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An Introduction

As early as 1930, the War Department had considered using women pilots but the Chief of the Air Corps had called the idea “utterly unfeasible,” stating that women were too “high strung.”

Famed woman aviator Jacqueline Cochran in 1939 wrote Eleanor Roosevelt (wife of then-President Franklin Roosevelt) to suggest women pilots could be used in a national emergency. Aviatrix Nancy Harkness Love in 1940 made a similar proposal to the Air Corps’ Ferry Command. Nothing was done until after American entry into World War II. Facing the need for male combat pilots, the situation by mid-1943 favored the use of experienced women pilots to fly Army Air Forces aircraft within the United States. Two women’s aviator units were formed to ease this need and more than 1,000 women participated in these programs as civilians attached to the AAF. These were merged into a single group, the Women Airforce Service Pilots (WASP) program in August 1943 and broke ground for USAF female pilots who would follow in their footsteps.

Women’s Auxiliary Ferrying Squadron

The Women’s Auxiliary Ferrying Squadron, never numbering more than 28, was created in September 1942 within the Air Transport Command, under Nancy Harkness Love’s leadership. WAFS were recruited from among commercially licensed women pilots with at least 500 hours flying time and a 200-hp rating. (Women who joined the WAFS actually averaged about 1,100 hours of flying experience.) Their original mission was to ferry Army Air Force trainers and light aircraft from the factories, but later they were delivering fighters, bombers and transports as well.
Women’s Flying Training Detachment

Meanwhile, a training program for women pilots, under Jacqueline Cochran was approved on Sept. 15, 1942, as the Women’s Flying Training Detachment (WFTD). The 23-week training program, begun in Houston, Texas, included 115 hours of flying time. Training soon moved to Avenger Field at Sweetwater, Texas, and increased to 30 weeks with 210 hours of flying.

Trainees were between 21 (later dropped to 18) and 35 years old, and already had at least 200 hours pilot experience (later reduced to 35 hours), but were taught to fly military aircraft the Army Air Force way. Their training emphasized cross country flying with less emphasis on acrobatics and with no gunnery or close formation flight training.

WASP Created

In August 1943, all women pilots flying for the Army Air Force were consolidated into the Women Airforce Service Pilots (WASP) program with Jacqueline Cochran as AAF Director for Women Pilots. Nancy Harkness Love was named the WASP executive on the Air Transport Command Ferrying Division staff. More than 25,000 women applied for pilot training under the WASP program. Of these, 1,830 were accepted, 1,074 graduated and 900 remained at program’s end, plus 16 former WAFS. WASP assignments after graduation were diverse — as flight training instructors, glider tow pilots, towing targets for air-to-air and anti-aircraft gunnery practice, engineering test flying, ferrying aircraft and other duties.
WASPs Demonstrate Their Abilities

Women pilots sometimes encountered resentment from males. For example, the only WASP in a P-47 class of 36 males was considered an intruder — until she became the fourth in the group to solo in the huge fighter. WASPs later routinely ferried P-47s from the factory.

WASPs made demonstration flights in the “hot” B-26 Marauder and the new B-29 Superfortress, challenging male egos and showing that these aircraft weren’t as difficult to fly as some men felt them to be.

Ann Baumgartner became the first woman to fly an USAAF jet when she flew the Bell YP-59A twin jet fighter at Wright Field. WASPs flew virtually every type of aircraft from light trainers to heavy four-engine bombers. They flew about 60 million miles or 2,500 times around the world at the Equator, with 38 deaths. Before and after graduation, their accident rate was comparable to that for male pilots doing similar jobs.

WASP Disbanded

WASPs had the privileges of officers, but they were never formally adopted into the U.S. Army Air Force even though they were led to believe this would happen. They remained civil service employees without injury or death benefits. In 1944 bills in Congress to militarize the WASPs met with strong opposition from some individuals, including famed columnist Drew Pearson and failed like other attempts.

