

EAA CHAPTER 770



MARCH 2022

Welcome to the Chapter 770 newsletter. Please share your news and updates from the chapter, upcoming flying events, info and more. If you have flying stories, photos etc to include feel free to send them to etf6911@gmail.com.
Jim Bildilli came up with a very neat topic, we would like to highlight those who volunteer at AirVenture as a countdown to Oshkosh '22. Please get contact me to share your story!

UPCOMING EVENTS

VMC/IMC Club : March 1, 2022
Chapter Meeting: March 17, 2022
Young Eagle Rally: April 30,2022 (rain date May 7)
Ford Trimotor AT5 Visit: May 19-22, 2022
EAA Air Venture: July 25-31, 2022

UPCOMING EAA WEBINARS

Teardown Needed? (Wings)	MAR 2	7:00pm
EAA Ray Aviation Scholarship Coordinator Training	MAR 3	12:00pm
Mustang: The History of EAA's P-51s -Part 2	MAR 8	7:00pm
Shiny Side Up- Avoiding Spatial Disorientation (Wings)	MAR 9	7:00pm
EAA Ray Aviation Scholarship Coordinator Training	MAR10	7:00pm
International and Cross Border Aircraft Transactions (Wings)	MAR16	7:00pm
Home Flight Simulation for Private Pilot Training and Proficiency (Wings)	Mar22	7:00pm
Young Eagles Workshops-Bringing the Youth Back to the Airport	Mar24	7:00pm
EAA Learn to Fly Day-Hosting a Chapter Flying Start Event	Mar29	7:00pm
Taming the Tailwheel Shimmy (Wings)	Mar30	7:00pm

Register for upcoming webinars at:
www.eaa.org/ea/news-and-publications/ea-webinars

The Ford Trimotor and the Airway Limited

Have you driven a Ford lately? Much like the automobiles and streamlined manufacturing methods Henry Ford revolutionized roads and factories, the Ford Trimotor changed the way we traveled, explored, and even did business.

As World War I came to an end, the focus of aviation as a military tool had the freedom to widen its scope and discover the possibilities of what aviation could do for civilian life as well. In less than the decade of the 1920s, the airplane would quite literally change the world.

The Ford Trimotor was developed in the early 1920s and first flew in 1925 and various models were in production until 1933. Taking some engineering methods from the German manufacturer Junkers, it was of all metal construction. One of its most noticeable features is the use of corrugated aluminum.

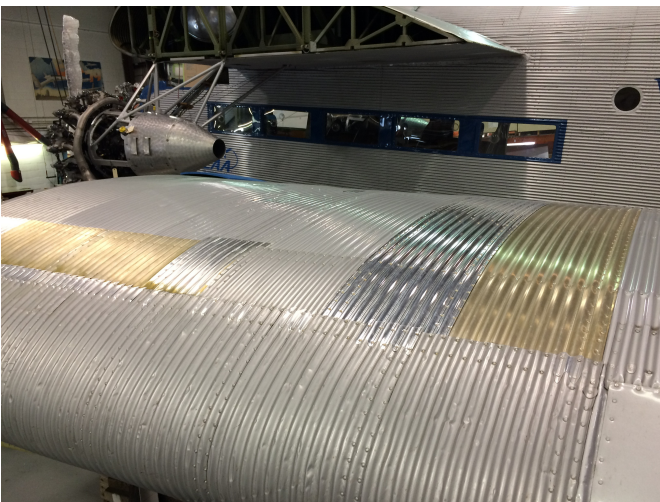


Photo: John Salz Close up of the corrugated aluminum skin

This added strength to the skin of the aircraft despite adding some weight due to the additional aluminum and drag due to the textured surface. For ease of maintenance and inspection the control cables were external.



(Photo: John Salz) 4AT in for maintenance. John points out the "bridgelike" truss structure in the wing of the Ford.

