

EMBRY-RIDDLE AND AMERICAN AVIATION

By

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I. Embry-Riddle and Early American Flight

Aviator-Entrepreneurs: T. Higbee Embry and John Paul Riddle

T. Higbee Embry was born in Cincinnati on May 17, 1897. He was educated in Cincinnati and Asheville, North Carolina.¹ From an early age, Embry was interested in automobiles, but at some point in his youth, Embry set his eyes on the sky. After World War I, Embry believed that the people of Cincinnati needed to become “air-minded” and study the aviation business if Cincinnati was to become the aviation city that Embry envisioned. Acting on his beliefs, Embry drove to Grisard Field to learn to fly.²

Dedicated in 1922, the field was named after Lt. John K. Grisard, the only pilot from Cincinnati killed during World War I. The next year, an Army pilot instructor by the name of Major Hugh Watson purchased war surplus aircraft and used the field to sell aircraft, provide pilot training for Army aerial reservists and local citizens, deliver mail, and ferry passengers. Watson’s operation created a good deal of enthusiasm for aviation in general and attracted “air-minded” Cincinnatians including T. Higbee Embry who owned a

¹“T. Higbee Embry Succumbs at his Home in California,” The Cincinnati Times-Star (April 22, 1946).

²“Embry-Riddle Aviation Corporation Starts at Bottom but Goes Ahead to Remarkable Heights in 5 Years,” Cincinnati Commercial Tribune (August 4, 1929).

plane but lacked the skills. For \$10, Embry took an airplane ride in an old Curtis Jenny. The ride lasted only five minutes but Embry was, in his words, “perfectly satisfied.”³

The man who taught Embry to fly was John Paul Riddle. Born in 1901 in Pikeville, Kentucky, Riddle had from an early age wanted to fly. He secured an appointment to the United States Naval Academy at Annapolis, but his stay there was only one year. To his disappointment, the navy only wanted to train balloonists. So Riddle became a cadet in the U.S. Army Air Service in 1921. After his discharge from full-time service, Riddle became a barnstormer and used Grisard Field as a barnstorming headquarters. Of all the places that Riddle had barnstormed, Ohio proved the most beautiful. The “big open fields” and “so many places to land” made Ohio attractive as well because a pilot could generally put his plane down on any farm without anyone noticing.⁴

Riddle and Embry became fast friends. Riddle later described Embry as a “charming, intelligent, likeable individual.” Embry was a man who “liked to try a lot of new things” and a man who loved listening to flying tales. Embry’s personal wealth permitted him to enjoy many things including flying. After seven days of instruction under Riddle, Embry flew solo in a Waco (Weaver Aircraft Company) No. 9 that he had purchased. Hugh Watson later remembered that Embry “took to the air just like a duck goes to the nearest pond.” In 1924, Embry joined Hugh Watson and John Paul Riddle as a

³Stephen Smalley, “Glancing Back,” Forest Hills Journal (May 22, 1974); “Grisard Field, Cincinnati,” The Slipstream 8:9 (September 1927): 23, 25; “Embry Embers,” Embry-Riddle Sky Traffic 1:5 (January 1929): 4.

⁴John Paul Riddle interview, Tape 10, Janet Preston Collection, ERAU Special Collections.

partner in the Grisard Field Company and the company purchased two Curtiss Jennies (JN-4s) which were military trainers.⁵

These aviator-entrepreneurs recognized, however, that Grisard Field was too small and too far away from “the business heart of the city.” Moreover, the U.S. government was no longer interested in using its funds to maintain Grisard Field. In 1925, a new airport was built that eliminated those constraints. Eshelby Lunken, a prominent industrialist who saw the benefits of aviation for Cincinnati, and his father Edmund purchased 200 acres of land that formerly comprised Cincinnati’s polo field and a barnstorming airport. That same year, a U.S. Army Reserve depot was established on the field. The Lunkens, along with John Sage, President of the Grisard Field Company and Jack Pattison, the Company’s secretary and president of Union Central Life Insurance, formed the Lunken Airport Company (LAC). The LAC comprised 126 stockholders, and eventually the Lunkens handed the lease to the field over to the LAC. After reaching an agreement with the U.S. Army, the hangars were moved from Grisard Field to what was now called Lunken Airport. The Lunken Airport Company spent \$45,000 building a mile-and-half runway, and installing electric lines and a water supply. The Army and any private and commercial concerns would share the field. The building of the new airport excited aviation enthusiasts in the area who believed that its presence would spark such an interest in aviation that airplanes would become a “practical mode of travel destined to become in a few years on a parity with automobiles and automobile touring.”⁶

⁵“Air Pilots of Cincinnati,” Cincinnati Enquirer (March 25, 1928); “Embry-Riddle Rated High in Aviation Field,” Cincinnati Commercial Tribune (December 16, 1928); John Paul Riddle interview, Preston Collection, Tape 11 transcript.

