



*Missions for America  
Semper vigilans!  
Semper volans!*

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- 04 MAR-0900-1400 Color Guard Practice
- 07 MAR-TRCS Staff Meeting
- 11 MAR-CTWG SAREX-HFD
- 14 MAR-Commander's Call
- 18 MAR-Niantic 5K Run Commo Support
- 21 MAR-TRCS Meeting
- 25 FEB-ES Training-Hartford
- 28 MAR-TRCS Meeting
- 04 APR-TRCS Staff Meeting
- 11 APR-TRCS Commander's Call
- 29 JUL-06 Aug-CTWG Encampment

## SENIOR AND CADET MEETINGS

28 February, 2023

*Cancelled Due to Inclement Weather*

## MISSIONS

The last two ice patrol missions assigned to TRCS were aborted. Two weeks ago, the aircraft was grounded when the alternator failed. This week, on Saturday, the 25<sup>th</sup>, Maj Noniewicz and Lt Col Rocketto reported to Brainard Field to fly a back-up aircraft. The CAP-USAF liaison, Neil Talbot was scheduled to observe the mission. Rapidly deteriorating weather conditions led Maj Noniewicz to make the wise decision to scrub the mission.



*Maj Noniewicz demonstrates to Mr. Talbot a novel way he discovered to tie down the aircraft.*

## TRAINING EXERCISE

CTWG ran a training exercise at Brainard Field on Saturday, the 25<sup>th</sup>. It covered tasks required to qualify for mission radio operator and urban direction finding.



*Capt Kopycienski training a cadet striking to become a mission radio operator.*

*The Buchkos palaver with cadets from other squadrons while enjoying the pizza lunch.*



TRCS members participating were Capt Kopycienski, Lt Schmidt, SM Buchko, C/2dLt Buchko, C/CMSgt Buchko and C/SMSgt Knets

## FEATURE ARTICLE

### ***Boom-Boom***

*A Look at Twin Boom Aircraft  
Part Four  
Reconnaissance Aircraft*

After looking at some twin boom cargo, bomber and fighter aircraft, a decision was made to review reconnaissance aircraft next. The decision led to some surprisingly obscure aircraft and learning about something new is always a delight so this article will break down into three sections. Two gold medalists which were operational and produced in large numbers. A silver medalist with very limited production but a varied service life and a bronze medalist cursed by Tyche, the goddess of fortune

### *Gold Medalists*

*Focke-Wulf Fw 189 Uhu (Eagle Owl)*



The first of the gold medalists and the one with the greatest serial production was the Fw 189. The Uhu was developed as World War II started as an army cooperation aircraft to support the lessons learned from World War One's static trench warfare stalemate. The name of the new game was "blitzkrieg," lightning war in which the speed and the integrated advance of infantry, tanks and artillery would use speed and surprise to envelop enemy formations. Reconnaissance aircraft would report enemy weak points and the blitzkrieg commanders could direct their forces efficiently.

The Uhu was a high wing design with a heavily

glazed cockpit providing excellent visibility and it was called Die Fliegende auge (flying eye) by the troops. A total of 864 Uhus were produced in factories in Germany, France and Czechoslovakia. Later versions were armed for ground attack and the relentless pressure of the allied bombing campaign led to some Uhu's equipped with radar and assigned as night interceptors.

*Cessna O-2 Skymaster*



The O-2 was a derivative of the Cessna 337 Super Skymaster. As a military aircraft its primary mission was forward air control (FAC) but it is an easy stretch to consider this as an observation duty. Familiarly known as the "Oscar-Deuce, just over 500 were delivered by Cessna and saw heavy duty in the Vietnam conflict with over 100 lost.

The aircraft used the same pair of Continental 210 hp engines in a tractor-pusher arrangement used by the civilian version. However, after it was militarized by adding armor, self-sealing fuel tanks, wing hard points and ordnance and the suite of VHF, UHF and FM mil-spec radios needed for the FAC mission, it gained 1,000 pounds all-up weight and was somewhat underpowered, especially in high, hot Vietnamese arena.

