An 'Office' With a View

Boeing women test pilots on guts and grandeur

When Boeing test pilot Suzanna Darcy-Hennemann remembers her childhood, she can't recall a time when she didn't want to be soaring through the air.

In 1985, Capt. Suzanna Darcy-Hennemann (left) was named a production test pilot, becoming the first woman hired in this capacity at The Boeing Company. Currently, Darcy is an integral member of the 777 flight-test program. Capt. Rose Loper (right) became the first woman pilot hired by Boeing when she accepted the position of chief corporate helicopter pilot in 1983. Loper is now responsible for post production flight testing for Boeing airplanes.

"For better or worse, I can't think back to a time when I didn't want to fly airplanes," said Capt. Darcy, Boeing Flight Operations. "Some pilots are just born knowing that they want to fly, and I'm in that category."

Darcy, an 18-year flight-test veteran and one of four women airplane test pilots at The Boeing Company, is no stranger to challenges concerning typified gender roles.

"When I first started out in the aviation field, there were no women currently flying in the military or for commercial airlines," Darcy said. "There were no footprints in the snow. My strategy was to eliminate any reasons why someone wouldn't hire me as a pilot, like inadequate training or experience. In the end, I had several jobs at Boeing and was the first woman to perform each one."

Darcy is the lead pilot aboard the second test airplane for Boeing's latest 777 airplane, the Boeing 777-300ER, which entered the flight-test program in early April. In this role, Darcy conducts testing on overall engine performance, including fuel mileage testing and noise regulation evaluation, in different environments and under a variety of conditions.

All four women captains initially joined Boeing as engineers, but were captivated by flying and intrigued with the opportunities the company provided men and women in this field.

Capt. Heather Ross, a Boeing flight-test pilot since 1997, also recalls childhood dreams of piloting. At the age of four she was already regularly flying back and forth from her hometown of Montreal to Seattle visiting family.

"I had an early exposure to aviation, so I've always loved flying," Ross said. "When I started attending the University of Washington, I knew I was good at math and I started checking out career options involving aeronautical engineering. I also was taking private flying lessons."

Ross's propensity toward flying led her down several career paths. She first became a flight-test engineer at Boeing. In order to get more flight training and experience, she became a pilot in the U.S. Air Force. Post military, she flew as a commercial pilot for a well-known airline. With a diverse set of skills and experience in tow, Ross then returned to Boeing as a flight-test pilot -- a job that fuses together a distinct set of abilities and talent within a flexible and varied environment.

"Being a test pilot requires a unique blend of engineering and piloting skills that you can't find in any other job," Ross said. "It's exciting because we work with leading-edge technology and have the opportunity to fly airplanes today that the airlines won't see until five years from now."

Sixteen-year flight-test veteran Rose Loper began her flying career in the U.S. Army flying helicopters. In 1983, Capt. Loper became the first woman pilot hired by Boeing when she accepted the position of chief corporate helicopter pilot three years after joining the company as a ground operations engineer.

"At the time I joined the army, women were just starting to fly in the military," Loper said. "The thought of flying as a career had never before entered my mind. But when the opportunity presented itself it sounded like a good adventure."

Capt. Christine Walsh at The Boeing Company conducts flight testing on Boeing 737, 757, 767 and 777 production airplanes. She also works on several military flight-test programs.

Capt. Christine Walsh, who fell in love with airplanes after working at Boeing as a Payloads engineer on the AWACS program, has been a flight-test pilot for Boeing since 1999. She likes the fact that the job is as challenging in the air as it is on the ground.

"Working as a flight-test pilot is a one-of-a-kind opportunity to grow as a pilot and as an engineer," Walsh said. "I enjoy the problem-solving involved in the job almost as much as the flying."

In the pilot's seat

Boeing test pilots have an awesome responsibility when leading a flight-test team: to ensure that customers receive a service-ready, safe and airworthy airplane. When launching a new airplane, this involves flying the aircraft around the world to test

performance in different conditions, such as crosswinds, tailwinds, natural ice and hot and humid weather. The team is responsible for validating an airplane's durability, longevity and maintainability, working with the Federal Aviation Administration during every process.

In production testing, the job involves coordinating with engineers for product improvement, manufacturing teams for problem resolution and delivering airplanes. Pilots also are responsible for the final quality check of every Boeing airplane prior to delivery. This includes conducting a demonstration flight with a customer flight crew.

According to Loper, the customer demonstration flight can be the most challenging part of the job.

"We conduct a two-hour flight test during the first flight, and then document items that require additional adjustment prior to delivery," Loper said. "The demo flight is the most arduous because we're working with crews from different countries around the world."

In addition to being a production flight-test captain at The Boeing Company for Boeing 737, 757 and 767 airplanes, Capt. Heather Ross also is a qualified formation pilot and performs formation/airborne photography flights, and supports engineering flight tests as the flight schedule allows.

