

INTRODUCTION

BEGINNINGS

Naturally, participants in the first Women's Air Derby of 1929 were not the first pioneering aviators of the fairer sex. They rode on the wings of predecessors who had braved even less reliable aircraft.

In 1784, before America had even elected its first president, Madame Thible ascended as a balloon passenger in Lyons, France. A century later, in 1880, American aeronautical engineer and inventor Carl E. Myers called upon his wife Mary to be his test pilot, choosing the more exotic Carlotta as her stage name. She probably made more than five hundred balloon ascents testing her husband's theories, and she became quite an experienced aeronaut in her own right.

By 1909, the vivacious French Baroness Raymonde de Laroche had driven racing cars and made flights in balloons. She didn't hesitate to fly a Voisin biplane a short six years after the Wright brothers initially flew. She learned to manipulate the unstable and unpredictable machine and became the first woman licensed to fly by the Fédération Aéronautique Internationale. To questions about engine failures and even structural collapse, she spoke of fate and fear.

“Most of us spread the perils of a lifetime over a number of years,” the daring de Laroche said. “Others may pack them into a matter of only a few hours. In any case, whatever is to happen will happen—it may well be that I shall tempt Fate once too often. Who knows? But it is to the air that I have dedicated myself, and I fly always without the slightest fear.”

Fate did catch up with the intrepid French baroness, as it overtook so many early fliers. She was killed in an airplane crash in 1919 at the age of twenty-three.

In 1909, across the channel, Lilian Bland of Belfast, Ireland, was a successful writer and press photographer for London newspapers. Bland constructed a model biplane that she flew as a kite, then, encouraged with that success, she built a full-size glider of spruce. She designed wings like those of seagulls, and she coated the fabric surfaces with a photographic solution to make them waterproof.

Ready to fly her glider under power, Bland ordered a two-cylinder engine that developed twenty horsepower at one thousand revolutions per minute. Starting it up, the plane’s wooden propeller spun off, miraculously missing nearby spectators. Her next try resulted in vibrations that snapped most of the wires between the struts. Soon, the repaired airplane flew thirty feet, hopping short distances like a rabbit, a rocky type of flight that was all too typical of aeronautical advancements of the day.

Hélène Dutrieu was already famous as a trick bicyclist when she took up flying in 1910, becoming Belgium’s first licensed female pilot. She gained fame by flying the nonstop inconceivable distance of twenty-eight miles. People gathered in the streets and church bells

pealed as she climbed to the extreme height of thirteen hundred feet. Dutrieu's feats brought her France's coveted Legion of Honor award in 1913.

The first solo female pilot could have been **Aida de Acosta**, a young Cuban American visiting Paris with her mother in 1903. Intrigued with Brazilian inventor Alberto Santos-Dumont's dirigibles, the young girl was soon taking flight instruction. After three lessons, de Acosta flew the dirigible alone for two hours, and said, "I stopped the petrol motor and came down like a feather. I've never had so much fun in my life." That was five months before the Wright brothers' flight, which made de Acosta the first woman of powered flight.

The event was nearly lost to history, because de Acosta's angry father extracted a promise from Santos-Dumont to never mention Aida de Acosta by name in recounting her flight. Señor de Acosta reminded his wife and daughter that "a proper woman should only be mentioned in the newspaper twice—to announce her marriage and her death."

There are many shades of "first." Who was America's first female pilot? Resourceful **Bessica Raiche** built her own airplane in her drawing room, then she flew it on September 16, 1910. The intrepid lady, who later became a physician, exemplified the unquenchable enthusiasm of the early dreamers. Her entire instruction had been how to move the wheel to make the airplane go up and down. Since there was no throttle control, volunteers held on to the wings while the engine engaged. When the restraints were released, the air machine flew.

Blanche Stuart Scott, an unabashed tomboy, reveled in firsts. She became a trick bicycle rider, then drove an automobile across the United States—a sixty-nine-day journey at a time when there were only 216 miles of paved road in the entire country. She became a member of the famous Glenn Curtiss exhibition team, and Curtiss himself declared her America's first aviatrix on September 6, 1910, though she never did obtain a pilot's license.

Petite **Harriet Quimby**, called the "Dresden Doll," became America's first licensed woman pilot at the Moisant School in 1911, the year before her death at age twenty-eight. Quimby traveled to France to fly a Bleriot monoplane across the English Channel. She sat outside in the open, before there was such a thing as a cockpit, enveloped by mist and chilling cold. Only three months later, she died in the unstable Bleriot over Boston Harbor. Fellow student **Mathilde Moisant**, after a grand total of thirty-two minutes of flight instruction, became licensed pilot number two, and she soon established an altitude record of fifteen hundred feet.

Ruth Law and **Katherine Stinson** both learned to fly in 1912, Law touring with her own Ruth Law Flying Circus, the first woman to perform a loop. Law became famous for her death-defying wing-walking stunts. Stinson, along with her mother, formed the Stinson Aviation Company in Chicago, Illinois, to manufacture and sell airplanes. In 1913, she was purported to be the first woman to carry the mail. Both Law and Stinson petitioned the government to allow them to fly for their country during WWI, but they were denied.

The flying circuses (or air shows) faded at about the time of the 1929 air derby, as the government put restrictions on the

barnstormers' wild antics. The barnstormers were airborne gypsies, prone to buzzing a town to lure the populace out to a nearby farmer's field. They'd show off a few loops and spins, then sell rides. **Jessie and Jimmie Woods** produced one of the last and most successful operations with their Flying Aces Air Circus, with Jessie riding the top of the upper wing throughout a variety of aerobatic maneuvers. After having been retired from aviation for some sixty years, Jessie stood on the upper wing of a modern open-cockpit airplane to fly at an air show in 1991 at the age of eighty-two.

Against staggering odds, **Bessie Colman** gained renown in aviation. One of thirteen children, Coleman had picked cotton to earn money for school. Inevitably, as an African American and as a woman, she found the door locked at flying schools. Undaunted, in 1920 Coleman studied French and sailed for Paris where prejudice didn't bar her from learning to fly. She returned to the States in 1921 as the world's first licensed black pilot. "Brave Bessie," as she became known, became a popular attraction on the air-show circuit.

For some unknown reason, at an air show in 1926, Bessie failed to wear her parachute and didn't strap herself in properly. A wrench jammed her controls. As the airplane rolled over, horrifyingly, Brave Bessie fell to her death.