Due to political pressures and the increased availability of male pilots, the WASPs were disbanded effective on Dec. 20, 1944, with no benefits. The exploits of these dedicated women were largely ignored by the U.S. government for more than 30 years. In November 1977, however, President Carter signed a bill granting World War II veterans’ status to former WASPs.

The WASP pilots were an important element in the movement of women into war work to free men for combat and other duties. Gen. Henry H. Arnold, speaking before the last WASP graduating class at Sweetwater, Texas on Dec. 7, 1944, paid tribute to them in this manner.

“You … have shown that you can fly wingtip to wingtip with your brothers. If ever there was a doubt in anyone’s mind that women could become skilled pilots, the WASPs dispelled that doubt. I want to stress how valuable I believe the whole WASP program has been for the country.”
Nancy Harkness Love

Nancy Harkness Love was 28 years old when she became the leader of the WAFS. She learned to fly some 12 years before at her birthplace, Houghton, Mich. She took flying lessons and received a private pilot license at age 16 while she was a student at Milton Academy, Milton, Mass. She entered Vassar College and continued to spend her summer vacations flying. At this time she pioneered in the development of student flying clubs in American colleges. Love received her commercial pilot license in 1933, and in 1935 she was engaged by the Bureau of Air Commerce as one of a group of three women fliers to air mark the principal cities of the United States.

In January 1936 she married Robert M. Love; thereafter, she helped him in their company, Inter-City Aviation, at the Boston Airport, gaining experience in ferrying by delivering planes to customers. In 1937 she tested and demonstrated Gwinn Aircar and Hammond “safety planes” and demonstrated tricycle landing gear on safety planes for the Bureau of Air Commerce. While working on the operations staff at Baltimore before the organization of the WAFS, Love had become thoroughly experienced in mapping ferry flights, and had become familiar with ferry routes, military operations, etc. At the opening of September 1942, Love had logged over 1,200 flight hours, and held a CAA instrument rating, a CAA commercial license, a sea plane rating and was qualified to fly planes of 600 hp.

Throughout the end of 1942, the WAFS ferried primary trainers and liaison aircraft only. Love and some of the more advanced WAFS were dissatisfied with being restricted to ferrying these elementary types of aircraft. Since they were the only types being flown by the original group at New Castle Field, Wilmington, Del., Love preferred to go with a cadre of WAFS to Dallas where a new WAFS unit was formed. Betty Gillies was placed in command of the group at Wilmington. At Dallas it was possible for the women to progress to flying basic and advanced trainer types.

In August 1943, Love and Gillies, who might be called the deans of women pilots in the Army Air Forces, checked out on B-17s. In the following month an attempt was made to have them deliver a B-17 to the United Kingdom. Some question has been raised as to the propriety of this move. In fact, there appears to have been no impropriety. The only document restricting women pilots to domestic ferrying, emanating from a higher source than the Ferrying Division itself, is Gen. George’s memorandum to General Arnold which provided a basis for the establishment of the original WAFS.

Love and Gillies departed Cincinnati on Sept. 2, 1943, piloting B-17F serial number 42-30624, and

(continued on next page)
arrived that evening at Presque Isle, Maine. Gen. Tunner had personally instructed them to fly via Goose Bay, Labrador, a route which would give them relatively short hops to Greenland, Iceland, and then Prestwick, Scotland, instead of going by the more usual route via Gander, Newfoundland, nonstop to Prestwick. They arrived at Goose Bay on Sept. 4, encountering instrument weather on the way. They were delayed there by weather. On that day, Gen. C.R. Smith wired Brig. Gen. Paul E. Burrows, commanding the European Wing, advising him of the flight and instructing him to notify Gen. Arnold, who was then in London. This Gen. Burrows did on Sept. 5 and Gen. Arnold’s reaction was most unfavorable. He dispatched a wire to Gen. Giles ordering the trip be canceled and that “no women fly transoceanic planes until I have time to study and approve.” The message was relayed to Goose Bay, arriving just 15 minutes before the women were ready to take off. Had they gone via Gander, they would by that time have been coming into Prestwick.

