



Missions for America
Semper vigilans!
Semper volans!

The Coastwatcher

Publication of the Thames River Composite Squadron
Connecticut Wing
Civil Air Patrol

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SCHEDULE OF COMING EVENT

13 SEP-CAP Rifle Safety and Marksmanship
20 SEP-Cadet Ball-USCGA
01 OCT-CTWG Commander's Call and CAC
17-19 OCT-CTWG/NER Conference
16-18 OCT-NER AEO Course at Conference
18-25 OCT-NER Staff College-New Jersey

TRCS ANNUAL FOOD, FUN, AND FELLOWSHIP FROLIC

09 September, 2014

The Squadron held its annual picnic on Tuesday last with approximately 75 cadets, seniors, and family members in attendance.

The event was led by 1stLt Emily Ray, Deputy Commander of Cadets and coordinated by Barbara Zimmermann who were supported by a senior members Susan Poe, Frank Crandall, and Joel

Drost, and Carrie Drost and the many members who contributed the food.

While Head Chef Joel Drost heated up the grill, the cadets engaged in informal games and the adults gathered in conversation and conserved energy for the eating event.



While Drost puts the meat to the heat, Squadron Commander Noniewicz Capt Miller and LtCol Doucette get to the head of line.

One of the highlights of the evening was the sno-cone and cotton candy machines which produced confectionaries laden with $C_{12}H_{22}O_{11}$, most of which was tinted Air Force Blue.



SM Carrie Drost supercharges the ice for awaiting customer.



Future Cadets Refueling



The sideboard buffeted near stall with its load of salads, chili, deviled eggs, pastas, and condiments.



The Stickless Hoop Race



The dining arrangements ran from the semi-formal to the informal.



Conehead from Remulak serves to separate contestants and prevent tangling of hula hoops.



Let The Games begin!



Gamesmaster Crandall judges the limbo contest.

Senior Member and Games Master Frank Crandall ran the informal cadet competitions ranging from limbo to dodgeball after the main eating event ended.

The sun sunk slowly in the west and nautical twilight brought an end to our 2014 Food, Fun, and Fellowship Frolic.

FIRST SUMMER AS A COAST GUARD ACADEMY CADET

by

*Coast Guard C/3C Brendan Flynn, Former Cadet
Commander TRCS*

Third Class Summer is, for most cadets, their first immersion in actual Coast Guard operations. After completing our first academic year at the Academy earlier this May, my classmates and I were itching to get out into "the fleet." My first part of the summer was spent aboard *USCGC Eagle* along with half of my class while the other half of my class was assigned to various cutters and small boat stations throughout the Coast Guard.

During our five weeks aboard *Eagle*, we sailed down from New London to San Juan, Puerto Rico. After San Juan, we continued on, taking port calls in Aruba and Cozumel before we finally ended our voyage in Miami. Over the course of our trip, we worked the sails, stood watches on deck in the combat information center, in the engine room, and at helm and lookout. We also became qualified in shipboard damage control and learned celestial navigation, all while working under the guidance of enlisted crew members to keep the ship clean and everyone fed.



*Castillo San
Felipe del
Morro, San Juan
Harbor*

After leaving *Eagle* in Miami, one other 3/c and I flew to northern California for our second summer assignment: Motor Life Boat Station Humboldt Bay. At the station, the all-enlisted crew introduced us to the 47' Motor Life Boat and 29' Rapid Response Boat. We became qualified communications watch standers, after which we became part of the duty rotation manning the radios in the watch office. In our off-time, we explored the beautiful but lonely coastline, nearby redwoods, and quaint towns of Eureka and Arcata.

We also flew in a Dolphin helicopter at Air Station Humboldt Bay.



Flynn mans HH-65 Dolphin helicopter.

After Humboldt Bay, I went home to spend my summer leave with my family in Virginia. Over the course of my summer, I saw some amazing places and learned so much from interacting closely with Coast Guard men and women. This summer gave me a look ahead at organization I will serve in after three more years at the Academy, and some inspiration to keep working hard here in New London!

*Cadet Flynn
in less forma
garb at
Trinidad
Head north
of Humboldt.*



AEROSPACE CURRENT EVENTS

Keel Bird Photographed

Back in the late 1940's, as the Cold War heated up, the USAF was engaged in surveying great circle routes over the north pole, the most expedient routes to send bombers against the Soviet Union.



