A Woman's Place is … on the Flightline

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Abstract

In the 21st century, sustained participation in the global economy requires a viable and technologically advanced aviation and aerospace industry. It is imperative for the United States' continued leadership in aviation and aerospace to focus academic energy on preparing the next generation of scholars, inventors, and aviation and aerospace practitioners. Historically, these industries have been viewed as predominantly a fraternity of men. However, a number of women made (and continue to make) significant contributions to the aviation and aerospace industries. This paper provides a brief history of women's contributions to aviation/aerospace through portraits of key participants over multiple eras. Their experiences and exploits should be used to encourage girls to study the science, technology, engineering, and mathematics necessary to compete in, and contribute to, the next generation of United States' aviation/aerospace.

Keywords: women's history, aviation, aerospace

1.Introduction

In the 21st century, sustained participation in the global economy requires a viable and technologically advanced aviation and aerospace industry. Transportation of passengers and goods, support for emergency services, movement and placement of communications equipment, exploration, and recreation all require aviation and aerospace professionals. It is imperative for the United States' continued leadership in aviation and aerospace to focus academic energy on preparing the next generation of scholars, inventors, and aviation and aerospace practitioners. Historically, these industries have been viewed as predominantly a fraternity of men. However, a number of women have made significant contributions to the aviation and aerospace industries. Their experiences and exploits should be used to encourage girls to study the science, technology, engineering, and mathematics necessary to compete in, and contribute to, the aforementioned next generation. Each section of this paper was designed to assemble a portrait of the American female aviator during a particular era of aviation and aerospace history. Examination of these stories in light of the related historical period should assist with providing role models for aspiring young aviation and aerospace enthusiasts.

2. The Earliest Flyer

When the Wright brothers experienced their first successful powered flight, they opened a new frontier in transportation. However, like the prevailing attitudes of their time they did not believe that a woman should fly an airplane (Bix, 2010). The earliest female flyer was forced to endure the same biases with respect to flying that she dealt with when she tried to drive a car, earn a college degree in a non-traditional concentration, or vote. She even experienced difficulty finding someone who would teach her how to fly. In September 1910, Blanche Stuart Scott was able to convince Glenn Curtiss to provide her with flight instruction. He was reluctant to do so, believing that "aviation was the exclusive province of men" (Holden, 1991, p. 15). While checking her airplane one particular morning, Scott noticed a piece of wood under the throttle lever. She surmised this piece might have been what had been hindering her ability to do much more than hop a few feet above the ground as she attempted solo flight throughout that morning. After removing the wood, she was able to achieve full throttle motion, take off, and soar. When Scott landed a few minutes later, Curtiss seemed surprised that she had actually been able to get off the ground. Despite the efforts of someone who probably believed he was protecting her, Scott was the first American woman to fly solo in a fixed-wing, heavier-than-aircraft (Holden, 1991).

The following year, Harriet Quimby was the first American woman to earn a pilot's license. A journalist by trade, Quimby was bitten by the flying bug when she watched John Moisant fly roundtrip from Belmont Park to the Statue of Liberty in New York City (Holden, 1991; Marck, 2009). Quimby, and her friend Matilde Moisant, actually wore men's clothing and took lessons at sunrise in an attempt to avoid notoriety and the scornful expressions of a society not ready for female pilots. Opinions about women's frailty and diminutive nature provided the structure of society's view that flying was for men.

It was interesting to note that one of the major concerns of the day regarding the female aviator was what she was wearing when she flew. Mrs. Hart O. Berg, the first American woman to fly as an airplane passenger in September 1908, tied a rope around the bottom of her ankle-length skirt to prevent it from billowing in the wind (Cochrane & Ramirez, n.d.). She earned fashion history acclaim as the originator of the *hobble skirt*. Harriet Quimby was also recognized as a fashion maven for her purple satin *jumpsuit*, a single-piece suit with a hood, full knickers and tall black laced boots (Holden, 1991). Most early female aviators wore a silk or leather helmet, a blouse with wide-legged tweed knickers over tall boots, and a heavy coat if the temperature was low. Matilde Moisant was quite lucky she used this uniform of flight. On her last flight, the airplane she was piloting had a leaking fuel tank. The airplane and her clothes were on fire as she landed the airplane; the thickness of the clothing most likely saved her life.

