# FEMALE TEST PILOTS



For years, in the U.S. military, that's just the way it was: Author Tom Wolfe's description of test pilots as brave, courageous and calm while taking tremendous risks – all in the line of duty – applied primarily to men.

Since the beginnings of aviation, there have been notable women pilots in the private sector. However, for many years, women were not allowed in military pilot or combat career fields in any capacity. Only men could fly and test aircraft for the military.

In the 1970s, women began breaking into traditionally male military career fields in a big way. Ten women completed undergraduate pilot training and went on to serve as active duty pilots in the U.S. Air Force, including Edwards Air Force Base's own Retired Lt. Col. Connie Engel, the wife of Air Force Flight Test Center Commander Maj. Gen. Richard Engel.

In 1974, Capt. Leslie Halley Kenne became the first woman accepted into the Air Force Test Pilot School at Edwards Air Force Base, putting another crack in the proverbial "glass ceiling." Kenne was an engineer. The test pilot school's curriculum put her in the cockpit and trained her in the techniques of testing experimental aircraft.

**Lt. Gen. Leslie F. Kenne**

A brigadier general (as of this writing in February 1998), Leslie F. Kenne has gone on to become director of the multimillion dollar Joint Strike Fighter Program, located in Arlington, Va., where she is currently stationed. *(Ed. note: Kenne has been promoted to Lieutenant General and is currently, April 2000, the commander at the Electronic Systems Center, Air Force Materiel Command, Hanscom Air Force Base, Mass.)*

In 1991, the law excluding women from flying combat aircraft was repealed. There are 21 women now flying as fighter pilots in the Air Force, and 27 in the Navy. Women also fly attack helicopters in the Army and Marines.

Today, women account for about 13.5 percent of the military.


- **Walls come down**
- **The challenge**
- **Women make history**
- **The flight test engineer**
- **In the cockpit**

See also: ***Women at the Air Force Test Pilot School***

***"Firsts" made by female aviators***

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# WALLS COME DOWN

## Female Test Pilots

In addition to Brig. Gen. Leslie Kenne, other female Air Force Test Pilot School students have gone on to excel in military careers.

Three have gone on to the NASA space program, including Lt. Col. Eileen Collins, the first female astronaut to pilot the space shuttle in 1995.

**Lt. Col. Eileen Collins**

Collins served as pilot on shuttle missions STS-63 and STS-84. She has traveled 3.8 million miles in 145 orbits of the Earth, logging a total of 221 hours and 20 minutes in space. To quote an old TV commercial, *you've come a long way, baby.*

Engineer Capt. Susan Helms was the next female graduate from the Air Force Test Pilot School to go on to become an astronaut. And Test Pilot School graduate Maj. Pam Melroy, once a test pilot for the C-17 Combined Test Force at Edwards, is the next woman on NASA's list scheduled to pilot the space shuttle.

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# THE CHALLENGE

## Female Test Pilots

Even after women began getting accepted into military academies and pilot schools, it was still a challenge to break into a career in test piloting and engineering, even for the most determined women.

According to the Edwards History office, students wishing to enroll in the Air Force Test Pilot School needed one significant prerequisite before being accepted – experience flying jet fighters. Most women didn't have it.

In the early '60s, it was this very reason that kept the 13 women who qualified for the NASA Mercury space program earthbound, according to an August 1994 *Smithsonian* magazine article.

**Jackie Parker, first woman to graduate test pilot course at AF Test Pilot School**

Changes over the years have broken down this "Catch-22" exclusion and the military has gained tremendously from it. To date, there have been 25 female graduates from the Air Force Test Pilot School (with two more to graduate in 1998) and 27 from the Navy Test Pilot School.

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# WOMEN MAKE HISTORY

## Female Test Pilots

Female pilots from the early years of aviation, such as Amelia Earhart, Beryl Markham and Pancho Barnes, to name a few, set the stage for the recent breakthroughs by women going into flight testing.

