



*Missions for America
Semper vigilans!
Semper volans!*

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CALENDAR

11 FEB-CTWG Cadet Winter Social
14 FEB-Commander's Call
21 FEB-TRCS Meeting-Safety Down Day
28 FEB-TRCS Meeting
18 FEB-Cadet Meeting-Leadership
23 FEB-Senior Meeting
24 FEB-Cadet Meeting
02 MAR-Senior Staff Meeting
03 MAR-Cadet Meeting
29 JUL-06 Aug-CTWG Encampment

SENIOR MEETING

07 February, 2023

Most Department Heads reported that all operations were nominal.

Capt. Kopycienski reported that he and Lt Schmidt had attempted to repair leaks in the cadet trailer roof but the cold weather did not allow the roofing material to set so final repairs must wait until more moderate weather.

Lt Pineau reported details about the Wing Squadron Commander's Meeting. The encampment date was announced, the annual award nominations have been collected and results will be announced at the annual conference in May. Most of the squadrons reported that their primary struggle was with facilities upkeep.

Lt Schmidt announced that the Squadron has won the Quality Cadet Unit Award for the 7th time running.

CADET MEETING

07 February, 2023

submitted by C/Amn Lucas Dellacono

Cadets began the meeting with physical testing. Cadets were tasked to execute as many push-ups and sit-ups as possible. The cadets pushed their hardest, some exceeding 100 sit-ups.

A teamwork exercise followed. Cadets were handed a roll of toilet paper while gathered around in a circle. The cadets had to hold on to their piece of toilet paper and pass the roll around to create a spider web.



C/2dLt. Buchko presented the cadets with the weekly aerospace current events briefing. The subject was the Chinese balloon which overflowed Canada and the United States.. The balloon passed over many military bases but its purpose was unknown. China claimed that the balloon was a civilian meteorological balloon gone astray but it has been revealed that it was equipped with self destructive explosive devices.

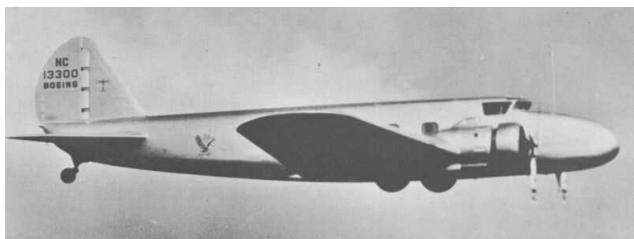
MISSIONS
05 February, 2023

The Squadron flew an eastern sector ice patrol mission on Sunday. Capt Adam Spreccace piloted, Maj Scot Farley served as observer and Lt Richards was the aerial photographer.

The aircraft was hangared due to the very low temperatures and high winds so pre-flight preparations were under cover and relatively comfortable. The crew flew the specified eastern route, north along the Connecticut River from Long Island Sound to Hartford and south along the Thames from Norwich to Groton. Photographs were taken at all required locations and a report was filed with the U.S. Coast Guard.

AEROSPACE CHRONOLOGY FOR THE WEEK

Feb. 8, 1933 - Boeing test pilot Les Tower and United Air Lines Captain Louis C. Goldsmith makes the first flight of the Boeing Model 247, NX13300. The 247 is generally accepted to be the first modern airline; all-metal semi-monocoque construction, a cantilevered wing, retractable landing gear and gyroscopic instruments gyros.



The Prototype in Flight

Boeing built only 75, the result of the unintended consequences of a marketing decision. United Air Lines was part of the Boeing Airplane and Transport conglomerate and set up an exclusive deal with Boeing for the initial production run. Transcontinental & Western Air (later TWA) was one of United's major competitors and was frozen out so United turned to Douglas and sponsored the production of what became the DC2/DC-3 airliners which were faster, carried more passengers and had a greater range than the 247. The 247 faded into history and an aviation legend was born.

Feb. 9, 1963 – Boeing’s Chief Test Pilot, Samuel Lewis (“Lew”) Wallick, Jr. flew the prototype Boeing 727, N7001U, on its first flight.



