. (Photo credit Virgin Galactic)



Figure: Virgin Galactic's Second Spaceflight – Three New Astronauts. *Left to right: Michael “Sooch” Masucci, Beth Moses, Dave Mackay*. February 22, 2019. (Photo credit Virgin Galactic)