

# MR. COURTNEY'S THIS ATTRACTIVE AMPHIBIAN WAS NEVER ABLE TO FIND A MARKET BY HOWARD CARTER

# AMPHIBIAN

**B**orn in 1895 during the reign of Queen Victoria, Frank Courtney would go on to accomplish many things not even imagined in that distant time period. Immensely interested in the developing science of aeronautics, the young man (who was one of three Irish brothers) traveled to Hendon where he went to work for pioneering aviator Graham White to learn what he could about the newly emerging science. He also learned to fly with Graham White in primitive "box kites" and when the Great War broke out, he joined the Royal Flying Corps. Flying very crude Morane-Saulnier Parasols, Courtney had the unfortunate experience of being shot down by the great German ace Max Immelmann.

Somehow managing to survive the Great War, Courtney returned to England and took up work with de Havilland as a test pilot where he began flying

not only production aircraft but a number of experimentals including the very bizarre DH.6 fitted with the Alula high lift wing. During this time, he also participated in many of the British air races and was quite successful.

The young man also had ambitious visions of a greatly expanded airline system equipped with state-of-the-air aircraft designs and he began flying pioneering airline flights between Britain and Europe for Daimler Airways. Always interested in new designs, Courtney began test flying autogiros and helped with developing the aircraft into a practical vehicle.

Between 1927 and 1928, he tried (unsuccessfully) to prove the concept of an airline service route between Europe and North America by flying east to west. Watching the rapid aeronautical developments in the USA, Courtney came to America in late 1928 as a technical assistant to the Curtiss-Wright Corporation and this is where our subject aircraft was developed.

However, he returned to Britain in 1936 to test a variety of seaplanes but returned to the USA in 1940.

Obtaining a position with Consolidated-Vultee, Courtney began testing Liberators, Catalinas, and Privateers and then began ferrying numerous aircraft to Britain as part of the Lend-Lease program. He later became an advisor to Boeing and finished his aviation career

working on the development of the Atlas ICBM.

During 1933, Courtney held a meeting with the directors of Curtiss-Wright about building an amphibian aircraft. Courtney impressed them with some initial sketches and his attitude that he could build and design

such an aircraft "better than anyone else." The country was still under the devastating effects of the Great Depression, but the board gave Capt. Courtney a thumbs-up for the new design — but with restrictions. For reasons not altogether clear, Curtiss-Wright stipulated the aircraft had to be a biplane and had to have a radial engine! Funds for the aircraft were found in the defunct assets of the Curtiss-Caproni Division.

Having the company saddle him with the demand that the plane have two wings and a pusher engine put a number of restrictions on creativity, but Courtney was determined to make a modern and efficient amphibian. First, he set the seating at five and then began to build the aircraft around a comfortable cabin. The all-metal hull was 51-in across at its widest point and it was built up of riveted Dural members that were then anodized and painted to eliminate the effects of corrosion. The framework was then covered with riveted Alclad for a very smooth surface.

The right side of the windscreen frame were built into the cabin and steps were built into the hull



With his thick glasses, Frank Courtney was not the standard image of a test pilot. As a young man, he quickly gained considerable design and flying experience and became known as a pilot that would push the limits.

for ease of use. There was a bench-style seat that seated three across and two individual front seats. Construction of the hull was contracted out to the Edo Corporation, well-known builders of floats and Edo used all its skill and talent to construct a beautiful hull. Courtney knew that a pusher engine had its own problems and could be troublesome when it came to

center of gravity, mainly causing a tail-heavy situation. To eliminate this, he moved the Wright R-975E-1 of 365-hp forward as much as possible and then kept the propeller directly behind the trailing edge of the upper wing. To do this, he devised a 31-in extension shaft between engine and prop. As a point of interest, Curtiss-Wright management told the designer that such an arrangement was impossible. Using his own funds, Courtney had an independent machine shop successfully build the assembly from his blueprints.

The streamlined engine nacelle formed the center section and the upper wings were attached to the nacelle. The leading edge of the nacelle was built as the oil tank. The lower wings were mounted to the hull with extreme stagger to provide clear visibility and to eliminate wing structure passing through the cabin. The wings were braced together by N-style interplane struts and tension-compression struts that replaced antiquated wires. The wing was four panels built up around solid spruce spar beams with spruce and plywood truss-style wing ribs. Leading edges were covered in Dural sheet and the completed framework was covered in fabric.

Wearing experimental registration X13298, the amphibian was photographed during its flight-testing phase. Curtiss-Wright put some limitations on the designer's creativity by insisting the aircraft be a biplane with a pusher engine. (Jack Canary)

