

COWTOWN TAKES FLIGHT

Fort Worth is known for its cattle, oil, and natural gas industries, but did you know that aviation dominates both as the top industry for our area? For over a hundred years, aviation has continued to impact the greater Dallas-Fort Worth area. From the first powered flight in 1911, to state-of-the-art aerospace technology, our area is home to various stories of individuals who saw opportunity and decided to act on it. Over the years, whether it was local or nation-wide interest, the aviation industry continued to influence the cultural landscape of Fort Worth. This exhibit aims to educate and engage visitors, revealing the human stories behind the technological advancements and the impact aviation has had on the community. Get ready to take off in *Cowtown Takes Flight*!

EARLY YEARS 1900 – 1911

Roland Garros, 1888 – 1918

Ernest Adrien Roland Georges Garros was born in Saint-Denis, Réunion, France. A French fighter pilot and pioneer of aviation, Garros started his aviation career in 1909 and accomplished several pioneering exploits before enlisting in the French army during World War I. The first powered flight in Fort Worth was made by Roland Garros of the Moisant International Aviators on January 12, 1911 while piloting a Bleriot XI. The Fort Worth Driving Park, a racetrack close to Carroll and West 7th Streets, was the site of the flight. A historical marker with the title “Fort Worth’s First Flight” commemorates the event.



Russell Howe Pearson, 1894 - 1976

Russell Howe Pearson founded the Fort Worth Air Transportation Company, later known as the National Aircraft Corporation, in 1918 after serving as a pilot during World War I. The business marketed itself as the country's first commercial air transportation line. Soon after, a powerful straight-line wind or tornado wiped out Pearson's air fleet causing his air business to fail. Pearson's relatives claimed that despite the fact his creditors had forgiven him, he eventually paid back all his lenders in full.

Vernon Castle (1887-1918)

Born William Vernon Blyth in England, Vernon and his wife Irene would become famous ballroom dancers and actors appearing with stage names of Vernon and Irene Castle. Vernon Castle served in the British Royal Flying Corps during World War I, completing over 300 missions and shot down two enemy aircraft. Castle was eventually transferred to Fort Worth and Camp Taliaferro to train Canadian pilots in 1917. Tragically, on February 15, 1918, Castle took emergency action to avoid a mid-air collision with another plane and crashed. Castle would not survive the incident, however, the other pilot, his student, and his pet monkey all survived thanks to Castle's actions.



*Cowtown Takes Flight is generously sponsored by Lockheed Martin,
Meta Alice Keith Bratten Foundation, and Humanities Texas.*

1918 - 1939 (BETWEEN WORLD WAR I AND WORLD WAR II)

Lt. L. Locklear, 1891 - 1920

Texas native Ormer Locklear (1891-1920) trained as a pilot in Fort Worth before enlisting in the Union Army Air Service during World War I. Locklear accomplished the first wing walk after he left his aircraft's cockpit to fasten a radiator cap that had loosened during the flight. He left the Air Force before the end of World War I and started traveling the country as a barnstormer, performing stunts and acrobatics with his aircraft. Hollywood hired him because they saw his skill and cast him in *The Skywayman* and *The Great Air Robbery*. After tragically dying while filming a stunt for his second film, Locklear received lavish burials in Los Angeles and Fort Worth. His life is also portrayed in the movie, *The Great Waldo Pepper*.

Bessie Coleman, 1893 - 1926

Bessie Coleman, born in Atlanta, Texas, made history by becoming the first American woman of both African and Native American ethnicities to obtain a pilot's certificate. Coleman was known as "Brave Bessie," "Queen Bess," and "The Only Racing Aviatrix in the World" in addition to her flying feats. Her legacy encouraged African Americans and women to pursue their aspirations. However, the press criticized Coleman as a professional flyer for her opportunistic attitude and the colorful style she brought to flying. She soon established a reputation as a daring and skillful pilot who would do whatever it took to pull off a challenging stunt. She tragically died after falling out of an airplane on a scouting mission during a parachute stunt.

