“We look at the data and graphs and say, ‘You can operate the airplane within these limits.’ How do we know the airplane can operate safely in those limits? We test them outside of those limits.”

Queondra Hendrix, Engineer, Boeing Engineering Career Foundation Program

“We look at the data and graphs and say, ‘You can operate the airplane within these limits,’” said Queondra Hendrix, an engineer in the Boeing Engineering Career Foundation Program who currently works with the flight-test team. “How do we know the airplane can operate safely in those limits? We test them outside of those limits,” on top of designing to requirements, demonstrating it through tests and analyzing the data to confirm the airplane’s performance capabilities.

Safety is the most important aspect of the flight-test process. Hendrix said every test has a designated cabin safety expert who leads preflight briefings similar to that of commercial flight attendants. Test pilots use checklists when preparing for flights to mitigate the risk of human error, and only required crew members are allowed on board on any given flight.

Once an airplane is deemed mature enough and all required documentation has been thoroughly reviewed, the FAA grants type inspection authorization, the third milestone. This allows FAA personnel on board for certification testing, which puts the airplane through a rigorous program of tests: stalls, water sprays, crosswinds and minimum speeds, to name a few.

Flying in scenarios that most pilots would never experience gives Boeing, the FAA and other regulators a full understanding of the airplane in normal and abnormal circumstances. By the end of the program, the team, regulators and customers know that the airplane can be safely operated in revenue service.

“Every day when I come into work, I feel a sense of purpose,” Garcia-Schmitz said. “I am directly responsible for an airplane being allowed to fly.”

In October 2021, sky-watchers in Washington’s Puget Sound region may have witnessed history without realizing it. A 737 MAX stunned them — not unusually, as it was performing a routine developmental flight test, but unusual because the flight was something special. The ground and onboard crew was made up entirely of women.

“It’s so much more special to be one of many than it is to be the only one,” flight-test engineering analyst Chelsea Kellen said. “That was something that was really unique about this flight. As part of a group that is made up exclusively of women, it meant a lot to everyone on the crew.”

Kellen says the team is the first all-women crew to receive a flight test award. September and October 2022 flight test crews demonstrated they were equal to the 737 MAX test team, as well as the first 737 MAX to operate a flight test entirely composed of women.

The flight test was also supported by Aneemah Pandirish, Gabrielle Guetterman-Sowers, Kellen and Arlinda Shenae. The flight test crew included 10 different 737 MAX flight-line crew members, eight of whom were women.

The flight test was led by chief pilot Jennifer Henderson and co-pilots Lauren Rosse and Alyson O’Keeffe. The flight test was a major milestone for Boeing, and it was the first all-women flight test crew operated by the 737 MAX team.

Henderson said the flight was a significant milestone for the 737 MAX program, as well as for Boeing’s efforts to increase diversity and inclusion in the industry.

“All the way through the flight, we were able to demonstrate the 737 MAX’s capabilities and how it can be operated safely in a variety of conditions,” Henderson said. “This flight was a great opportunity for everyone on the team to contribute their unique skills and perspectives, which helped make it a success.”

In conclusion, the flight test was a huge step forward for Boeing and the aviation industry as a whole. It demonstrated the 737 MAX’s capabilities and how it can be operated safely and efficiently by a diverse team of professionals. The flight test also set a new milestone for Boeing, as it was the first all-women flight test crew operated by the 737 MAX program. As such, it is a testament to the progress that has been made over the past few years to increase diversity and inclusion in the aviation industry.