⁶Albert Wunder, “Cincinnati’s Air Progress,” Ramsden Collection, folder Lunken Airport, Cincinnati Airport, ERAU archives; “Lunken Airport Promises to Forward Cincinnati as a Center for Aerial Activities,” The Cincinnatiian (April 1925): 11; “Acres Once Roamed by Indians Now Airplane Port; Lunken

On December 17, 1925, Embry and Riddle signed a contract that formed a company in their names with Embry as president and John Paul Riddle as general manager. Not only was the Embry-Riddle Company the first commercial aviation concern to move into Lunken Airport, but it was Cincinnati's second aviation company to date. In time, it would be remembered as "Cincinnati's first aviation corporation to amount to anything."⁷ The company took over one of the hangars at Lunken and built an office building nearby. Initially, though, the company looked like it would fail. The company, which owned two Curtiss Jennies, became a distributor of Waco aircraft for the Advanced Aircraft Company of Troy, Ohio. Embry ordered twelve aircraft to be delivered at monthly intervals, but the company could not find any buyers for the first five aircraft delivered. In 1928, Embry wrote "My friends laughed, and I confess I wept a little when the first five Wacos Paul Riddle and I contracted to sell, sat silently in the hangar and stared at us." Eventually, Embry purchased one of his planes and wrote a check out to both Riddle and himself. Soon after, Embry's mother, who was described at the time as Cincinnati's "first aviation enthusiast," purchased another aircraft and became vice president of the company. Business improved in April 1926 when four Waco aircraft were sold over a two-week period, and six more were sold before the end of the year bringing in \$30,000. By 1928, Embry-Riddle was also a distributor of Fairchild and Monocoupes for their area, and the company appointed dealers for southeastern Ohio and West Virginia.⁸

Field Is to Rank With Best When Developed," The Cincinnati Enquirer (September 26, 1928); "Lunkens had No Competition When They Entered the Game," Cincinnati Commercial Tribune (December 17, 1927); Stephen Smalley, "Glancing Back," Forest Hills Journal (April 29, 1975).

⁷Herbert J. Lyall, "Cincinnati: Birthplace of American Airlines," Cincinnati Times-Star (April 25, 1940).

⁸"Pair Responsible for the Growth of the Embry-Riddle Company," Cincinnati Commercial Tribune (December 16, 1928); "Embry Embers," Embry-Riddle Sky Traffic 1:1 (September 1928): 4; "Pioneer in

The notion of distributing aircraft, much like a cars salesman, fit within the company's overall commitment to increase interest in aviation. A 1928 editorial in the Embry-Riddle Sky Traffic noted "We still have vast areas of ignorance to plant with aviation interest; there are still thousands who want to 'keep one foot on the ground'; there are millions of dollars burrowing in bank faults at the mere mention of aviation investments. But there are many who will believe us when we describe a system of aerial transportation reaching into every county in the country. There are those who will be missionaries for us when once they have had personal contact with this new and faster form of transportation."⁹

Embry believed that the United States needed more private aircraft owners. He referred to the private owner as "an important cog in the machine of aviation which we are building in this country." The obstacle facing potential aircraft owners was both the expense of a plane and the maintenance an aircraft required. Embry argued that it was incumbent of aircraft owners like himself to provide "intelligent, experienced service work" since the average plane owner "dislikes to do the ground work necessary to keep that plane in an airworthy condition." By keeping planes and their pilots safe, operators ensured that private aircraft ownership spread throughout the United States. Private aircraft owners were "important members of the missionary band to the great unenlightened areas among their friends." Assisting private aircraft owners in their safety would prove to be

City's Aviation Industry Dies in Hollywood," The Cincinnati Times-Star (April 22, 1946); "Embry-Riddle Rated High in Aviation Field;" "Air Pilots of Cincinnati;" Al Wunder, "Facts Regarding Embry-Riddle Company," 1937, Ramsden Collection, folder Embry-Riddle Company, 1926-1930; "Embry-Riddle Co. To Distribute Fairchilds," Air Transportation 3:1 (April 21, 1928): 20; "Embry-Riddle Appoints Monocoupe-Fairchild Dealer," Ibid., 3:12 (July 7, 1928): 8.

⁹"Careful Prophets," Embry-Riddle Sky Traffic 1:3 (November 1928): 5.

better advertising for aviation than any amount of advertising done by operating companies.¹⁰

To create more interest in aviation, Embry-Riddle did its part to use its personnel as aviation missionaries. Charles Planck, who established and edited Embry-Riddle Sky Traffic, urged company personnel to talk up aviation. “It is not difficult to convert the backward man to the use of air mail and air transportation by means of a good speech,” Planck wrote, “Every convert in the winter months is a customer for air travel, aerial photography, pleasure hopping, air mail, in the flying months to come. Flying school students are waiting now for someone to inspire them with the desire to learn to fly.” There was a need to go out to the towns that did not possess an air field. “More landing fields are needed in this country.... These towns are the market for sale of planes, flying school courses and general aviation business.... They will buy airplanes whenever they have a field from which to fly.”¹¹ And Embry foresaw larger aircraft being built in the future, and advocated the building of larger and better airports. He warned that “if the landing places for these great monsters are not improved and are not built so as to handle this fast means of travel, few cities will be able to boast of an airplane because the airlines will not stop at places where safety cannot be secured on the ground.”¹²

With missionary zeal, the company acted on its words. The Sky Traffic was often dumped from mail planes on farms below and allegedly led to business prospects for the company. Besides having a radio program, Embry-Riddle eventually established a

¹⁰T. Higbee Embry, “The Private Owner,” Air Transportation (November 17, 1928): 6.

¹¹“Talk Today,” Embry-Riddle Sky Traffic 1:4 (December 1928): 5.

¹²T. Higbee Embry, “A Place to Sit Down,” in Arthur Ford, ed., Practical Aviation (New York: New Metropolitan Fiction, 1929): 34.