Reg Robbins, 1903 - ? and Jim Kelly, 1905 - 1930

Over the span of eight days in the summer of 1929, Reg Robbins and Jim Kelly broke the then standing record for the longest continuous flight. The duo took off from Meacham Field on May 19th and would not land again until May 26th. Over the more than 172-hour flight, Robbins and Kelly refueled mid-flight 17 times and covered 12,900 miles around Fort Worth and the surrounding area. When Robbins and Kelly finally landed again at Meacham, due to a crack in their propeller, the duo was greeted to a hero's welcome by a large crowd of spectators celebrating their historic accomplishment.

George Haddaway, 1909 - 1998

Born in Fort Worth, George E. Haddaway was engrossed in a multitude of aviation ventures throughout his lifetime. In 1934, he founded *Flight Magazine* and served as its editor for over forty years. A pilot himself, Haddaway would serve in the Civilian Air Patrol as a captain of a unit assigned to anti-submarine patrol and ship escort missions over the Gulf of Mexico during World War II. He also helped establish "Wings of Hope," a charity organization that delivers relief supplies to remote areas affected by disasters. Haddaway is also credited with founding the Frontiers of Flight Museum at Dallas-Love Field.

Mayor Henry Clay Meacham, 1869 - 1929

A prominent businessman, Henry Clay Meacham was mayor of Fort Worth from 1925 till 1927. During his tenure, Meacham persuaded the United States Army to build a new airport in Fort Worth to use for their Model Airway system. The field, later known as Meacham Field in honor of the mayor, would serve as a base of operations for the army to promote long distance flying and the transport of government officials and cargo. As a result, Meacham became a central hub for aviation. Supposedly Meacham spent \$1,500.00 of his own money to beautify the airport and build a house with access to a well for William G. Fuller in order to convince him to stay and run the new airport.

Lillian Holden, 1891 - 1983

An aspired Henry Ford of aviation, Lillian Holden sought to produce simple and affordable private airplanes for Americans from her backyard in Fort Worth, Texas. Holden co-designed and manufactured the American Flea Ship, a kit version of the triplane aircraft design. The American Flea Ship, nicknamed *The Flea*, was made of metal, wood, and cloth and was intended to be assembled as an at-home kit. The kit was promoted as a safe and economical private aircraft that anyone could buy and build. Although *The Flea* was never mass-produced, Holden persevered in her dream of offering dependable, affordable airplane kits for individual use throughout her life.

W.G. Fuller, 1895 – 1978

William Gardiner Fuller was born in Trenton, New Jersey. As the United States Army was on the verge of closing the airfield in Fort Worth, the mayor at the time, Henry C. Meacham requested Fuller, a former aero squadron flight instructor at Love Field, be assigned to Fort Worth to manage the airfield and keep it open. In 1927 when Fuller's enlistment expired, he was hired as the first Airport Manager of what would be named later that year, Meacham Field. During his time at Meacham, Fuller witnessed the visit from Charles Lindbergh and the endurance flight of Reg Robbins and Jim Kelly.

C. R. Smith, 1899 – 1990

Before his 34-year career as CEO of American Airlines, Cyrus Rowlett Smith's business acumen was noticed by Alva Pearl Barrett who would employ him for Southern Air Transport; it would eventually merge with American Airways. By 1934, E.L. Cord acquired American Airways and changed its name to American Airlines. Cord went on to hire Smith to run his company, beginning a long career for the businessman. In World War II, Smith joined the United States Army Air Force as a colonel and helped organize Air Transport Command. By the end of the war, Smith had become a major general and served as the Deputy Commander of the Air Transport Command.

