



*Missions for America
Semper vigilans!
Semper volans!*

Publication of the Thames River Composite
Squadron
Connecticut Wing, Civil Air Patrol
<http://ct075.org>
300 Tower Rd., Groton, CT

Issue 17.07

14 February, 2023

*Lt Col Stephen Rocketto Editor
1st Lt David Pineau, Publisher
Maj Roy Bourque, Paparazzo
2d Lt Joanne Richards, PAO
C/2dLt Stephen Buchko, Cadet AEO
C/Amn Lucas Dellacono, Cadet PAO
Capt Edward Miller, Features
Maj Scott Farley, Roving Correspondent
Shawn Terry, Automated Sciences, IT Guru*

21 FEB-TRCS Meeting-Safety Down Day
28 FEB-TRCS Meeting
07 MAR-Staff Meeting
11 MAR-CTWG SAREX-HFD
14 MAR-Commander's Call
21 MAR
28 MAR
04 APR-Staff Meeting
11 APR-Commander's Call
18 APR
25 APR
29 JUL-06 Aug-CTWG Encampment

SENIOR MEETING

*14 February, 2023
No Meeting*

CADET MEETING

*14 February, 2023
submitted by
No Report*

MISSIONS

Capt Adam Spreccace and Lt David Pineau had to abort the Saturday ice patrol mission when the alternator failed during the pre-flight run-up check.

FEATURE ARTICLE

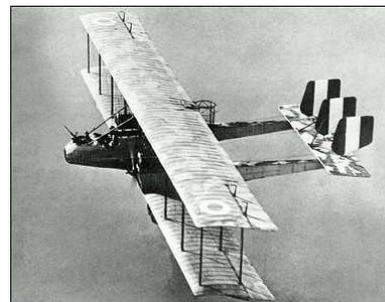
Boom-Boom

*A Look at Twin Boom Aircraft
Part Two
Bombers and Attack Aircraft*

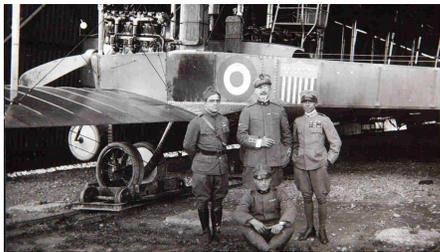
In the first article in this series, The Coastwatcher examined four representative example of cargo aircraft that featured twin boom construction. One bomber and two related attack aircraft will be featured next.

Caproni Ca.5

The Ca.5 was the most powerful of a series of five. It was a tri-motor aircraft, two tractors and a pusher, crewed by two pilots and two gunners and could cart about a ton of bombs. It trudged along at 100 mph but had a 5 ½ endurance. Almost 700 were built including three in the United States.



Captain Fiorello LaGuardia and concurrently a U.S. Congressman flew one in Italy during World War I. LaGuardia stated that the Caproni was “as efficient a plane as any then built.” He flew five combat missions, two at night, and accrued 10 hr 20 min against Austro-Hungarian targets. CAPsters will recall that it was LaGuardia as Director of Civil Defense in 1941 who signed the document establishing the Civil Air Patrol.



The “Little Flower” stands with Major Piero Negrotto, Captain Federico Zapelloni and Sergeant Firmani in front of their Caproni bomber, the “Congressional Limited.”

North American OV-10 Bronco

The genesis of the design was unusual. Two men, W.H. Beckett, a former Marine associated with North American Aviation and Colonel K.P. Rice were lamenting on the lack of a robust aircraft for the USMC's primary mission of close air support. They brain-stormed ideas and ended up building a fiberglass model of a partial aircraft in Rice's garage and then went out and sold the concept to the Pentagon.

After a lot of lobbying, the Pentagon responded with a request for proposals for a tri-service light armed reconnaissance aircraft (LARA) with STOL

performance and the ability to operate independently from unimproved airstrips. A number of companies vied for the contract but except for an aborted Convair design no other competitors emerged.