There were many such tragedies. The early years exacted a horrendous toll on aviation's pioneers. During 1910 alone, thirty-seven professional flyers were killed performing at air exhibitions. Today, we can hardly comprehend the rudimentary nature of machines they called airplanes and the often-flimsy construction that too often sent people to their deaths.

Among the courageous firsts, each aviator could conceivably be called foolhardy, and certainly all were daredevils. Their bravery, however ill-advised, became our bounty. And because they breached the unknown, safer machines evolved as more eager aviators followed. The air knew no boundaries, nor gender distinctions. If men could achieve benchmarks and set records, so too could women. And that, in 1929, became irrefutable.



SKY GIRLS

Flight is abiding peace.

Absolute serenity.

It is faith and compassion.

Purest joy.

It is a spirit totally free.

Flight is yesterday's yearning.

The fulfillment of today's dreams.

Tomorrow's promises.

-LOUISE THADEN

DECEMBER 7, 1928
OAKLAND, CALIFORNIA



She tall, slender pilot outfitted in a fur-lined flying suit looked a little incongruous on the warm January afternoon at Oakland International Airport. Louise Thaden's bright blue eyes betrayed a modicum of apprehension as she looked her brand-new open-cockpit biwing Travel Air 3000 over carefully before flight. Her test flights in preceding days had not been encouraging. She'd suffered three engine failures, calling for dead stick (or powerless) landings. Successful ones, fortunately, but that experience didn't build confidence in her engine, a high compression 180 horsepower Hispano-Suiza. The villain the first two times was a clogged fuel vent, the third time, shavings in the fuel tank stopped the flow of gasoline to the engine.

Thaden was attempting to break the women's altitude record, and the airplane had been modified, stripped of any unnecessary equipment whose weight would inhibit a maximum climb. Thaden would be reaching an altitude with insufficient oxygen for the pilot to remain functional. She had found a small oxygen cylinder at a local machine shop, then got an ether mask from a hospital. A rubber hose

and a pair of pliers to turn the control valves on the tank completed her oxygen equipment for high-altitude flight. She inquired how to use oxygen, and she was told by an intern at the hospital that if she used too much she'd pass out, and if she didn't use enough she'd pass out. So much for high-altitude orientation.

Climbing through fifteen thousand feet on the historic flight, Thaden donned her makeshift oxygen mask and opened the valve of her tank a fraction of an inch with the pliers. She climbed for an hour, carefully hoarding airspeed, and at twenty thousand feet, she gave the control valve another quarter turn. Her ether mask was collecting moisture which dripped down her chin, and her breathing made a strange bubbling sound. Still mushing upward, she last remembered seeing one altimeter read twenty-seven thousand feet above sea level, and the other twenty-nine thousand. The temperature was twenty-four below.

Too soon, her oxygen tank was empty. With her ears ringing and her brain oxygen-deprived, Thaden's consciousness had faded, and certainly her judgment was impaired. The airplane spiraled down of its own accord. As the fog slowly lifted from Thaden's brain at around sixteen thousand feet, she thankfully pulled off her frozen mask to breathe real air again. Thaden took back control of the pilotless aircraft and landed safely, to the relief and pride of her factory support team. After calibration, the official barograph reading showed a disappointing 20,260 feet above the earth. Nevertheless, it was higher than any woman had ever flown.

No one would pick quiet and thoughtful Louise Thaden out of a crowd for an aviator. She wasn't the flamboyant type like colorful

Roscoe Turner, complete with waxed mustache, snappy uniform, and jodhpurs, who flew with his live lion, Gilmore. Nor was she like Wiley Post, who exuded glamour and mystery behind a black eye patch, proclaiming his macho roustabout credentials from the Oklahoma oil fields. Gentle Louise sported none of the outlandish, attention-grabbing glitz of many aviators of the day. She was just a pretty, unassuming, young woman who simply adored flying airplanes. She had enough competitive spirit to go after flying records, but she did so without undue flash.

Only a couple years before, young Thaden's introduction to flying came serendipitously. She landed a job in Wichita, Kansas, selling coal for the J. H. Turner Coal Company. That her boss, Mr. Turner, also happened to be a large stockholder in and director of Walter Beech's Travel Air Company tantalized her. Thaden revived her long-secret yearning to fly, while simultaneously learning a thing or two about the airplane business.

The day she heard that the Travel Air cabin monoplane was set for its first flight, the coal salesgirl was compelled to sneak off to watch. Though she was embarrassed to run into her boss there, he appreciated her fascination with the airplanes and promised to speak to the boss, Walter Beech, on her behalf. The two men arranged a sales job with their Pacific Coast distributor for Thaden. It was a life-changing opportunity; she would get to learn to fly...and in the same way other pilots of the epoch did—by defying the odds.

Engine failures, lost bearings, cross-country fatigue, and heart-stopping aerobatics—it all added up to experience. Though the pilots could trade their whoppers, share exaggerated flying tales

called “hangar flying,” and boast their macho understated responses to real danger, Thaden succinctly summarized the largely self-schooled process of learning to fly: “A pilot who says he has never been frightened in an airplane is, I’m afraid, lying.”

After five hours and fifteen minutes in the air, in February of 1928, Thaden achieved Fédération Aéronautique Internationale Private Pilot Certificate #6850, signed by Orville Wright. Her twenty-minute check-ride by E.E. Mouton was flown in a Travel Air with an OX-5 engine. Though flown in February, by the time the paperwork was completed, Thaden’s pilot certificate read May 16. No matter. When the eager pilot’s log book totaled two hundred hours in the air, she was eligible for a transport pilot’s license. At the time, she was told there were only three transport pilots who had come before her. She passed the lengthy written exam and prepared for a flight test. The flight examiner, like so many others, intensified the ordeal so he wouldn’t be accused of going easy on “the girls.” In April 1929, twenty-three-year-old Louise Thaden became a certificated transport pilot.

In the meantime, Herb Thaden, her reserved young engineer beau, had proposed marriage. They eloped to Reno, Nevada. Instead of a honeymoon, Louise hurried east with a stop in Wichita, Kansas, to persuade Walter Beech to build her a racing airplane for the first women’s transcontinental air race.