When the WAFS and WFTD were merged into the WASP, Love was named Executive in charge of all WASP ferrying operations. After the war, she was awarded the Air Medal for her service in support of aircraft ferrying operations.

Betty Gillies

The first pilot to qualify for the WAFS was Betty Huyler Gillies of Syosset, Long Island, N.Y. She entered the WAFS on Sept. 12, 1942. Gillies at this time had 14 years of flying experience, running up a total of 1400 hours to her credit, held various aeronautical ratings, and for two years (1939-1941) was president of the Ninety-Nine’s, an international club of women flyers formed in 1929.

When Nancy Love transferred to Love Field, Dallas, Texas, to start a new WAFS ferrying unit, Gillies was made squadron leader of the WAFS assigned to the 2nd Ferrying Group, New Castle Army Air Base, Wilmington, Del.

In early March 1943 Gillies became the first woman to fly the Republic P-47 Thunderbolt when she was checked out on the aircraft at Wilmington. The “check out” consisted of an explanation (on the ground) of aircraft systems, flight characteristics and emergency procedures. Since the P-47 was a single seat aircraft, her first flight was also her first solo flight.

One of the outstanding ferry missions accomplished by the original Squadron at Wilmington came in April 1943, when four PT-26s were delivered from Hagerstown, Md., to DeWinton, Alberta, Canada, a distance of more than 2,500 miles. Gillies was flight leader, and the other three pilots were Nancy Batson, Helen McGilvery and Kathryn Bernheim. The type of plane flown had a cruising speed of only around 100 mph. They left Hagerstown on April 18, spent the night at Joliet, Ill. (697 miles away), spent the next night at North Platte, Neb., after a run of 585 miles, then made a long hop of 846 miles to Great Falls, Mont. On April 21 they flew the remaining 275 miles to DeWinton, Alberta. All four pilots were back at the 2nd Group by Friday evening, April 23, and were commended by Col. Baker for their efficient and prompt delivery, which included not only the flying of the planes but also the paperwork involved in such deliveries, such as flight logs, gasoline reports and RON (remain over night) messages.

On Aug. 15, 1943, Love and Gillies qualified as first pilots (i.e. aircraft commanders) on Boeing B-17s and made three deliveries together during the balance of the month. On Sept. 2, 1943, Gillies and Love departed Cincinnati on a ferry mission to deliver a B-17F to England; however, the mission was canceled before the aircraft left Goose Bay, Labrador.

Gillies remained squadron leader of the WASPs assigned to the 2nd Ferrying Group at New Castle Army Air Base until the WASPs were disbanded on Dec. 20, 1944.
Teresa James

Teresa James began taking flying lessons in September 1933 and earned her private pilot’s license in October 1934. Soon after, she was performing in air shows as a stunt pilot; her signature “stunt” was a 26 turn spin.

In the summer of 1940, James earned her instructor pilot license followed by a commercial pilot license in October 1941. She also became a volunteer pilot for the Civil Air Patrol, helped organize a new unit and continued teaching student pilots.

In the summer of 1942, James was a Civilian Pilot Training Program instructor in commercial aviation at Pittsburgh, Penn., and had 10 years flying experience and more than 2,000 flying hours.

James arrived at New Castle Army Air Base, Wilmington, Dela., on Sunday, Sept. 20, 1942, and took her flight check the next day flying a Taylorcraft L-2B. She was accepted and became the eighth WASP pilot to qualify.

James flew in the first WASP ferry mission on Oct. 22, 1942. A group of six WASPS (Rhonie, Fort, Clark, Scharr, James and Gillies as Flight Leader) took off from the Piper aircraft factory in Lockhaven, Penn., and delivered L-4Bs to Mitchell Field, Long Island, N.Y., on Oct. 23 after an overnight stay in Allentown, Penn.

Her first chance as flight leader came on Dec. 12, 1942. A group of six WASPS (Batson, Bohn, Burcheffeld, Miller, Thompson and James as flight leader) took off from Calgary, Alberta, Canada, in Stearman PT-17 open cockpit trainers and delivered them to Great Falls, Mont.