*Keel Bird in flight.
Many aircraft which
operated in the Arctic
had orange or red
tails and wing-tips to
enhance their
visibility.*

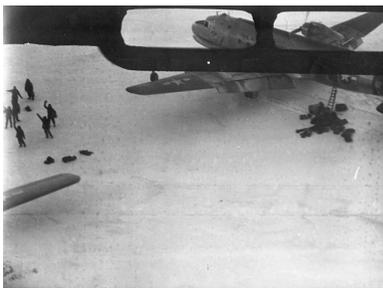
(USAF Photo)

On the 21st of February, 1947, one of these aircraft, a Boeing B-29 Superfortress named *Kee Bird* was forced to make an emergency landing on a frozen lake in northern Greenland.



Kee Bird shortly after the crash landing. (USAF Photo)

No one was injured and rescue operations commenced. Four days later, a Douglas DC-4 Skymaster equipped with JATO bottles landed, picked up the crew, and flew them to safety. The Air Force wrote *Kee Bird* off.



*The C-54 getting ready to embark *Kee Bird's* crew. (USAF Photo)*

In July of 1994, Darryl Greenamyer, a well known aviator led a team to the site with plans to restore *Kee Bird* and fly it out. They flew in new engines, propellers and tires and refurbished as much of the aircraft as possible before winter weather brought a halt to their work.



*Video screen capture from NOVA program "B-29 Frozen in Time (1996)" showing restoration crew inspecting the wreckage of *Kee Bird* before starting work.*

Greenamyer's team returned in May of 1995 and carved out a runway with a small bulldozer which they had flown in in the DeHavilland Caribou support aircraft. The engines were tested and a take-off was attempted. While taxiing, the auxiliary power unit leaked gasoline which ignited and the aircraft burned and became a total loss. The crew escaped with some injuries. *Kee Bird* was abandoned once again.

Recently, A NASA Lockheed P-3 Orion engaged in a survey of the arctic ice packs and glaciers to a picture of the remains of *Kee Bird*. According to the photographer, NASA scientist Michael Studinger, the faint lines across the ice are probably the tracks of polar bears.



(Credit: NASA GSFC)

AEROSPACE HISTORY

SHORT CATAPULTS AND ZERO LENGTH LAUNCHERS

*By
Stephen M. Rocketto*

Part I

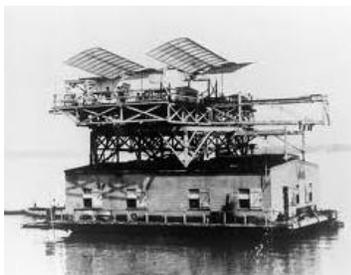
From Langley to the Battle of the Atlantic

Runways and flight decks immediately come to mind when one pictures aircraft taking off. But runways are prodigious consumers of real estate and the cost of aircraft carriers are beyond the reach of most maritime nations. Moreover, both are vulnerable to enemy action and could be rendered inoperative with relative ease. And sometimes, runways are not available.

The history of aviation reveals that runways, land based or floating, are not always needed to launch fixed wing aircraft and a perusal of some past methods to launch aircraft *sans* runways is both interesting and instructive. For the limited purview which this article will take, the discussion will neither consider vertical take-off aircraft such as helicopters and powered lift aircraft such as the V-22 Osprey and the AV-8 Harrier nor the catapults used on aircraft carrier flight decks. The topic will be confined to methods which launch manned fixed-wing aircraft off rails or ramps whose length is roughly commensurate with a few lengths of the aircraft.

One of the first of these devices was installed on a houseboat on the Potomac River and used by Professor Samuel Langley, Secretary of the Smithsonian Institution and arguably, the premier scientist in the United States. Starting in 1896, Langley ran a series of experiments in which he launched a steam powered unmanned model using a spring catapult mounted on the houseboat. His successes led to a \$50,000 grant from the War Department and an additional \$20,000 from the Smithsonian which were intended to fund the development of a manned aircraft.