In 1929, for the very first time, the National Exchange Club, a men’s service club, had elected to sponsor an all-women’s air derby from Santa Monica, California, to Cleveland, Ohio, a distance of about twenty-seven hundred miles, as their national publicity project

for the year. Air race promoter Cliff Henderson organized the first Women's Air Derby, patterning it after the mens' transcontinental air races. Elizabeth L. McQueen, founder of the Women's International Association of Aeronautics, recruited the contestants from across the nation, and, indeed, word even spread to Europe. Never a pilot herself, McQueen always supported any women pilots' activities. The small group of women licensed to fly airplanes in 1929 received the plan with huge excitement. It was a toss-up whether the Exchange Club or the women pilots were more determined to make a good showing. It was a momentous occasion—for women and for aeronautics.

Race officials anticipated enormous crowds at the Cleveland Air Races, the derby's finish line. People would come from all over the country, and some even from abroad, expecting state-of-the-art entertainment—roaring airplanes racing around pylons, a breathtaking air show, military demonstrations, and the chance to look over the newest airplane models. And in 1929, for the first time, women would be racing airplanes from the far western edge of the country, adding to the excitement in Ohio where the cross-country race would end.

Just before the festivities commenced in Cleveland, transcontinental air races would start from both ends of the country—the women from the west and two men's races from west and east, culminating in front of Cleveland's huge throngs. Timers organized to clock each racer in and out of the designated stops. Though there would be great glory for arriving at the finish line first, the shortest total elapsed time would win. At stake was \$8,000 in prize monies, plus generous prizes for each leg of the trip.

The women competitors certainly wanted the prize money, but

they were ecstatic simply to be competing. Most were able to find aircraft company sponsorships to help shoulder expenses. Either Thaden was a super salesgirl or Walter Beech knew a champion pilot when he saw one. Soon after her own request, five new Travel Airs were coming down the production line for women racers, one with the name “Thaden” on it. All were built specifically for the Derby with speed wings (a thinner cross section) and Wright engines, though some older Travel Airs already out in the field were entered also. Thaden’s airplane came off the assembly line last, she supposed because she wasn’t buying hers. The factory would be her sponsor. The Travel Air was the racing airplane of choice, mostly because Walter Beech himself was committed to racing activities at the terminus in Cleveland, and he thought interest generated by the ladies’ racing would sell airplanes.



Walter Beech and Louise Thaden

Though Beech would one day manufacture airplanes flown worldwide under his own name, the Travel Air Manufacturing Company, located on the east side of Wichita, Kansas, was already making a name for strong, fast, and reliable airplanes. It had been building and selling an astonishing one airplane per day the previous year. Travel Air's location was, in part, responsible for Wichita's legitimate claim to its immodest title, "Aviation Capital of the World," though the town's location in the middle of tornado alley, with its springtime thunderstorms and hail, did not engender a sense of comfort.

Travel Air had a close affiliation with the Curtiss-Wright Corporation through the Wright interests, and it kept a winning record due to constant modifications to its products. In fact, the rumor was out that the Travel Air factory had a new "mystery ship," which Beech would introduce in Cleveland. Thaden would have given her right arm to fly this as-yet-unseen aircraft in the women's race. The Mystery Ship Model R was radically new—low wing with lots of power and rumored to be up to a hundred miles per hour faster than the earlier design. One wag remarked that "it was so fast it takes three men lined up to see it!" Walter Beech had covered the windows in the area of the factory where the Model R was being developed, whether on purpose or by happenstance, creating great interest in and conversation about the mystery airplane. As a result, the Model R was forever known as the Mystery Ship because of its mysterious birth.

The Travel Airs flown by the women were a well-proven and popular current design: biwing (one wing above the other), open cockpit, and a choice of engines of varying horsepowers. It was not a small airplane, though derby participant Marvel Crosson's racing

model was more diminutive, and it took either a running leap, a small stepladder, or an agile pilot to climb up into the high cockpit. As office space, the Travel Air cockpit left a lot to be desired. It was noisy, dirty, too cold or hot, and not comfortable. On the other hand, it was the magic carpet right out of *One Thousand and One Nights*. The airplane provided a view of the earth—the neat farms and geometric row crops; herds of exquisite wild horses running in total freedom; deep, dark canyons swallowing meandering rivers looking for the ocean; and miniature people burdened with their daily lives and troubles.

Thaden's arrival at the factory invariably lent a happy tone to the place. The combination of her modest air and taking the time to speak to each of the workmen who put together her airplane made them want to make a special effort for the girl with the slight southern cadence. Dark curls slipping out of her cloth flying helmet framed a rather square face, which was dominated by her light blue luminous eyes. A subtle sense of humor complemented her barely contained wonder that God had seen fit to give her the gift of flight. Her unusually calm demeanor distinguished her among the sometimes-volatile women who chose to fly airplanes in 1929. The guys on the assembly line approved of the boss's unexpected decision to follow Thaden as far as Fort Worth, Texas, to make sure everything was working perfectly on his "baby," the Travel Air. As it turned out, this decision made all the difference for Thaden and for the race.

Thaden had said goodbye to her parents and her sister Alice, who came over from Arkansas on a hot mid-August day in 1929 to see her off from the Travel Air factory in Wichita. Thaden prepared to trail the others already on the way to the race start in Santa Monica.

She still had sufficient time to get there. However, she didn't want to dillydally. The two airplanes landed in Tulsa, Oklahoma, for fuel en route to Fort Worth, navigating in reverse the course she'd be flying in just a few days. Walter Beech's enthusiasm was high, and as they prepared to depart southbound, the great aviation legend saluted Thaden, "Good luck, fella." Then, looking at her with concern, he added, "Do you feel all right?"

On that late summer day, Walter Beech's warmth was an unbiased acknowledgement of a fellow aviator. And her faint reply, "Sure, swell," spoke volumes about the persistence and enthusiasm that led Louise Thaden and nineteen other daring women to broach a new aviation frontier for women and for pilots.

When Thaden had said she felt "swell" to Beech in Tulsa, it was a lie. Thaden felt awful. She was dizzy and nauseated. *Must be the heat and excitement of the race*, she reflected. She had thought a cold drink would settle her down as the airplane was being refueled during the quick Oklahoma stop, but it had not. *Oh, for some cool rain*, she hoped. She was distracted, and she laughed just thinking about it. Student pilots learning about weather never seemed to forget Thaden's explanation of rain, "Fill a heavy paper bag half full of water, hold it suspended, and watch while the bottom slowly sags, gradually giving way until finally a hole appears and water flows in a steady stream, and you will have seen a rain storm as it looks from the air."

