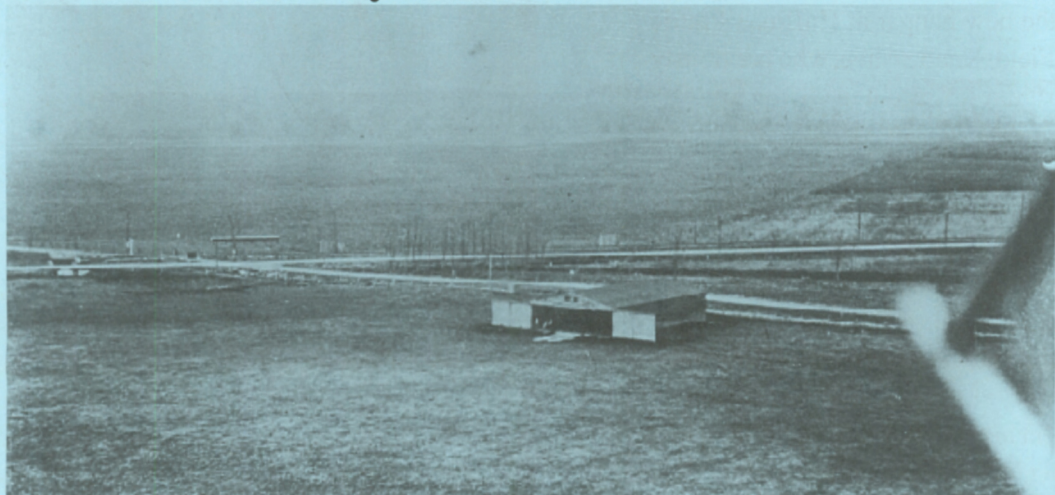


HUFFMAN PRAIRIE FLYING FIELD

Wright-Patterson
Air Force Base

Dayton Aviation Heritage
National Historical Park
National Park Service
U.S. Department of the Interior

1910-1916 and Beyond



Aerial view of the 1910 hangar and Simms Station.

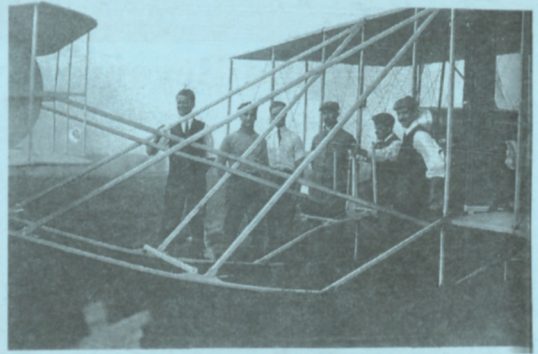
By 1910, the Wright brothers had come a long way since their first flights at Kitty Hawk, North Carolina. They had developed the world's first practical airplane and had taught themselves to fly it at Huffman Prairie Flying Field in 1904 and 1905. In 1906, the Wright brothers finally obtained a patent for the airplane from the U.S. Patent Office, and in 1909, they sold the United States Army Signal Corps its first airplane for \$30,000. Armed with these new funds, the Wrights built

a new and much larger hangar on Huffman Prairie Flying Field in the spring of 1910. It was located close to the Simms Station interurban stop for convenience. The hangar was constructed to support test flying of the airplanes manufactured by The Wright Company factory in West Dayton, the Wright School of Aviation, and their exhibition flying business. From this new hangar, more people could be instructed in flight principles and ground maintenance.

THE WRIGHT EXHIBITION COMPANY

The Wright Exhibition Company, started by The Wright Company in March 1910, was managed by Roy Knabenshue, and operated out of the new hangar at Huffman Prairie Flying Field. Knabenshue, who previously flew dirigibles, was put in charge to “... promote the interests of the Wright Company, to promote and hold aviation meets wherever possible, to contract for and give exhibitions at state fairs and other public gatherings.” In addition to introducing the airplane to the public, the exhibition team also performed daredevil maneuvers, against the Wright brothers’ wishes, at airshows, carnivals, county fairs, and other large public gatherings throughout the country. They raced at high speeds, staged dives, and performed looping-the-loop maneuvers before thrilled onlookers. Appearance fees and prize money attracted business. Training began at a winter flying field in Montgomery, Alabama, with Orville handling the flight instruction of the team members. On May 7, 1910, he moved the permanent operations to Huffman Prairie Flying Field. This was the first time Orville flew at the field since the brothers stopped flying in 1905 to pursue a patent and to market the machine. Overall, there were nine

team members, including Walter Brookins, Arch Hoxsey, Frank Coffyn, and Ralph Johnstone.