### *Silver Medalist*

*Schweizer RU-38 Twin Condor*



The Twin Condor was an early development of stealth technology but rather than suppressing radar returns, the Condor family suppressed sound.

Army intelligence in Vietnam used a series of powered aircraft based on Schweizer gliders to overfly Viet Cong at night.

In order not to alert the enemy that they were under surveillance, special measures were taken to reduce the flight sounds so that they were essentially inaudible on the ground when the aircraft passed several hundred feet overhead!

Massive mufflers were installed as was sound absorbent material. The engines used gearing to turn large multi-bladed propellers at very slow speeds. Aerodynamics were tailored to reduce noise produce by the passage of air over the wings and airframe. Advanced sensors were installed and the final development was the Army's Lockheed YO-3A Quiet Star.

Post-war, some of the aircraft ended up in the hands of state and federal snoopers, notably the Louisiana Department of Fish and Game, the FBI, the DEA and the CIA. Eventually, the USAF stepped in and explored the possibilities of what the named the RG-8A Condor but abandoned the program and turned the aircraft over to the US Coast Guard. However, the maritime environment was not an ideal environment for the operation of a light-weight single engine aircraft which was susceptible to weather and dangerous to ditch if the engine failed.

The revised design for the Coast Guard were converted RG-8s, twin engine, twin boom and an additional crew member and designated RU-38A. Two of them were used successfully for several years but the Coast Guard finally decided that the aircraft fell short of the mission requirements and they were retired. However, it does appear that the Department of Justice acquired a turboshaft version, the RU-38B, replacing the 350 hp Continentals with Rolls-Royce Allison which double the power available.

*Bronze Medalist  
Edgley EZ-7 Optica*



Tyche, the Greek goddess of fate, did not favor Edgley Aircraft Limited when she shuffled, cut and dealt the cards which decided the fate of the Optica design. The concept was sound, a cheap alternative to the helicopter suitable for tasks such as power line patrol, law enforcement and news media coverage. Over almost 50 years, the design faced financing obstacles, transfers of ownership, a design defect, a fatal crash and the destruction of half the aircraft produced in a factory fire attributed to arson.

The Optica was off to a good start. Starting in 1974, the design was finalized, the prototype flew, certification was obtained and a production line established and rights established to the historic Old Sarum Airfield. But financial difficulties forced the firm in receivership and John Edgley, the founder was forced out. Capital from new investors allowed the completion of 22 aircraft and a few sales were recorded but the afore-mentioned fire destroyed half of them.

The two unique features of the aircraft are the fully glazed cockpit which offers a 270° view horizontally and excellent vertical vision and the ducted fan engine. The 260 hp Lycoming engine drives a five bladed fixed pitch propeller inside a duct which results in a very quiet noise signature both inside and outside the aircraft. Stall speed is 67 mph and it has an eight hour loiter time, both positive features for its intended mission. Its low initial cost and low operating expenses as compared to helicopter and drones offers significant financial advantages for operators who need large fleets of surveillance aircraft and the company.

Plans are still afoot to re-start production but no definite information is available. One report indicates that five Optimas are still airworthy, two in the United States, two in Australia and a company demonstrator in the United Kingdom. However, the FAA data base has no listing.

## AEROSPACE CHRONOLOGY FOR THE WEEK

March 1, 1966 – Venera 3, a Soviet planetary probe, crashes on Venus becoming the first spacecraft to land on another planet's surface.

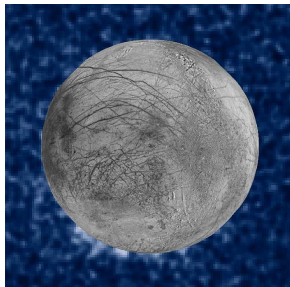


*(Credit: Bonhams)*

The vehicle is comprised of an entry probe, designed to enter the Venus atmosphere and parachute to the surface, and a carrier/flyby spacecraft which serves as a communications relay for the lander. No data was recovered.