Pulling herself up into the high cockpit, leg over the edge, then dropping down on the low seat, Thaden departed Tulsa, as did Beech, in their separate airplanes. Beech pulled ahead in an enclosed cabin Model 6000 as Thaden throttled back to a cruise setting, breaking

in her new engine. She leaned her head out of the open cockpit into the slipstream, hoping to feel better by finding some fresh air and clearing her head. But the only air rushing by was scorching hot and not refreshing at all. In March, just a few months before the derby, a “Hisso” Travel Air (Hisso engine), which incorporated the newly designed speed wing airfoil, had been trucked to Oakland, California, for an endurance trial. A letter was attached to the wing which said, “We believe the wings to be sufficiently strong, but since they are a new development, we do not want you to take any unnecessary risks or chances.” It was signed by Walter Beech. Sure, Thaden had thought, nothing “unnecessary.” “Okay, I’ll be a test pilot,” she decided. Thaden knew that flying airplanes carried some risk, but she was a cautious risk taker. The risk had to be worth taking, with positive odds for success.

First, Thaden set an endurance record of more than twenty-two hours aloft in the Travel Air. She described the challenge of staying awake as “torture.” Then in April, diving for speed across the course, she had drawn on all the speed the airplane had, and set the new 156-miles-per-hour record. (Speeds were usually noted in statute miles per hour rather than nautical miles per hour, simply so the airplane would seem faster in advertising. Since a knot, or nautical mile, equals 1.15 statute miles, Thaden’s record of 156 miles per hour was really only 136 nautical miles.) No one woman had ever held three flight records simultaneously. That made Louise Thaden the pilot of the hour. This quiet, unassuming, and talented pilot was deeply embarrassed to read about herself in the press: “Louise Thaden with her classic features and slim, light-footed figure might be a sister to Icarus, god of flight.”

Repeatedly, Thaden leaned her head out the side of the open cockpit into the slipstream. Her cloth flying helmet kept her hair contained from the wind, but sweat dripped onto her once-starched shirt collar. She wore goggles to protect her eyes, and her face had a farmer's suntan. Instead of a white forehead though, Thaden, like other racers, sported owl eyes—white circles around her protected eyes, with sun- and wind-burned cheeks and forehead. Later, when they were on display at social events en route, the racers' tanned V-necks presented a startling contrast in their party dresses.

Thaden and Beech departed Kansas to the south, having opted for the lower route to California. Kansas and Oklahoma were then, as they are now, laid out in one-mile section lines, county roads and farmers' fence lines defining the points of the compass. In fact, a pilot could cut across the section lines at a consistent angle, hardly needing a wet (swimming in alcohol) compass. Once across the Red River into Texas, the section lines curved and disappeared as if the designer had run out of paint. The swaying wheat and tall grasses, along with laundry hanging out on the lines and little whitecaps on farm ponds served as a wind indicator for direction and velocity.

Thaden could then turn west after Fort Worth, taking the southern route to the coast. Seventy-five hundred feet in altitude would just about clear every terrestrial obstacle. It was certainly lower than crossing mountainous Colorado. This would also give her a chance to experience some of the airports they'd be landing on in the actual race. They could not fly after sunset, for there were no lights with which to read the instruments—or instruments for reading, for that matter. Thaden and Beech would run out of

daylight at Fort Worth, a good place for their remain overnight (RON) stop.

Thaden flew with her head down below the rim of the open cockpit, pulling up periodically to check her position against her road map. “Dead reckoning” it was called, kind of an unfortunate term. She called on all the grit and experience she could muster to overcome her strange lightheadedness. But good judgment was slipping away as if it were used-up fuel, irretrievable.

Louise resorted to murmuring aloud, “One hundred-eighty degrees, 180 degrees, hold a heading of 180 degrees.” Holding a heading turned into a difficult chore. Maintaining altitude was worse. She commanded her eyes to stay open, against their willful desire to close. A piercing headache hammered, while the roar of the engine grew faint in her ears. Thaden cherished the freedom and beauty of flight. She couldn’t remember ever wishing a flight to hasten to its conclusion, but that was her desperate wish this day.

The terrain and the map didn’t jibe as she tried to concentrate on matching the roads and towns she saw below to the highway map clutched in her left hand. Fort Worth simply had to be near. Her thoughts ran hot and cold, from “I’m just about on it” to “I must be hopelessly lost.” She knew she had passed the Oklahoma Arbuckle Mountains. She’d seen the place out the right side where a “giant foot” had stomped the earth millions of years ago, causing layers of subsurface rock to rise at a forty-five-degree angle. Thaden always got a chuckle that the flatlanders called those little bumps mountains. But the Arbuckles meant she was on course. The higher Ouachita Mountains were off to the left, and they led to home, Arkansas.

Pilots consistently swore they were never lost, simply “momentarily disoriented.” Thaden knew not to wander looking for an identifiable landmark. Holding the course would bring her within a reasonable proximity to her destination. Well, it always had, she thought. But she’d never been so befuddled, and crossing the Red River to the south had taken away her backup compass, the section lines. She had only limited time to find herself, for fuel was the defining factor for distance. There were plenty of good farmers’ fields if she ran it dry, but Beech was waiting for her in Fort Worth.



Louise Thaden with her plane

Miraculously, the suffering pilot soon spotted the Fort Worth airport twenty degrees off the nose. Suddenly, it didn’t matter what direction the wind was or how many airplanes were in the traffic pattern. Louise Thaden desperately seized the conviction that she

was going to get this brand-new airplane on the ground in one piece. The well-known “pilot’s ego” snapped into place. No matter how sick, Thaden knew she could land the airplane. She headed straight in to the airport with no thought of the good manners of complying with traffic. She simply aimed the nose downward for a powered descent.

Walter Beech had been worriedly scanning for Thaden when someone yelled, “There she is, against traffic.” Walter immediately rejected what he was seeing. Louise Thaden was too good a pilot to ignore traffic pattern rules. Another airplane on track to meet her head-on swerved out of her way. Her approach was sloppy. She was much too fast. “FLARE, FLARE!” Beech yelled, as if she could hear him. Something was very wrong.