One exceptional early pilot was Jackie Cochran. In 1934, Cochran became the first female test pilot, when she flew and tested the first turbo-charger ever installed on a civilian aircraft engine. Cochran, instrumental in forming the Women's Airforce Service Pilots (W.A.S.P.s) during World War II, was the first women to break the sound barrier in an F-86 Sabre Jet at Edwards AFB in 1953. (Gen. Chuck Yeager was along for the ride.)

Jackie Cochran

Cochran's European counterpart, Germany's Hanna Reitsch was the first woman to soar over the Alps in a glider in 1932, and went on to test many of the Third Reich's aircraft during World War II.

In 1944, Ann Baumgartner, a member of the W.A.S.P.s, was the first woman to fly a turbojet-powered fighter, the experimental YP-59, at Wright Air Field (now Wright-Patterson Air Force Base) in Ohio.

Taking risks more recently was civilian Jeana Yeager, who with Retired U.S. Air Force Lt. Col. Richard "Dick" Rutan took off from Edwards Air Force Base in 1986 to pilot the experimental Voyager aircraft around the world without stopping to refuel.

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# THE FLIGHT TEST ENGINEER

Female Test Pilots

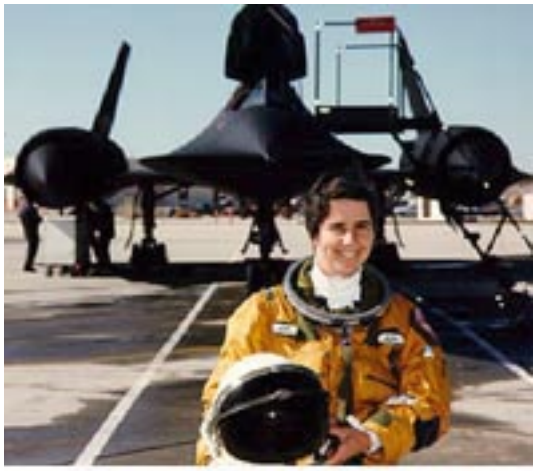

photo courtesy of NASA

**NASA flight test engineer Marta Bohn-Meyer with the SR-71**

A successful test flight is the result of a concerted, team effort. Usually, it's the pilot who gets all the glory. Yet the job of the test engineer is essential to the flight test process.

NASA-Dryden flight engineer Marta Bohn-Meyer admits that one of the biggest thrills of her life was her first flight in the SR-71.

She is the only woman to have flown second command in an SR-71 and the second woman to fly in one of the triple-sonic aircraft Bohn-Meyer has worked her way up through civilian ranks to a significant flight test engineering position, which includes, in her job description, a whole lot of flying.

According to Rogers Smith, chief research pilot at the NASA Dryden Flight Research Center at Edwards AFB, "Test flying is really a more disciplined form of flying. You do not go up there and test the airplane by what you might think you might do at a given moment. You do what has been planned as a team. The test pilot is part of the team."

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# IN THE COCKPIT

## Female Test Pilots

The Test Pilot School now averages one female graduate per class, the most recent being Capt. Cristy Stagg, who graduated in December 1997. Before she enrolled at the school, Stagg worked for the F-22 Advanced Tactical Fighter System Program Office. For five years, her job took place behind a desk, making sure everything worked properly on the engine, and that the project stayed within budget. Although flying was part of her job, she wasn't a pilot.

photo courtesy of NASA

**Marta Bohn-Meyer, NASA flight engineer**

At the Test Pilot School, however, "The whole focus was the pilot in that cockpit and making that airplane operational," she said in the April 4, 1997, issue of *Desert Wings*. "It really puts a twist on things."

Yet while women may have trouble earning the credentials necessary to take up flight testing, their psychological approach to their career as a pilot is very similar to men's, according to a study conducted by an Air Force research team in 1996.

When the research team at Brooks Air Force Base in Texas studied job stress on male and female pilots, the results surprised even the psychologists.

"We expected to find significant male/female differences...but we didn't," said Maj. Raymond E. King of Armstrong Laboratory's Clinical Sciences Division, who conducted the study with Maj. Suzanne McGlohn. Both are PhD's.