These early female pilots battled the same challenges that early male pilots experienced, and set milestone records regularly as they explored one of the Nation's newest fascinations. Moisant won the Rodman Wanamaker Trophy, setting an altitude record for women (Holden, 1991). Quimby was the first woman to pilot an airplane across the English Channel, using only a compass to navigate her way through fog and mist (Holden, 1991; Thornberg, 2000). Many male pilots of their time did not match these accomplishments, yet the public saw the early female aviator as anecdotal and paid more attention to what she was wearing or what name a female pilot should have: aviatrix; airwoman; aeronaut (Holden, 1991).

The earliest female flyer was able to gain recognition for, and within, the new field of aviation by performing exhibitions. Blanche Stuart Scott toured the United States, performing daredevil stunts to dazzle and shock crowds. She flew upside down under bridges and executed her *Death Dive*, a feat in which she plunged 4000 feet before pulling out of the dive and flying level just 200 feet from the ground (Holden, 1991). Katherine Stinson, the youngest American woman to earn a pilot's license (there is some dispute of her age – 16 according to Holden, 1991; 21 according to Marck, 2009), flew an airplane decorated with roses just five months later in the Rose Parade in Pasadena, California. She earned further fame in 1915 as the first woman to perform the *loop-the-loop* stunt, and then added an aileron roll at the top of the loop (Holden, 1991; Marck, 2009). Stinson continued to add difficulty to her stunts, including eight consecutive loops with the aileron roll/loop, and fastening magnesium railroad flares to the wood and fabric aircraft to outline letters in the sky, swooping toward the ground trailing a cascade of glowing embers through the night sky (Holden, 1991; Marck, 2009).Stinson also played a role in the creation of the airmail system. She was the first woman to deliver mail, providing airmail service in Montana in 1913, to Troy, Alabama in 1914, and to Tucson, Arizona in 1916 (Marck, 2009).

Stinson and her sister, Marjorie, tried to fly for their country during World War I, but were turned away. They opted to train American and Canadian pilots to support the war effort. Ruth Law, who had worked as a commercial pilot prior to World War I, actually wore a military uniform to help recruit soldiers for the Army and sailors for the Navy. She also flew exhibitions to help fund the Red Cross and Liberty Loans (Cochran & Ramirez, n.d.; Holden, 1991).

3. The Barnstormers

Exhibitions during the early decades of the 20th century gave way to the post-World War I barnstorming. Ruth Law led her *Flying Circus* across the country, performing a number of stunts. Her signature maneuver was transferring from an airplane to a car. Law raced airplanes against cars, flew through fireworks, and continued to set flying records for altitude and distance (Cochran & Ramirez, n.d.). Nelle Zabel Willhite traveled across the Midwest, focusing her barnstorming efforts on flour bombing and the extremely dangerous exploit of balloon racing (Holden, 1991). Balloon racing consisted of pilots trying to fly into balloons that were suspended in the air, requiring a number of sharp turns and aerobatic skill. Gladys Ingle performed as a wing-walker, and did the car-to-airplane stunt. However, one of her most notorious stunts was performing emergency aircraft maintenance in the air.

She strapped an aircraft tire to her back, boarded one airplane, transferred in midair from that airplane to a second airplane that had lost a tire after takeoff, changed the tire, and stood on the wing of the second airplane until it landed safely (Bomberguy, 2007). Dazzling audiences with daring maneuvers and stunts while in midair seemed almost partisan to some barnstormers.

Perhaps the most famous female aviators of the barnstorming period were Amelia Earhart and Bessie Coleman. Earhart did not necessarily believe that barnstorming was the best career to which a female pilot could aspire. However, she did recognize that exhibition flying would be advantageous in showing that women could be successful at the same activities where men found success. In her book, *The Fun of It*, Earhart described the value of aerobatic stunts, saying that mastery of side slips would be useful if a pilot needed to land in a short field, understanding the aerodynamics of stalls and spins prepared a pilot for knowing what to avoid in midair, and learning to control a vertical bank would apply in making a very short turn (1932, pp. 36-37). Barnstormer Margery Brown said, "Women are seeking freedom. Freedom in the skies! They are soaring above the temperamental tendencies of their sex that have kept them earth bound. Flying is a symbol of freedom from limitations" (Holden, 1991, p. 41).