**Joseph R. Pelich, 1895- 1968**

Immigrating from Austria with his family at a young age, Pelich would grow up in Ohio and study architecture at Cornell University. Once the United States entered World War I, Pelich enlisted in the Army Air Corps and was sent to train with Canada's Royal Flying Corps in 1917. Soon after, he was assigned to Fort Worth under the command of Vernon Castle, a British pilot who was training men at Carruthers Airfield (present-day Benbrook, Texas). After the war, Pelich came back to Fort Worth and began an architectural firm. He is noted for his work on several residential projects, but also Casa Mañana, Robert Carr Chapel and the Daniel-Meyer Coliseum at Texas Christian University.

TEKS:

K: 12A,B,C, 13A,B 14A,B,D

1ST: 15A,B,C, 16A,B, 17C,D, 18A

2ND: 13A,B, 14A, 15A,B, 16E,F, 17A

3RD: 13A,B, 14A,C, 15A,B,C,D,E, 16A

4TH: 4A, 8B, 11D, 18A,B, 19C

5TH: 22A,B,C, 23C,E, 24A,B,

6TH: 5C, 15B, 19B

7TH: 7B, 8C, 10C, 11B, 12A, 19A,B,E, 20A,B, 21A,B

8TH: 1A, 10A,C, 11A, 23B,E, 27B,C, 28A,B, 29B,C

1939-1945 (WORLD WAR II)

Ben E. Keith, 1882 – 1959

Benjamin Ellington Keith was born here in Fort Worth in 1882. In 1909, he became the first salesperson for Harkrider – Morrison Company, a produce house, and quickly made a name for himself within the company. It would begin a long and successful career in the food service industry for Keith as he became the president and general manager of the company by 1918. The company did not officially change its name to the Ben E. Keith Co. until 1931. He would also go on to serve as Chair of the Fort Worth Chamber of Commerce from 1916 – 1917 and was a member of several organizations throughout the city including the Order of the Elks, Freemasons and Shriners International, and Rotary Club.

Keith was a crucial player in lobbying for the aviation industry to come to this area. Recognizing Fort Worth would be an ideal location for military bases once the United States declared war on Germany in 1917, Keith quickly headed to Washington to meet with General Foulois, whom he had previously met when Foulois was stationed in Texas. At this time, General Benjamin Foulois oversaw all United States aeronautical production and communication with the Canadian Royal Flying Corps. Both men met and even though Foulois had to leave the meeting early, he entrusted Brigadier General Cuthbert G. Hoare, commander of the Canadian Royal Flying Corps, to assist Keith any which way he could. As a result, there would be three airfields established in and around Fort Worth and an international pilot training program for both countries. Both the United States and Canada would send up and coming pilots here to train further solidifying our area as a growing hub for aviation.

Amon G. Carter, 1879 – 1955

Amon Giles Carter, along with Keith, Fuller, and Smith, was instrumental in bringing aviation to North Texas. He was part owner of American Airways (later American Airlines), helped bring Convair to Fort Worth, and convinced Bell Helicopter to create a plant in the area. Born from humble beginnings, Carter moved to Fort Worth in 1905 and is credited with merging the Fort Worth Star and Telegram newspapers to create the periodical we are familiar with today. He also established WBAP in 1922, was successful in the oil industry, and devoted his resources to various philanthropic projects for the remainder of his life.

Delphine Bohn, 1913 - 1992

When the United States entered World War II, Delphine Bohn was eager to use her skills as a pilot to aid in the war effort. Having started flying in 1940, Bohn quickly earned her private and commercial pilots licenses. She contacted a slew of various officials across allied command looking for a way to help as a pilot. Eventually, Bohn was accepted in the United States Women's Auxiliary Ferrying Squadron (WAFS) as one of their first class of pilots. She flew with the WAFS, which eventually became the WASPs, for the majority of the war. Following the deactivation of the program, Bohn moved about the country continuing to make a living in the aviation field. This included founding her own company known as Western Aviation, Inc. based at Meacham Field.