USMC OV-10D at Groton

The central nacelle of the Bronco not only carried the crew of two but contained a cargo pod for paratroopers or casualty evacuees and sponsors for carrying a wide range of ordnance. A hard point on each wing was also provided. Two complaints. The large greenhouse canopy, excellent for visibility turned the interior into a sweltering greenhouse in tropical climates and the two Garrett 1040 shp turbines could not provide the power needed to safely climb out of rising terrain, often encountered on combat missions in Indochina.

The Bronco found service as Marine and Air Force forward control and reconnaissance aircraft, close air support for Navy special operations teams, U.S. State department drug interdiction in South America, counter-insurgency aircraft in Indonesia, the Philippines, Morocco and Columbia and forest fighting assets with the federal Bureau of Land Management and California's Department of Forestry and Fire Protection.

A CAL Fire OV-10A Bronco used to coordinate attacks on forest fires and lead in the tankers.



A Luftwaffe OV-10B target tow aircraft with the target operator in a greenhouse pod mounted in the aft portion of the nacelle. (Credit: Adrian Pingstone)



Department of State Airwing OV-10G operated under contract with DynCorp International.

Honorable Mentions
Convair Model 48 Charger



(Credit: San Diego A&S Museum)

The Charger was designed to meet the same specifications as the Bronco and the sole example built and looked similar. It was equipped with Pratt & Whitney Canada turboprops each producing 650 shp, considerably less than the Garrets on the Bronco but weighed 30% less with 30% less wingspan. The Charger was evaluated by all three services but crashed on its 186th test flight and Convair withdrew from the LARA competition leaving the field to the Bronco.

AEROSPACE CHRONOLOGY FOR THE WEEK

Feb. 15, 1926 – Henry Ford gets into the air mail business. A year earlier, Ford had founded Ford Air Transport Service, a cargo line, perhaps the world's first, to service his automobile empire.

Henry and Edsel Ford had an early interest in aviation and invested in Stout Engineering run by William Bushnell Stout. In 1925, the company was renamed the Stout Metal Airplane Division of the Ford Motor Company and quickly produced the Ford 2-AT for company use. On April 14, 1925, a 2-AT named *Maiden Detroit* flew a half ton of Ford manifested freight from Detroit to Chicago. The fleet of five aircraft operated from the lighted Ford Airport and made around 1,000 scheduled flights in its first year of operation.



Note the giant Ford advertisement under the wings.

When the Air Mail Act of 1925 (Kelly Act) was passed, Ford seized the opportunity and secured the business of operating Contract Air Mail Route Six (CAM-6) between Detroit and Chicago and CAM-7 between Detroit and Cleveland.

On February 15, 1926, Henry and Edsel loaded the first bag of mail on the *Maiden Detroit* and flew as passengers on the 1hr 17min CAM-6 run from Detroit to Cleveland.



Henry Loading Mail on Maiden Detroit (Credit: Royal Aeronautical Society: Mary Evans Library)

The aircraft was piloted by Lawrence G. Fritz. The CAM-7 route was inaugurated on the same day. Ross Kirkpatrick flew the outbound leg of this trip and D. W. Burford brought the aircraft back to Detroit.



A letter carried on the first flight. Note the 10¢ air mail stamp. This would be roughly \$1.70 today.

In 1928 Ford sold the airmail routes to Stout, an early proponent of streamlined rear engine cars powered by aircraft engines and a well-known automotive engineer. A Stout early aircraft, the 2-AT led to the tri-motor 3-AT but its lackluster performance led to his departure from Ford's employment rolls. Ford then went ahead to use Stout's work to produce the legendary Tin Goose. Stout operated his own airline, Stout Air Services, but sold it to United Airlines in 1929.



Stout working on a model of his Skycar, circa 1930.

He continued to work in the aero industry. During World War II, he went to work for Consolidated Vultee and became director of Convair's research division. During his long and fruitful career, Stout did pioneer work in automobile design including the sliding automobile seat, metal aircraft production, aluminum structural materials, air transport of goods and people, an automobile/aircraft hybrid and published the first aviation magazine in the United States. Not bad for a vocational high school student and college drop-out.