“speakers’ bureau on aviation topics” in order to create interest in aviation. The speakers were all pilots, and if a field were available, they flew in a 100-mile radius of Cincinnati in order to talk about “private ownership, air transportation, flying equipment maintenance and current aviation history.” The company also wanted its salesmen to have both sales and flying experience, and put their salesmen through the company’s ground school to learn about engines and airplanes. The company believed such experience benefited the salesman who went out, knowing the language and aircraft, looking for prospective customers or flight students for the company’s flight school. If the salesman could not fly, air mail pilots would fly special demonstrator models to the salesman’s location to accomplish the sale.¹³

The company’s advertising slogan was “If it’s Flying we do it. If it’s Airplanes we have them.” In keeping with that sentiment, the Embry-Riddle Company found enterprising methods to make money and propagate the gospel of aviation. The company engaged in various forms of aerial advertising. In 1926, a merchant hired the company to drop handbills from one of its aircraft over Covington, Kentucky. Tickets for \$3, \$5 and \$10 rides were placed in over 300 stores to be sold as Christmas gifts. John Paul Riddle noted at the time that not only were the tickets bought as gifts for children, but were also “bought by aviation enthusiasts for their backward friends.” In 1928, the Embry-Riddle Company opened one of the first, if not the first, air information bureaus that provided information “pertinent to air mail service and helping to stimulate interest in aviation” and

¹³ “Speakers’ Bureau Formed by Embry-Riddle Company,” Air Transportation, (November 10, 1928): 14; J.H. Stewart, “How Embry-Riddle Functions as a Distributor,” Airway Age 10:3 (March 1929): 318-319, 322; “Embry-Riddle Adopts a New Sales Policy,” Ibid. 10:2 (February 1929).

booked dozens of passengers for flights to Chicago and beyond as well as air taxi flights to nearly every major city in the country.¹⁴

The company also engaged in aerial photography. Beginning in 1928, Embry-Riddle contracted with Fairchild Aerial Surveys in photographing all of Cincinnati and mapping Ohio, Indiana, Kentucky and West Virginia. Embry-Riddle's photographic survey of the Cumberland River Valley resulted in the U.S. War Department using 3,570 square miles of mapping to develop a flood control plan. The company maintained its own laboratory for developing and printing.¹⁵

The Embry-Riddle Company also promoted flight in Cincinnati by sponsoring air races. In September 1928, Riddle and Embry organized an air race from Los Angeles to Cincinnati. Despite "unfavorable flying conditions," nine of nineteen pilots reached Lunken Field. During the race, special events included aerobatics by Lt. Jimmy Doolittle and Lt. "Wild Bill" Hutchinson who flew pursuit planes from Dayton and performed a program called the 'Siamese Twin' which involved military maneuvers. Students from the Embry-Riddle Flying School also performed parachute jumps dropping from a plane piloted by John Paul Riddle.¹⁶ The next year, T. Higbee Embry posted a check for \$1000 in order to bring the Ford Reliability Tour to Cincinnati. The tour involved the arrival of

¹⁴"Air Pilots of Cincinnati;" "Embry-Riddle Selling Rides for Xmas Gifts," Air Transportation (December 5, 1928): 18; "Air Travel Bureau," Embry-Riddle Sky Traffic 1:2 (October 1928): 11; "Air Information Bureau Opened in Hotel Lobby," Cincinnati Commercial Tribune (December 16, 1928); "Cincinnati Hotel has Airline Travel Bureau," Air Transportation (October 27, 1928): 47.

¹⁵"Embry-Riddle to Handle Fairchild Photography," Air Transportation 3:12 (July 7, 1928); Aircraft Yearbook 1929, (New York: Aeronautical Chamber of Commerce, 1929): 43-44; Wunder, "Facts Regarding Embry-Riddle Company."

¹⁶ Charles E. Planck, "Stage Cincinnati Races in Record Time," Airway Age 9:11 (November 1928): 63.

dozens of different aircraft from just as many cities. The purpose of the tour was to “advance aviation by discovering methods of increasing the reliability of planes.”¹⁷

Besides creating an atmosphere of aviation excitement, the Embry-Riddle Company did its part to help the Cincinnati community. In 1928, T. Higbee Embry donated a new Whirlwind Waco to Cincinnati’s police force, saying that he “hoped that whenever the plane went up, crime would go down.” Besides building a special hangar for the plane, the company also promised to loan its pilots to the police whenever necessary to fly the aircraft, which was faster than any other plane in the area. A policeman accompanied the pilot and the aircraft was expected to aid in the arrest of pilots who broke federal, state and local aviation laws.¹⁸

The lifeblood of the company, though, was its mail contract and passenger service. In 1925, Congress passed the Kelly Airmail Act which permitted commercial airlines to transport mail under contract with the U.S. Post Office Department. The increasing corporate demands made on the post office by businesses and banking institutions to deliver a greater volume of mail quickly and efficiently could only be met by greater use of aircraft. A contract with the United States government could ensure the financial viability of an air operation.

Embry and Riddle understood that concept all too well especially Embry who at one point operated the first bus line in Cincinnati but eventually gave up the business because Cincinnati refused to allow his buses to enter the downtown area. From Embry’s point of view, the city fathers showed a lack of vision that was corrected by the time he went into

¹⁷ “Air Reliability Tour Includes Cincinnati Stop,” Commercial Tribune 34:50 (August 3, 1929): 1.