*Lew Wallick, Dix Loesch and Shuly Shulenberger in the cockpit of the prototype Boeing 727.
(Credit: Boeing via Rebecca Wallick’s “Growing Up Boeing”)*



Prototype carrying Boeing's traditional cream red livery.

Boeing's highly successful 707 four engine liner had been flying for five years but airlines found a need for an aircraft that could economically fly shorter route segments and operate from smaller airports. United, Eastern and American submitted their requirements to Boeing.

Eastern with its Caribbean overwater routes was chary about a twin engine aircraft. The contemporary engines were not the powerful turbines that allow Extended-range Twin-engine Operations for twin engine aircraft which are common today. United had a hub at Denver's Stapleton Airport and twin engine aircraft could not safely take-off and land at its high altitude. All of them were looking for economical operation so Boeing came up with a tri-jet design with all three engines tail-mounted. And concurrently, Pratt & Whitney brought out its JT8D turbofan, a perfect match.

A year after first-flight, Eastern launched the 727-100 on its commercial routes. It was a roaring success in two ways. It became a cash cow for Boeing which turned out 1,832 variants and it was one of the noisiest airliners in service which led to the need for installation of “hush kits” in accord with federal regulations passed in 1972.

Feb. 10, 1995 – The little known one month Cenapa War between Ecuador and Peru was one of a series of border disputes going back a century and a half. Both nations had air forces crippled by national economic crises which caused shortages of spare parts but Ecuador had weathered the fiscal storm better than Peru.



The area in dispute. Credit: CIA)

Peru's fighter arm consisted of French Mirage 2000Ps and Soviet Sukhoi Su-22 Fitters. Their bomber and ground attack fleet consisted of Cessna A-37B Dragonflies as well as English Electric Canberras and Embraer Tucanos.

Peruvian Fighter-Bomber Force



*Mirage F2000P
(Credit: Ministerio de Defensa del Perú)*



*Sukhoi Su 22 Fitter
(Credit: Lewis Mejia)*



*Cessna A-27B Dragonfly
Credit: Ministerio de Defensa del Perú)*

Ecuadorian Fighter Force

But only a little more than a dozen fighters were operational. Ecuador was a lot better off. They could muster a mixed fleet of about two dozen French Mirage F.1JAs, Israeli C.2 Kfirs and Anglo-French SEPCAT Jaguars and BAC 167 Mk 89 Strikemasters. The Ecuadorian Army had also deployed anti-aircraft units armed with Shorts Blowpipe missiles and Soviet SA-16 Gimlets.



*Mirage F.1JA
(Credit: SSgt. Gus Garcia, USAF)*



IAI Kfir C.2 (Credit: AndresC)

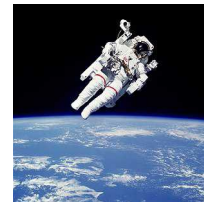
Between January 28th and February 9th, both sides committed aircraft to ground strikes. Peru had a Bell 212 damaged by ground fire and the Ecuadorians took down a Mil-8TV Hip helicopter. Ecuadorian and Peruvian forces launch multiple raids with their bombers and ground attack aircraft. Peru loses on Canberra when it crashed into a mountain in bad weather. The Ecuadorian SA-16s shoot down a Peruvian Mi-25 Hind D and one of Ecuador's A-37s is also hit but manages to return to its base.

The 10th of February sees the major air-to-air combat of the war. The Ecuadorians sortie two Mirages and two Kfirs to intercept an inbound raid. Ecuador will claim two Sukhois and one Cessna destroyed by their fighters. Peru denies neither Sukhoi was victim of a fighter. They claim one was taken down by flak and the other suffered an engine fire. Two days later, Peru will claim one A-37 and one Kfir but Ecuador contested the Peruvian report.