Feb 16 -17, 1945 – Operation Jamboree! For the first time since the 1942 Doolittle Raid, U.S. Navy carriers return to pummel Tokyo. Fast Carrier Task Force 58 is commanded by Vice Admiral Marc Mitscher, Naval Aviator No. 33. Mitscher commanded the *USS Hornet* (CV-8) which carried Doolittle's aircraft for the first Tokyo strike. Sunk in the Battle of the Santa Cruz Islands, the *Hornet* is represented by her replacement name-sake, *USS Hornet* (CV-12). The Task Force is attached to the Fifth Fleet commanded by Vice Admiral Raymond Spruance.

The striking force consists of eleven fleet carrier

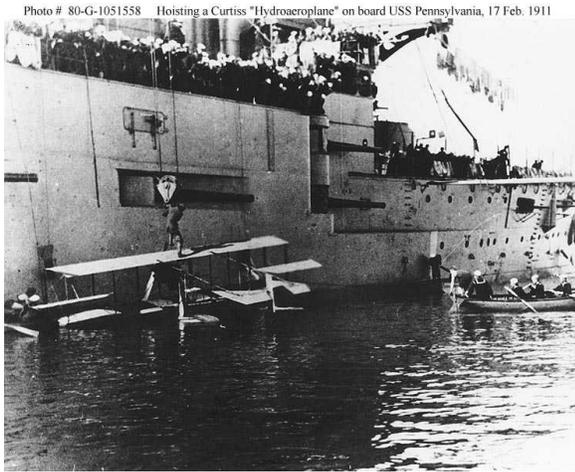
and five light carriers consisting of the 11 fleet carriers *Saratoga* (CV-3), *Enterprise* (CV-6), *Essex* (CV-9), *Yorktown* (CV-10), *Hornet* (CV-12), *Randolph* (CV-15), *Lexington* (CV-16), *Bunker Hill* (CV-17), *Wasp* (CV-18), *Hancock* (CV-19), and *Bennington* (CV-20). Five light carriers, *San Jacinto* (CVL-23), *Belleau Wood* (CVL-24), *Cowpens* (CVL-25), *Langley* (CVL-27), and *Cabot* (CVL-28) round off the carrier force. The escort force consisted of one battle cruiser, five heavy cruisers, nine light cruisers, and 77 destroyers.



Task Force 58.3 sorties from the fleet base in Ulithi Atoll. The picture shows Corsairs spotted forward. The ships ahead are the USS Cowpens, Essex, Pasadena and Astoria. (Credit: US Navy)

The 16 carriers have a combined complement of around 1,000 aircraft and in 24 hours, fly 2,761 sorties. The flyers claim around 550 Japanese aircraft shot down or destroyed on the ground, damage to aircraft production facilities and a few ships sunk. The price paid by the Navy aviators is 60 combat losses and 28 non-combat losses. Note that the non-combat losses are about 50% of the combat losses!

Feb. 17, 1911 – Glenn Curtiss flies a prototype seaplane, probably a variant of the Model E, out to the armored cruiser *USS Pennsylvania* (ACR-4) anchored in San Diego harbor. *Pennsylvania* hoists the seaplane aboard, then returns it to the water, and Curtiss flies it back to shore. It is the first demonstration that a ship can handle a seaplane.



The Achilles' heel of the Superfort was the Wright Engine. It was a two row air cooled 18 cylinder radial and the cooling of the cylinders in the second row was marginal, especially at maximum weight take-offs on hot days. The frontal area of the engine was kept to a minimum as a drag reduction measure and that meant tight cowling and crowded baffling which limited air circulation. So overheating engine fires were epidemic. Overheating led to failure of components and engine fires, and given the magnesium alloy crankcase were often catastrophic.

Feb 18, 1943 – Big military projects are big costly gambles and the Boeing B-29 Superfortress, which cost more to develop than the atomic bomb, is a prime example. When the account books were closed, the \$3 billion dollar tab for the B-29 exceeded the cost of the Manhattan Project by 1.1 billion dollars!