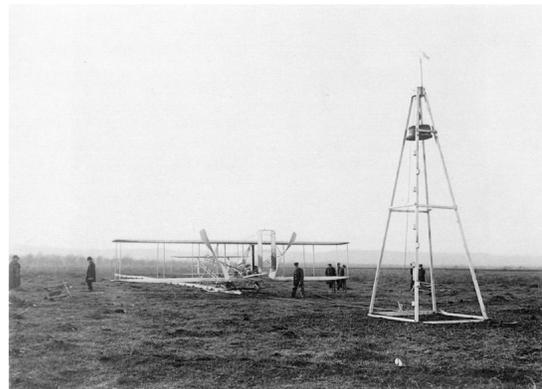
By 1903, Langley was ready to try manned flight. On October 7, 1903, with Charles Manly aboard, the aerodrome was launched but the front wing contacted the launching mechanism and the aircraft plunged into the water. Not dissuaded by his first experience, Manly attempted a second flight on December 8, 1903 but structural failure of the rear wing and tail ensued and, one again, the Potomac claimed the aircraft and nearly claimed Manly. The press, always ready to kick a man when he was down, ridiculed both Langley and the War Department.



*Langley's
Aerodrome and Its
Launcher*
(Credit: NASA Langley
Research Center)

After this last failure, Langley withdrew from the lists but in 1914, Glenn Curtiss was involved in a fierce legal battle with the Wright Brothers and in an attempt to break their patents, allied himself with the Smithsonian. Langley's Aerodrome was shipped to Hammondsport, N.Y. where Curtiss and his associates radically modified it and managed two flights off the surface of Lake Keuka in May and June. The Smithsonian, heavily invested in the reputation of Langley then put the Aerodrome on display as "the first man-carrying aeroplane in the history of the world capable of sustained free flight" which infuriated the Wrights and led to the transfer of the Wright Flyer to London, a 35 year feud, and the "infamous" contract which led to the return of the Flyer to the National Museum for display.

A scant week after Langley's failure, the Wright Brothers achieved heavier-than-air controlled manned flight at Kitty Hawk. They used a 60 foot track, inclined downhill, to assist the take-off. When they moved their flying to the more convenient Huffman Prairie near Dayton, Ohio, they found that the more moderate winds in Ohio did not give them the necessary lift so they contrived a catapult. The catapult consisted of a 60 foot rail, a wooden derrick with a sixteen foot drop and a 1600 pound weight. The falling weight transferred its energy to the aircraft and accelerated it to a flying speed of around 30 mph.



*The Wright Model A and Catapult Demonstrated
in France in 1909.*

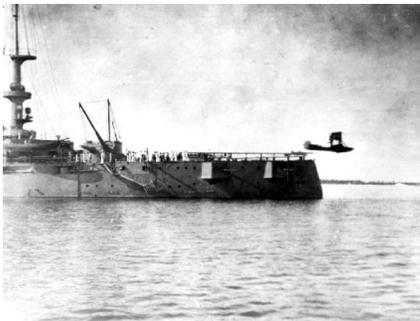
In 1912, the U.S. Navy used a compressed air system to launch Naval Aviator #1, Theodore "Spuds" Ellyson from a catapult mounted

on a dock in Annapolis, Md. The first attempt, in July, nearly killed Ellyson when the aircraft pitched up, yawed in a cross wind, and then crashed into the water.



"Spud" Ellyson at the controls of a Curtiss AH-3.
(Credit: USN)

In November, the catapult, mounted on a coal barge, worked. The USN continued its experiments and in 1915, Lt. Cmdr. Henry Mustin became the first aviator catapulted from a ship underway.



A Curtiss AB-2 catapulted from the U.S.S. North Carolina with Lt. Cmdr. Mustin at the controls.
(Credit: USN)

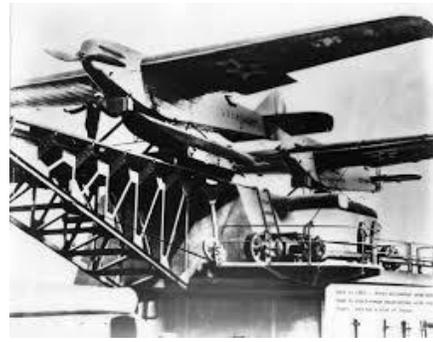
The flat deck aircraft carriers were still in the future and the USN and other maritime nations saw the airplane as a possible scout for their main battle fleets so catapult development continued with experimental mountings on the capital ships. During this period, a number of power sources were tried: hydraulics, compressed air, flywheels, and gunpowder.

The two 1920's Lexington class aircraft carriers each had a flywheel powered flight deck catapult which was soon removed.

Compressed air and gunpowder became the propellants of choice for the U.S. Navy. Compressed air was slow to recharge and suffered

from leaks but improvements in the systems led to their continued use.