Members of the exhibition flying team at Huffman Prairie Flying Field in 1910. L to R: Frank Coffyn, Ralph Johnstone, James Davis, Orville Wright, A. L. Welsh and Duval La Chapelle.

While Orville instructed pilots, Wilbur traveled in connection with several lawsuits the brothers had filed against aviators and airplane manufacturers for patent infringement. In 1911, Wilbur wrote to Orville telling of his progress. Excitedly, Orville related the news to August Belmont: “*I have just received the opinion of the French court in our case against Bleriot, Farman, and nine other French infringers on our French patent. The decision of the court was so strong in our favor that the defendants are now negotiating with*

Wilbur for a settlement of a royalty on the one thousand machines already put out by the defendants and on the machines to be manufactured in the future. The French decision virtually clinches our case in the American courts."

Although the Wright exhibition team was organized to increase the prestige and acceptance of aviation and to create a market for the airplane, it also served as a profitable sideline for The Wright Company. In the account books, Roy Knabenshue wrote, "*In 1910 we collected \$272,000—of which \$190,298.28 was net profit.*" Pilots received a salary of \$20 per week, plus \$50 for every day they flew. The Wright Company charged \$1,000 for each day that a team member performed, and received any prize money he earned. Remembering his experience as an exhibition pilot, Frank Coffyn commented, "*It was a very sore kind of project with us, because the Curtiss Company allowed their pilots to keep 50% of all the prizes they won, and we used to get furious about it, but it didn't do us any good. The Wrights wouldn't let us have it.*" Because of the extreme dangers involved in the sport that cost

many pilots their lives and injured countless others, both aviators and spectators, the Wrights got out of the exhibition business in 1911. By mid-1912, five of the original nine Wright Exhibition Company team members had died in airplane crashes. Frank Coffyn "*was the only one that was able to fulfill the two year contract and stay alive.*"

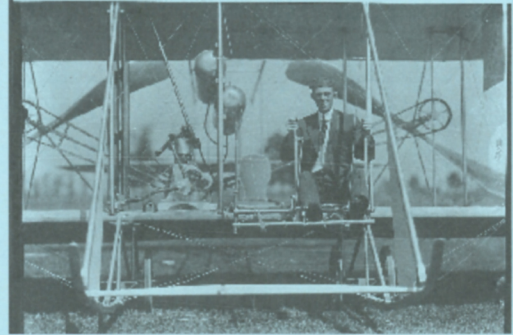
THE WRIGHT SCHOOL OF AVIATION

A month after the Wrights opened their exhibition company, they opened the world's first permanent flying school. The Wright School of Aviation operated out of the new hangar at Huffman Prairie Flying Field. The school, which was billed as "superior to any in this country, if not in the world," advertised four hours of actual practice in the air and instruction in the principles of flying machines needed to prepare the student to become a competent and expert pilot. In a back room of The Wright Company factory, the Wright brothers placed an old plane that was balanced on sawhorse supports to demonstrate wing warping. This was used for the student's primary training. Instruction in these necessary principles occupied students for most of their ten days of training, with five

to fifteen minutes of each day spent in the air. General Henry "Hap" Arnold, who later became a five-star general and commanded the U. S. Army Air Forces during World War II, was a pupil at the school in 1911. He stated that, *"In addition to learning how to fly, we found we would have to master the construction and maintenance features of the Wright machine well enough to teach our own mechanics the ABC's of a ground crew's job . . ."* Tuition was \$250 per pupil, payable at the time of enrollment, and covered any incidental breakage to the machine. The airplanes used in training were equipped with duplicate controls so the instructor could immediately assume control should the student make any serious mistake. The controls on a Wright machine were considered by many of these early aviators to be the most difficult to use.



The 1910 hangar housed the Wright Exhibition Company and the Wright School of Aviation.



Charles Kettering in a Wright Model B at Huffman Prairie Flying Field in 1913.

For the elevator, the pilot moved a vertical stick in the conventional manner of the present type of control. There were two of these sticks, one outside each seat, for whichever pilot happened to be flying the plane, but there were not two complete sets of controls. The third stick, between the two aviators, though it also moved fore and aft, was for lateral balance and rudder control. The top portion of this middle lever was hinged to rock laterally, and was connected by a rod to a quadrant on the same shaft as the wing warping control. The rudder could be moved either in combination with the warping or independently. Operation of the warp-rudder lever as a whole warped the light wings and simultaneously moved the rudder the correct amount for maintaining straight flight during adjustment of lateral equilibrium. A right turn, for example was achieved by pulling the lever back to lift the left wing and simultaneously

rotating the hand grip an appropriate number of degrees to the right for right rudder. After the turn was started, the pilot eased back to normal attitude for flying. This scarcely instinctive procedure had to be mastered before one could go into the air as a Wright pilot.