Venusian surface temperatures run around 850° F. Lead melts at 621°F! The atmosphere is carbon dioxide and sulfuric acid gases and the surface pressure is equivalent to being a mile under the ocean. You need to build your landers tough to survive on Venus.

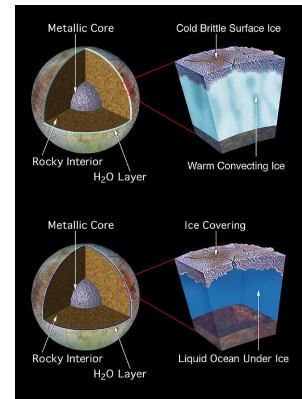
March 2, 1988 – The Galileo spacecraft transmits data indicating that Jupiter's moon Europa has a liquid ocean under a thick crust of ice.



*Water plumes ejected from Europa photographed by Galileo.*

### *Illustrations about the theorized internal structure of Europa.*

*(Credits: NASA/JPL)*



The surface temperature of Europa averages around -300°F so the surface ice is as hard as granite. However, Interactions with the massive gravitational field of Jupiter and orbital resonances with Jupiter's other satellites creates tidal flexions which act on the iron core and stone mantle and create enough heat to liquify ice under the crustal surface. Measurements of Europa's magnetic field suggest that there is a flow of electrically conductive liquid under the icy crust. There is also some evidence that plumes of water vapor erupt into Europa's atmosphere.

March 3, 1919 – William Boeing and Boeing test pilot Eddie Hubbard use a Boeing CL-4S seaplane to carry the first international air mail, 60 or 61 letters, sources vary, from Vancouver, British Columbia to Seattle. Hubbard went on to start air mail service over the same route.



*Hubbard and Boeing with mailbag and aircraft in Seattle.*

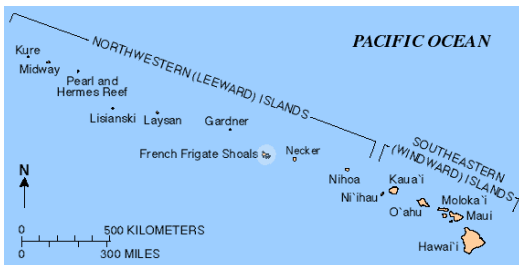
In 1927, Hubbard honchoed Boeing's bid for the Seattle-Chicago, pushed Boeing into producing mail planes, the Boeing Model 40, and gave Boeing a foothold in the commercial aircraft and air transport business.

March 4-5, 1942 – Operation K – The Second Attack on Pearl Harbor. Japanese military strategists were considering a return to Pearl Harbor to do damage assessment and disrupt salvage operations by bombing 10-10 dock, the largest dry dock in the navy yard. The Kawanishi H8K Emily long range flying boat had just become operational and was the ideal instrument to fly the mission.



*Armed and armored, the Emily was a formidable opponent and a vexing problem for American submarines.*

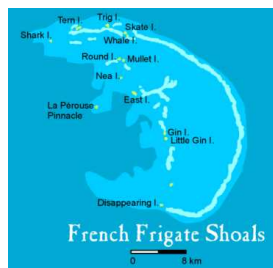
The plan was to launch two Emilys from Wojte Atoll in the Marshall Islands and fly to French Frigate Shoals where two submarines, I-15 and I-19 would be waiting with fuel. Once refueled, they would be within easy striking distance of Pearl and capable of returning to Wojte.



*The Hawaiian archipelago from the eight major island in the southeast to Kure Atoll in the northwest.*

One aircraft was flown by Lt. Hisao Hashizume, the mission commander and other by Ens. Shosuke Sasao. Upon arriving at Wojte, they refueled and each took on four 550 lb bombs and headed for French Frigate Shoals, 1,900 miles distant. Both arrived safely, refueled and headed southeast to Hawaii.