¹⁸ Don Griffeth, “The Hangar,” Embry-Riddle Sky Traffic 1:1 (September 1928): 6.

the aviation business. In 1926, John Paul Riddle, representing the company and backed by local businessmen, left Cincinnati in an aircraft rigged with heating devices on a prolonged flight with stops in Louisville, Nashville, Birmingham, Mobile and New Orleans in order to assess “the sentiment in various cities regarding plans to connect with Cincinnati in an air mail route.” Riddle asserted that if he found favorable sentiment, the possibility existed that an “adequately-financed air transportation company will be organized in the near future so large that it will place Cincinnati in the front rank of aviation centers.”¹⁹

In May 1927, the Embry-Riddle Company opened a line ferrying express cargo and passengers between Louisville and Cleveland with stops at Cincinnati, Dayton and Columbus. That same month, John Paul Riddle and five other pilots did an aerial test of the proposed route. The pilots later remarked that the group set a record for sustained forced landings, making a total of seven forced landings in a little over four hours because of either being lost and/or running out of gas due to extreme fog. The latter forced John Paul Riddle down near Akron, but otherwise his flight was one of the most successful. The Louisville-Cleveland route was heralded for its contribution to the “development of air transportation in this section” especially since it connected with other lines to Pittsburgh, Detroit and Chicago. Unfortunately, the company discontinued the line. Ironically, Watson Airlines, Embry and Riddle’s old partner, underbid the company for a mail contract from the government. Eventually, Continental Airlines, a subsidiary of the Aviation Corporation, took over the Louisville-Cleveland route.²⁰

¹⁹Stephen Smalley, “Glancing Back,” Forest Hills Journal (August 19, 1975); “Aerial Center Seen for Cincinnati,” Cincinnati Times-Star (December 4, 1926): 1.

²⁰“Aerial Tests Delayed by Fogs,” Cincinnati Times-Star (May 19, 1927): 1; “Inaugural of New Air Route Passes Without Accident,” The Daily (May 20, 1927): 4; Stephen Smalley, “Glancing Back,” Forest Hills Journal (August 14, 1974); “Facts Regarding Embry-Riddle Company.”

By July 1927, the U.S. Post Office Department recognized the need for air service from Cincinnati to Chicago. The first known instance of an aircraft carrying mail to Cincinnati occurred in 1912 when Paul Peck flew mail over a three-day period from nearby Coney Island to a Cincinnati suburb. In November, the Embry-Riddle Company secured the contract at a bid of \$1.47 per pound, becoming Cincinnati's first regular air mail carrier. Beginning on December 17, 1927, Embry-Riddle maintained a flight schedule of one round trip from Cincinnati to Chicago via Indianapolis every day. The flight miles one way were 267 miles. The company employed 50 people including six pilots. Two pilots were assigned the task of making the daily flights, but if the mail was excessive or an emergency arose, Embry and Riddle were among the reserve pilots ready to fly. Initially, the company pressed three Whirlwind J5 Wacos and a Waco 9, all open cockpit aircraft, into service carrying mail and two passengers. A Ryan B-1 went into service if more than two passengers were to be ferried. In 1928, a Fairchild FC-2 and four Waco 10s were used to deliver the mail, and a Fairchild, two Monocoupes, one Waco and one Ryan ferried passengers.²¹

The benefits of air mail for Cincinnati were immediately recognized and the first air mail flight by Embry-Riddle was inaugurated with some fanfare. Cincinnati became one of the few cities in the United States to have direct Airmail service. It meant that correspondence and business documents could be delivered to both coasts in a couple days if not overnight. And the notion of Cincinnati as a gateway to the South took on new meaning with air mail. Newspaper accounts suggested that Embry-Riddle won the contract

²¹Stephen Smalley, "Glancing Back," *Community Journal* (July 17, 1974): 15; "Embry-Riddle Company Awarded Contract for New Air Route," *Air Transportation* 1:6 (November 26, 1927): 1; Devaney to Carr, "Chronology of Embry-Riddle Company," August 14, 1931, American Airlines C.R. Smith Museum, Dallas, Texas;

because it had “gained a name for itself throughout the industry, the quality of its flying school and the high tone of operations maintained at Lunken Airport.”²²

Whatever the case, Embry-Riddle took on a huge responsibility. Failure to safely deliver the mail and passengers would not only harm local businesses, but undercut Embry-Riddle’s mission to make flight popular around the country. Embry-Riddle met its obligations. In December 1927, Embry-Riddle carried 1046 pounds of mail, but no passengers. The first passenger would not be flown until February 1928, but mail and passengers increased in volume and quantity. For the year, Embry-Riddle pilots flew a total of 330,000 miles either carrying mail and passengers between cities, carrying 6000 air taxi passengers, or providing flight instruction to students. In 1928, the company flew 35,665 miles between Cincinnati and Chicago, and carried 35,667 pounds of mail, 2014 pounds of express cargo and 270 passengers. The peak month was August when 5705 pounds of mail and 62 passengers were carried that month. Mail volume increased that month primarily because the price of sending a letter air mail was reduced from 10¢ to 5¢. For the year, no accidents occurred that led to injury or fatalities. Frank Merrill, one of Embry-Riddle’s pilots, flew 11,682 miles on twenty-one round trips during the month of July at a time when train engineers and bus drivers were limited to 4500 miles of travel in one month.²³

The company went to interesting lengths to promote the use of airmail. One man went door-to-door to explain how to use airmail, leaving schedules and stamps behind.

²²“Motor Parade,” Cincinnati Enquirer (December 16, 1927); “Cincinnati Business Men Now Next Door Neighbors to Cities of Country Through Air Mail,” Cincinnati Commercial Tribune (December 17, 1927).

