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# Naval Aviation Training

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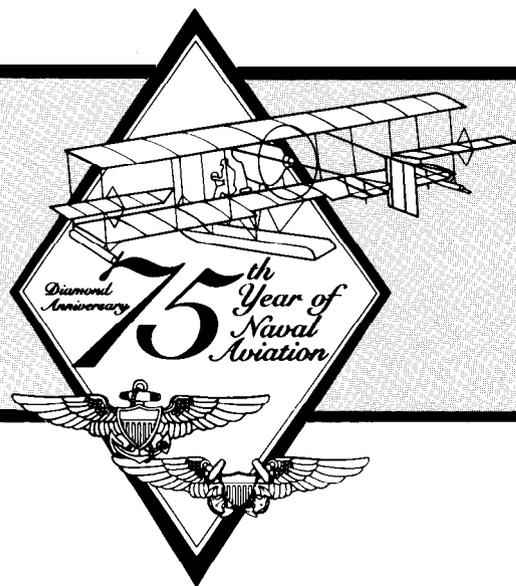
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***Volume One of a Commemorative Collection***

Dedicated to Mrs. Helen Collins for her editorial assistance,  
and many years of devoted service to *Naval Aviation News*.

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## Introduction

**E**very student who pursues the golden wings of Naval Aviation enters the gates of the flight training command with fair measures of trepidation and joyful anticipation. Fear of failure runs in tandem with visions of adventure ahead. There is virtually no way to avoid an encounter with these emotions. Even the most stout of heart or those with lots of flight time beforehand get caught up in them.

Whatever an individual's attributes — and they must be substantial, indeed, to even qualify for the pursuit — learning to fly the Navy way constitutes an endeavor equivalent to winning the spouse of one's dreams or to facing a once-in-a-lifetime challenge on the grand scale.

When all is said and done, when the shining wings have been pinned upon the breast, the brand-new aviator begins compiling a fresh set of memories. It is unlikely, however, that they will overshadow the elation of that initial solo, the heart-pumping thrill of a tail chase on an early formation hop, or the downright, "I knew I could do it all along" satisfaction of snaring a cross-deck pendant while executing the first trap aboard a carrier.

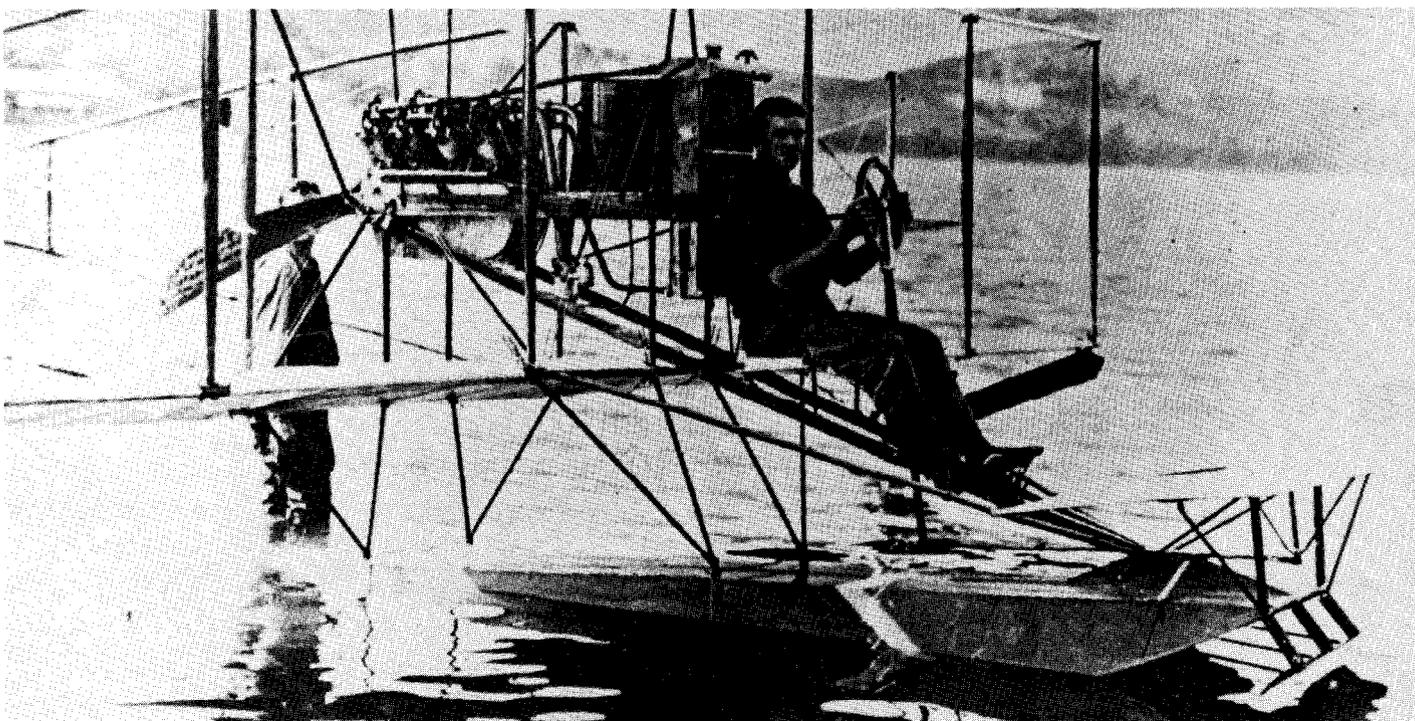
At the heart of the training command experience is the flight instructor, a person who has faced down the challenge on his or her own and who is tasked with imparting to fledglings the standardized, time-tested procedures that will take firm root and fortify the flyers of the future. How well flight instructors perform their duty is measured every day in the skies of Naval Aviation all around the globe.