Similarly, Ross describes the demonstration flight as requiring the best balancing act between culture, language and business.

"Sometimes difficulties arise when technical information and intricacies don't translate well," Ross said. "As the Boeing pilot, we're in control of the airplane, but you have to be sensitive to the customer's background. At the pre-flight briefing, we try to best determine their ability, experience and comfort level, as all customer representatives may not be accustomed to our unique testing maneuvers -- such as shutting down engines in flight."

Darcy, who flight tests new airplane models, also agrees that communication is critical on test flights, especially when working with various crews, airports and air traffic control facilities.

"As a lead on a test flight, I rely on the crew to communicate problems to me, such as a problem with the test equipment," she said. "I try to create an atmosphere that promotes easy communication within the group, but sometimes it's challenging. Like a crew member says, 'sometimes it's chicken; sometimes it's feathers.'"

Talent tops gender

When asked whether being a woman has helped or hindered their flying careers, the women concur that, overall, it's never stopped them from doing what they want to do. Although gender issues do sometimes surface -- particularly when dealing with Middle Eastern cultures -- they mostly recount positive experiences when leading the testing process and consistently describe their coworkers at Boeing as absolutely supportive.

"Flying and engineering are largely male-dominated fields," Walsh said. "Some customers still are surprised when a woman shows up as their captain for the day."

According to Darcy, whether you're a female or a male pilot bears little significance to the task at hand.

"I was fortunate to be raised by a family of goal-setters," she said. "I was taught that if you had a passion to do or be something, it didn't matter if it hadn't been done yet or if a woman hadn't done it yet, as long as you were dedicated to your goal. That was our family attitude."

In Ross' experience, however, being a woman in the aviation field can be "a double-edged sword." For example, when she first joined the Air Force a female pilot had just quit, so others were wondering if she'd complete the program since she also was a woman. Similarly, when working at the airline, she heard unfavorable stories about women being hired with below-average flight hours, which didn't help her credibility. Yet, she feels being a woman pilot brings out her inherit strengths, such as prioritizing well and using her intuition.

"The good thing about working at Boeing is that there aren't any gender quotas to fill, and no one is constantly measuring you up to someone else," Ross said. "We're all part of a working team. It doesn't really matter if you're a woman or not -- just that you can fly airplanes."

Darcy agrees. "During my flying career, the question always was did I have the skills to fly or not," she said. "I think of it this way: I'm not a woman pilot -- I'm a pilot that happens to be a woman."

What it takes

Tantamount to superb flying skills, being a test pilot requires extensive knowledge of the airplane, an adventurous spirit and unwavering fortitude. Two main factors contribute toward the pilots' confidence and ability to get the job done: trust in the ground crews who prepare the aircraft for flight, and self-assurance in their pilot training.

"First of all, flight testing is a team event, and the ground-based mechanics and quality support inspectors form the foundation of that team," Loper said. "Secondly, we rely upon our own training. Test pilots are well-trained on the aircraft they fly and the emergencies that may occur."

Walsh describes this teamwork between Engineering, Flight Test and other departments as "the secret to flight testing." The result is a confident, prepared and supportive team.

"I'm never apprehensive to be the first person to fly a new airplane because I'm totally confident that everyone at Boeing has done their job," said Darcy. "We have the best people in the world putting our airplanes together, and our crews have extensive training."

Additionally, much of the testing is performed before the airplane and crew leave the ground.

"The crew performs numerous checks before takeoff to prove the airworthiness of the airplane, such as flight-control checks and high-speed taxi tests, which test the engines, thrust reversers and brakes," Ross said. "We've had a few situations where things haven't gone exactly right, but never anything critical."

If problems do arise during the testing, the crew is trained to respond quickly and to continue the process.

"As a test progresses each situation is dealt with by the entire flight crew in a calm and methodical manner utilizing good crew resource management," Loper said. "It is our job to document what may need to be repaired or adjusted on the aircraft -- ranging from a burned out light bulb to an engine that shuts down."

All in a day's work

Flight testing can be intense and demanding, and it takes a certain kind of person to earn a test-pilot's wings.

One thing's for sure. These four women have the passion, ambition, guts and leadership required to flight-test Boeing aircraft with proficiency and verve.

"Although everyone in our department comes from different backgrounds and has different life stories," Darcy said. "We all have something in common -- our love of flying."

Along with their rigorous schedules and exhilarating careers, they also aspire to additional life goals and dreams. Ross -- a mother of two boys -- is currently pregnant. Walsh hopes to one day earn her wings as an astronaut. Loper, in addition to serving her country as a Brigadier General in the U.S. Army Reserve, looks forward to sailing after retirement. And on every flight, Darcy tells herself to take time to look out the window and remember how very fortunate she is to be doing something she loves.

"When I'm on a test flight, I take a moment and think about how lucky I am to be in the captain's chair on the flight deck aboard the world's best airplanes," Darcy said. "My 'office' really does have the best view of the world."

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