Perhaps the most unique mission James flew was to ferry a Fairchild PT-19 to California for use in a movie. On Feb. 17, 1943, she picked up the new plane from the Fairchild factory in Hagerstown, Maryland, and delivered it to the famous aviator Paul Mantz in Hollywood for use in “Ladies Courageous,” a not very accurate movie loosely based on the WASP program. After delivering the plane on Feb. 22, she became somewhat of a celebrity — she had dinner with Bob Hope and met quite a few movie stars.

During the summer of 1943, James checked out in pursuit aircraft. The Republic factory making P-47s was in Farmingdale, N.Y., and the WASPs assigned to New Castle Army Air Base were often assigned to ferry new Thunderbolts from the factory to the embarkation port in New Jersey for transport via ship to Europe.

One memorable trip began in the summer of 1944 with what was supposed to be a short ferry mission from the Republic plant to a modification center in Indiana. After delivering the P-47, instead of returning to New Castle Army Air Base, James was sent further west and delivered another P-47 from Indiana to California. After a brief checkout in the P-51 Mustang, she ferried one from California to Florida. Next, she flew a North American AT-6 from Florida to Washington State. She delivered the two more aircraft on the way back to Delaware — a Bell P-39 from Oklahoma to Montana and another P-47 from Montana back to New Castle, Dela. Her scheduled one-day trip lasted four weeks!

On Sept. 20, 1944, James was selected to fly the 10,000th P-47 built from the Republic factory to the overseas embarkation port in Newark, New Jersey.

By the time the WASP program was disbanded, James was checked out in about 20 different types of military aircraft, including the A-24, AT-6, AT-10, C-47, C-60, P-47 and P-51.

In 1950 James was commissioned a major in the USAF Reserves. She served until her retirement in 1976. Although she was not able to fly as an Air Force pilot, she served in various troop carrier units and was able to get some unofficial flight time as a copilot in the C-54, C-119 and C-130.
Barbara Erickson London

Barbara Jane “BJ” Erickson, of Seattle, Wash., was a sophomore at the University of Washington when she signed up for the Civilian Pilot Training course. Immediately upon graduation she was made an instructor and flew seaplanes as well as landplanes. Upon receiving her telegram inviting her to join the Women’s Auxiliary Ferrying Squadron, she broke off in the middle of a class she was teaching and left for New Castle Army Air Field, Wilmington, Dela. She was accepted into the program and became the 14th woman to qualify.

Erickson transferred from New Castle to Long Beach Army Air Base, Calif., and became the commanding officer for all WAFS, and later WASPs, assigned to the 6th Ferrying Group, Air Transport Command.

On March 5, 1943, Erickson served as copilot for Nancy Harkness Love when they ferried a Douglas C-47 from Long Beach, Calif., to Memphis, Tenn.

In a display of stamina and professionalism, Erickson flew 8,000 miles in the course of 10 days. She left Long Beach, Calif., on July 29, 1943, in a P-51 Mustang, which she delivered to Evansville, Ind. She spent the night there, and on the next day picked up a P-47 Thunderbolt, which she delivered to San Pedro, Calif., on July 31, having spent a night en route. In this instance, she had the fortune to be sent to a delivery point at which aircraft moving west were to be picked up. On Aug. 2 she took off from Long Beach in a C-47 which she delivered to Fort Wayne, Ind. She then proceeded to Headquarters, Ferrying Division, in Cincinnati, Ohio, for temporary duty. On her way home Aug. 7, she reported to Evansville, where she was assigned another P-47 to be delivered to San Pedro. Thus out of 10 days she was able, without undue effort to spend five days ferrying. Her logged time for these days is not available. On the basis of the type of aircraft involved and the mileage as given, she may be estimated to have piled up at least 40 hours — as much as one of the 2nd Ferrying Group WASPs could have hoped for in a full month. For these flights, Erickson was awarded the Air Medal, the only one awarded to a WASP during World War II. (Note: More medals were awarded after the war.)