The result showed there were very few psychological differences between men and women.

"Men are generally thought to have stronger mechanical skills, while women are thought to possess stronger verbal skills, but we didn't find any evidence of that among Air Force pilots," said King. All the pilots had IQs well above that of the general public.

"The bottom line is, a pilot’s a pilot," said King.

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# Women at the AF Test Pilot School

Female Test Pilots

| NAME | POSITION | CLASS |
|---|---|---|
| Capt. Leslie Halley Kenne | Engineer | 74B |
| Capt. Louise Chevalier | Engineer | 77A |
| Capt. Ann Thedieck | Engineer | 79B |
| Capt. Carmen Lucci | Engineer | 80B |
| Lt. Cathryn Dreyer | Engineer | 84A |
| Capt. Eileen Bjorkman | Engineer | 85B |
| Lt. Deborah Warneking | Engineer | 85B |
| Capt. Kristina Fortmann | Engineer | 87A |
| Lt. Kimberly Cyphert | Engineer | 87B |
| Capt. Jacqueline Parker | Pilot | 88B |
| Capt. Tammy McCraw | Engineer | 89A |
| Maj. Eileen Collins | Pilot | 89B |
| Capt. Joann Gravitt | Engineer | 90B |
| Capt. Mary Manning | Engineer | 91A |
| Capt. Pamela Melroy | Pilot | 91B |
| Capt. Lisa Carswell | Engineer | 92B |
| Capt. Mary McNeely | Engineer | 93B |
| Capt. Jackie Van Ovost | Pilot | 93B |
| Capt. Dana Shafer | Engineer | 93B |
| Capt. Deborah Caffarelli | Engineer | 94B |
| Capt. Angela Wallace | Engineer | 95A |
| Capt. Sandra Miarecki | Pilot | 95B |

| | | |
|---|---|---|
| Capt. Nicole Blatt | Engineer | 96B |
| Capt. Kelly Latimer | Pilot | 96B |
| Capt. Cristy Stagg | Engineer | 97A |
| Lt. Amy J. Andersson | Engineer | 97B |
| Capt. Dawn Dunlop | Pilot | 97B |


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First female aircraft designer and builder (1906)
E. Lillian Todd

First woman to solo an airplane (1910)
Blanche Stuart Scott

First woman to earn a pilot's license (1911)
Harriet Quimby

First African-American (male or female) to receive a pilot's license (1921)
Bessie Coleman

First all-women's air race (1929)
Louise Thaden, Winner

First woman to cross the Atlantic solo (1932)
Amelia Earhart

First woman to fly over the Alps in a glider (1932)
Hanna Reitsch (Germany)

First woman to fly plane with turbo-charged engine (1934)
Jackie Cochran

First female airline pilot (1934)
Helen Richey (for a regularly-scheduled airline: Central Airlines)

First female U.S. military pilots (1943-1944)
W.A.S.P.s (Women's Airforce Service Pilots)

First woman to fly a turbojet-powered fighter (1944)

Ann Baumgartner

First woman to break the sound barrier (1953)
Jackie Cochran

First woman in space (1963)
Valentina Tereshkova (Russia)

First female airline pilot for a regional airline (1973)
Emily Howell (Frontier Airlines)

First woman accepted into Air Force Test Pilot School (1974)
Capt. Leslie F. Kenne (now retired Lieutenant General)

First American woman in space (1983)
Dr. Sally Ride

First female deputy administrator, FAA (1988-1989)
Barbara Barrett

First African-American woman in space (1992)
Dr. Mae Jemison

First woman pilot on the space shuttle (1995)
Lt. Eileen Collins (now colonel)

First American in space for the longest period of time (1996)
Dr. Shannon Lucid

American woman with most missions in space (1996)
Dr. Shannon Lucid

**Women who are making aviation history today**

Capt. Sandy Anderson
Assistant Chief Pilot, Northwest Airlines

Col. Eileen Collins
First female space shuttle pilot

Carol Hallett
President and CEO, Air Transport Association

Carrol Suggs
President and CEO, Petroleum Helicopter, Inc.(largest corporate/charter helicopter business)