*French Frigate Shoals courtesy of the National Wildlife Service.*



Radar spotted the incoming aircraft and Army Air Force P-40s were launched. The Navy sortied PBYs to search for what they believed were Japanese aircraft carriers. Both the American interceptors and the Japanese bombers were hampered by the cloudy weather and the Army interceptors could not successfully complete their missions. And of course, there were no aircraft carriers to be found by the Navy.

Upon arrival, blackout conditions and oppressive weather made it difficult to see the island, let alone a specific repair facility in Pearl Harbor. The Japanese found a low-lying cloud cover which prevented any accurate bombing. Hashizume dropped his bombs and they struck within 1,000 feet of the Theodore Roosevelt High School causing no more damage than broken windows. Sasao's ordnance is assumed to have been jettisoned over water.

*The most valuable targets at Pearl, the repair facilities and the oil farm seen in the background.*



*The Theodore Roosevelt High School*

Both aircraft turned for home, Sasao made it to Wojte but Hashizume's Emily had received hull damage leaving French Frigate Shoals so he elected to return to the better repair facilities at his home base at Jaluit Atoll. His flew direct, stretched his fuel, and recorded the longest bombing mission in history. The Japanese did launch a third raid in March but Hashizume was shot down by Marine Brewster Buffalos from Midway.

The Pearl Harbor defenders did detect the incoming Japanese aircraft on radar and not only launched interceptors which failed to find them but also sent out long-range patrols searching for the aircraft carriers which did not exist. Stateside newspapers published exaggerated reports about the damage and casualties which were nil.

And the Navy cottoned to the fact that French Frigate Shoals was the Japanese forward base. Mines were planted, two ships were stationed there and an emergency landing strip was built on the largest island, Tern Island.

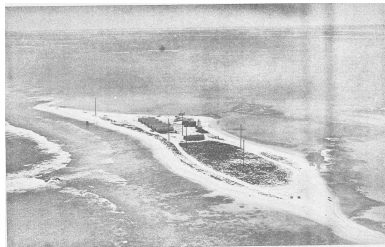


*The Tern Island airstrip, 3,100 feet long. Facilities are visible on the left side of the runway.*  
(Credit: Bill Wood)

After the war, the Coast Guard erected a LORAN station on East Island, the second largest as a place where they could send volunteers or Coastguardsmen out of favor with their superiors.



*East Island*  
(Credit: USN)



In 2018, a category 5 hurricane, Walaka, destroyed the island leaving only a 150 foot long sand bar.

March 5, 1975 – The Shin Meiwa US-1 enters service with the Japanese Maritime Self-Defense Force. The Japanese know how to build large seaplanes. The US-1 is an amphibian designed for search and rescue (SAR) duties. Shin Meiwa is a resurrection of Kawanishi, constructors of the excellent World War II H8K Emily flying boat.



*US-1 displaying SAR livery.*

A heavily modified Grumman HU-16 Albatross obtained from the U.S. Navy, the UF-XS was employed to develop much of the ideas incorporated into the US-1.



*UF-XS* (Credit: Gifu-Kakamigahara Air and Space Museum)

*The developmental UF-XS was a nautical mile from Grumman's Albatross.*



Shin Meiwa spent four years experimenting with aerodynamic, hydrodynamic and engine features which it could incorporate into the US-1. The UF-XS pictured has two additional engines, a modified bow and empennage and not obvious, two turboshaft engines mounted on top of the fuselage to power the boundary layer system.

A variant, the PS-1 is a flying boat optimized for anti-submarine warfare. When shorn of its weaponry and equipped with more fuel tanks, it became the US-1A and assigned SAR missions. The aircraft utilized boundary layer control systems and exhibited STOL performance. A total of 43 aircraft, 23 PS-1s and 20 US-1s were built.

A follow-up improvement, the US-2 succeeded the US-1s. The new aircraft has more powerful engines, is pressurized and takes advantage of the advances in electronic instrumentation.