In the succeeding feature stories, Naval Aviation News presents a picture of flight training in the U.S. Navy from the early-early days of fabric and wire, during World War II, and on into the present. What follows is a look at the airplanes, the students, the instructors and other ingredients that constitute a classroom for learning of the highest order.

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# U. S. Naval Aviation Training 1911-1922

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The Navy's first flyer in Navy's first airplane: Lt. Ellyson and the A-1 Triad at Hammondsport, New York.

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By Dr. William J. Armstrong

**T**he Navy started training aviators before it bought an airplane. In 1910, the Navy had no funds to spend on aeronautics but there were a number of officers who were interested, and the public was keen about developing aircraft for military use. (The Army had procured an aircraft the previous year.) In September, the Secretary of the Navy George von L. Meyer designated Captain Washington I. Chambers as the Navy's central point for handling all correspondence concerning aeronautics. Capt. Chambers, Assistant to the Aide for Material, was known for his interest and knowledge in the field of aviation. In fact, it was his personal goal to bring aviation into the Navy. He used his new assignment to good advantage.

In November he asked the pioneer aircraft builder, Glenn Curtiss, to demonstrate how an aircraft could operate from a ship. Chambers was looking for some way to prove that ships and aircraft could work together. He felt that before the Navy would become serious about acquiring aircraft, there had to be hard evidence of their capabilities. Curtiss, on the other hand, was looking for a way to sell aircraft.

He agreed to arrange for one of his airplanes to be flown from the deck of a battleship at anchor. On November 14, 1910, Curtiss' stunt flyer, Eugene Ely, flew a Curtiss biplane from USS *Birmingham* at anchor at Hampton Roads. The ship's makeshift flight deck was a wooden platform that was built specially for the aircraft across the ship's bow. When Ely cleared the platform, his Curtiss pusher had insufficient lift and nearly ditched before the wings took pressure and raised him into flight. He landed safely on Willoughby Spit.

The flight was a complete success. Capt. Chambers had shown the world that an aircraft could operate from a ship; Mr. Curtiss had shown that he could build such a plane.

The November demonstration got Capt. Chambers over a very significant hurdle, but there were still no Navy funds for

aviation. Curtiss, however, was cooperative and did not let the advantage he had gained slip through his fingers. In a letter dated November 29, 1910, to the Secretary of the Navy, Curtiss offered "... to instruct an officer of the Navy in the operation and construction of the Curtiss aeroplane." There was no precedent for this kind of offer. Curtiss made it to deepen the Navy's commitment to aviation while circumventing the money problem. In his letter he stated, "As I am fully aware that the Navy Department has no funds available for aviation purposes, I am making this offer with the understanding that it involves no expense for the Navy Department other than the cost of detailing an officer to the (Curtiss) aviation grounds in southern California." Capt. Chambers strongly recommended that Secretary Meyer accept the Curtiss offer since it would cost only some temporary duty money, and the Navy could not help but profit from the experience. Meyer agreed.