Patty Wagstaff
National Aerobatics Champion (three consecutive times)

Dr. Sheila Widnall
Former Secretary of the Air Force

Jeana Yeager
Pilot on Voyager (historic around-the-world, non-stop flight)






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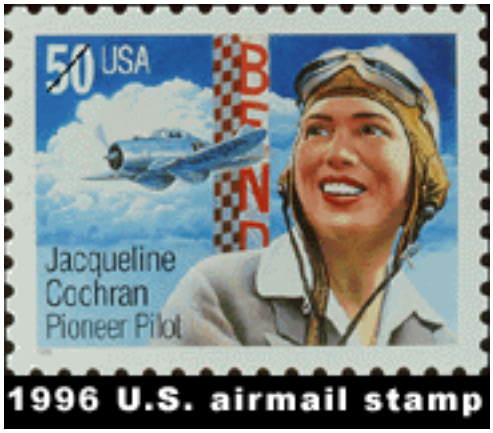
Notable Flygirls

# Jackie Cochran

Female Pilots

Jacqueline Cochran was born sometime between 1905 and 1908 in Florida. Orphaned at birth and with almost no formal education, she went on to the top of her profession as the owner of a prestigious salon and developer of a line of cosmetics, *Jacqueline Cochran Cosmetics*, which would later become her empire. Her soon-to-be husband, millionaire businessman Floyd Odlum, suggested she learn to fly in order to use her travel and sales time more efficiently. In two days she soloed and 18 days later had her pilots license.




Despite her lack of education, she mastered flying in a few weeks. Cochran soon owned her first airplane, a Travelair, and later a Northrop Gamma.

She was the first woman to enter the Bendix Race in 1935 and although she did not win it that year, she placed first in the women's division and third overall in 1937.

As a test pilot, she flew and tested the first turbo-supercharger ever installed on an aircraft engine in 1934. During the following two years, she became the first person to fly and test the forerunner to the Pratt & Whitney 1340 and 1535 engines. In 1938, she flew and tested the first wet wing ever installed on an aircraft.

With Dr. Randolph Lovelace, she helped design the first oxygen mask, then became the first person to fly above 20,000 feet wearing one.

In 1940, she made the first flight on the Republic P-43, and recommended a longer tail wheel installation, which was later installed on all P-47 aircraft. Between 1935 and 1942, she flew many experimental flights for Sperry Corp., testing gyro instruments.

Cochran was hooked on flying and her taste for record setting was strong. She set three speed records, won the Clifford Burke Harmon trophy three times and set a world altitude record of 33,000 feet – all before 1940.

With World War II on the horizon, Cochran talked Eleanor Roosevelt (who, like Jackie, had

been friendly with Amelia Earhart) into the necessity of women pilots in the coming war effort. Cochran was soon recruiting women pilots to ferry planes for the British Ferry Command, and became the first female trans-Atlantic bomber pilot. In 1942 Cochran recruited more than 1,000 Women's Airforce Service Pilots and supervised their training and service until they were disbanded in 1944. She went on to be a press correspondent and was present at the surrender of Japanese General Yamashita, was the first U.S. woman to set foot in Japan after the war, and then went on to China, Russia, Germany and even the Nuremburg trials.

Flying was still her passion, and with the onset of the jet age, there were new planes to fly and records to break. Access to jet aircraft was mainly restricted to military personnel, but Cochran, with the assistance of her friend Gen. Chuck Yeager, became the first woman to break the sound barrier in an F-86 Sabre Jet, and went on to set a world speed record of 1,429 mph in 1964. That was 1953. She was well over 50 years old at the time.

Ironically, it was Jackie Cochran who may have kept early women astronauts grounded. Testifying before the House of Representatives Science and Astronautics Committee in the early 1960s, Cochran warned NASA not to "waste a great deal of money" by taking "a large group of women in, because you lose them through marriage," according to an August 1994 *Smithsonian* magazine article.