Major Horace S. Carswell, Jr., 1916 – 1944

The namesake of Carswell Air Force Base, Horace Seaver Carswell Jr., was born in Fort Worth and served as a Major in the United States Army Air Forces during World War II. He was posthumously awarded the Medal of Honor for his admirable actions during a one-plane strike against a Japanese convoy in the South China Sea. During this strike, Carswell attempted a crash landing after his B-24 Bomber sustained heavy damage, remaining with two other crew members who could not evacuate the damaged aircraft. Unfortunately, all three were killed during the crash. Major Carswell is buried in Oakwood Cemetery in Fort Worth, Texas. The Fort Worth Army Airfield was renamed Carswell Air Force Base on February 27th, 1948.

Edna Gardner Whyte, 1902 – 1992

Born in Minnesota, Whyte became a registered nurse in 1924 and went on to earn her pilot's license in 1931. She eventually became a flight instructor and participated in over a hundred cross-country air races. After moving all over the country, she settled in Fort Worth and trained World War II military pilots at Meacham Field. Later on, she built Aero Valley Airport in Roanoke, Texas on land she had purchased. Whyte was awarded the Charles Lindbergh Lifetime Achievement Award in Aviation and is an inductee to the Texas Women's Hall of Fame and Texas Aviation Hall of Fame.

Robert William Prescott, 1913 – 1978

Born and raised here in Fort Worth, Robert W. Prescott served as a fighter pilot during World War II. The Flying Tigers were part of the American Volunteer Group led by General Claire Lee Chennault. After they were disbanded in 1942, Prescott continued to fly overseas and eventually became a captain for China's National Aviation Corps. He completed over 300 flights across the Himalayas before returning to the United States to start his own business venture. Prescott recognized a need for an airline to solely focus on cargo and founded the Flying Tiger Line in 1945. It became the first transcontinental, all-freight airline. He remained the president of the company until his passing in 1978.

Jacqueline “Jackie” Cochran, 1906 – 1980

By 1939, Jackie Cochran had already recognized the need for more women to be trained as non-combative pilots during World War II, and actively campaigned for the United States Army Air Corps to commission female pilots for these domestic flights. The Women's Auxiliary Service Pilots, or WASPs, came to be in 1942 by merging with the Women's Auxiliary Ferrying Squadron. From that point, Cochran became the Director of the WASPs. Cochran received the Distinguished Service Medal in 1945 for her work during WWII and became the first woman to fly faster than the speed of sound in 1953.

POST WORLD WAR

Alan Bean, 1932 – 2018

Alan LaVern Bean's interest in airplanes began early on in his life. After graduating from Paschal High School here in Fort Worth, Bean went on to earn an aeronautical engineering degree from the University of Texas at Austin. Afterwards, he joined the United States Navy and became a successful test pilot before being selected by NASA in 1963. In November 1969, he became the fourth man to walk on the moon as part of the Apollo XII mission and commanded the Second Skylab at the space station. He retired from the Navy in 1975.

Philip F. Oestricher, 1931 – 2015

Famous for his unofficial test flight for General Dynamics' YF-16 Fighting Falcon on January 20, 1974, Phillip Oestricher had worked at Convair as an aerodynamics engineer. He went on to become a successful test pilot on several projects and contributed to the development of the F-16. He also flew all F-111 models and was the design safety engineer for the project. He retired in 1992 and remained with his family here in Fort Worth, Texas.

Ross Perot Sr., 1930 – 2019 and Ross Perot Jr., 1958 -

In the late 1980s, Henry Ross Perot Sr., once known for his presidential campaign under the Independent Party, donated the land and funded the development of Fort Worth Alliance Airport alongside his son, Ross Perot Jr. The Perots developed Alliance after coordinating with the city of Fort Worth and the Federal Aviation Administration to open the first airport designated explicitly for industrial use in Fort Worth. The airport was renamed the Perot Field Fort Worth Alliance Airport to commemorate their contributions. Today, the airport is a vital hub for industrial facilities such as Amazon, FedEx, and Walmart. H. Ross Perot, Jr. co-piloted the first helicopter flight around the world in 1982. He flew a Bell 206L-1 Lone Ranger II named the Spirit of Texas alongside Jay Coburn. Perot would go on to serve as a pilot for the United States Air Force.