The aircraft was the first of a new generation of bombers. Designed to fly higher, faster and further than any previous operational bomber, pressurized and equipped with a computer controlled defensive armament and the new Wright R-3350 Duplex-Cyclone radial engine. Driven by the pressures of war, the extraordinary complex aircraft was a convoluted engineering, logistics and manufacturing nightmare demanding the highest degree of flexibility by corporate and military decision makers.

On February 18, 1943, Eddie Allen, an engineer and one of the most experienced test pilots in the world was taking the second prototype B-29 on its second test flight. The first test flight had to be terminated when an engine caught fire.



A cross-section RS-3350 indicating the complexity of the engine. Note the staggered arrangement of the two cylinder banks to improve cooling of the rear bank. Now imagine the tight cowling and its effect on air flow.

On this second flight, an engine caught fire again, was extinguished, but burst into flames again. Allen struggled to get the wounded craft back to Boeing Field but just short of the runway crashed into the ironically named Frye meat packing plant. All the crew perished as did 19 workers in the plant

The Frye Fire



This and other teething problems with the B-29 led to a USAAF clamp-down on the program and Boeing and the sub-contractors were pressed hard to improve the aircraft.

At one point in time, all of the Wright R-3350-23 engines installed were pulled and modified to the R-3350A “war engine” standard. The engines were disassembled and rebuilt. Cooling air was directed into the rear cylinder bank by added baffles. Holes were drilled in the rocker arms to allow more cooling oil flow and the entire oil system was revamped. The work was successfully completed and within three weeks,

On January 11, 1944, Hap Arnold intervened personally. He inspected the production line, noted aircraft #175 and said that he wanted it delivered by March 1st.



Arnold and J. Earl Schaefer, manager of Boeing Wichita in front of aircraft #175 shaking hands on January 11th and agreeing to a delivery date six weeks hence. (Credit: Wichita State University Libraries, Special Collections and University Archives)

Extra labor was brought in to make the Superforts battle ready and #175 was finished on February 28th. She and her 174 predecessors were ready for their flights to India and China, the strategic strike arm of the 20th Air Force.

Aircraft #175 had a somewhat ironic fate. On November 11, 1944, #175, serial number 42-6365 and named the *Hap Arnold Special* was damaged and forced to land in Vladivostok. The Soviet Union was maintaining an uneasy peace with Japan and interned the aircraft. Previously, Stalin had been denied strategic bombers under lend-lease and he now took advantage of the

opportunity.

The *Hap Arnold Special* and two other interned B-29s, *Ding Hao* and *Ramp Tramp* were turned over to the Tupolev Design Bureau and reverse engineered. What emerged was the Tu-4 Bull and during the early stages of the cold war, around 850 served as the long range bombardment aircraft of the Soviet Air Force.

Feb. 19, 1930 – Col. Ralph Ambrose O’Neil, World War I ace, Brig. Gen. in the Mexican Air Force and aviation entrepreneur departs Buenos Aires in a Consolidated Model 16 Commodore christened *Rio de Janeiro* bound for Miami, a six day multiple stop voyage. He is carrying the first air mail for his new company, the New York, Rio and Buenos Aires Line (NYRBA).



(Credit: Cooper Collection Air Mail History)

O’Neil was one of the first to envision international air commerce. He surveyed the east coast of South America and negotiated for landing sites and purchased the safest and most efficient aircraft for his routes. Alas, he and NYRBA became the victims of Juan Trippe's political and economic machinations. Trippe managed to

acquire the priceless government air mail contacts and forced the sale to his company, Pan American, at a bargain basement price.

Feb. 20, 1996 – Jeffrey Kindersley Quill OBE AFC FRAeS, British WWII RAF officer, RNVR officer and test pilot goes West. Quill was the second man to fly the Supermarine Spitfire after Joe “Mutt” Summers and subsequently test-flew every mark of Spitfire, 52 different variants.