During the first two weeks of August 1944, the experiment was made of stationing two of the most experienced WASPs, Erickson and Florene Miller, at the 3rd Ferrying Group, Romulus, Mich., to fly on the domestic Military Air Transport Service from there to Chicago, Illinois. They had to meet all requirements for transport first pilots (i.e. aircraft commanders), including a severe flight check. They flew on the scheduled service from Aug. 2-16. The Military Air Transport Operations Officer at Romulus reported of them:

“These pilots were scheduled on a trip departing Romulus at 0700, which meant they were required to report for duty at 0530. In spite of transportation difficulties, these pilots were never late and they showed an unusual regard for adherence to scheduled operations. With reference to their ability, the fact that they were checked out as first pilots on a scheduled cargo and personnel [passenger] run speaks for itself.”

Gen. Hap Arnold and Barbara Erickson at Avenger Field, Texas.

8 | Visit www.nationalmuseum.af.mil for lesson plans and more
Dora Dougherty Strother

Dr. Dora Dougherty Strother’s career flying for the military began in 1942 when she entered the Women’s Airforce Service Pilot (WASP) program as a member of Class 43-W-3. Her piloting jobs included flight training, target-towing for anti-aircraft gunnery, ferrying and radio control piloting. Established primarily to relieve male pilots who were needed in combat roles, the WASPs flew almost every type of plane used by the Army Air Forces, including liaison, training, cargo, fighters, attack bombers, dive bombers and very heavy bombers.

During their flying careers in World War II, the ladies lived a military style of life and expected to eventually become commissioned as officers in the Army Air Forces. That action was never approved by the U.S. Congress, however. A total of 38 women pilots in the WASP program were killed in service, while drawing $250 a month as “Army employees.”

Dora Dougherty and Dorothea Johnson were chosen by Lt. Col. Paul W. Tibbets Jr. (the pilot of the Enola Gay) to demonstrate how reliable the B-29 was to fly. At the time, both women were assigned to Eglin Army Air Field flying target towing missions for pursuit plane gunnery practice. The WASPs were given just three days training at Birmingham, Ala., to learn how to fly the very heavy bomber. After several check rides — there was an actual engine fire on the first one — the women and Tibbets flew the B-29 to Alamogordo, N.M., where it was christened “Ladybird.” The aircraft also featured “Fifinella,” the official WASP mascot designed by Walt Disney, as nose art. The two WASPs flew “safety and reliability” demonstrations with no other pilots aboard until the Army Air Forces General Staff ordered a halt to the flights fearing the bad publicity of an accident.

As a psychologist working for Bell Helicopter, Strother had the responsibility for human factors engineering research for development of helicopter cockpits. Prior to her position with Bell, she worked for the Martin Aircraft Co. and the University of Illinois, mostly in human engineering roles.

During her flying career, Strother held a transport pilots certificate, a commercial rating in single and multi-engine airplanes plus being licensed to fly rotorcraft and gliders. In January 1961 she set two women’s records in rotorcraft. Both records — one for altitude, the other for point-to-point distance — stood until 1966.

Strother has a Ph.D. from New York University, an M.S. from the University of Illinois, a Ph.B. from Northwestern University and an A.A. degree from Cottey College in Missouri.

Ann Baumgartner Carl

Ann Baumgartner learned to fly in the fall of 1940 while working as a writer in the Eastern Airlines public relations department. She primarily flew small aircraft like the Piper Cub until receiving her private pilot license. She eventually purchased half interest in a Piper Cub and set the goal of building up 200 flying hours required for a commercial pilot license. She also volunteered to fly for the Civil Air Patrol and flew patrol and search and rescue missions during the first half of 1942.

Baumgartner interviewed with Jackie Cochran in late 1942 and was accepted into the third WFTD class beginning Jan. 15, 1943. Unfortunately, she caught the measles during training and because of time missed while sick, completed her training with the fifth WASP class (43-W-5), and graduated on July 3, 1943.