²³Aircraft Yearbook 1929, p. 30; “Chronology of Embry-Riddle Company;” Al Wunder’s “Facts Regarding Embry-Riddle Company;” “Embry-Riddle Flies 330,000 Miles in Year,” Air Transportation 1:9 (December 17, 1927): 6; “Is This a Record?,” Popular Aviation 3:4 (October 1928): 101.

Others lectured throughout Cincinnati to various clubs on aviation in general and the benefits of air mail in particular. A wax figurine dressed in winter flying clothes, surrounded by air mail propaganda, was set up in a downtown Cincinnati store. The company also developed a Talking Air Mail Box in which a speaker was installed inside of a red, white and blue air mail box in Fountain Square, the landmark center of the city. Whenever people passed the box or used it, a person, sitting out of sight but within sight distance of the box, would promote the use of air mail as well as simply talk and joke with those who would listen. The company also started an air mail slogan contest in Cincinnati's private and public schools that resulted in three winning slogans: "Mail Airly and Often;" "To Speed it There Use the Air;" and "A Letter in Time Costs Only a Dime." Finally, a fifteen-year-old high school girl designed a poster that was used to advertise the Cincinnati-Chicago route.²⁴

In 1928, the city of Cincinnati, after raising a \$500,000 bond issue, acquired a perpetual lease from Eshelby Lunken for the 200 acres that he owned and then purchased 870 acres of land adjoining the original Lunken Field. By December 1929, the renamed Lunken Airport with its "4000 foot runway in the direction of the prevailing wind and a 2800 foot runway at right angles," had a new shop building, new hangars, and a municipal office building with a waiting room and ticket office as well as offices for both city and U.S. Army administrators. John Paul Riddle described the airport's geographic location as "ideally situated as an intermediary stop on almost any flight from East and West or North and South."²⁵

²⁴"Embry-Riddle Co's Air Mail Advertising," Aero Digest 12:3 (March 1928): 436; "Slogan Contest Boosts Cincinnati Airmail," Air Transportation 2:7 (March 3, 1928): 7.

²⁵Lunken: 60 Years of Aviation (1988): 6-8; "Riddle Riddles," (September 1928): 10.

The expansion of old Lunken Field benefited the Embry-Riddle Company's operations. In 1928, the company did its share to enlarge its own operations and help the city, the airport and itself in the process. Besides adding a new force-fed 1000-gallon gas tank to the field, the company built its own operations office complete with observation porch for its new traffic manager who was in charge of air mail, passenger and express service.²⁶

With the increase in mail and passenger traffic, the company added another service between Cincinnati and Chicago in July 1929. The next month, the company carried 120 passengers, the largest number of passengers carried in one month in the company's history. For the year of 1929, the company carried a total of 79,751 pounds of mail and 692 passengers. In January 1930, the company reduced its air fare from Cincinnati to Chicago to \$14.85. The result was that the company carried more passengers over nine days in January than it did in the entire month of December. From January to July, the company carried 3745 passengers.

The Embry-Riddle School of Aviation

By 1928, T. Higbee Embry observed that, "Everything that airplanes can and should do will be developed at Embry-Riddle." But aircraft needed pilots and Embry and Riddle recognized the need for a school. In 1928, Riddle envisioned seven different air transportation lines emanating from Cincinnati and Embry-Riddle controlling four of them.

²⁶"Appoint Traffic Aide of Lunken Airport," Air Transportation 3:9 (June 16, 1928); "Embry-Riddle Installs Additional Gas Pumps," Ibid., 4:5 (August 18, 1928): 19.

A pilot shortage existed and, as Riddle put in 1928, “Our company is going to need pilots very soon.”²⁷

The Embry-Riddle Flying School came into being in 1925 when the company was established. By 1927, a ground school course cost \$75.00. Individuals interested in receiving a pilot’s license were required to pass an examination given by the U.S. Department of Commerce before they could receive flight instruction. At a cost of \$225, students purchased a flying course composed of instruction in aerodynamics, aerial navigation, motor overhaul and repair, meteorology, rigging, plane inspection and maintenance, and air laws, rules and regulations. The course also included ten hours of dual instruction and one hour of solo flight in one of the five Waco aircraft. For \$1000, students could enroll in an advanced course, that included ground school and fifty hours of solo time, that enabled them pass the examination for a “limited commercial pilot’s license.” Students had a choice of either living in field facilities at a cost of \$10 a week or in Cincinnati at various rates. The winter time was considered the best time to train flight students because “the air is generally smoother, and students have more time for ground school classes.” By spring 1927, the Embry-Riddle Flying School had trained twenty-one students and were in the process of training eleven pupils. By the end of the year, eighty students had received certificates from the school.²⁸

In 1927, John Paul Riddle added parachute jumping to the curriculum. Riddle brought an expert from Wright Field (today, Wright-Patterson Air Force Base) to train members of the company, and was the first to jump. He said afterwards that the jump was

²⁷“Riddle Riddles,” Embry-Riddle Sky Traffic 1:1 (September 1928): 10.

²⁸Aero Digest 10:4 (April 1927): 288; Air Transportation (April 7, 1928): 112; Robert L. Rockwell, “The School,” Embry-Riddle Sky Traffic 1:5 (January 1929): 9; “Lunken Airport Safety Record is High for Year,” Cincinnati Commercial Tribune (December 17, 1927).