Once a safe height above the ground, she pulled the power and bounced the plane on in. As the airplane hopped down the field, witnesses presumed they were watching the antics of an inexperienced student pilot who would probably lose directional control next and make a sharp turn into a ground loop. The pilot didn’t seem to be doing anything to salvage the shabby landing.

Not pretty, but both Thaden and the airplane were through flying. She finally seemed to wake up and pull the stick back, killing off the remaining flying speed, making the bucking bronco settle. She didn’t even clear the landing area, but shut the engine down while finally fanning the rudder pedals to forestall a ground loop as the airplane slowed. Too dazed to fathom how or where to taxi the plane and park, Thaden immediately climbed out of the cockpit and folded over the side. Standing up was too difficult. Her legs wouldn’t work

any better than her head. A curtain of darkness closed in as the Travel Air's lower wing broke her fall.

Walter Beech and others made a dash for the blue and gold Travel Air and Thaden, who was collapsed on the ground. She came around pretty quickly, but her sponsor was badly scared.

"I shouldn't have let you leave Tulsa," Beech berated himself. "I thought you didn't look good."

"I don't feel very well," Louise responded.

The men pulled the airplane over to a corner of the field, but found nothing wrong with the engine or the controls. Thaden's physical condition, a strong headache and near unconsciousness, made it obvious that she had succumbed to carbon monoxide poisoning. Despite the open-cockpit airplane and her tall stature, Thaden was getting exhaust fumes from the engine while sitting down low behind the Wright J5 engine.

Walter Beech hastened to jerry-rig a solution so Thaden could continue and race. He ran a four-inch pipe back from the leading edge of the cowling into the cockpit for a source of fresh air. Louise judged the solution as satisfactory.

The racer's predawn arrival at her airplane the next morning found Thaden in an optimistic state of mind. Her first-day troubles were simply break-in glitches, and she was confident of the coming day's promising flight. As the morning sun first hinted of its approach in the eastern sky, Louise said goodbye to Walter Beech and was airborne, actually singing in her happiness, despite what was sure to be a long, hot day ahead.

Thaden was flying the reverse of the race route, taking a look at

the airports, the terrain, the checkpoints, the challenges ahead. West Texas was huge country—no wonder those Texans bragged on it. The early morning shadows turned the barren ground into rainbows of brilliant reds and yellows. Whenever she stopped for fuel, the people fell all over themselves being kind and helpful. They let her know they were rooting for her, even those who had no idea who she was, and they would watch for her going back the other direction.

Finally, after exiting Texas, Thaden flew the U.S.-Mexican border, crossing the very bottom of New Mexico. The day heated up, and the puffy white marshmallow clouds dug potholes in the airway. Summertime wind jolts rocked the airplane, but they were not unexpected. The oasis of Phoenix, Arizona, meant green trees, brilliant flowers, and prompt, professional service for the airplane. Several of the racers had reverse-flown the race route, and the fuelers were eager to meet these daring women.

Thaden had had enough desert and heat, and cut straight across from Phoenix toward San Bernardino, California then Santa Monica. The airplane was running well, and she was getting anxious to meet the other racers. Thaden flew the trip to California, and the entire race, with her face up close to Walter Beech's four-inch fresh-air pipe, her make-do source of life-sustaining atmosphere. Oddly enough, the others racing Travel Airs didn't seem to have the same problem.

SATURDAY, AUGUST 17, 1929
SANTA MONICA, CLOVER FIELD

If your time is worth anything, travel by air. If not,
you might just as well walk.

Yours, Will Rogers
Syndicated newspaper column



Jim and Clema Granger's aviation operation at Clover Field in Santa Monica, California, was a madhouse, and Clema declared herself the Mad Hatter. She was trying to keep up with the sponsors' ever-changing race rules, even as the racers had been arriving and checking in all day. Jim, a Swallow Airplane distributor, was sponsoring Ruth Elder in the race, since Clema didn't have enough flying hours to be eligible. Some other racers had fudged, making the decision that a little Parker Pen time padding their log books to meet the experience requirement wouldn't hurt.

With the motion-picture industry nearby, stunt flying was common, and the movie royalty hung around or kept their airplanes on the field with one of the nearly dozen fixed-base operators. Large wooden hangar buildings, derived from barns and even an old movie studio, lined the perimeter of Clover Field. The imposing Douglas Aircraft Company factory along the boulevard nearby was already a major factor in Santa Monica's prosperity.

Pilots claimed to believe that all city fathers had perversely pledged to place telephone lines and the tallest trees around airports

to challenge pilot skills. Cemeteries were often sited next to airports, causing a plethora of facetious comments among the pilot population. However, Clover Field shared open space with the Santa Monica Municipal Golf Course, giving it an open feeling despite being situated just west of the city and right in the Los Angeles Basin.

A certain amount of golfer/flyer rivalry was inevitable. Amidst all this, the Grangers had a large new metal hangar for their flying school they used to host the air racers.

Aviation received a generous boost from a private source in the mid-twenties when the Daniel Guggenheim Fund for the Promotion of Aeronautics provided bequests totaling \$2.5 million to support aeronautics. A national safe airplane competition led to the Curtiss Wright Corporation's successful design of an early STOL (short takeoff and landing) aircraft. The event, which impacted aviation most dramatically, was a single man's audacious act in 1927: Charles Lindbergh's solo flight across the Atlantic Ocean. Though the ocean had been crossed numerous times, Lindbergh was the first to do it alone. He galvanized the public to believe airplanes were viable transportation of the future.

The Grangers' hangar and ramp boasted the finest racing ships of the day, with the world's elite female pilots dotting on them. Early air racing had been promoted by the military as a way to improve aircraft design and cultivate more pilots. The public supported the exciting and dangerous sport, which was enthusiasm that caused successful pilots to become household names.

The U.S. Army/U.S. Navy rivalry led to great competition among the manufacturers for their patronage, and the civilian teams, in turn,

tried to beat out both military services. The Curtiss racing airplanes dominated these national air races. Cross-country derby races had been added, terminating at the nationals in Cleveland. Now, in 1929, there was to be a new trophy event sponsored by manufacturer Charles E. Thompson. The Thompson, as the race was dubbed, would be a fifty-mile race open to all. Walter Beech had big plans for his secret new airplane to beat the government planes and to take the Thompson trophy home to Kansas.