Another interesting design feature is that the engine instruments were located on the engine nacelle strut as opposed to being inside the cockpit, thus the crew would look outside to the engine to obtain engine information. In keeping with Ford's nicknaming scheme, it was affectionately called the "Tin Goose" a nod to the "Tin Lizzy" or Model T automobile.

Several models of the Trimotor were built. The 4AT had 300hp Wright engines, the same engines as those on Lindbergh's Wright Flyer. It seated between 8 and 10 passengers. In 1926, the larger and more powerful 5AT was introduced and entered service in 1928. It was equipped with the larger Pratt and Whitney Wasp engines capable of 420hp and carried up to 17 passengers.

All of the major airlines at the time flew the Trimotor. The predecessors of TWA, United, American, Pan American, and Eastern were major US operators. Wien Alaska, Cubana, Czechoslovak and China National Aviation Corporation were notable international operators.

Predating modern business aircraft, the Trimotor was also used by companies as a business aircraft to transport officers to meetings and operational sites. Businesses such as Texaco and Ford were prominent users of the type. Another interesting business use was by Monarch Foods. The company utilized a 4AT as a "flying grocery store". The cabin was transformed with store shelves full of canned goods and people would be able to board the aircraft and sample the canned goods the company offered.

Though the Trimotor was a highly successful airliner, it was utilized on other missions as well. Floats were added to the undercarriage and Ford flew a demonstrator in the Detroit River. The type was also utilized on expedition flights to the South Pole. Grand Canyon Airways operated scenic flights in Trimotors until being replaced by Dehavilland Twin Otters. Island Airlines was based at Port Clinton OH (where the TAT 5AT is based now) and served the islands in Lake Erie. Both operations lasted into the 1980s!

The Ford also found its way into military service. The C-3A as it was referred to in the Army Air Corps was a 4AT with 200hp Wright engines. Upgraded 4AT's with 300hp Wrights were designated C-9

(not to be confused with the Nightingale). The Air Corps also utilized the 5AT under the military designation C-4A. The US Marines referred to the Ford as the JR (JR-2, JR-3 etc). It was also utilized by foreign militaries not limited to Canada, United Kingdom and Spain.

The 5AT that is visiting us in May is a historical bird in its own right. It flew TAT's "Airway Limited. The "Limited" was a joint venture between TAT (predecessor to TWA) and the Pennsylvania and Santa Fe railroads.

The airlines were coming into their own in the mid 1920s as passengers were being added to air mail routes. It was however difficult to get from point A to point B. Navigation was in its infancy although developments were realized out of necessity as the industry blossomed. Airports were illuminated to assist pilots in finding the runway but the routes themselves were traversed by dead reckoning and celestial navigation. This made night flying with the more precious cargo too dangerous. To travel by air you would need to make connections and lay over in the evening and wait for day light to continue on.

The new cooperation between the airline and the railroads however would allow you to travel from New York to Los Angeles in less than 48 hours. While this sounds like an eternity to us today, this was groundbreaking in the mid '20s. This service commenced July 7, 1929.

You would board the Pennsylvania Railroad at Penn Station in New York in the evening, and enjoy the lush sleeping accommodations on a then state of the art Pullman sleeper car and wake up in Columbus

OH. In Columbus you would board an "Airbus" home stretch leg brought them in to Los Angeles to finish the journey. which was an automobile pulled trailer operated by the TAT that would take you to Port Columbus terminal to board the Ford.

Once on board you would enjoy "lounge chair comfort" as touted by a TAT promotional film. You would be given a map so that you could pick out prominent land marks along the journey, or "flight track" your progress as we do today on a Flightaware or Flightradar24 type site, although in my opinion that way sounds much more fun and adventurous! Once airborne out of Columbus you could often see the train you were aboard overnight as the aircraft passed it overhead.