“A thrill indeed. The highest dive I ever made.” Although extremely nervous, Embry likewise jumped, feeling “comfortable all over, and, perhaps, a bit superior” after his parachute opened. The next year, thirty-five students (twenty-three of whom had already parachuted) visited Wright Field for the first of what would become monthly visits to hear lectures on parachuting and to study the wind tunnel constructed there.²⁹

Embry-Riddle received a good deal of attention in 1927 when it trained a student to fly in 5 hours and 34 minutes. A senior at the University of Cincinnati, Frank W. Shelton was a premedical student from Independence, Kansas. He was among ten young men chosen by a contest held during a University of Cincinnati and Transylvania College football game. Shelton was actually the number two choice, but, unlike the winner, he passed the U.S. Department of Commerce examination. In one day’s time, Shelton executed 74 takeoffs and landings between 9:30 AM and 6:04 PM. His solo was performed thirty minutes after sunset. It was believed at the time that he held the world’s record for shortest duration of flight instruction. Shelton’s stunt helped Embry-Riddle’s mission of proving “that learning to fly is not as difficult as the general public has come to believe.”³⁰

By 1928, the Embry-Riddle Flying School experienced relative growth. The exploits of aviators like Charles Lindbergh, who flew his famous trans-Atlantic flight in 1927 and made a visit to Lunken Airport that year, lured young men and women to aviation. John Paul Riddle reported that enrollment for the winter of 1928 stood at fifty-

²⁹“Jiggs Gems,” Embry-Riddle Sky Traffic 1:1 (September 1928): 9; “Cincinnati Fliers Make ‘Chute Jumps,” Air Transportation 4:9 (September 15, 1928); “Air Pilots of Cincinnati,” Robert Rockwell, “School,” Embry-Riddle Sky Traffic 1:2 (October 1928): 11.

³⁰“One Day Instruction,” Popular Aviation 2:2 (February 1928):50; “Learns to Fly in Five Hours Time,” Air Transportation 1:5 (November 19, 1927): 9

eight students. That same winter, Embry-Riddle had a “flying basketball team” called the Air Pilots that was described as possibly “the first all-pilot team in the country, and the first team which will fly to its out-of-town games” within a 100-mile radius. In some cases, the team planned to fly in formation to their game.³¹

In fact, Embry-Riddle promoted recreation of all types. Carl R. Anderson, Embry-Riddle’s Director of Athletics, believed that recreation was not only “necessary in the modern flying school,” but the flying school with a good sports reputation would better attract students. Recreation was a “valuable adjunct to training.” Besides keeping students busy while they awaited their turn for flight instruction, they were likewise kept fit and more likely to pass physical fitness examinations. Anderson instituted an athletic program that he believed would enable students to “develop quick judgment, a cool and calculating temperament, and a perfect coordination between decision and action.” Students played basketball and baseball because the sports supposedly developed “quick vision, judgment in distances and the ability to make cool decisions.” Anderson introduced fencing tournaments, in part, because a match was less likely to be interrupted as students left for flight instruction, and, in part, because he believed fencing developed balance, judgment and quick movement. Tennis, archery, badminton, and horse-shoe pitching were other forms of recreation that were inexpensive, easily played near the school, and able to help male and female students to acquire balance, judgment and deliberation.³²

The Embry-Riddle Flying School had to take women into consideration because a growing number of women wanted to learn to fly. Women had already been trained in the

³¹Stephen Smalley, “Lindbergh at Lunken Several Times,” Forest Hills Journal (September 11, 1974); “Riddle Riddles,” Embry-Riddle Sky Traffic 1:5 (January 1929): 6; Air Transportation (November 3, 1928): 69.

³²Carl R. Anderson, “Organized Recreation at Flying Schools,” Aero Digest 14:5 (May 1929): 54-55, 246.

school. In 1927, Susan Embry wrote a serial “radio play about aviation” entitled “Flying Gold.” Besides involving most of the men at Embry-Riddle, the play’s heroine was Martha Croninger who was a student pilot and one of the first women in Cincinnati to learn to fly. The next year, another woman won a free flying course from Embry-Riddle after writing an essay entitled “Why I Want to Learn to Fly.” John Paul Riddle himself believed that women made for better pilots than men.³³

With women entering aviation, one question often asked of Embry-Riddle during its Saturday night “aviation chats” on a local radio station was “What place is there for women in aviation?” Embry-Riddle recognized the obstacles that faced female pilots in the 1920s when society preferred to place its trust “in a broad-shouldered man with a horny hand on the controls than a woman.” Women were expected to hold jobs in aviation, but most of those would be “outside the actual operations and maintenance departments.” Nevertheless, one member of the Embry-Riddle Flying School praised women for their business acumen and believed that woman in aviation would be “a more valuable and more efficient employee or if she knows how to fly.”³⁴

The school also soon experienced changes in its curriculum. The man who took charge of the school in 1928 was Robert Rockwell, a World War I ace who flew in the Lafayette Escadrille. Rockwell was responsible for instituting standardized instruction methods for instructors, taught acrobatics and lectured in the ground school.³⁵ In January

³³“Cincinnati Aviators Write and Enact Play,” Air Transportation 1:5 (November 19, 1927): 2; “Essay on Flying Wins Girl Instruction,” Ibid. 3:4 (May 12, 1928).

³⁴“Women in the Air?” Embry-Riddle Sky Traffic 1:7 (March 1929): 15, 18.

³⁵“Head of Embry-Riddle Flying School was an Ace in Lafayette Escadrille,” Commercial Tribune (December 16, 1928).