Jeana Yeager, 1952 -

In 1986, Jeana Yeager became the first woman to successfully complete a non-stop, circumnavigation of earth without having to refuel. Along with her co-pilot, Dick Rutan, the two completed their flight in nine days on the aircraft, Voyager. The Voyager was designed and built by Yeager and Dick and Burt Rutan. Born in Fort Worth, Yeager became interested in flying helicopters and received her pilot's license in 1978. Both her and Rutan received the Presidential Citizens Medal. The Robert J. Collier Trophy was awarded to Jeana, Dick and Burt for both their flight and the aircraft design itself. She was the first woman to receive the Collier Trophy.

Charlie Hillard, 1938 - 1996

A Fort Worth native, Charlie Hillard began taking flying lessons as a teenager and had saved enough money to purchase his own plane by the time he began college. Hillard focused on aerobatic flying and went on to form the Red Devils with Gene Soucy and Tom Poberezny in 1971. The team continued to gain popularity and eventually formed the Eagles Aerobatic Flight Team with Hillard as the lead pilot. In 1972, Hillard became the first American to individually win the World Aerobatics Champion title and was inducted into the International Aerobatic Hall of Fame in 1990. The Eagles themselves are still considered the longest, continual performing airshow team in the world.

Beryl A. Erickson, 1916 - 2006

Known for his reputation as one of the safest pilots around, Beryl Erickson was a test pilot for several famous aircraft. During World War II, he made flights under Air Transport Service and served as a test pilot for both Consolidated Aircraft and Convair. He moved to Fort Worth in 1942 to take on the role as lead test pilot for Consolidated's XV-32 Dominator bomber program. He also commanded the first flight for the supersonic bomber, B-58 The Hustler, in 1956.

Larry Bell, 1894 - 1956

Lawrence Dale Bell started Bell Aircraft Corporation in 1935 and produced fighter aircraft during World War II. By 1941, the company had begun developing helicopters, eventually producing the Bell 30 which would later become the successful Bell 47. Bell received the Robert J. Collier Trophy along with Chuck Yeager and John Stack for the first supersonic flight in 1947. One of the most recognizable helicopters, the UH-1 Iroquois or Huey, became synonymous with the Vietnam War. In 1951, Bell relocated his company's headquarters to Fort Worth. Bell would also be inducted into the National Aviation Hall of Fame in 1977.

Beverley Bass, 1952 -

Beverley Bass became the first female captain to pilot a commercial plane for American Airlines in 1986. While attending Texas Christian University, Bass' passion for flying grew and she began logging several hours at Meacham Airport once her classes were finished each day. She went on to become the chief pilot for Meacham's charter department and would be hired by American Airlines in 1976. On September 11th, 2001, Bass was one of many pilots that would have to land their planes at Gander International Airport in Gander, Newfoundland once the United States airspace was closed.

**“Aviation is proof that given, the will, we have
the capacity to achieve the impossible“
– Edward “Eddie” Rickenbacker, WWI fighter
pilot and Medal of Honor Recipient**

CLASSROOM CONNECTIONS

PRE-VISIT LESSON IDEAS:

Introduction to Flight:

Teach students about the forces involved in flying such as lift, gravity, thrust and drag as well as Bernoulli's principle! Talk about how people have always understood that flight was possible from observing birds, but it took thousands of years to actually achieve and there were many hurdles along the way. Ask students "What are some examples of things that fly?" For example: birds, planes, hot air balloons etc. "Can you group them into different types of flight?" How about grouping them into natural and man made things? Look at some of the common characteristics of things that fly, like bird wings and plane shapes with aerofoil shapes.