The idea of flight providing freedom could not have been more well-assigned than to Bessie Coleman, the first African American (male or female) to earn a pilot's license. She had to travel to France to earn that license because no flight school in the United States would offer flying lessons to the daughter of a former slave (Holden, 1991; Marck, 2009). After earning her air-pilot license from the Federation Aeronautique International, Coleman returned to the United States, determined that other African Americans should not have to experience the same struggles she was forced to overcome, just to learn how to fly (Holden, 1991). She became a barnstormer to earn money to open her own flight school. She traveled throughout the South, performing loops and figure eights (Cochrane & Ramirez, n.d.). Unfortunately, during a practice flight that included a power dive, with her mechanic and publicity agent, William Wills, the airplane flipped. Coleman, who was not wearing a seatbelt or a parachute, was ejected from the airplane and died. Wills died when the airplane crashed to the ground. Adding to the horror, a bystander lit a cigarette shortly after the crash, flicked the still-lit match to the ground, and the fuel that leaked from the wreckage went up in flames (Holden, 1991). A subsequent investigation found a wrench jammed in the aircraft controls. Might this have been another situation where someone did not want an American female aviator to succeed?

4. Aviation's Golden Age…and a Woman was There

Though plagued by the same dangers of flying as the male aviator, the female aviator persevered. American women aviators were still marginalized in the early 1930s, and the gender bias they had experienced for two decades persisted, but attitudes were beginning to change. Amelia Earhart's implication that flying was safe and women could be successful pilots put the female aviator in a positive light (Holden, 1991). As the natural spokeswoman for the female aviator, Earhart headed a star-studded field of talent for the first Women's Air Derby, dubbed the Powder Puff Derby based on a comment made by the entertainer Will Rogers who was in attendance, "Have you noticed how these girls, who have to overcome any number of obstacles on a long grueling race, still find the time to powder their noses?" (Marck, 2009, p. 82). Comments and criticisms from men were still directed at femininity rather than lack of skill. The women who participated in this event, including Earhart, Blanche Noyes, Ruth Elder, Florence 'Pancho' Barnes, and Louise Thaden, were labeled "Pilots in Petticoats, the Ladybirds, and … Flying Flappers," by the attending journalists (Marck, 2009, p. 82). The derby covered 2800 miles in nine races, from Santa Monica, California to Cleveland, Ohio, through inclement weather, a variety of geographical challenges, and mechanical mishaps (Marck, 2009). Thaden's borrowed Beech J5 had to be modified so that she would not breathe in the exhaust fumes from its engine after she fainted upon landing after one leg of the race (Marck, 2009). Noyes was forced to make an emergency landing on the derby's fifth day because her airplane's hold was on fire. She used available sand to put the fire out herself and then took off to continue the race (Marck, 2009). A handful of competitors were forced to give up during the race due to aircraft mishaps, sudden illness, and collisions with obstacles. One competitor, Marvel Crosson, was killed in a collision with an obstacle in Arizona (Marck, 2009). However, 15 female aviators did cross the finish line with the top three spots going to Thaden, Gladys O'Donnell, and Earhart.

This group of women who had proven their worth in the sky was the core of the newest aviation organization, the Ninety-Nines. The derby itself had sweeping influence.

Because the participants flew new aircraft, used new fuels and instruments, and flew against what flyers might consider a new envelope, they were the first female test pilots (Holden, 1991). The women's experiences led to further development in commercial and military aircraft. Perhaps an even greater contribution to aviation was based on a suggestion by Ninety-Nines member, Phoebe Omlie. She recognized that air routes were very poorly marked, if marked at all. With the support of First Lady, Eleanor Roosevelt, the Bureau of Air Commerce hired the female aviator to locate appropriate buildings, negotiate with local officials and building owners, and paint air route information on the rooftops in bright orange letters (Holden, 1991). The Ninety-Nines painted over 16,000 rooftops with location and distance and direction to the nearest airfield, visible from an altitude of 3000 feet (Holden, 1991).