1929, Rockwell instituted a 30-lecture course that prepared students wanting a transport pilot's license. The lectures discussed various aspects of aerodynamics, airplane construction, and power plant theory as well as meteorology, navigation, and aerial photography. The first class consisted of 35 students including two women.³⁶

The Embry-Riddle Flying School already placed a great deal of emphasis on education and safety. In the 1920s, there were, as one magazine described, a large number of "inadequate and 'fly-by-night' flying schools which are considered the most dangerous drawback to the healthy development of aviation." Embry himself differentiated between the "Aviation Enterprise" and what he called the "Aviation 'Racket.'" The latter made "its loudest appeal through the three-to-ten-year old airplane sitting alongside a highway.... The paint is bright, but the fabric is loose. The engine is noisy, but the bearings are sloppy. The pilot is well-dressed, but his knowledge is limited. This 'racket' is one real obstacle to the progress of aviation in the public mind. In the great majority, these planes are dangerous."³⁷ In 1928, when Embry-Riddle held its first graduation exercises, Stanley Hoffman, operations officer for Embry-Riddle, exhorted the students to pursue safety: "Good, safe flying does more to promote air consciousness than all the spectacular air journeys combined. Remember the less spectacular you are the more safety you bring to aviation. Your good conduct will do more for aviation than anything else."³⁸

The Embry-Riddle Flying School emphasized safety at a time when the U.S. government had very little regulation of flying schools in the United States. In 1926, Congress passed an Air Commerce Act that gave the U.S. Department of Commerce some

³⁶"Tough" Course in E.R. Ground School," Embry-Riddle Sky Traffic 1:6 (February 1929): 2.

³⁷"Aviation's Worst Menace," The Pilot (October 1929): 12; "Embry Embers," Embry-Riddle Sky Traffic 1:2 (October 1928): 4.

³⁸"Safety is Promoting Genius of Aviation," Cincinnati Enquirer (July 30, 1928).

regulation over air facilities, the authority to establish air traffic rules, and the authority to issue licenses and certificates.³⁹ However, schools that operated “within the boundaries of one state [and] are not engaged in inter-state trade” did not fall within the purview of the department with the result that many flying schools were able to avoid regulation.⁴⁰ Recognizing that the federal government did not possess control over these flight schools, Senator Hiram Bingham, president of the National Aeronautic Association, introduced an amendment to the Air Commerce Act that gave the U.S. Department of Commerce authority to “provide for the examination and rating of civilian schools giving instruction in flying, as to the adequacy of the course of instruction, as to the suitability and airworthiness of the equipment, and as to the competency of the instructors.” Congress approved the amendment in February 1929.⁴¹

Soon afterward, the Embry-Riddle Flying School found itself headed by Wright Vermilya, another WWI pilot who was described as possessing “well-developed ideas regarding the modern methods of flight instruction.”⁴² In collaboration with the U.S. Department of Commerce, Vermilya announced that Embry-Riddle was putting into effect “one of the most comprehensive and thorough student training programs ever attempted.” A 30-lesson Primary Ground School Course, based on the Embry-Riddle Flying School’s textbook, was established and covered the following subjects: Department of Commerce Rules and Regulations, Aeronautical Nomenclature, Aerodynamics and Theory of Flight,

³⁹“The ‘Air Commerce Act of 1926,’” Aviation (June 14, 1926): 904.

⁴⁰Phil Love, “The Flying School,” Embry-Riddle Sky Traffic 1:5 (January 1929): 3.

⁴¹Laws Relating to Commercial Air Service and Miscellaneous Air Laws (Washington: U.S. Government Printing Office, 1968): 12; “Amendment to Air Commerce Act Introduced by Senator Hiram Bingham Passes Congress,” Aeronautic Review 7:3 (March 1929): 9.

⁴²“Vermilya New Head of Embry-Riddle School,” Embry-Riddle Sky Traffic 1:7 (March 1929): 8.

Construction of the Airplane, Propellers, Power Plant, Meteorology, Navigation, Aerial Photography and Mapping. The Primary Ground School Course took advantage of what was called “Memo Movies” in which pictures and movies of aircraft were used as audio-visual aids. The course could be taken on an extension basis in which students completed it at home. Whether at home or school, the course lasted six weeks.

Upon completion, students could take a Primary Flying Course that required ten hours of dual instruction and ten hours of solo. The first stage of the Primary Flying Course taught students how to taxi an aircraft. The second stage was described as “an entirely new innovation” to flight school instruction: the use of training gliders. Like some other flight schools, Embry-Riddle watched the development of gliding especially in Germany, and believed that a trainer glider would teach students “the feel of flying controls used in balancing and handling of an airplane.” After the trainer glider, students learned to do various turns and steep banks in a powered aircraft. The final stages of the course came under the heading of “stunting,” in which students learned spins and precision landings. The Advanced Flying Course required fifty hours of solo. Students learned acrobatics and cross-country flying. To accommodate the students, Embry-Riddle built a new shop, hangar buildings, classrooms and library.⁴³

The Aeronautics Branch of the U.S. Department of Commerce went to work developing its requirements for flight schools that same spring. Over the next summer, Embry-Riddle’s Flying School underwent a thorough examination. In July, Embry-Riddle was one of the first five schools in the United States to receive “Approved School Certificates.” In particular, Embry-Riddle was one of two schools approved as transport,

