



## The Ford Trimotor: An Aviation Legend

by Linda Burdette, Feature Article Editor

It was the end of the barnstorming era. The frequency of accidents and fatalities created a great deal of public distrust of airplanes and led to the beginning of government regulation. Many World War I aircraft



The City of Richmond in the air

could not meet the new standards. But into the mix stepped one of the most inventive people in American history – Henry Ford. A famous designer, William B. Stout, had kindled the interest of both Ford and his son Edsel in aviation in 1924. Stout favored all-metal airplanes and based his designs on those of European Hugo Junker. In 1925, Ford bought Stout Metal Airplane Company and adapted the traditionally single engine Stout design with three Wright air-cooled engines. (The later 5-AT model had more powerful Pratt & Whitney engines.) The Ford Trimotors were among the first to use an all-metal construction which was certainly more advanced than the standard construction techniques in the 1920's. The all-metal construction allowed Ford to claim it was “the safest airliner around.” Its fuselage and wings were constructed of aluminum and corrugated for added strength although the

incipient drag reduced overall performance. It was also unique in that the aircraft control surfaces were also made of corrugated aluminum, rather than fabric covered. Another unique characteristic was the hand-operated Johnson bar braking system, also known as the “Johnny Brake.” Like most other airplanes of this era, the rudder and elevator were controlled by wires strung along the external surface of the aircraft and the engine gauges were mounted externally, on the engines, to be read by the pilot looking through the windscreen.

The metal construction, size, multiple engines, and cache of the Ford name convinced the public and the Trimotor became America's first successful airliner. It carried a crew of three: pilot, co-pilot, and stewardess and could accommodate between eight and twelve passengers, depending on the configuration. In early models, the passengers rode on fairly comfortable wicker seats at a cruise speed of 110 to 115 miles per hour. The only down side was the deafening roar of the engines. Transcontinental Air Transport, which later became part of Trans World Airlines, used the aircraft to begin its transcontinental air service from San Diego to New York in 1929.

True to the Ford family, these aircraft quickly gained a reputation as rugged, reliable, and relatively inexpensive transportation. Maintenance and repairs could be done in the field rather than having to haul the aircraft back to a repair facility. Ground crews quickly became proficient in working on the engines while balancing on scaffolding and platforms. The Trimotor could even be fitted with skis and floats if supplies or passengers needed to fly to remote areas.

A total of 199 Ford Trimotors were built between 1926 and 1933, including 79 of the 4-AT model and 117 of the 5-AT model, plus some experimental aircraft. Well over 100 airlines of the world flew the Trimotor as well as all three branches of the U.S. military, many corporations, and 20 foreign countries. As of 2008, there are estimated to be 18 Ford Trimotors still in existence, six of which are still flyable, which takes us back to NC9612.

With the assistance of our own retired Admiral Witt Freeman and retired Eastern Airline Captain Bob Beitel, the airplane has been restored to original condition. The airframe was reworked, a new interior installed, and the exterior completely re-skinned. The landing gear, including the unique Johnson bar braking system, is complete and original. The original straight-laced wire wheels have tires that were re-sculpted to replicate the correct profile and tread pattern of the period. There are no modern avionics or communications gear – just what came with the plane when it was delivered from the Ford factory in January of 1929. Exhaustive efforts were made to ensure originality in every detail with assistance from Tim O’Callaghan of the Henry Ford Museum and American Aircraft Historian Bill Larkins, author of “The Ford Tri-Motor” book. Just as in 1949, it has been painted with the authentic markings used by the Transcontinental Air Transport in 1929.

Although Henry Ford soon lost his interest, his creation furthered the history of aviation immeasurably. The “Tin Goose” convinced many that aviation was a viable business and transportation option and not a suicidal mistake. Not a bad day’s work for a production run of less than 200 aircraft.

Sources:

Ford Trimotor Organization, <http://www.fordtrimotor.org>

Airventure Museum, <http://www.airventuremuseum.org>

Ford Tri-Motor, by the editors of Publications International, Ltd., <http://science.howstuffworks.com/ford-tri-motor.htm>

Fantasy of Flight, Ford Tri-Motors, <http://fantasyofflight.com/aircraftpages/fordtrimotor.htm>

For detailed information on the aircraft and auction, see

<http://www.ipass.net/ginkgo/N9612home.html>

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