In 1924, the Navy used gunpowder to launch a Martin MO-1. The charge was a 5 inch shell loaded with 22 pounds of cordite. It was simple to use, quick to reload, and effective so most of the capital ships were equipped with gunpowder launchers but often retained a compressed air launcher.



The first test of a gunpowder catapult shot a Martin MO-1 off the U.S.S. Mississippi.
(Credit: San Diego A&SM Archive)

One of the most unique catapult energy sources was the bungee cord. A very large elastic cord would be held at each end by launch team members. A glider was hooked into the middle and held in position. The launch crew then moved forward, stretching the bungee which now was a reservoir of elastic potential energy. When the glider was released, it moved forward with enough speed to take flight. When wind conditions are favorable, this method is still used by the Midlands Gliding Club on the Long Mynd Ridge in Shropshire, England.



Bungee Launch, probably 1920 era.



A Schleicher K8B is bungee launched off Long Mynd Ridge. (Credit: Gliding Club)

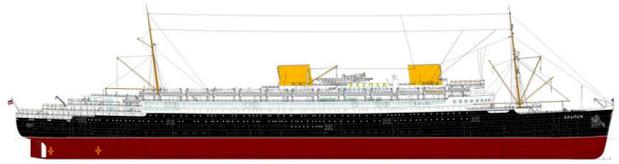
The swift delivery of mail was highly prized by government and commercial interests. Marine shipping lines sought ways to deliver mail more quickly. The French were first off the mark when they installed a catapult on the crack liner *Ile De France*. They used a Liore et Olivier 128 but although successful in respect to speeding delivery, the cost was prohibitive and they abandoned the project after two years.



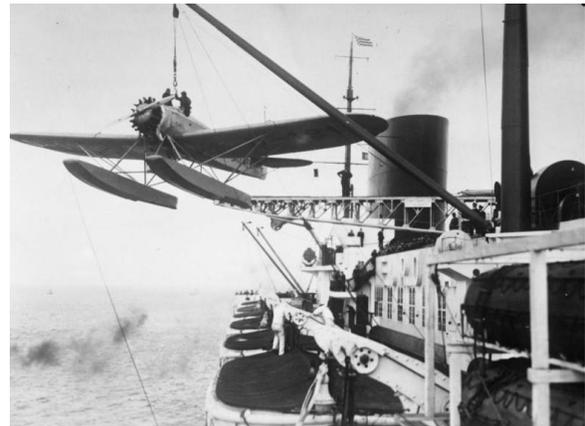
The LeO 28 on the fantail catapult of the Ile De France.

The Germans were more persistent. The shipping line *Norddeutscher Lloyd* and the airline *Deutsche Luft Hansa* both instituted trans-Atlantic airmail service using a combination of aircraft and ships. The French *Aéropostale* led the way with non-stop airmail service from Dakar, Senegal to Natal, Brazil. Jean Mermoz flew the inaugural run on May 12-13, 1930 in a float equipped [Latécoère 28](#).

Around the time the French instituted their trans-Atlantic service, *Norddeutscher Lloyd* equipped their premier passenger liners, the turbine powered *TS Bremen* and the *TS Europa* with catapults. Both ships had held the Blue Riband for the fastest trans-Atlantic passages. The mail plane would be catapulted when the liner was within range of its destination port and the mail could be delivered about a day before the arrival of the ship. The complexity and cost of the service led to its abandonment after about five years of operation.



The Bremen and Europa mounted the catapult between the funnels. (Credit: Boris-Lux.de)



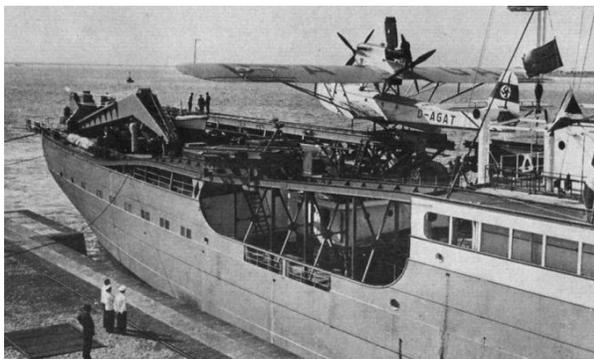
A Heinkel 58 being positioned on the Bremen's catapult. (Credit: Bundesarchiv)



The Europa launches its Junkers 46. (Credit: Bundesarchiv)

In 1934, DLH instituted air mail service using an aircraft-ship shuttle since they had no aircraft with sufficient range for a trans-Atlantic crossing. The mail was relayed from Berlin to Africa and then delivered by seaplane to Tenerife in the Canary Islands or Horta in the Azores. The mail was then loaded on a Dornier Wal which was launched by catapult form a specially equipped ship. This was necessary since the Wal was too heavy to get off the water with the payload and required fuel.