Quill in a Spitfire.
(Credits: Vickers/Supermarine)

His first aircraft was an RAF Avro Tutor biplane and at age 18 he went solo after 5 hr 20 min dual instruction. In 1933, for a year he was posted to the RAF Meteorological Flight at Duxford. Each day, without fail, they flew Armstrong Whitworth Siskin IIAs up to 25,000 feet collecting weather data at each 1,000 interval.

In March of 1936, Quill made his first flight in the prototype Spit, K5054 and it took almost two years to eliminate all of its problems and get it cleared for acceptance into Fighter Command.



The first Spitfire being test flown by Mutt Summers.

During the early days of the war, Quill decided he needed combat experience to better evaluate the aircraft and managed to wheedle the company and the RAF to agree. In 19 days, he shot down a Bf 109 and an He 111 but was recalled, fearing that his value as a test pilot far exceeded his value as a combat pilot.

His next assignment was to the Fleet Air Arm as a lieutenant commander, RNVR. The FAA was operating Seafires, a maritime equivalent of the Spitfire off escort carriers. The deck of an escort carrier is 30% shorter than that of the fleet carrier and it is 10 knots slower. In light wind conditions, the margin between final approach speed and stall speed shrank to near zero. And the Spitfire was not a robust aircraft designed for carrier landings. What the British euphemistically call “wastage” was unacceptably high and Quill was sent to resolve the problem. During his five short months as a Royal Navy officer, Quill developed a number of techniques which improved training and a number of suggestions to improve the Seafire for the harsh carrier operations.

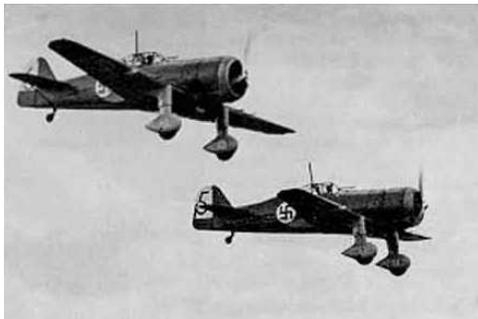
By the time of his retirement, Quill's log book contained entries from fabric covered, open cockpit biplanes to the first generation of British jet fighters, employment at a civilian test pilot, RAF test pilot and FAA test pilot. He capped off his aviation career as an executive with the British Aircraft Corporation before retiring to the Isle of Man and writing several books.

*February 21
1914*

Birth of Eino Ilmari Juutilainen, Finnish Air Force fighter pilot and the top scoring non-German fighter pilot of all time. He recorded 94 single victories – 21 flying the Fokker D.XXI, 34 in a Brewster B-239 Buffalo and 58 piloting a Bf 109G. More impressive, in 437 sorties, he never lost a wingman and his aircraft was never damaged by an opposing aerial adversary.



He fought against the Soviets in the Winter War (1939-40 and the Continuation War (1941-44) and the Lapland War against the Nazis (1944-45). Sgt. Major Juutilainen remained in the Finnish Air Force until 1949, refusing an officer commission, fearing it would keep him from flying.



Eino scored his first 2 1/6 victories flying a Fokker XXI. The Finns had 41 Fokkers and at the beginning of the Winter War, they were a match for the Soviet aircraft.

His next 34 victories were notched flying the Brewster B-239 Buffalo



During the Continuation War, the Finns acquired the Messerschmitt FB 109G and 58 Soviet aircraft fell to his guns.



The bars on the vertical stabilizer were commonly used by European fighter pilots to mark victories.

After retirement he continued to fly privately in his deHavilland Moth. In 1997, age 83, the Finnish Air Force took him up in one of their two seat F-18 Hornets

February 21, 1999

Sgt. Major Eino Ilmari Juutilainen went West on the 85th anniversary of his birthday.

ERRATUM

Lt Col John deAndrade wrote in to point out that when United Aircraft monopolized the production of the Boeing 247, TWA, not United, turned to Douglas for a competitive airliner and the superior DC-2 was produced.