Late in 1910, although Curtiss' aircraft factory was in his native village of Hammondsport, N.Y., he was in southern California establishing an experimental station on North Island at San Diego. It was there that the first Naval Aviator learned to fly an airplane.

In December 1910, the Navy detailed Lieutenant T. G. Ellyson to train under Curtiss. His orders were direct in regard to his duties. He was to remain in a trainee status and report to the Department when "... in your opinion and in that of Mr. Curtiss you have qualified in practical aviation." Ellyson's orders did not define precisely what they meant by "practical aviation." It seems that the definition was left to him. In any case, the way in which he interpreted his orders set some important precedents for Naval Aviation.

Ellyson began his actual flight training on February 4, 1911, in a four-cylinder standard Curtiss biplane, Model 1909. His curriculum was undefined until a month later when he explained it in a letter.

On the first day of flight training, Ellyson made "four runs over the ground at about 20 miles per hour. "This exercise included nothing but taxiing along the

airfield four times. The next day, he made five runs and on the third day six runs. The purpose of the runs was to accustom the student to the aircraft and the use of its rudder. Ellyson pointed out that the number of runs was limited by wind and the number of men who were training. The Navy lieutenant was not alone at the Curtiss school, as Curtiss had also induced the Army to detail two officers to his camp for the same purpose.

Ellyson continued with his ground runs, gradually increasing speed to cause the aircraft to become light without flying and draw the student's attention to all the controls. On his seventh day of training, Ellyson rose from the ground in short hops of 10 to 15 feet. These hops were long enough to require coordinated use of the ailerons and throttle to bring the aircraft back to earth. Before February was over, he had soloed. By March 5, he was making flights of a mile and a half at an altitude of 15 feet. On March 31, Ellyson wrote the Navy Department stating "... in my opinion and in that of Mr. Curtiss, I have qualified in practical aviation."

Learning to fly was not all that Ellyson understood by "practical aviation." He thoroughly learned the technical aspects of his machine and took part in experimental work that Curtiss was doing with both landplanes and seaplanes. Curtiss was attempting to develop a float system for his aircraft that would allow operation of the craft from water. He was also developing an amphibian. Ellyson kept a record, complete with sketches, of these projects. He even prepared a set of instructions for inspection of aircraft after assembly and prior to flight.

Ellyson's approach to flight training set the precedent that a Naval Aviator should learn thoroughly not only how to operate his machine but also how to build, maintain, repair and modify the craft as well. He set another important precedent regarding acceptance of aircraft by the Navy. In March 1911, Congress authorized the sum of \$25,000 to the Navy for "... experimental work in the development of aviation for naval purposes." With this appropriation, Capt. Chambers was able to order two aircraft

from Glenn Curtiss on May 8, 1911, which is accepted as the birthday of U.S. Naval Aviation.

Ellyson had finished his work at North Island in late March 1911. He left shortly afterwards and Curtiss returned to his factory in Hammondsport. Ellyson got permission from the Navy to join Curtiss and was therefore with him while he was building the airplanes the Navy had ordered. The Bureau of Navigation, which had ordered the aircraft, issued instructions that the aircraft should "... be accepted when passed by Inspector Lt. T. G. Ellyson...." On July 13, Ellyson requested authorization to accept the aircraft. He outlined to the Bureau the tests he had conducted on the aircraft and reported that he had found them "... most satisfactory in all respects."

By the summer of 1911, Ellyson and Curtiss were no longer the only ones actively engaged in aviation training for the Navy. The preceding March, the Wright brothers had offered to train a naval officer to fly, provided the Navy would purchase an aircraft from them. The Navy responded to this offer — which the Wrights later made unconditional — by detailing Lieutenant John Rodgers, USN, to Dayton, Ohio on March 17, 1911, to begin flight training under the famous brothers who had developed aviation for practical use. In June, Lieutenant Junior Grade John H. Towers, USN, was detailed to Hammondsport for flight instruction at the Curtiss factory.