This must be provided by an engine, by gravity (glider, sailplane) or by muscles (birds).

There are a number of useful demonstrations you can do to help explain flight, they include:

- Using a hairdryer to float ping-pong or polystyrene balls.
- Releasing a blown up balloon so that it flies up a string connected from one side of a room to the other.
- Helium balloons.
- Giant air blowers to help show the Bernoulli principle in action.
- Throwing paper airplanes of different designs, which work better and why?

SPARK CURIOSITY!

Encouraging children to use "**I Notice, I Wonder, I Imagine**" questions during a field trip can help them engage actively with the exhibits, stimulate their curiosity, and foster their creativity and critical thinking skills. It also provides an opportunity for meaningful discussions and reflections on their experiences.

For Example: "I notice there are a variety of aircraft on display, ranging from early kites, to modern commercial planes and a helicopter. I wonder how pilots in the past managed to fly some of the early, less advanced aircraft safely. I imagine what it must have been like to witness the Wright Brothers' first powered flight and how it changed the world."

TRY THIS BACK IN THE CLASSROOM!

These post-visit lesson ideas will help students deepen their understanding of aviation history and its significance, while also allowing for creativity, research, and critical thinking.

Popsicle Stick Planes:

For this activity, you will need: clothes pins, regular and small popsicle sticks, buttons and glue.

1. Choose a clothespin and glue one popsicle stick to each side of the clothespin like wings on an airplane.
2. Take two mini popsicle sticks and glue to the front and back of the clothespin to act as propellers.
3. Finish by gluing a button to the front of the airplane atop the mini popsicle stick.



History of Aviation Project

- Divide the class into partners or small groups. Assign each group a specific time period or topic related to aviation history (e.g., early inventors, World War I aviation, modern aviation, space exploration, etc.). You can also provide each group with a list of events and dates to research.
- Have groups create their timeline of aviation history using the information they gathered during their visit to the *Cowtown Takes Flight* exhibit. They can include significant events, milestones, and key figures.
- Allow students to decide how they will present their timeline whether that be a poster, video, or multimedia presentation!



Squeeze Bottle Rocket

Supplies: empty squeeze water bottles, cardboard, straws, scissors, glue/stellotape, blue tack, plasticine

Instructions:

1. Lift up the sports cap and push in half a straw, seal around it with blue tack.
2. Squeeze the bottle and make sure air is coming out of the top of the straw, not the sides.

For the rocket:

1. Draw and cut out a cardboard rocket.
2. Seal one end of a larger straw than the one in the bottle with sellotape.
3. Attach the rocket onto one side of the straw.
4. Place the rocket on the bottle and squeeze the bottle hard, the rocket should fly into the air!

Create a Garbage Bag Kite!

You'll need: a plastic bag, two sticks, string, scissors, and ribbon. Optional: tape and/or glue.

**The sticks can be garden stakes, dowels, straight twigs, or skewers taped together.*

- Take the two sticks and tie them together with a piece of string. The cross stick should be tied about one third of the way along the the main stick.
- Cut the garbage bag to fit the frame of the kite. Tie the ends of the sail to the wood frame. No need to use glue or tape. Just keep the knots tight!
- Attach the flying string first, tie a piece of string from one side of the cross stick to the other, leaving slack to form a triangle. Then, tie the end of the spool of string to the bottom portion of the main stick, loop under the slack cross string and tie a simple knot at the intersection of the two strings (so it forms a triangular pyramid shape). **Hint: if you can't figure out how to tie it with the spool of string attached, you can cut it and then attach the flying string after by tying a knot near the top of the triangular pyramid!*
- Make a ribbon balance by tying ribbons to the end of the kite in order to help balance it. You can even attach a small weight, like a washer, if the ribbons don't seem hefty enough for your kite.
- Decorate Your Kite Optional: color on, add stickers, ribbons, etc. to decorate your kite.
- Find Wind and Fly!