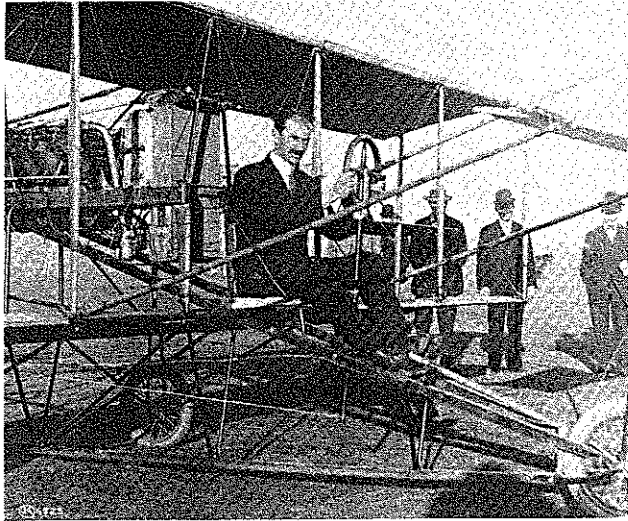


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Glenn H. Curtiss in a Curtiss D-III, perhaps the most numerous of the D models, characterized by the single-surface forward elevator. (CAHA)

Meanwhile, Curtiss built his second pusher and took it to France where he won the speed contest and the Gordon Bennett Trophy at the great air meet at Rheims. Flying the "Rheims Racer," Curtiss achieved the astounding average speed of 46.5 miles per hour on August 29, 1909.

Later that year, Curtiss formed the Curtiss Exhibition Company and had pilots touring the United States giving flying exhibitions before the public at fairs, expositions and other events. One of the pilots employed by Curtiss was a young daredevil from New Britain, Connecticut, named Charles K. Hamilton. Hamilton's death defying exhibition flying had established him as one of the most popular and spectacular pilots of his time. One July 2, 1910, Hamilton brought the Curtiss "Rheims Racer" to his native New Britain to fly before his fellow townsmen. This flight, before some 25,000 spectators, was the first public flight of an airplane in Connecticut.

Charlie Hamilton's spectacular flight stirred many young New Britain men to action. Before long, several airplanes, many of them copies of the Curtiss Pusher, were being built in New Britain barns and sheds. The most successful of the local builders was Nels J. Nelson, who, between 1910 and 1914, built six successful Curtiss-type pusher airplanes, which he flew on exhibitions all over the Eastern half of the United States.

Meanwhile, in nearby Berlin, Connecticut, a youth named Howard S. Bunce was spellbound by the allure of aviation and the deeds of the Wright brothers, Curtiss, Hamilton and Nelson. He was determined to have his own

airplane and learn to fly. However, unable to afford to purchase an airplane, his only recourse was to build one himself. After much persuasion, he received his parent's reluctant permission and began to build a Curtiss Pusher in the fall of 1911, in the family barn behind the Bunce homestead on South Main Street. During the day, he would work at his job as an apprentice machinist in New Britain, and during the evening he would work on his airplane, until his father would force him to bed.

He selected the current single surface front elevator type Curtiss Pusher design that was being produced in 1911. Bunce had no official drawings. As much as he could, he measured the Curtiss planes then operating on the flying fields on Long Island, studied all the pictures and drawings that he could find in magazines, and made improvisations that he needed to incorporate such material as he could obtain. With his meager funds, he bought wood, rubberized fabric, wheels and some fittings. He made a good copy of the 1911 Curtiss Pusher, dimensionally close to the factory-built airplanes. Not an experienced woodworker, Bunce's workmanship was somewhat crude. After all, he was only 17 years of age.

By the spring of 1912, the Bunce pusher was nearly complete. The new airplane needed an engine, but to purchase a Curtiss engine would be prohibitively expensive. Bunce located an engine with Peter Dion, another New Britain airplane builder. The engine is understood to have been built by Nels J. Nelson and believed to have been used in Nelson's



Howard S. Bunce, a 17-year-old lad who built two Curtiss Pushers in 1912. (CAHA)

first airplane. After much persuasion, the Bunce family finally agreed to provide the \$300.00 needed to purchase the engine. However, the engine proved to be a disappointment, providing little power and much trouble.

Hamilton visited Bunce and gave a critical examination of the airplane. He offered to loan an engine to Bunce if he could fly the airplane. Bunce refused as he wanted to be the first to fly his plane.

With the airplane now complete, Bunce quit his job and early in July he took the airplane to the Berlin Fair grounds. Living in a tent next to his airplane, he tinkered with the airplane and the engine, and tried to fly. As he did not know how to fly, he had to teach himself -- a formidable task to say the least.

Little factual information survives concerning the Bunce airplane's flying ability. One witness is reported to have said that Bunce never got the airplane to fly higher than two feet into the air. In 1958, his surviving brothers, Walter and Lewis, stated that, as far as they knew, he never made a successful flight. On the other hand, they also said that on one flight attempt, Bunce had gotten high enough to collide with the electric cable from the grandstand to the starter's box across the race track. It is thought that the cable was some twenty-five to thirty feet above the ground. The resultant crash badly damaged the plane and terminated the career of Bunce Pusher No. 1.