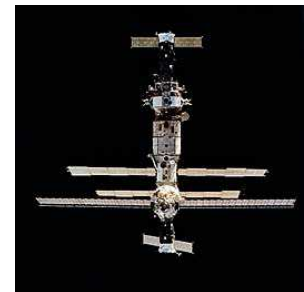
The war ends on February 28th with a ceasefire but armed skirmishes and political maneuvering continue. And in the summer of 1998, Peru makes a deal with Belarus and purchases 19 MiG-29 Fulcrums and 18 Su-25 Frogfoots but the 1995 Itamaritz Peace Declaration established the multinational "Military Observer Mission Ecuador-Peru" manned by troops from Argentina, Brazil, Chile, and the United States which defused the situation. At present, both nations have exchanged ambassadors and instituted a commercial relationship.

February 11 Shuttle Landings and Launches

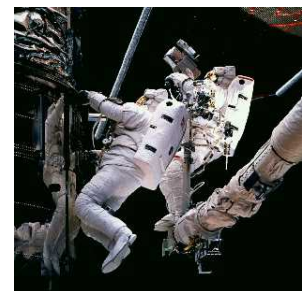
1984-*Challenger*, STS-41B lands after deploying two communication satellites and Bruce McCandless performs the first untethered spacewalk.



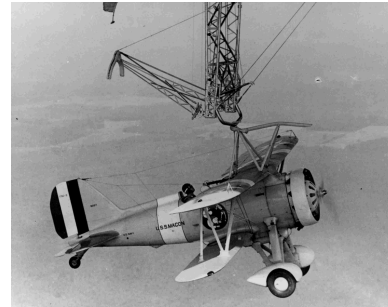
1995-*Discovery*, STS-63 lands after successfully making the first rendezvous of a shuttle with Mir, the Russian space station.



1997-*Discovery*, STS82 launches to perform the second service mission for the Hubble Space Telescope.



2000-*Endeavour*, STS-99 launches for deployment and testing of a radar topography system.

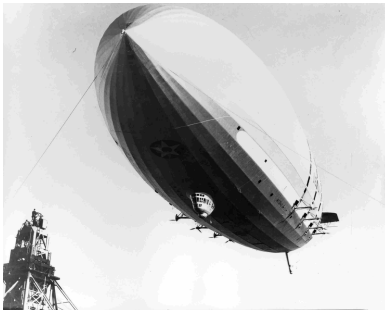


Sparrowhawk Hooked!

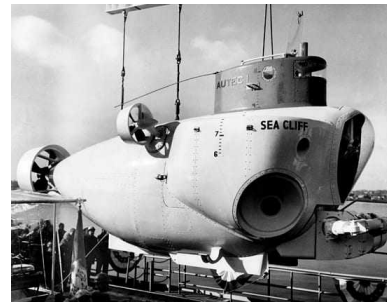
Lessons learned from the disastrous loss of the *USS Akron (ZRS-4)* in April 1933 in which only three of the 76 aboard survived had been taken seriously and 81 of the 83 *Macon* crew were rescued.

Feb. 12, 1935 – The dirigible *USS Macon (ZRS-5)* is caught in a wind shear which leads to structural failure, loss of the tail-fin and a controlled crash into the Pacific Ocean.

In 1990, a fisherman hauls up a part of a girder and the Navy submersible *Sea Cliff* is dispatched, locates and photographs the wreck.



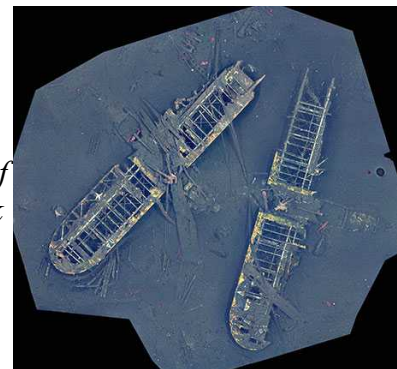
Macon Approaching a Mooring Mast



DSV Sea Cliff

The *Macon* was one of two dirigibles commissioned by the U.S. Navy as long-range scouts to support surface fleet operations. Each was equipped with a hangar which could store up to five aircraft which could be launched and recovered in flight. The aircraft were Curtiss F9C-2 Sparrowhawks.