⁴³Wright Vermilya, “The Embry-Riddle School of Aeronautics,” *Sky Traffic* 1:8 (April 1929): 7; Donald F. Walker, “Growth of the Glider Movement,” *Aero Digest* 14:6 (June 1929): 48-49.

limited commercial and private flying schools. Moreover, the new hangar built by the city and rented by the company and the equipment installed “far exceeded that of any other in the country.”⁴⁴

The Merger with the Aviation Corporation

By 1929, the business side of the Embry-Riddle Company faced a financial crisis. In order to keep its mail contract, Embry-Riddle needed more capital to purchase more equipment. T. Higbee Embry and John Paul Riddle raised \$90,000, but that amount proved inadequate. The Curtiss Company offered the needed funds, but Sherman Fairchild, of the Fairchild Airplane Manufacturing Company, decided to help. The Embry-Riddle Company was one of Fairchild’s best dealers and Curtiss was a competitor. Fairchild and the directors of the Fairchild Aviation Corporation decided to create a new subsidiary with capitalization of \$500,000 to \$1 million. Fairchild met with a number of Wall Street financiers, including W. Averell Harriman and Robert Lehmen, and formed the Aviation Corporation (AVCO) of Delaware in March 1929. Fairchild intended to raise only \$1 million and wanted to create a subsidiary of his own corporation. Instead, AVCO acquired \$35 million and made Fairchild its subsidiary.⁴⁵

Under the terms of the agreement, Embry and Riddle were to form their own corporation before AVCO acquired a large stake in the corporation. In April 1929, the Embry-Riddle Aviation Corporation was created, and the new corporation secured \$10

⁴⁴“Grant Approval Certificates to Five Aeronautic Schools,” Aviation (July 27, 1929): 233; Aero Digest (August 1929) 181; “Cincinnati Flying School is Approved by U.S. Department,” Cincinnati Times Star (July 15, 1929): 1.

⁴⁵Henry Ladd Smith, Airways (1942): 147-148; Avco Corporation: The First Fifty Years (1979): 6-7.

million from AVCO. AVCO obtained 67% interest in the Embry-Riddle Aviation Corporation with former Embry-Riddle Company stockholders retaining the remaining 33% interest. T. Higbee Embry and John Paul Riddle continued to lead the Embry-Riddle Aviation Corporation. Besides Embry-Riddle, AVCO (with subsidiaries such as Alaskan Airways, Bendix and Western Air Express) merged with Universal Aviation Corporation (which had a St. Louis-to-Chicago route and other routes in the east), Colonial Airways Corporation (which had a Boston-Hartford-New York route), Southern Air Transport (with New Orleans-Atlanta and New Orleans-Houston flights) and Interstate Air Lines (with its Atlanta-Chicago line).⁴⁶

Since AVCO was one of the largest aviation holding companies in the world, its takeover of Embry-Riddle proved beneficial for the latter in several ways. The merger brought an “infusion of new capital [that] permitted the purchase of new and modern equipment and the operation of new schedules.” Embry-Riddle now provided Cincinnati with service to St. Louis, Kansas City, and connections in the West including Los Angeles and San Francisco. From St. Louis, there were direct connections into Oklahoma, Texas, New Mexico and Arizona. Air service between Cincinnati and Minneapolis/St. Paul was also established, and connections there provided service to Spokane and Seattle, Washington.⁴⁷

Initially, T. Higbee Embry and John Paul Riddle intended to build an “air university” that would provide advance commercial aviation training. The old ground school was to continue providing ground work and dual instruction to students. The

⁴⁶Myron Smith, Airline Bibliography: The Salem College to Sources on Commercial Aviation, vol. 1 (West Cornwall, CT: Locust Hill Press, 1986): 127; John Paul Riddle Interview, August 20, 1986, Preston Collection; “Embry-Riddle To Become Link in Giant Airways,” Commercial Tribune 33 (April 15, 1929): 1.

⁴⁷Carr to Devaney; “Facts Regarding Embry-Riddle Company.”

Embry-Riddle Aviation Corporation also made plans to establish flights schools throughout Ohio. These plans never came into fruition. AVCO quite possibly saw no need to build further schools. AVCO already owned Roosevelt Aviation, Inc. and a chain of Universal Aviation Schools which were located in St. Louis, Minneapolis, Marion, Illinois, and Kansas City among others.⁴⁸

In fall 1930, the Aviation Corporation announced that operations at the Embry-Riddle Flying School would be discontinued after students currently enrolled completed their studies. Thus, the merger with AVCO came with a price. Embry-Riddle no longer sold aircraft. And the Embry-Riddle Flying School, one of the first schools in the country to be licensed by the U.S. Department of Commerce and described as “the largest to be operated from one field,” closed its doors.⁴⁹

In 1930, AVCO decided to create a new subsidiary called American Airways. Two years later, the Embry-Riddle Division of AVCO moved its headquarters and three-fourths of its 130 employees from Cincinnati to St. Louis in order to merge with the Universal Division of American Airways. The merger produced the Central Division of American Airways, and the original Embry-Riddle Company was no more.⁵⁰

⁴⁸“Embry-Riddle To Become Link in Giant Airways;” “The Cord Corporation: An Account of Its Aeronautical Activities,” Aero Digest 23:5 (November 1933): 24.

⁴⁹“Embry-Riddle Closes Down Oldest School,” Air Transportation (October 4, 1930): 2.

⁵⁰“Embry-Riddle Headquarters Moved,” Aero Digest 20:3 (March 1932): 72.