Bunce carted the wreckage back to the family barn and immediately commenced reconstruction. In this venture, a new airplane emerged with only a few parts incorporated from the first plane. The second plane was built better and more finely finished than the first. However, its success was no more spectacular than the first, except that the airplane did survive intact. In 1958, this airplane was purchased by Harold Warp for display in his Pioneer Village at Minden, Nebraska, where it is still on exhibit.

The various parts of the original Bunce Pusher were stored in the Bunce barn after the crash, and through the years some of the parts found other uses. The front outriggers, together with some wing ribs, were fashioned into two large kites by Bunce for his children. Wing struts were used for garden stakes. The landing gear frame, along with the front wheel, were modified and became the basis of a wheelbarrow.

In 1962, these remaining parts were found and purchased by John A. Johnson, of East Hampton, Connecticut. In turn, he sold the parts to CAHA Life Member Alderson Magee, who donated the pieces to CAHA.



George Prantis and the remaining pieces of the Bunce-Curtiss Pusher before restoration began. (CAHA)

CAHA Member George S. Prantis generously undertook the restoration of the airplane, assisted by several additional CAHA members. Prantis was a pioneer Connecticut aircraft mechanic, who assisted Nels Nelson and John Thompson before World War I to build and maintain their aircraft. In 1914, Prantis built a Curtiss type pusher, which he called the "Blue Bird," for the men of the New Britain Fire Company. The life of the airplane was short. On one of its first flights, would-be aviator Richard Nygren smashed it into some tall pine trees.

Prantis went on to serve as an aviation mechanic in France in World War I, and then later with the Connecticut National Guard. In 1923, he became Connecticut's first State aviation inspector, and remained in this capacity until his retirement.

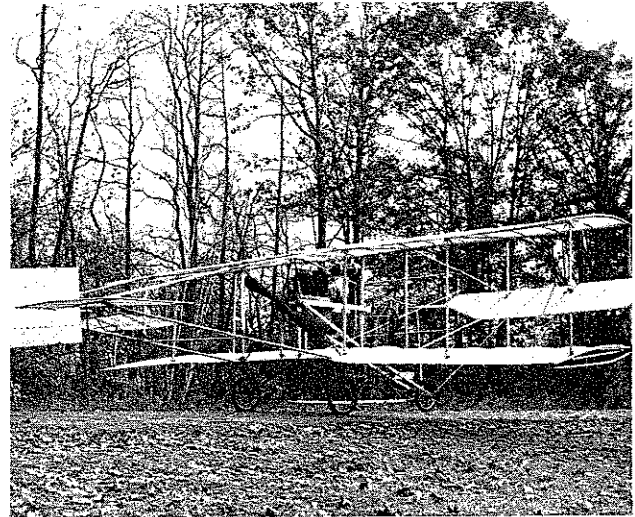
George Prantis was an ideal person to head the restoration effort of the Bunce pusher. He was one of the few living men who knew the techniques of workmanship used in the pioneer years of aviation. He knew what hardware was required, where to obtain it, how to make the special laminated Curtiss ribs, how to wind the wire ends, how to make turnbuckles from motorcycles spokes and all of the other details of a lost art from the early days of flight.

Only the following components of the original Bunce-Curtiss Pusher survived: the complete lower left wing; the complete upper and lower center wing sections; the two rear

bamboo tail outriggers and the two from elevator bamboo outriggers; the complete landing gear less rear wheels; the control wheel and arm; and various bits and pieces -- about 50% of the original airplane. In addition, three complete, never-used, Curtiss-type wings built by Bunce were included. New parts built by the CAHA restoration team included: struts; ailerons; rudder; stabilizers and elevators; pilot's seat and shoulder yoke; various fittings and all bracing and control wire were replaced, although much of the original wire survives. New wheels were also obtained.

Early in the restoration, the premise was established that the airplane had to be restored as "Bunce had built it." The temptation to make new parts better than Bunce's crude workmanship had to be overcome on more than one occasion. No pictures or drawings existed to guide the restoration team. All information had to come from the existing parts, George Pranitis' experience, and as a last resort, from original Curtiss drawings. Mr. Magee flew to Minden, Nebraska, and carefully measured the No. 2 Bunce on exhibit there. These measurements proved to be extremely valuable in the restoration.

Mr. Pranitis handled all of the restoration of the original parts, while the new parts were fashioned by the rest of the restoration team. Pranitis carefully reglued the parts, splicing in new wood only as required, and slowly assembled the airplane. While many of the original bracing wires were



The Bunce-Curtiss Pusher as it exists today, restoration almost complete. (CAHA)

still in existence, they were too badly rusted to take the tension that would be exerted. It was discovered that Bunce had employed soft iron wire rather than the piano wire normally used. Even though vastly inferior, iron wire was used again in the restoration. One concession made during the restoration was in the type of fabric covering originally used by Bunce. He had covered the wings and other surfaces with a special rubberized fabric made by Goodyear as a waterproof airplane fabric. As this material is no longer available, it was decided to employ modern Dacron for longevity, and, if possible, to paint or spray on a liquid rubber coating.