After heart problems and a pacemaker stopped her fast-flying activities at the age of 70, Cochran took up soaring. She died in 1980, holding more speed and altitude records than anyone else in the world.

Some of her other achievements include setting an altitude record of 33,000 feet (1938), flying future president Lyndon Johnson to the Mayo clinic for emergency kidney surgery, saving his life (1948), serving as company pilot for Canadair, Lockheed and Northrop, earning the U.S. Air Force Distinguished Flying Cross (1969), being named Honorary Fellow, Society of Experimental Test Pilots (1971) and being inducted into the Aviation Hall of Fame (1971).

*Information from the International Women's Air & Space Museum web site in Dayton, Ohio, was used in this story.*

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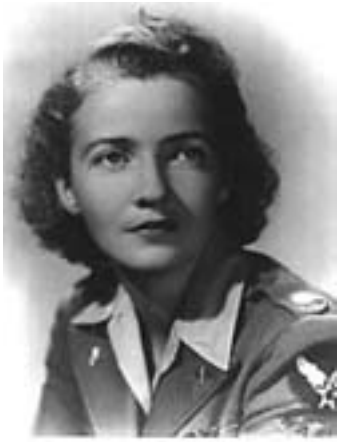
Notable Female Flyers

# Women's Airforce Service Pilots

During the summer of 1941, with the prospect of global warfare looming, the United States Army Air Force faced a shortage of men to fill both combat and civilian pilot positions. Other Allied nations faced the same problem. Russia was even using women in ground combat supply missions. The prospect arose of using women pilots to ease the shortage of male pilots, who were needed for combat duty. Because of the emergency situation, Gen. Hap Arnold went to female aviator Jackie Cochran for suggestions.



Nancy Harkness Love

By 1941, Cochran was already the holder of four international and 17 national aviation awards. The plan she devised involved accessing the medical and flying records of every woman listed in the Civil Aeronautics Administration's files. She would recruit these women for civilian flying work for the AAF, but the military would need to provide additional training.

Despite the approval of the Commanding Officer of Ferry Command, the Army Air Force decided against Cochran's plan. However, the British Air commission asked Cochran to recruit and train a group of American women pilots for ferrying duty. In the spring of 1942, 25 American women went to England in a uniformed civilian capacity with the British Air Transport Auxiliary.

At home, an experimental women's squadron, headed by aviator Nancy Harkness Love, formed in September 1942. This group of experienced pilots performed ferry duty for Air Transport Command with only four to six weeks of transitional training to acquaint them with military procedure. The success of this group – the Women's Auxiliary Ferrying Squadron (WAFS) – prompted Army Air Forces Command to revitalize Cochran's Women's Pilot Training Program.

Recruitment of women pilots began by mail as the government sent letters to potential candidates from CAA files. Teams of Cochran representatives visited every section of the country. Candidates were interviewed and scheduled for physical examination by a flight

surgeon. Cochran, now Director of Women's Flying Training in A-3 of the Flying Training Command General Staff at Fort Worth, Texas, screened all candidates.

Minimum requirements for student pilots were the following: They had to be 21 through 25 years of age, high school educated, hold a commercial pilot's license, and have no less than 200 hours of logged flight time. Plus, they must be American citizens and have cross-country flying experience. As the pool of available women pilots drained, the 200 flying hours were reduced to 100 and then to the minimum of 35 hours.

The first recruits converged on the Municipal Airport at Houston, Texas. The first flying equipment they saw was motley, surplus or obsolete stock from various airfields. Despite this, the first class of Women's Airforce Service Pilots – W.A.S.P.s (43-W-1) – graduated on April 28, 1943. Cramped training facilities caused the training base to be moved to Avenger Field in Sweetwater, Texas, in early 1943.

Training of women pilots covered three phases – military, ground school and flying phases – in 23 weeks. This originally allowed for 115 hours of flying and 180 hours of ground school. As women with less flying experience were accepted, the period was lengthened to 30 weeks with 210 hours of flight and 393 hours of ground school.