Roscoe Turner was equally ready to claim the Thompson for his own, flying a Lockheed Vega. A flamboyant Southern gentleman, Colonel Roscoe Turner was the master promoter, equally as famous for his attire as for his exceptional flying ability. Turner's self-designed uniform was immaculate (forget greasy, white coveralls), a soft blue coat with Sam Browne belt, spiffy riding breeches, boots shined to a fare-thee-well, and, of course, a white silk scarf, an aviator's helmet, and goggles. Roscoe's waxed mustache and inspired mascot, a live lion, completed his costume. Fortunately, he was good enough in the saddle to carry off his splendiferous attire.

The Women's Air Derby had brought the women together. They were fierce competitors, but they were totally united in their effort to force open the door to the male pilots' world. As they became acquainted, the eastern racers regaled the western girls with their descriptions of life in the sophisticated East, especially the New York musical theater. George Gershwin's *Funny Face* and Kern and Hammerstein's *Show Boat* were enjoying long runs on Broadway. Babe Ruth had hit sixty home runs for the Yankees, and Maestro Toscanini was the new conductor of the New York Philharmonic.

The *New York Times* had installed an astonishing moving electric sign around One Times Square.



The air derby brought women pilots from different backgrounds together. Front: Vera Dawn Walker and Louise Thaden. Back: Thea Rasch, Margarey Perry, Neva Paris, Chubbie Keith-Miller, Ruth Elder, and Edith Foltz.

The western girls could brag on their more relaxed lifestyle and the nearby movie industry, the first talking movie *The Jazz Singer* with Al Jolson, and Disney's first Mickey Mouse cartoon film, *Steamboat Willie*. Everyone was singing "Bye Bye Blackbird," and the slow fox-trot was the fashionable dance. A sharp crystal ball of the immediate future would have shown Richard Byrd's flight over the South Pole coming up, Chicago's gang war and the St. Valentine's Day Massacre, astronomer Edward Hubble's measurements of extragalactic nebulae, and the Nazi party gaining 107 seats in the German elections. Within two months, the world would see Black Thursday

collapse the New York Stock Exchange. Hard times were coming, even to the skies.

Clema had set up a table in the hangar where all the competitors were gathered to process papers and compare rumors and tips. Louise Thaden was frantic, and her co-competitor, Marvel Crosson, matched her pacing in the hangar. Thaden ranted, alluding to the worst possible cause of competitor Mary Haizlip's tardiness, "If Mary is alive, I'll kill her! Where is she? If she's down and safe somewhere, why doesn't she call?"

Crosson cast about for a soothing explanation. "Louise, Mary has simply put it down somewhere and can't get to a phone. Or she's seen the fog and turned back across the mountains."

Thaden looked at Crosson blankly. That comment was a mistake. They both knew Mary Haizlip wouldn't have enough fuel to get back east of the low stratus, and probably the whole basin was socked in by now. Whenever the low stratus clouds drifted off the ocean into the Los Angeles Basin, all airplanes had best find a safe harbor immediately or they'd be stuck "on top." It would be clear and beautiful above the undercast of low, flat clouds. A pilot would feel as if she were flying above an ocean of cotton. But that was on top.

Crosson's comment reminded them that below, hidden in that benign-looking layer of moist air, were buildings and trees and other "airplane catchers"—hard things. The pilots jokingly called mountains in clouds *cumulo granite*, or a cloud with a rock in it. In those days, there was no way to fly down through the clouds safely, and if stuck on top and out of fuel, a pilot could only "take to the silk," parachuting and abandoning the airplane. Los Angeles pilots knew that if low stratus filled the basin, the mountains to the east would

often halt the clouds like a barricade. The only safety for a pilot on top of that cotton was on the desert side, and one needed fuel to get that far. Where was Mary? She should've been in by now.

Like Louise Thaden, Mary Haizlip was a favorite of those who had watched her flying skills evolve from timid to poised. Haizlip's flying could be laid at the door of oil prospecting, because her father had been drilling for oil in Oklahoma. In fact, the unlucky man had drilled nineteen dry holes. Out visiting her father, Mary heard about a handsome pilot, Jim Haizlip, recently returned from the Great War. He had learned to fly in France, and he was now running a flight school while taking an engineering course at the University of Oklahoma. Mary made it a point to meet the charming young man, and, ten days later, the teenager and the glamorous pilot were married. "It took me that long to lure him away from all the other girls," Mary explained. "He had to break a date with the campus queen to get married."

Jim had a slightly different version. "Her parents were horrified. We had to wait 'til they left town to elope." Of course, he taught Mary to fly. Their romance lasted for the rest of their lives. But for the moment, nineteen-year-old race pilot Mary Haizlip was missing.

A stir at the hangar door revealed Amelia Earhart trying to tell the crowd the news she had, while making her way to Thaden. "There's an airplane down in a field just outside the airport. It's a woman pilot, and she's being taken by the Feds to the sheriff's office. They think she's a dope smuggler."

It took Thaden a minute to take that in. Then she laughed. "Well, it must be Mary. She's overdue, and leave it to her to find the sheriff. She'll probably trade him an airplane ride for the keys to the jail."

Thaden was still uneasy, but Crosson assured her it was too logical to be anyone else. They started looking for a ride to wherever the sheriff was. Since Earhart had a car, she gathered up Thaden and Crosson to locate the airplane. A line boy described the airplane's location and how to get there, adding, "You can't miss it."



Mary Haizlip

"Argggh," said Crosson. "I hate 'you can't miss it' 'cause it jinxes so you do!"

They took the tight turn out of the airport in a skid, much too fast for the fog and growing darkness, and headed toward the field the line boy had described. No one wanted to talk about their fears that they would find a wrecked airplane and injured pilot. There were a couple

of fence posts down and some airport types looking toward the dark outline of an airplane in the field. It was an enclosed cockpit airplane, high wing with two seats side-by-side—a Monocoupe. Thaden knew Haizlip would be flying a three-place open-cockpit American Eagle biplane. Phoebe Omlie was the only pilot entered in a Monocoupe. She had to be the “dope smuggler.”

The women rushed to find Omlie, who was overwhelmed to see them. She was detained by the sheriff, who knew nothing about flying, much less women pilots. She needed some supporters.