The original engine used by Bunce had disappeared some time in the past. A 1928 four-cylinder, in-line, aircooled Cirrus engine has been temporarily substituted until a more suitable engine of the period (such as a Kemp) can be obtained.

The Bunce Pusher is fabricated from various types of wood. Clear grain spruce is employed in the wing spars, wing interplane struts, main landing gear members and lower wing skids. Clear grain pine was used in the fabrication of the ailerons, stabilizers, rudders, elevators and wing tips. The outriggers were made of bamboo. Steel tubing was used for certain landing gear members and engine mounting bracing. Fittings were made from tinned steel sheet. Bracing wire was soft iron wire. Turnbuckles were made from motorcycle spokes.

Laminated wing ribs were made from one strip of spruce sandwiched between two strips of pine, glued and nailed together. These were bolted to the rear spar and fastened to the front spar by a metal fitting. Rubber-



Dino Testone, one of the original members of the restoration team, sits in the pilot's seat of the nearly completed Bunce-Curtiss Pusher. (CAHA)

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ized fabric was laid over the top of the wing and held on by upholstery webbing and upholstery tacks. The trailing edge was laced to a trailing edge wire. Control surfaces were made of pine strips nailed and glued together and joints reinforced by tinned metal. Top and bottom were covered in the same manner as the wing. The aircraft components were bolted together with stove bolts. Wing panels were in one piece and bolted via fittings to the center section spars. Outriggers were bolted to the center section. The airplane was easily disassembled for ground handling.

Contrary to the normal practice of the day, Howard Bunce painted his first airplane. All wooden parts, except for the control wheel, were all painted silver, including wing spars, ribs, struts, bamboo outriggers and the like. As the propeller is missing, it is assumed that it was varnished natural wood as was typical of the period. Engine color also in unknown, probably natural metal.

All metal fittings and parts were painted a bright "fire-engine" red. Color of the fabric was a dull orange-yellow, produced in the main by the natural rubber coating on natural linen cloth. As far as is known, there were no markings on the aircraft.

As the final aspects of the restoration effort were nearing completion, George Pranita died, and all further effort stopped. The airplane was put into storage until the time when adequate financing and manpower is available.

This splendid ancient airplane, the oldest surviving Connecticut-built airplane, is a tribute to its original builder Howard S. Bunce and to its reconstructor George S. Pranita, both pioneers when flying was young. When the airplane is finally added to the Museum display, the Bunce-Curtiss Pusher will be symbolic of the early airplanes flying in Connecticut and will serve as the focus of this glorious period of our aviation history.

#### ANNUAL MEETING

The Annual Meeting of the Connecticut Aeronautical Historical Association for 1983 will be held Saturday, March 19, 1983, at the Howard Johnson's Conference Center in Windsor Locks, CT.

After the usual reports from the President, Treasurer and Directors, a status report of the capital fund drive will be presented. Election of Officers and Directors for 1983 will conclude the official portion of the meeting.

We are indeed fortunate to have Keith Ferris, noted aviation artist, as our guest

speaker for the Annual Meeting. Perhaps Ferris' best known work is the full size rendering of a Boeing B-17 Flying Fortress on a combat mission over Germany, which covers one entire wall of the World War II Gallery in the National Air & Space Museum in Washington, D.C. His presentation at the Annual Meeting, featuring magnificent slides from multiple projectors, will graphically display his artistic efforts, and, in part, will tell the story behind the B-17 painting.

Full details of the meeting, including transcriptions of the annual reports, will be published in the next issue of the Newsletter.

#### U.T.C. DAY AT MUSEUM

In recognition of the considerable aid and assistance received from United Technologies Corporation, its Divisions and its employees over the years, the Board of Directors decided to show our appreciation by opening the Museum for a day without charge to all U.T.C. employees and their immediate families. Saturday, January 15, 1983, was proclaimed to be "U.T.C. Day at the Bradley Air Museum," and "General Notices" were posted in all U.T.C. Connecticut plants advising employees of the Bradley Air Museum offer. The BAM portable display booth was placed in Pratt & Whitney Aircraft-East Hartford cafeterias for the week preceeding the event, advertising the Museum and "U.T.C. Day."

Unfortunately, the first major snow storm of 1983, nicknamed "Chris," hit Central Connecticut Saturday morning. Eight to twelve inches of snow made driving extremely hazardous, and radio announcements advised motorists not to travel. Despite the heavy snow fall and the ominous forecast of more to come, 303 visitors took advantage of the free admission offer.

April 16, 1983 has been selected as the replacement date for "UTC Day." All UTC employees will be notified of this change, again by "General Notice" at their plant, and it is anticipated that better than 5,000 employees and their families will take advantage of our offer.

While there will be no admission charge, we are stocking our shelves in the Souvenir Shop in anticipation of a banner day in the sales of souvenirs.

#### MUSEUM DIRECTOR SEEKS PA SYSTEM

Phil O'Keefe, Museum Director, has requested that a public address system, including speakers be placed at the top of his "Want List." Any member having such an item is urged to contact Phil at the Museum.