The American female aviator continued to set records and explore new flying horizons throughout the 1930s. Louise Thaden and Frances Marsalis set a 1932 record for endurance, flying for eight days (Holden, 1991). Four years later, Thaden and Blanche Noyes won the Bendix Air Race, beating both male and female competitors. Laura Ingells finished second in this race. The female aviator had proved her skill. One of the most well-known female record-setters, Earhart piloted a Lockheed *Vega* from Newfoundland to Ireland in 1932, becoming the first woman to solo across the Atlantic Ocean (Holden, 1991). Her flight totaled 2065 miles through electrical storms, with severe aircraft vibrations due to a mechanical issue, a malfunctioning altimeter, and a 3000-foot vertical dive from a spin caused by wing-icing (Holden, 1991, p. 62). After becoming the first pilot, male or female, to fly solo from Honolulu, Hawaii to Oakland, California, from Oakland to Mexico, and from Mexico to Newark, New Jersey, Earhart had one major long-distance flying goal remaining. She planned what has become her most infamous flight, an equatorial circumnavigation of the Earth. The first 22,000 of the 27,000 mile flight were considered successful. However, the longest leg of the journey, from Lae, New Guinea to Howland Island proved to be even more treacherous than Earhart and her crew anticipated. They never arrived at Howland Island, and despite a massive search of that region of the South Pacific, Earhart and her navigator Fred Noonan were never found. A saddened nation mourned the loss of one of its heroines. But, Louise Thaden remarked,

> If your time has come, it is a glorious way to pass over. The smell of burning oil, the feel of strength and power beneath your hands, so quick has been the transition between life and death there still must linger in your mind's eye the everlasting beauty and joy of flight. Women pilots were blazing a new trail. Each pioneering effort must bow to death. There has never been, nor will there ever be, progress without sacrifice of human life….It may seem incongruous, yet Amelia Earhart's personal ambitions were secondary to the insatiable desire to get women into the air, and once in the air to have recognition she felt they deserved, accorded them (Holden, 1991, pp. 63 - 64, as quoted from Thaden and Oaks).

One of those women who idolized Earhart and initially took to the air to enhance her business prospects was Jackie Cochran (St. John, 1938). In 1938, she bested a field of eleven men to win the Bendix Race. Upon landing, she discovered that the reason she had to fly most of the race with the airplane at an angle was that the manufacturer had neglected to remove a wad of paper from the fuel line, so the only way to feed fuel to the engine was via gravity from the wing tank (Holden, 1991). By 1941, Cochran had set 17 flight records (Holden, 1991), including recognition as the first female pilot to accomplish an instruments-only landing (Marck, 2009).

Before the United States entered World War II, Cochran was actively maneuvering to make women an integral part of any war effort. She ferried a Lockheed Hudson bomber from Canada to Great Britain, although the takeoff and landing had to be accomplished by a male co-pilot. She studied Britain's Air Transport Auxiliary (ATA), a pseudo-military organization of women who provided transportation for prominent passengers and ferried a variety of aircraft across the English Channel (Marck, 2009). Cochran's goal was to initiate a similar organization in the United States. General Hap Arnold encouraged her to found the group, undertake ATA training in Canada, and join the British effort.

5. World War II: How a Woman Made a Difference

The female aviator made a number of contributions during World War II, but the two most renowned and perhaps greatest contributions to the war effort were made by the ferry pilot and Rosie the Riveter. While Cochran's ATA pilots were supporting the British war effort, the United States entered World War II and another female aviator, Nancy Harkness Love, founded the Women's Auxiliary Ferrying Squadron (WAFS) within the Air Transport Command (ATC) (Holden, 1991; Marck, 2009). The female aviator's mission was divided between Cochran's Women's Flying Training Detachment (WFTD) and Love's WAFS.

The WAFS ferried aircraft for the ATC; the WFTD trained pilots in preparation for flying with the WAFS (Holden, 1991; Marck, 2009). By 1943, Cochran persuaded government officials to combine the two groups and their missions, forming the Women's Air Force Service Pilots (WASPs) which she led until it was dissolved at the end of 1944. General Arnold set forth three goals, in supporting the establishment of the WASPs:

1. To see if women could serve as military pilots, and, if so, to form the nucleus of an organization which could be rapidly expanded.
2. To release male pilots for combat.
3. To decrease the air forces' total demands for the cream of the manpower pool. (Central Flying Training Command, as quoted by Merryman, 1998).

Unfortunately, the prejudice Bessie Coleman experienced two decades earlier did not seem to have dissipated. A handful of African American women, including Sadie Lee Johnson, Mildred Hemmons Carter, and Janet Harmon Waterford Bragg, applied to the WASP, but were rejected. Cochran was concerned that her program would not be able to withstand the prevailing segregationist public opinion and policies. She responded to inquiries by Johnson, Carter, and Bragg, explaining that the training program was based in the Jim Crow South, and she feared African American pilots would be unable to find accommodations. There were two minority members of the WASPs, but both were of Chinese ancestry. Hazel Lee, who held citizenship in both China and the United States, was one of 132 women trained to fly fighter aircraft (Merry, 2011). While delivering one aircraft, she was forced to make an emergency landing in a farmer's field. The farmer, thinking he was under attack by the Japanese, approached with a pitchfork and had to be quickly convinced that Lee was Chinese and a member of the WASPs. Maggie Gee ferried aircraft and towed targets for gunnery training.