An interesting aspect of aviation at this time was the way in which officers were selected for flight training. They volunteered and from then on it was up to their superior officers to make the decision. Ellyson was a submariner when he expressed an interest in flying. Capt. Chambers later explained to him "...You were selected because you were not considered a crank but a well-balanced man who would be able to assist in building up a system of aviation training in the Navy." Chambers used the word *crank* to indicate that there was a good deal of casual interest in aviation on the part of people who could not be taken seriously. But many who applied were entirely serious.

Lt. Towers was a battleship officer interested in gunnery. Late in 1910, he

**Eugene Ely, a stunt pilot for Glenn Curtiss, makes a landing on USS Pennsylvania, January 1911. The landing field was a specially constructed wooden platform and sandbags anchored the arresting gear.**

had applied for duty in aviation but, in reply, learned that his application had been "placed on file." He later observed that in 1910 being placed on file meant being buried at Arlington. Nonetheless, and to his surprise, orders came through in the summer of 1911 for him to report to the Curtiss plant in upstate New York.

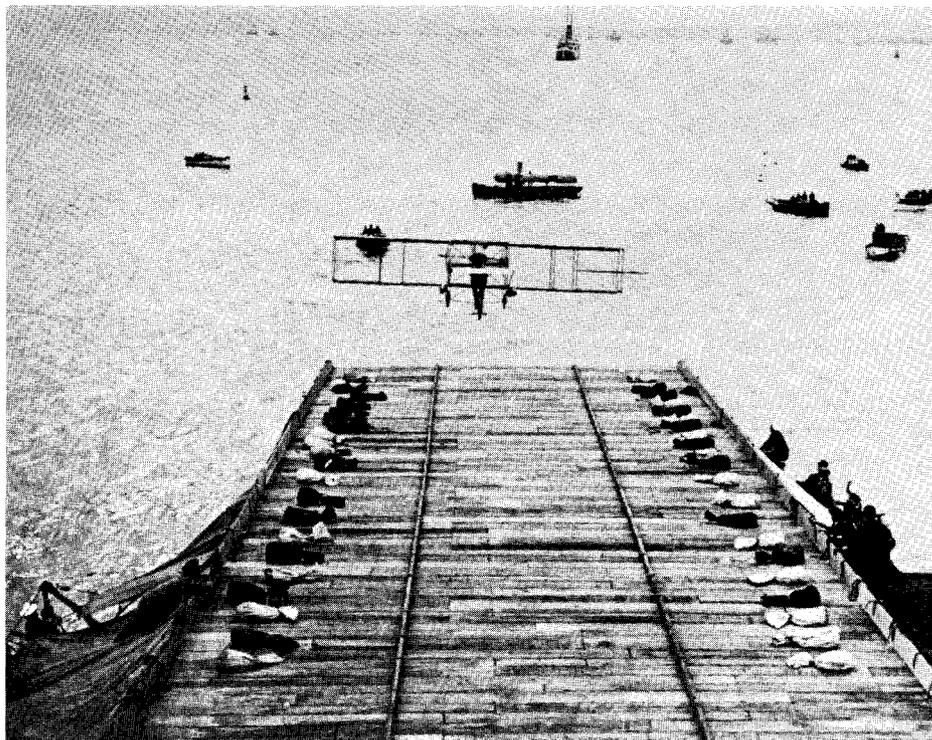
One of the more curious examples of the way in which assignments to flight training were made is that of Lieutenant Patrick Bellinger. Like Ellyson, Bellinger was a submariner. His enthusiasm for flying led him to apply for flight duty, with Ellyson's blessing. Ellyson even spoke personally to the detailer. Nothing happened. Following up on his application, Bellinger asked his detailer what had become of his request for assignment to flight duty. The detailer was chagrined. He explained that, when he told his clerk to assign Bellinger to aviation, the clerk had misunderstood the name and sent a letter to Ensign Billingsley asking him if he wanted assignment to flight duty. Because the invitation could hardly be withdrawn, Bellinger would have to wait until the detailer received Billingsley's answer. As it turned out, Billingsley accepted the invitation, qualified and was given flight duty. Bellinger, however, had only a short time to wait before his own orders came through.