“I’ve been flying around trying to locate the airport in the dark,” she said, “but the lights were apparently off. Since I was low on fuel, I picked out a dark spot, hoping it was a hay field, and landed. What a blessing that the field was fairly smooth, with no potholes to fall into. I taxied up to the lights of a house, and a farmer and his boys helped me tie the airplane down for the night. About that time, the sheriff arrived. He’s accusing me of running dope, but he’s having a heck of a time finding any!”

Thaden had to giggle at Omlie’s predicament. One of the most admired and experienced women pilots in the country had become the victim of mistaken identity and was in trouble with the law. By that time, the sheriff had recognized Amelia Earhart, and fortunately her fame helped smooth the way for Omlie. Earhart told the skeptical officer that the women were in town for a transcontinental air race, “and this woman will most likely win it, ’cause she was the first female transport pilot licensed in this country and the most accomplished of us all.” She went on, “The only reason she landed at this out-of-the-way pasture is because the lights aren’t on at the airport, which is only six miles away. We all vouch for her good character, and insist that you

release Mrs. Omlie and go look for your smuggler elsewhere.” Aware of Omlie’s political connections with the top level of the Democratic Party, Thaden, with a twinkle in her eye, suggested to the lawman that he could also check with Franklin D. Roosevelt for an additional character reference. With a “Humpff,” the sheriff washed his hands of the whole thing and faded into the night.

Phoebe Omlie actually started her aviation career as a parachute jumper in St. Paul, Minnesota, in 1921 at the age of eighteen. Her inauspicious inaugural jump left her hanging, unhurt, by her parachute shrouds from a tree. Three months later, she made it into the flying circus with a jump from 15,200 feet—almost three miles high and a world record. The teenage girl partnered with Glenn Messner, daredevil of the air. Together, they did any aerial stunt they could think up. Omlie wing-walked, stood on her head on the wing, hung by her teeth, changed planes in mid-air, swung on a trapeze, and perfected the double parachute jump. After the first chute opened, Omlie would cut it loose, free fall, then open the second chute.

By age twenty, Omlie had become the first woman to head up her own flying circus, a means to an end to save enough money for her own aviation business. Omlie learned to fly in 1922 and married her flight instructor the same year, not an unusual happenstance between a female student and her revered mentor. They settled in Memphis, established a commercial aviation business, and Phoebe, with an astonishing two thousand flying hours, became the first woman to hold a transport license. The year 1927 brought the great Mississippi River floods. Ground transportation was all but gone, and the Omlies gained both fame and gratitude for their aerial support for stranded citizens.

Two serious crashes failed to persuade Phoebe to quit flying. Once, when teaching someone how to fly, she was unable to get a “frozen” student off the controls. The two rode out a spin clear to the ground. Phoebe suffered fractures of the arms, legs, and skull, and she never quit. In 1928, a control problem led to a crash, and her legs were broken again. She walked with a cane during the 1929 air derby, but at least she was walking.



Phoebe Omlie

Phoebe’s dilemma with the local sheriff left the elusive Mary Haizlip, the original object of the hunt, still missing. But within a few hours, word arrived that she was, in fact, in Los Angeles, but without an airplane. Like Thaden, she had left Tulsa for the race start, but

flying a stock model American Eagle with the newly approved Wright model J-6-7 radial engine. She encountered strong winds at Tucson, then landed, dragging a wing and bending the propeller, not an unusual event in the early years of aviation. The promised delivery of a replacement airplane had not materialized, and she was frantically tracking it down. Mary Haizlip, another early female transport pilot, had received more than a modicum of attention from the press, though they mistakenly and consistently referred to her as Mae.

Though Mary Haizlip and Marvel Crosson had never met, Louise Thaden was friends with both, and Crosson was happy to accompany Thaden out in the foggy darkness to look for their sister pilot. Of Marvel Crosson, one usually heard “Marvel and Joe” or “Joe and Marvel.” People described both Crosson and her pilot brother with “coal-black hair and flashing smiles.”

The Crosson kids grew up on a Kansas farm. Joe was coming up on eleven and Marvel was fourteen when they saw their first airplane. They never got over it. When the family moved to San Diego, Joe and Marvel each worked and saved \$150—an enormous amount of money in those days—with which they bought the motorless wreck of a Curtiss N-9 seaplane. The two hid it behind their house and scrounged junkyards for parts to replace the floats with wheels. Next, they bought an old OX-5 engine for it from a boat dealer. When they tested the engine in the backyard, they simultaneously tested their mother’s love and patience by plastering her chickens up against the fence. Turned out of the yard, Marvel and Joe got help carting the airplane to the airfield where, surprisingly, it actually flew. Both Marvel and Joe soloed their hybrid craft, and they

barnstormed together for several years before seeking their aviation fortune in Alaska.

In 1925, the Crossons actually got paid to fly. They were true pioneers in the brutal flying of the far north. Subsequently, just two months prior to the air derby, Marvel made the front page of the *New York Times Pictorial* magazine for setting a new women's altitude record four feet short of twenty-four thousand feet. Soon, Marvel became the first woman to apply for entry in the transcontinental air race and made a practice run over the entire route. Familiarity with the route and her vast flying experience made her a formidable competitor in her Speedwing Travel Air. Marvel Crosson's plane had been the first of the racers' planes off the assembly line and flown at the factory, and her brother Joe came out to get it. She got the fastest of the lot, a clipped wing single seater with one of the new Wright J-6-7 engines, clocked at 168 miles per hour. It was an exciting time to be flying, since her plane was one of tremendous innovation in aeronautics.



Marvel Crosson

The years between the wars were the golden years of aviation. By the year of the Women's Air Derby, the old, war-weary Jennies were being deliberately destroyed. Airplanes had been dramatically improved, and prices fell below \$1,000 for a trainer, so that ordinary people with flying fervor could own an airplane and learn to fly it. Ninety-six aircraft manufacturers delivered more than six thousand airplanes in 1929. The majority were open cockpit, but enclosed monoplanes were increasing in popularity. Production had increased 50 percent above the year before, and by the end of the year, more American plants were manufacturing airplanes than automobiles.

The armistice had expressly forbidden certain aviation activity in Germany, and as a result, the Germans were excluded from the development of powered aircraft. Instead, Germans were making extraordinary progress in innovative aerodynamics and glider flight.