The impact of the WASPs on the Allied effort during World War II was remarkable. In just 27 months, the American female aviator flew over 60 million training and operational miles, transporting 77 different types of aircraft on 12,650 ferrying missions, towing targets, radio control, flying drones, simulated strafing, and flight testing (Cole, 1992; Holden, 1991; Marck, 2009; Merry, 2011). The WASP safety record, with an accident rate of 0.001 percent, was actually better than that of the record of the women's male colleagues, whose accident rate was 0.007 percent (Holden, 1991). Although 11 women died in training accidents, only 27 lost their lives during operational missions (Moolman, 1981). The overall WASP fatality rate was 0.060 percent for every 1000 miles flown, in contrast with 0.062 percent for male pilots (Holden, 1991).

In conjunction with General Arnold's support for the WASPs so that men could be freed to serve as combat pilots, the military manufacturing complex was obliged to free men from blue-collar production jobs to serve in combat. The U.S. government implemented a propaganda campaign to convince women to work, advertising a new character, Rosie the Riveter, as the personification of patriotic responsibility. Rosie was considered the standard bearer for the female worker; she was "loyal, efficient, patriotic, and pretty" (Yellin, 2004). Reporters located individual women who were real-life Rosies. In Tarrytown, NY, Rose Hicker was employed by the Eastern Aircraft Company. A photographer captured Hicker and her work partner driving rivets into a Grumman Avenger Bomber wing (Dabakis, 1993). By the end of World War II, three million women worked in war plants, with over 310,000 working in the aircraft industry ("Rosies" in the Work Force, n.d). Even though the demand for munitions workers and other war-support employees dropped at the end of the war, the number of working women never reduced back to pre-war levels.

6. Post-War Heroine

Within a few decades of World War II, the female aviator or aviation technician became more than an oddity. The cultural revolution of the late 1960s and 1970s brought new possibilities for careers in aeronautics, engineering and design, flight, maintenance, and space exploration. And when Sally Ride strapped into the Shuttle in 1983, even the sky was no longer the limit.

Although the WASPs were disbanded in 1944, Jackie Cochran's career in aviation and her influence in the political arena were not finished. She led a campaign to nominate General Dwight Eisenhower for the Republican candidate for the presidency, inventing the slogan, "I Like Ike" (Holden, 1991, p. 70). She continued to support the political lobby to separate the Air Force from the Army, playing a critical role in the 1947 event. That same year she met Chuck Yeager, the first American to break the sound barrier. Having found a kindred flying spirit, Cochrane was coached by Yeager as she prepared to achieve supersonic flight herself.

Once she had broken the sound barrier, Cochran and Yeager performed a practically vertical dive from 50,000 feet, wingtip-to-wingtip, in a synchronized show of skill for the press (Holden, 1991).

The American female aviation professional had a much wider horizon as the decades progressed. By the end of the 1970s, female military officers were authorized to fly non-combat aircraft. Ensigns Rosemary (Conatser) Mariner and Janey (Skiles) Odea, and Lieutenant Junior Grade Judith Ann Neuffer followed in their World War II combat pilot fathers' footsteps to become Naval aviators (Holden, 1991). Rainey was the first woman to wear Navy wings, the first to qualify as a jet pilot, and a few years later one of the first to die in a Navy aircraft mishap. The Air Force opened flight training, and Connie Engel joined the class to become the first woman to earn pilot's wings, winning one of three Distinguished Graduate awards and the Commander's Trophy for overall excellence. She related the pressure from a commanding officer, "Your success will have a direct and lasting impact on the Air Force" (Holden, 1991).