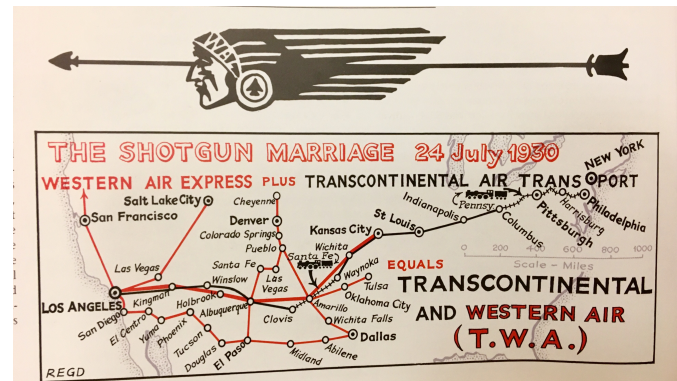
The first stop would be Indianapolis to enplane and deplane passengers, fuel and mail. From there, the next stop would be St. Louis for more fuel and passengers. Once airborne from St. Louis, a "dainty" lunch would be served.

From Kansas City you would fly to Wichita and from Wichita to Waynoka, Ok. This would be the end of flying for the day. Over 1000 miles covered. At Waynoka passengers boarded another "Airbus" and were transported to fine dining in town before boarding the Santa Fe for another sleeper overnight to Clovis NM. The next day of air travel would provide the most scenic as the next leg was from Clovis to Albuquerque.

From Albuquerque the ancient volcanoes and mountains dotted the scenery enroute to the fuel stop at Winslow AZ. From Winslow to Kingman, passengers would see Meteor Crater, and the Painted Desert. The

Despite the relative luxuries provided on board the train and aircraft, it was a 48 hour trip. I'm sure by time westbounders hit Los Angeles, and eastbounders arrived in New York, they probably suffered from the earliest cases of pre-jetlag.

The service lasted a few months before an accident would slow interest in the operation. On September 29, The City of San Francisco would crash in a thunderstorm in New Mexico. Future bookings dropped as a result, and soon after TAT would merge with Western Air Express to become Transcontinental and Western, and then ultimately Trans World Airlines (TWA).



Routemap of the Airway Limited during the merger of Western Air Express and TAT showing the various possible connections.

By 1930, new aircraft like the Boeing 247 and Douglas DC-2 that could fly higher and faster than the Trimotor would make the railroad-airline service obsolete. New methods of navigation were being developed that combined to reduce coast to coast service to around 24 hours in the early 1930s.

This service did however was a milestone in commercial aviation. And from an aviation enthusiast aspect, introduced

people to aviation. While there are still some who board a contemporary modern airliner and demand a window seat, near the wing with an engine view, for most its a form of transportation. I can only imagine how advanced and unworldly it would've felt to be a passenger in the 1920s flying above the earth having lunch at breakneck (relatively of course) speeds as we traverse the continent. You have to think most of the people who had the privilege of enjoying this service could remember life before the automobile. To go from horse drawn transport to flying above the Earth had to be pretty mind boggling.

There are still remnants of the TAT service today. The terminal at Columbus OH has been refurbished to reflect how it looked when the Airway Limited was operated. The airport at Winslow AZ still has several hangars with TAT logos.

Below are several interesting videos that expand on the the Trimotor and the Airway Limited Service:

[TAT Promo Film: The Airway Limited](#)

TAT Promo that takes you on the journey from New York to Los Angeles

[Discussion with Family Member of a TAT Passenger](#)

The family member of a woman who took the Airway Limited and documented it discusses in depth the services that were provided

[Ford Trimotor Aerobatics](#)

Bob Hoover has always been my favorite aerobatic pilot, but this guy....

[Henry Ford's Contributions To Aviation](#)

The Trimotor is probably Ford's most recognizable offering to aviation, but Ford has made many

contributions to aviation in many different ways.

Photos: John Salz Port of Clinton (formerly City of Wichita) during maintenance