American development of the dependable radial air-cooled Wright Whirlwind engine revolutionized aircraft propulsion. Ground-adjustable propellers led to more efficient flight regimes. Next, the controllable-pitch, constant-speed propeller was developed, which could be adjusted in flight by the pilot, one angle of pitch efficient for climb then a different one for cruise. (A malfunctioning new constant-speed prop took some blame for Amelia Earhart's Lockheed accident in Hawaii on her first attempted flight around the world.)

More streamlined aircraft came next. Commercial across-the-country travel had become a combination of flying, then transferring to a train at night, then back on an airplane the next morning. The first regularly scheduled carriage of passengers at night by air reduced

their plane/train ride time by 75 percent. There were twenty-seven major transport lines in 1929, and eighty big corporations were now so attuned to airplane travel that they approved employee expense accounts for business travel by air. The Department of Commerce issued 282 approved type certificates that year for aircraft designs meeting the government's engineering requirements.

Looking ahead, in October following the air race, Lieutenant James Doolittle took off, flew, and landed successfully flying "blind," with no reference to the ground. He utilized two-way radio communication and could follow a radio beacon to his destination. A Heinkel seaplane, catapulted from a ship, inaugurated the first ship-to-shore mail service. The General Electric Company was experimenting with an instrument giving the exact height of the airplane above the ground, called a radio altimeter. Westinghouse Electric produced a siren that turned on floodlights for a landing field through sound waves caught and amplified by a megaphone.

And it wasn't all "winged" aircraft. Back in Cleveland, the Navy dirigible *Los Angeles* was moored to a mobile mast for the duration of the National Air Races. Successful demonstrations of airplane hook-ons to a trapeze apparatus hanging under the dirigible stunned the crowd. The idea was that the airship could be a refueling base for airplanes at sea. Excited spectators at the air races were convinced there could be no more fruitful time for aviation than 1929. The women air racers now gathering in Clover Field agreed.

Will Rogers and his sidekick, Wiley Post, were wandering around kicking tires to the delight of the racers who considered the two their own. Will Rogers was a Cherokee Indian whose ancestors had made the

forced march in 1838 called the Trail of Tears in which one-quarter of the Cherokee Nation perished en route to the Indian Territory. Rogers liked to say, “My ancestors didn’t come on the Mayflower, but they met the boat.” Rogers was born in the Indian Territory, now Oklahoma (in Choctaw language: *okla homma* for “red people”), in 1879.

Young Rogers’s father put together a cattle ranch, eventually totaling sixty thousand acres, where Willie reveled in ranch life, especially wrangling horses and swinging the lariat. In fact, that hobby led to Rogers’s expulsion from several boarding schools. Eventually, the U.S. government gave in to settlers pushing westward into the territory, and they bought out the Cherokee Strip. Each Indian got five annual payments of \$367.50 in cash, and Rogers and his father together received just less than 150 acres of land. Their large ranch was now a small farm. Several blocks of land, on varying dates, were opened up to settlers who ran to make land claims upon a pistol shot signal. The “Boomers” ran at the shot. A few “Sooners” stole out early. This is the reason Oklahoma is called the Sooner State.

Rogers joined Texas Jack’s Wild West Circus billed as “The Cherokee Kid, Fancy Lasso Artist, and Rough Rider,” swinging the lariat for pay around the world. He eventually made the jump from Wild West shows to vaudeville with his novel act. The complexity of his rope tricks showed up later in his silent film, *The Ropin’ Fool*, in which he completed fifty-three different tricks. Discovering that his audiences loved to hear him talk during his act with his drawl and self-deprecating humor, Will Rogers became a humorous talker who spun a rope.

During Rogers’s gig with Ziegfeld’s Midnight Frolic, the popular

humorist decided to talk about what he read in the papers. It was a huge hit, and with evolving topics, he had a new act every day. He worked for Florenz Ziegfeld for ten years on a handshake oral contract. And then it was time for the movies, which is why Will Rogers lived down the road from Clover Field where the 1929 air derby started. His comments on the political events of the day (“Well, all I know is just what I read in the papers.”) had led to Rogers’s newspaper column and eventual syndication.



Will Rogers

After World War I, Will Rogers developed a great interest in aviation and concern about the government’s disinterest in commercial aviation. He began to fly constantly, one time even through a snowstorm with derby participant Blanche Noyes. He was fearless and determined to “see everything” from the air.

His friend Wiley Post had lived in Oklahoma working as a rough-neck in the oil fields. An oil field accident in which Post lost his left eye brought \$1,700 in compensation, money with which he quickly bought an airplane. Wiley Post learned to fly without depth perception, and he flew for two Oklahoma oil men—one bought a new Lockheed Vega (like Amelia Earhart's) and named it the *Winnie Mae* after his daughter. The Wiley Post-flown *Winnie Mae* became one of the most famous airplanes in history, and today it hangs in the Smithsonian.

Post flew around the world in eight days for a world speed record, then he did it again. He also developed a pressure suit to be worn on high-altitude flights. Will Rogers saw to it that Claremore, Oklahoma, his hometown, built a landing field so that Rogers and Post could fly in and the town could pay allegiance to Oklahoma's famous flyer.



Amelia Earhart and Wiley Post

The two Oklahoma boys who loved airplanes wouldn't have missed the start of the women's race. They volunteered to fly the route, carrying officials and extra luggage for the racers. They were the chief cheerleaders.

As the host airport operator for the start of the race, Clema Granger held off her own racing ambitions for the next year. She would do anything for her fellow women pilots, she reflected, but this organized mayhem was almost over the line. Mary Haizlip hadn't made it in yet for the start of tomorrow's race, besides, the clouds were too low to expect to see her tonight, and the sun had already fallen into the sea. Two entrants, Marjorie Crawford and Patty Willis, had withdrawn, and Jim had just taken a call from Kansan Mabel Waters saying that she wasn't going to make it. The famous Irish pilot, Lady Mary Heath, had decided to enter some of the closed course competition at the terminus in Cleveland instead of flying the women's race, so she wouldn't be coming in either. The race sponsor, the National Exchange Club, was changing the route even at this late date, raising the volume of rumbles among the racers. Members of the press were underfoot everywhere. The takeoff banquet was late, there were airplanes to fuel, and somebody, as far as she knew, would have to get that dangerous "dope smuggler," Phoebe Omlie, out of jail. Other than that, things were running pretty smoothly.