Wing remains of a Sparrowhawk
(Credits US Navy)



Aircraft Preparing to Engage the Trapeze

Feb. 13, 1972 – The Soviet Union bases Tu-95 Bear D reconnaissance aircraft at San Antonio de los Baños airfield in Cuba and commence surveillance missions up and down the east coast of the United States. Twenty-five to 35 missions are flown each year for over a decade.



A Bear at the San Antonio airfield. A Tupolev Tu-114 Rossiya, NATO name Cleat and an Il-14 Crate in the background are transports supporting the Soviet mission.

The Bear is characterized by its swept-back wings and extraordinary noise cause by the contra-rotating propellers whose tips exceed the speed of sound. Today, most references to the Bear seem to be to its maritime reconnaissance role. Pictures of a Bear escorted by a NATO aircraft are common.



A Tomcat takes measure of a Bear which had been surveilling a U.S. carrier group.

Feb. 14, 1932 – Ruth Nichols sets an altitude record of 19,928 feet flying *Miss Teaneck*, a diesel powered Lockheed Vega 5 loaned to her by Clarence Chamberlin. *Miss Teaneck's* original 225 Wright Whirlwind engine had been replaced by a 225 hp Packard DR-980 diesel engine. Crippled by the failure of two cylinders she landed safely after an hour long flight.



Ruth Nichols with Walter D. Wood, National Aeronautic Association, who is holding the sealed barograph, after setting FAI World Altitude Record.

(Credit: FAI)

The Vega, designed by Jack Northrop and Gerry

Vultee was state-of-the-art featuring a streamlined wooden monocoque fuselage and cantilevered wings. It was the first Lockheed of the Lockheed naming theme using the name of a celestial body, constellation or aerial phenomenon. Wiley Post and Amelia Earhart, among others, favored the Vega for record setting flights.

Nichols, from an upper class background, was known as the “Flying Debutante,” a name she disliked. In 1932, she became the first woman to pilot a commercial passenger airliner flying for New short-lived York and New England Airways which flew between New York and Hartford. During World War II, Nichols was a lieutenant colonel in the Civil Air Patrol. At the age of 57, she cajoled the USAF into allowing her to fly in a two seat Convair TF-102A Delta Dagger and set two woman speed and altitude records.

FEATURE ARTICLE

Boom-Boom

A Look at Twin Boom Aircraft

Part One

Although not common today, twin boom tail structures have been featured on a number of prominent aircraft, perhaps the most well known and most produced being the Lockheed P-38 Lightning, known to the Luftwaffe as *der Gabelschwanz Teufel* (forked tailed devil). Over 10,000 were produced in Burbank and it was the only U.S. fighter in production during the entire war.

Twin booms has some advantages. They facilitated the installation of a rear-mounted propeller, might improve rear gunner coverage, allow a high mounting of the empennage to clear water spray in the case of a flying boat or enhance access to rear cargo doors in a transport. The booms on the Lightning provided a convenient placement for the bulky turbosuperchargers.

However, in engineering design there is no free lunch. Advantages are oft balanced by disadvantages. Twin booms can add drag and may be a source of flutter. Their aft-placed mass can cause bending moments leading to stability issues.

This series of articles will focus on manned twin boom aircraft which were used operationally and ignore home-builds and kit-planes. However, an honorable mention category will include some one-offs, experimental or unusual special purpose designs. Categorization will be based on primary use: cargo, fighter, bomber, reconnaissance, rotary wing, flying boat, recreational or utility and gliders.

Twin Boom Cargo Aircraft

Like the merchandisers in the fast food business, cargo aircraft may be ordered as medium, large, or extra large.

IAI Arava



The medium sized Arava 202 at the Israeli A.F. Museum, Hatzerim

The choice of *The Coastwatcher* for a medium size twin boom trash hauler is the Israeli Aircraft Industries (IAI) Arava, named after a desert environment in the Jordan Rift Valley. The Arava is powered by two Pratt and Whitney Canada PT6 turboprops and has an all-up weight of 15,000 pounds.