The possibility of militarization and actual commissioning caused living conditions to be set up much like those of aviation cadets. Pilots lived in military style barracks, wore military style uniforms, and ate in mess halls. Training was hard.

On August 5, 1943, the group was merged with the WAFS in Delaware, headed by Nancy Harkness Love, into one group formally known as the Women Air Service Pilots, or W.A.S.P. s.

With the W.A.S.P. program fully established, it was possible to devote attention to mission flying other than ferrying which had already proven successful. Towing of targets did not require combat-ready pilots so 25 women pilots were sent to Camp Davis, N.C., in July 1943 to take up the job. Later, W.A.S.P. pilots undertook searchlight and tracking missions as well as simulated strafing, smoke laying, engineering test flying and administrative flying. Women pilots flew the B-17 Fortress, the B-26 Marauder and two W.A.S.P.s flew the B-29 Super Fortress.

W.A.S.P.s were assigned to numerous bases throughout the United States and served in such commands as the Air Transport Command (ferrying), the Third Air Force (towing targets, radio controlled target flying and personnel transport), Material Command (developing personnel equipment and flying experimental jets), the Weather Wing (personnel transport), and the Flying Training Command (bombardier pilot and navigational training.)

In the book "Test Flying at Old Wright Field," former W.A.S.P. Ann Baumgartner describes her experiences at Camp Davis, N.C., where she was assigned upon graduation from the W.A.S.P. program: "To train artillery men, we flew small cubs, old B-34 bombers, ancient SBD dive bombers, C-45s, tired old fabric-covered C-78s and heavy SB2C dive bombers."

"Oh, to fly the sleek fighters and bombers at Wright Field."

Baumgartner got her chance. She was probably the first woman in the world to fly a turbojet-powered fighter – the experimental YP-59. During her time with the W.A.S.P.s, Baumgartner and another female pilot also tested high altitude clothing and equipment in the nose of a B-17 flying at 43,000 feet.

With the Allied Forces winning the war in Europe, male pilots began returning home. Their availability signaled the end of the W.A.S.P. program. The order for deactivation was issued Oct. 3, 1944, effective Dec. 20, 1944. Although some women resigned early due to this order, most remained on duty until the last day. The last W.A.S.P. training class actually graduated on Dec. 7, 1944.

After disbanding, many W.A.S.P.s simply went back to private life, while others continued to fly. Some joined the Air Force Reserve through the provision of a 1948 United States Air Forces order allowing former W.A.S.P.s to apply for appointment in the Air Force Reserve, with W.A.S.P. service counting as commissioned service. Peacetime desk work could not compete with the excitement of the W.A.S.P.s, however, and few ex-W.A.S.P.s made military service a lifetime job.

In the mid-1970s newspapers announced that the Air Force planned to train its "first women military pilots." Former W.A.S.P.s began to campaign to be recognized as veterans. In 1977, Congress recognized W.A.S.P.s as veterans and were awarded veteran status from the United States Air Force. In 1984, each of the Women's Air force Service Pilots was awarded the Victory medal. Those who served on duty for more than a year also received the American Theater medal.

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Notable Female Pilots

# Hanna Reitsch

If Jackie Cochran was an asset to the Allies during World War II, Germany's Hanna Reitsch was her counterpart on the enemy's side.

Hanna Reitsch

In 1932, while still a medical student, Reitsch became one of the first people to cross the Alps in a glider. She was among the world's first female test pilots, flying many of the aircraft in the Third Reich fleet.

This included the first helicopter (the Focke-Achgelis), as well as the prototype of a piloted V-1 rocket – the German weapon that brought devastation to many English cities during World War II.

In addition to the V-1 (which used a pulse jet), Reitsch tested a bomber rigged out to fly into the steel cables that tethered barrage balloons in hopes of cutting them, and made recommendations to improve the hazardous Me.163 rocket plane, which she glide-tested.

During her lifetime, Reitsch set more than 40 altitude and endurance records in motorless and powered aircraft.