Her first assignment after graduation was as a tow target pilot at Camp Davis, N.C. Baumgartner (and fellow WASP Betty Greene) were sent as replacement pilots for two WASPs killed in flying accidents.* Camp Davis was an artillery training base and the WASPs flew as visual and radar tracking targets, target sleeve towing for live fire training, target drone “mother ships,” remote drone pilot and practice dive bombing. Ms. Baumgartner flew several types of aircraft at Camp Davis, including the Douglas A-24, Curtiss A-25, Lockheed B-34, Cessna UC-78 and Stinson L-5.

In February 1944, Baumgartner and Greene were (continued on next page)
transferred to Wright Field, Ohio, to test aeromedical equipment being designed for the WASPs. While testing the aeromedical equipment Baumgartner and Greene became interested in flight test and discussed a possible assignment with Col. Ernest Warburton, Chief of the Flight Test Division. Positions for assistant operations officers existed in the fighter and transport flight test sections; however, their temporary assignments expired in the aeromedical lab, and they flew back to Camp Davis to resume target towing duties.

After about two weeks, word was received from Wright Field indicating the transfer was approved for the two women. Greene turned down the assignment to transport flight test, but Baumgartner accepted and arrived for duty in March 1944.

Baumgartner was assigned as an assistant operations officer in the fighter test section. Her primary duties included keeping track of pilot schedules and aircraft availability — making sure the planes were ready for the pilots when they needed them, taking care of required paperwork, etc. Gradually she was allowed to fly and checked out in a variety of aircraft assigned to fighter test including the P-47 Thunderbolt.

Baumgartner participated in various flight test programs and flew a wide range of fighter planes. For example, she tested a prototype high altitude reconnaissance camera and as a chase pilot “attacking” a test aircraft fitted with a tail mounted warning radar system. Occasionally, she was assigned as a cross country pilot transporting staff officers to other bases. She picked up and delivered planes as required also.

Baumgartner was briefly transferred to the bomber flight test division and accumulated pilot and copilot time in most of America’s bomber aircraft, including the B-17 and B-24. She even had some time as copilot or observer pilot in the B-29, British Mosquito and German Ju 88.

After her reassignment to fighter test, Baumgartner had the opportunity to check out in America’s first jet aircraft, the Bell YP-59A. On Oct. 14, 1944, she became the first American woman to fly a jet.

She remained in fighter flight test at Wright Field until the WASP program was disbanded in December 1944. Although she spent less than a year with the Test Division, she was a valuable addition to the program.

*One accident at Camp Davis was probably caused by sabotage (i.e. sugar in the fuel tanks) to the aircraft but official reports did not document this.*

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**Audiovisual Loan Program**

*Women with Wings [V082]*  
Grades 4-12  
Documents the lives of eight women and the contributions they have made to the world of aviation. This video is narrated by three-time U.S. National Unlimited Aerobatics Champion Patty Wagstaff. [History Channel, 17 min.]


Audiovisual programs may be borrowed at no charge for showing to school and youth groups. Programs should be ordered at least 30 days in advance and only one program can be loaned to a requestor within a three week period. Submit requests at [www.nationalmuseum.af.mil/education/avloan/index.asp](http://www.nationalmuseum.af.mil/education/avloan/index.asp).
Suggested Readings


National Academic Content Standards

**U.S. History**

**Era 8: The Great Depression and World War II (1929-1945)**
Standard 3 — The causes and course of World War II, the character of the war at home and abroad, and its reshaping of the U.S. role in world affairs

**Era 9: Postwar United States (1945 to early 1970s)**
Standard 2 — How the Cold War and conflicts in Korea and Vietnam influenced domestic and international politics

Standard 3 — Domestic policies after World War II

Standard 4 — The struggle for racial and gender equality and for the extension of civil liberties

**World History**

**Era 8: A Half-Century of Crisis and Achievement, 1990-1945**
Standard 4 — The causes and global consequences of World War II

Standard 5 — Major global trends from 1900 to the end of World War II