It took almost twenty years for Congress to open seats in combat aircraft to women, although female military members had been serving in combat zones for decades. Women were deployed to the Middle East during Operations Desert Shield, Desert Storm, and Desert Calm, in the early 1990s. When the war began in 1991, Army Major Marie Rossi led her Chinook helicopter company into Iraq, carrying ammunition, jet fuel, and troops. She flew over twelve missions during the 100-hour ground action of Desert Storm (Holden, 1991). After President Bush ordered the cease fire, Rossi was returning form night reconnaissance in bad weather when her Chinook hit a Saudi Arabian radio tower. She was the first female military pilot Desert Storm casualty. A few months later, Congress voted to lift the ban on female pilots flying in combat. The American female military pilot was finally on an equal playing field.

On the civilian side of the runway, the American female aviator made career inroads at a quicker pace. Doris Langher led the way. Although she never piloted a major carrier, she enabled many others to do so for United Airlines. Langher climbed the United corporate ladder from accounting clerk to simulator instructor, also serving on the FAA Women's Advisory Committee (Holden, 1991). In 1973, Emily Warner was the first modern female pilot to fly for a scheduled air carrier. She was hired by Frontier, at the time a regional carrier, as a co-pilot and later became the first qualified female captain for a U.S. air carrier. She eventually flew for United Parcel Service and after retiring became an FAA examiner. Two months after Warner began working for Frontier, Bonnie Tiburzi was the first female pilot to fly for a major carrier, American Airlines. She was the first female aviator to receive a flight engineer's rating and later, became a Captain for American and wrote an autobiography about being an American first. A number of women followed in these women's footsteps to become Captains for major airlines.

The avenues for women to become involved in the fields of aviation and aerospace have broadened considerably since the first airplane was designed, built, modified, and flown. In the early years of aviation, Blanche Stuart Scott lamented that "[t]here seemed to be no place for a woman engineer, mechanic or flier" (Holden, 1991, p. 17). Rosie the Riveter and Bessie Coleman paved the way for Air Force Major General Marcelite Harris. An African American, Harris was the first female aircraft maintenance officer, the first female deputy commander for maintenance, and one of the first two female commanders for the U.S. Air Force Academy (Women's International Center, 1998). Harris also served as Director of Maintenance, Deputy Chief of Staff, Logistics for the Air Force, overseeing maintenance of over $260 billion in military aerospace weapons systems and providing training, equipment and support for worldwide combat forces (Women's International Center, 1998). This American female aviation professional did not just break glass ceilings, she provided exemplary leadership during multiple conflicts spanning more than 20 years from Vietnam to Southwest Asia.

American women have also served as role models in the aerospace industry. Sally Ride inspired numerous young women when she became the first American woman to travel into space. Holding a Ph.D. in physics, Ride was part of the seventh shuttle mission crew. The astrophysicist related the feeling of spaceflight to riding an "E ticket" ride at Disneyworld (Holden, 1991, p. 145). A few years later, Mae Jemison was the first African American woman to soar into space. Prior to the retirement of the shuttle program, Air Force Colonel Eileen Collins served as the first female shuttle pilot in 1995 and then the first female shuttle commander in 1999. An American female aviator flew the aircraft that was arguably one of the most technologically advanced heavier-than-air vehicles created.

7. What Does the Future Hold?

The modern view of the aviation and aerospace future would probably have appeared incredible to some of the earliest female aviators. One can board any air carrier in the country and encounter a woman in the cockpit. When watching Mars expeditions on television and the camera pans the control room, there are female engineers celebrating with their male counterparts for a successful remote landing and powering up of the newest rover. Almost every combat flight career has been opened to women. What does the future hold? Or should this question be revised to how does the American woman hold the future of aviation and aerospace?

From Harriet Quimby to Judith Resnick, Holden (1991) provided some of the most meaningful quotes regarding breaking the glass ceilings of flight. "The aeroplane should open a fruitful occupation for women. I see no reason they cannot realize handsome incomes by carrying passengers between adjacent towns, from parcel delivery, taking photographs or conducting schools of flying" (Quimby, 1912 in Holden, 1991, p. 15). The American female aviator has achieved all of these goals. As Judith Resnick said, "firsts are only the means to the end of full equality, not the end itself" (in Holden, 1991, p. 139). The narrative of the American female aviator has been a story of firsts. Resnick's charge should serve to encourage women to move beyond the first of any events. "Now and then women should do for themselves what men have already done, and occasionally what men have not done, thereby establishing themselves as persons, and perhaps encouraging other women toward greater independence of thought and action" (Earhart, in Holden, 1991, p. 7). The American female aviator has arrived. Inspiring future generations is imperative in order for women to participate fully in the United States' success as a global leader.

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