At this time, pilots started wearing goggles. In his autobiography, Hap Arnold explained why. *"The first goggles worn by Army airmen came as the result of a bug's hitting me in the eye as I was landing my plane. . . . it left one of its transparent wings sticking to my eyeball. The pain was terrific; blinded by tears I could scarcely see to make my landing . . . After that we wore goggles."*

WILBUR'S DEATH

Although they did not know it, the brothers' career as a team was drawing to a close. In a letter to M. Hevesy in January 1912, Wilbur wrote: *"During the past three months, most of my time has been taken up with lawsuits and I have been away from home most of the time. I am hoping to be freed from this kind of work before another year has ended."* Unfortunately, his wishes were fulfilled sooner than he ever imagined and in a different manner. On May 2, 1912, Wilbur

fell gravely ill with typhoid fever during a trip to Boston, Massachusetts. He returned to Dayton two days later and his condition worsened. Wilbur Wright died May 30, 1912, at the age of 45.

CARRYING ON TRADITION

In 1915, after winning a patent infringement suit against Glenn Curtiss, Orville Wright sold The Wright Company. Overall, there were 119 pilots who earned their wings at The Wright School of Aviation between 1910 and February 1916. These included many Canadian students who, eager to do their part in World War I, bypassed oversubscribed Canadian flying schools to earn their wings required for acceptance into the Royal Flying Corps or the Royal Naval Air Service.



Many Canadian students bypassed oversubscribed Canadian schools to earn their wings at Huffman Prairie Flying Field.

Roy Brown, who would later be credited with the aerial downing of Germany's air ace, the Red Baron, was one of them.



Wright Model F above Huffman Prairie Flying Field in 1914.

Testing of new and experimental Wright aircraft continued at Huffman Prairie Flying Field. The Model B, Model R, Model EX, Model C, and Model E were among those flown at the field. In discussing reasons for some fatal accidents, Orville claimed that stalling was the cause of “... over ninety percent of them.” He then went on to say that the accidents could be avoided if only the pilots would look at and depend on their angle of incidence indicators. *“The indicator properly set is infallible within a degree or two, while under many conditions of flight, one cannot trust his “feel” within ten degrees or more.”* On December 31, 1913, carrying on the tradition of invention, Orville also demonstrated his invention of the

automatic stabilizer. He flew seven circles of the flying field with his hands held high in the air. The flight was witnessed by three Aero Club of America representatives and resulted in the award to Orville of the prestigious Collier Trophy for 1913 for making the greatest contribution to aeronautics that year. Other significant activities that took place at Huffman Prairie Flying Field included the only time the Wright brothers flew together (May 25, 1910), and the addition of wheels to Wright aircraft (July 1910). Orville flew over the city of Dayton as a publicity event for its Industrial Fair in September 1910. America's first commercial air-freight flight, which went from Huffman Prairie Flying Field to Columbus, Ohio, was made on November 7, 1910.



Orville Wright piloting a Wright Model E, the type of plane that carried the automatic stabilizer.

STILL THE HEART OF AVIATION

Between 1910 and 1916, the Wright Exhibition Team and The Wright School of Aviation transformed Huffman Prairie Flying Field into a training ground for novice aviators. They also made the flying field an exhilarating venue from which spectators watched the earliest

flying contraptions circle the air. Following this, Huffman Prairie Flying Field would become the geographic heart of one of the earliest military aviation fields, Wilbur Wright Field, and then part of Wright-Patterson Air Force Base. The Wright brothers brought aviation to the world from Huffman Prairie Flying Field. From this same area, Wright-Patterson AFB continues that tradition today.



Wright-Patterson Air Force Base, Ohio.

HUFFMAN PRAIRIE FLYING FIELD TODAY

The irregular, seven sided field where Orville and Wilbur Wright taught themselves to fly is part of the floodplain for the Mad River. As such, Huffman Prairie Flying Field has, in large measure, remained free of development. This has helped the flying field retain a setting of historical authenticity. Huffman Prairie Flying Field was declared a National Historic Landmark in 1990 and is one of four units comprising Dayton Aviation Heritage National Historical Park. Visitors to this flying field can

view a replica of the Wright brothers' 1905 hangar, as well as a replica of the derrick tower used as a catapult mechanism to launch Wright planes into the air. Perhaps most importantly, however, Huffman Prairie Flying Field offers visitors the opportunity to walk through the field where significant progress was made towards the development of practical human flight in the past, and to imagine the possibilities of the future.



Replica of the Wrights' 1905 hangar and starting derrick on display at Huffman Prairie Flying Field.