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**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.” **IQ**



ALL-TIME TEAM

(From left) Colette Posse, Laura Garcia-Schmitz, Bailey Bonaci, Lauren Meyer, Queondra Hendrix, Sarah Price, Chelsea Katan, Janet Prentice, Jennifer Henderson, Patty Graves, Heather Ross and Rachel Soderberg gather around a banner created by colleague Ankita Sharma. It says, “Women Aloft Flight Test MAX 10.”

Photo taken in accordance with local COVID-19 pandemic safeguards.
PHOTO: DUNES WUJAYRATNE/BOEING

Women Aloft: Historic Flight Test Crew

In October 2021, sky-watchers in Washington’s Puget Sound region may have witnessed history without knowing it. A 737-10 soared above — not unusual, as it was performing a routine developmental flight test. But unseen from the ground 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 Katan said. “That was something that was really unique about this flight, instead of being one standout woman, it meant a lot to everyone on the crew.”

Katan says the team is the first all-woman crew on record to conduct a flight test at Boeing. September and October 737-10 flight-test crew demographics show that apart from the Oct. 20 flight, women made up no more than a quarter of each crew on each flight test.

The developmental test — which they dubbed the “Women Aloft Flight Test” — was part of the 737-10’s certification process, with the crew responsible for gathering initial stability and control data that will be used to certify the aircraft for commercial use. Everyone on board was responsible for monitoring and recording information during flight.

Flown by chief pilot Jennifer Henderson and co-pilot Heather Ross, test aircraft 1G001 flew with a crew including Rachel Soderberg, test director; Janet Prentice, flight analyst; Katan and Sarah Price, flight-test engineering analysts; Laura Garcia-Schmitz and Bailey Bonaci, weights and cabin safety; Lauren Meyer and Queondra Hendrix, instrumentation; and Colette Posse and Patty Graves, stability and control engineering.

The flight test was also supported by Annemarie Phandinh, Gabriela Gutierrez-Duran, Hilary Fiorentino and Ankita Sharma on the ground, with Ashley Abril, Casey Burt and Yoslin Herrera performing follow-up and greater Flight Test team diversity and inclusion efforts.

Katan, Phandinh and Sharma ran a debrief conversation a month later to discuss how the engineers who ran the Women Aloft Flight Test felt the experience differed from working with predominately male crews.

Sharma said that after experiencing several microaggressions as a female engineer — including being the only one asked to provide her qualifications in a pre-test briefing — and hearing from other women that they sometimes hesitate to speak

up and feel ignored or underestimated, this flight-test experience felt more inviting and collaborative.

“This is the first step to change,” Sharma said. “The Women Aloft Flight Test wouldn’t have been possible 10 years ago — it’s a symbol of progress, and we will keep doing better.”