In 1945, she flew the last plane out of Berlin hours before the fall of the city. She was the only woman ever to be awarded Hitler's Iron Cross and Luftwaffe Diamond Clasp.

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Notable Flygirls

# Jeana Yeager

Female Pilots

In 1986, Jeana Yeager co-piloted the Voyager, the first aircraft to circumnavigate the globe non-stop, without refueling.

photo courtesy of NASA

**Voyager landing at Edwards AFB**

Yeager was born on May 18, 1952, in Fort Worth, Texas. Although horses and track were her passions as a young adult, she was fascinated by helicopters. After relocating between Texas and California a couple of times as a child, she moved to Santa Rosa, Calif., in 1977, where she worked as a draftsman and surveyor for a geothermal energy company. The following year, she earned her private pilot's license, with the intention of learning to fly helicopters.

During this time, she met Bob Truax, a rocket scientist, who offered her a job working at Project Private Enterprise, which sought to develop a reusable spacecraft.

At a 1980 air show in Chino, Calif., Yeager met and eventually teamed up with pilot Dick Rutan and his brother, designer Burt Rutan. Using Burt's aircraft, they set several aircraft speed and endurance records. In early 1982, Yeager set a new woman's speed record for the 2,000-kilometer closed course.

Getting funds for the Voyager project was a problem, until Yeager initiated the Voyager Impressive People program, which became the major source of money to build, test and fly the aircraft.

By 1986, the Voyager was ready for the flight. It had taken five years to build and flight test the plane to the point at which it could potentially make history.

The journey began on Dec. 14, 1986 at Edwards Air Force Base, and successfully ended here

nine days and 28,000 miles later.

During the flight, there were several close calls, including one during a storm, when Yeager and Rutan considered landing. This would have put an end to their dream of making history. They persevered, however, and succeeded in setting a record for non-stop flight around the world. The Voyager is now installed at the Smithsonian National Air and Space Museum in Washington, D.C.

The 216-hour flight earned Yeager a world's absolute distance record -- the first time a woman had been listed in an "absolute" category.

Yeager's other honors include the Collier Trophy (the first time ever awarded to a woman), a Presidential Citizens Medal, and the Gold Medal from the Royal Aero Club of Great Britain, among others.


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Notable Fly Girls

# Marta Bohn-Meyer

Female Pilots

There’s nothing like flying in an SR-71. Well, almost.

photo courtesy of NASA

**Marta Bohn-Meyer exiting cockpit of SR-71**

"That is, without a doubt, on the Top 10 list," said NASA flight engineer, Marta Bohn-Meyer, about her first flight aboard the sleek SR. "At risk of having to balance my personal life against my professional life, it’s right up there at one or two.

"And I won’t tell you which is one and which is two."

Oct. 3, 1991, was a day to remember for Bohn-Meyer: She became the first female crew member to fly in the SR-71, and the second woman to fly in a triple-sonic aircraft.

"To my dying day, it will always bring a smile to my face," she said in a recent interview with Edwards Team Web. "That was the most invigorating, stressful, enjoyable, toughest thing I’ve ever done in my life – and it was also the most successful."

Smiles abounded that day.

As Bohn-Meyer, now deputy director of flight operations at NASA’s Dryden Flight Research Center, was doused with water by the project team in the traditional "first flight" hazing ceremony, there were scores of NASA coworkers present, rallying in support of her historic moment.

"There were people who came out to the ramp to congratulate me," she recalled. "It wasn’t just the maintenance crew. Just people. And many of them were women."

The moment remains indelibly etched in her mind. "It was an eye-opening experience to realize that to a lot of women here, I do represent something important."

She takes that responsibility seriously. With the solid support of her parents, she has been an avid flyer since her teens. Nowadays, Bohn-Meyer often speaks to young people, encouraging them to cultivate their interest in becoming pilots.

"If I can affect just one person's life because I talked to them or I talked to their parents and encouraged them, then I'm happy," she said.