Little loved, even the Israeli Air Force accepted it reluctantly. Only 103 were produced and the relatively low performance compared to other designs failed to impress the civilian market. A vigorous sales campaign led to sales to unsophisticated military forces which were impressed by their simple maintenance requirements, low price, rugged construction and

rough field capabilities. In the end, 17 different nations adopted the aircraft.

Nord Noratlas



Noratlas 2501

Military History Museum, Berlin-Gatow Airfield). Berlin, Germany.

The most familiar of the medium size cargo carriers is the Fairchild line: C-82 Packet, C-119 Flying Boxcar and the unique, one-off XC-120 Packplane. Around 1,300 variants rolled out of the Hagerstown, Maryland factory but *The Coastwatcher* has chosen the Nord 2500 Noratlas for review.

After World War Two concluded, the French *Armée de l'air* was operating with a hodge-podge of different types, mostly surplus C-47s and Junkers Ju-52s, some home-produced and some the spoils of war appropriated from what was once the Luftwaffe. A design competition was held and Nord emerged as the victor, proposing a twin boom, twin engine aircraft with rear-opening clamshell doors for ease of cargo loading. Most were powered by licence-built Bristol Hercules radial engine capable of producing 2,000 hp. Maximum take-off weight was 45,000 pounds.

The production run was 425 aircraft and the French, West German, Israeli, Portuguese and Hellenic adopted them as their front line transports. All except the Germans used them in combat. The Germans, who produced some under licence, sold aircraft to other nations, mostly in Africa. Like the Arava, the Noratlas was built for austere conditions and functioned well for operations in and out of rough fields. Some, maybe about ten, ended up flying with civilian airlines.

Armstrong Whitworth Argosy



An extra large, the AW 650 Argosy at the Yankee Air Force, Willow Run, Michigan. This was the prototype which served with British European Airlines as G-AOZZ, the City of Leamington Spa and finally with Universal Airlines.

The choice, perhaps the only choice for an extra-large twin boom cargo plane, is the Armstrong Whitworth AW650/660 Argosy, the company's last design. This was the second time that Armstrong Whitworth used the name. The first Argosy, Mk 1 was built for Imperial Airways in 1926.

The British Air Ministry needed a medium range heavy lifter to for both post-war commercial and military use. The military needed a plane for trooping, airborne operations and logistics in what was left of the Imperial empire. British commercial interests were primarily interested in the air cargo business.

A number were sold to U.S. carriers, Riddle and Zantop to name two, and the Editor saw one on the flight line at the CIA base in Marana, Arizona. However, only 74 were ever built and the initial buyers soon replaced them with aircraft more suitable to their operations such as Vickers Vanguard and Bristol Freighters. Except for the RAF, the Argosy found only one other military user, a single aircraft transferred to Kuwait. Most of the fleet was sold off to commercial interests or scrapped.

In respect to performance, the four Rolls-Royce Dart turboprops produced 2,500 shp each. The

aircraft's maximum weight was 105,000 pounds and it had a 3,5000 mile range.

Honorable Mentions The Burnelli Loadmaster

An honorable mention must be given to the Burnelli CBY-3 Loadmaster, the sole surviving example of which is currently under restoration at the New England Air Museum and has been moved to public display. Its location in Connecticut, its unusual lifting body design and its association with the inimitable Slick Goodlin, demand this choice.

Goodlin is best and unfairly known for his portrayal in the movie, *The Right Stuff*. He flew with the Royal Canadian Air Force and as a Navy test pilot in WWII before joining Bell Aircraft. He had flown 26 flights in the X-1 but got into a financial conflict with Bell and an administrative fight with the USAF who wanted an air force pilot to make the first supersonic flight.

Goodlin left Bell and in 1948, he served as a foreign volunteer in the newly formed Israeli Air Force, fought in the Israeli War of Independence, became their chief test pilot and then flew humanitarian missions moving refugees to Israel.

Later, he met Vincent Burnelli and became a strong advocate of the design and became the Chairman and CEO of Burnelli's company.



The CBY-3 while it lingered in the grass at NEAM for decades and the magnificently restored CBY-3 today.



(Credit: NEAM)