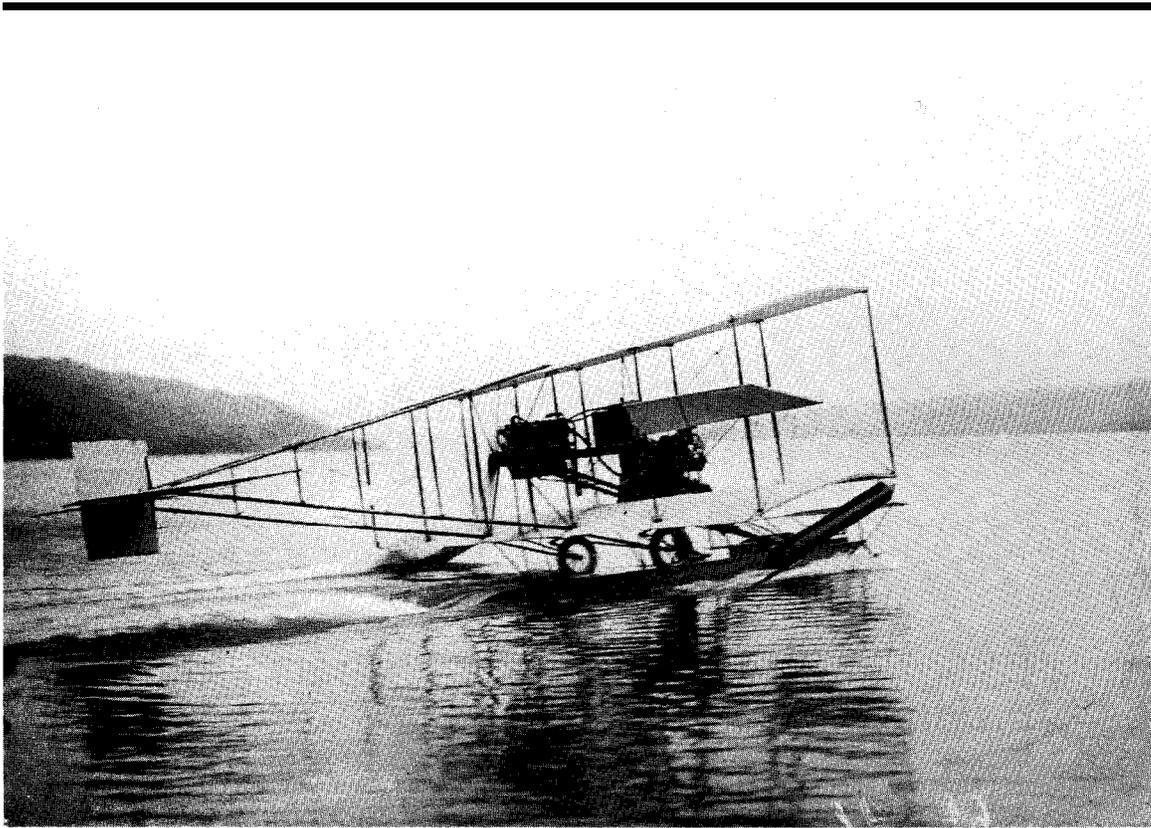
Flight instruction was largely informal. In March 1911, Capt. Chambers wrote an

article for *Proceedings* of the U.S. Naval Institute. At the end of this article, for the benefit of officers interested in flying, he outlined what he referred to as "Requirements." These involved two distance tests, each of which would consist of covering a closed circuit of not less than five kilometers in length. There was also an altitude test that required the aviator to rise to a minimum altitude of 50 meters. It had to be made at the same time as the distance tests, and more precision was required than might have been expected. The distance tests had to be made on a circuit marked by two posts no more than 500 meters apart and had to be performed in figure eights. Landing was important. The two distance tests and the altitude test were made in three separate flights. At the end of each flight, the engine of the aircraft had to be shut off no later than at the point when the landing gear touched the ground. The landings also had to be made at a distance less than 50 meters from a point designated by the student before the tests.

These requirements were, in fact, the rules of the Aero Club which was the American chapter of the *Federation Aeronautique Internationale*. Chambers adopted them for the time being because there were no other requirements available and recognized.

When John Towers reported for flight training at the Curtiss factory, he was





Chambers takes the A-1 out for "a little fresh air" at Hammondspport in July 1911.

Lt. Bellinger and a Curtiss AH-3.