"I'm a firm believer that if you don't have a hobby by the time you're 13 or 14 years old, you're lost," she said. "You've got to be special in your own mind and in other people's minds."

Over the years, Bohn-Meyer has discovered that there aren't many girls who believe they can actually become pilots. "And that's something we have to work to change."

Bohn-Meyer's success has been the result of what she calls the "Four Rights" – the right training, the right time, the right place and the right attitude. She has been at NASA Dryden since she graduated Rensselaer Polytechnic Institute in Troy, N.Y., in 1979, and negotiated for a position as an operations engineer that involved some flying. Since then, she has worked on a variety of research projects, specializing in flight test operations, developing test techniques and laminar flow research. Before her current position, Bohn-Meyer had been the F-16XL Project Manager, as well as acting deputy director of aerospace projects.

Her flight test training was primarily on-the-job and through NASA. "OJT brings it home real fast," she said. "You have to keep your eyes and ears open all the time, and that's not necessarily the easiest thing."

She credits much of her success to the support she received from mentors during her years at Rensselaer (through which she was a cooperative student at NASA Langley Research Center, Virginia) and in the years following.

"All of my mentors have a very special place in my heart, because they made a big difference to me," she said.

Because there were so few women involved in the field at the time, all her mentors were men. "They were all very supportive, cooperative and helpful."

At the time, she was concerned with how she could ever repay their support. "I was smart enough to see what was going on, that these people were helping me. I always worried about what I was ever going to do for them.

"The resolution basically was, just do it for someone else – some other young person who's struggling their way through," she said. "Give them a chance. Help them see what's possible

for them."


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**NASA Biography, January 1997**

Marta Bohn-Meyer is the Deputy Director of Flight Operations at NASA's Dryden Flight Research Center, Edwards, Calif. Immediately before that, she served for several months as the acting Deputy Director of Aerospace Projects.

From July 1990 through April 1996, she was the F-16XL supersonic laminar flow control flight experiment project manager. The project used a modified F-16XL aircraft to help improve the understanding of laminar air flow on aircraft flying at sustained supersonic speeds. Research data will be available for the development of future high speed aircraft, including commercial transports.

Along with her position as Deputy Director of Flight Operations, Bohn-Meyer is one of the F-16XL project's flight test engineers. On research flights she operates systems and experiments to collect data, as well as obtaining photo documentation of some of the unique laminar flow phenomena observed during supersonic flight.

Bohn-Meyer is also one of two flight test engineers assigned to fly in the SR-71 high speed flight research program at Dryden. She is the first female crew member of NASA or the Air Force – and the second women – to fly in one of the triple-sonic aircraft. NASA is using the SR-71s to obtain high speed, high altitude data that can be applied to the improve the designs of future civil and military aircraft. Flight research with the SR-71 is also being conducted to test and evaluate Reusable Launch Vehicle technologies.

Bohn-Meyer graduated in 1979 from Rensselaer Polytechnic Institute, Troy, N.Y., with a bachelor of science degree in aeronautical engineering. From 1976 to 1979, she was a student in a cooperative education program involving the school and NASA's Langley Research Center, Hampton, Va., and participated in rotorcraft research, and wind tunnel and flight safety projects associated with small civil aircraft.

She joined NASA's Dryden Flight Research Center in 1979 as an operations engineer and has worked on a variety of research projects, specializing in flight test operations, developing test

techniques, and laminar flow research. Among these projects were flight tests of space shuttle thermal protection tiles with a NASA F-104, B-57 gust gradient evaluations, and the F-14 aileron-rudder interconnect and variable sweep transition laminar flow programs, in addition to her work on the F-16XL laminar flow project before becoming project manager.

Bohn-Meyer is the author of several publications and reports on sailplane performance, laminar flow experiments and composite construction.

Bohn-Meyer is an FAA-certified flight instructor and lists competitive aerobatic flying, aircraft building, and classic car restoration among her hobbies. Among other honors, in 1996 she received the NASA Exceptional Service Medal "for exceptional service in flight operations and project management in support of several national flight research programs."

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