March 6, 1918 – A two seat Thulin Typ D, a French designed Morane-Saulnier Type L license built in Sweden arrives in Vassa, Finland. The aircraft had been donated by Swedish Count Eric von Rosen,



*The von Rosen donation, (Credit: Kees Kort)*

The aircraft had a short operational history, crashing on April 16, 1918 when a wing broke off during a flight. The (Swedish) pilot Karl Westman and (Finnish) mechanic Sigurd Nyland were killed. They were the first Finnish military aviation casualties.

Finland was in the throes of a civil war fought between the right wing “Whites” and the left wing “Reds.” The Finns had declared independence from Russia on the 6<sup>th</sup> of December, 1917.

An election gave the “Whites” power by a slim majority but the “Reds” rejected the ballot box in favor of the bandolier and occupied Helsinki. The “Whites” established a provisional capital in Vassa. Military supplies flowed to both sides from foreign supporters.

Russian pilots flew some aircraft for the “Reds.” The Swedish Friends of Finland provided funds for a N.A.B. Albatros and a Thulin Typ D was donated to the “Whites” by von Rosen who had painted it with his personal good luck charm, a swastika and this would become the long term and misunderstood symbol of the Finnish Air Force.

The adoption of the symbol pre-dates its adoption by the Nazis but the Finnish association with Germany against the Soviet Union during World War II led to confusion. At the end of World War II, the victorious Allies suppressed the symbol but it crept back into usage until finally abandoned in 2020 and replaced by a blue and yellow roundel.



Some argue that the Finnish Air Force is the world's oldest, pre-dating the United Kingdom's Royal Air Force (RAF) which was established on April Fool's Day, 1918, three weeks after the arrival of the Thulin at Vassa. However, the RAF was a distinct military arm of the United Kingdom, distinct from the British Army and the Royal Navy. The military establishment of the Finns on March 6, 1918 is somewhat controversial because of civil war which was in progress between the White Finns and the Red Finns. In whose hands lay the legal power to establish an air force? So historians award the palm to the RAF as the world's oldest air force.

*March 7  
Big Date for First Flights*

*1927  
Westland Wapiti*



The aircraft was heavily used in India and Iraq. In 1928, Wapitis escorted the Vickers Victoria troop transports used to evacuate Kabul during one of the frequent Afghani unpleasantnesses.

1932  
Junkers Ju 53/3



Almost 5,000 were built during a two decade production run and could be found world-wide serving as airliners, freight haulers and military transports. Some models were fitted with bomb bays and the served as interim bombers until special built aircraft such as the Ju 88, Do 17 and He 111 arrived in sufficient quantities.

1957  
Antonov An-10 Cat



Comparable to the Lockheed L-100 Hercules, the An-10 flew with Aeroflot and the Soviet Air Force. It was tailored to carry around a hundred passengers or short and medium range flights.

1964  
Hawker Siddeley P.1127



*Fleet Air Arm Museum*

The Kestrel was the proof-of-concept design that led to the development of the Harrier VTOL fighter plane. Six were built followed by nine FGA.1 Kestrels. Six of these were transferred to

the United States and participated in tri-service testing as the XV-6A.

1964  
Helwan Ha-300



Post war, Willi Messerschmidt moved to Spain, joined Hispano Aviación and designed the HA-300 but lack of funding and the availability of a suitable engine led Spain to abandon the project.

Egypt acquired the rights and Messerschmidt moved to Helwan and produced three of the sleek delta wing prototypes. However, Israeli intelligence made it known that the work done by German engineers developing weaponry for the Egyptians was seen with disfavor. They launched Operation Damocles and a series of letter bombs and abductions convinced the Germans to seek employment elsewhere. The Egyptians then turned to the Soviet Union for their weaponry.

2003  
HAL HJT-36 Sitara



*(Credit: Sergey Krivchikov)*

Hindustan Aeronautics Ltd (HAL), built this indigenous design for the Indian Air Force and Navy. Sixteen were built but none of them appear on the table of organizations of the Indian military. One report indicates “unsolvable problems” in respect to stall and spin characteristics. In 2022, 19 years after first flight, HAL announced that another two years of testing will be needed!