Recovery was accomplished by towing a mat behind the ship. The pilot would taxi onto the mat which would then be drawn to a position where the ship's crane could lift it aboard.



A Dornier JIIF Bos Wal undergoing an engine check on board the Schwabenland. (Credit: H. Seabrook-Smith)



The four engine Ha 139 is lifted aboard the Schwabenland. (Luft Deutsch Archiv)

When the long range Super Wal was introduced, one ship, the *Westfalen* was positioned of the coast of Gambia to launch the aircraft westward. Another ship, the *Schwabenland*, served as a depot off the island of Fernando de Noronha, just west of

Natal. The German catapults used high pressure air as an energy source.



Launch control on board the *Westfalen*. A Dornier Wal is on the catapult.

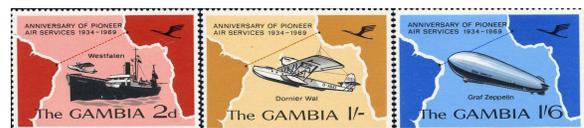


This model of *The Westfalen* shows the recovery and launching arrangements. The aircraft would be lifted to the main deck by the crane on the fantail. It would then be transferred to the catapult by moving it along the rail. The catapult starts just forward of the bridge.

Der **wöchentliche** Deutsche Luftpostdienst
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Briefe bis 20 g .. 25 Rpf.; jede weitere 20 g .. 15 Rpf.
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Vermerke auf den Briefen:
MIT LUFTPOST PAR AVION (Kostenlos bei allen Luftpostämtern)
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Wenn Aufhängezettel nicht zur Verfügung, genügt handschriftlicher Vermerk!
Ab November wird der Luftverkehr wöchentlich in beiden Richtungen unter Benutzung der Kanarische, *WESTFALEN* und *SCHWABENLAND* durch Flugzeuge der **DEUTSCHEN LUFTHANDELS** ausgeführt. Flugzeuge der Syndicato Condor Linie übernehmen die Weiterbeförderung auf dem südamerikanischen Kontinent. Wiedergeburt der Luftschiffahrt im Frühjahr 1935. — Änderungen vorbehalten.

An advertisement posting the time table and rates for air mail from Germany to South America.



Commemorative stamps from Gambia honoring the 35th anniversary of the German trans-Atlantic mail service.

During the 1930's and into World War II, the world's navies equipped many of their warships with catapult launched scout planes. In the days before radar, the aircraft could serve as long range "eyes" for the fleet as well as spot the fall of shot to assist gunners in correcting their aim. There were disadvantages to carrying the aircraft. The extremely volatile aviation fuel was a source of fire and the catapults took up deck space.

One tactical problem was launching. The low powered aircraft needed to be launched into the wind but this could require a change in course of the battle fleet. To overcome this problem, catapults were mounted on the main gun turrets which could be rotated into a favorable position for launch. They might also be mounted on rotating rails mounted midships on stanchions or on the fantail of the ship.



The battleship U.S.S. Colorado steams off of New York City in 1932. Two Seagulls are on the fantail catapults and one is mounted on a catapult atop turret 3. (Credit: U.S. Navy National Museum of Naval Aviation.)

The ship still faced the problem of recovering the aircraft and crew upon landing. This was done using a crane which could lift the aircraft to the deck. One might imagine the difficulty of this maneuver in a high sea state. One maneuver was for the ship to execute a 130 degree turn which created a slick in which the aircraft might land safely. Ship captains were also reluctant to slow and stop which made their ships highly vulnerable to enemy action.

The U.S. Navy World War II construction of Yorktown and Essex class carriers had hangar deck catapults installed on the starboard side. These units allowed an aircraft to be catapulted directly out of the hangar. This allowed launches of special aircraft without upsetting the flight deck marshaling and also allow emergency launches if the flight deck was fouled. Most of them were removed by the end of the war.



The light cruiser U.S.S. Memphis launches a Vought O2U from one of its two catapults located aft of the stacks. (Credit: USN Photo)



The heavy cruiser U.S.S. Houston launched its Curtiss SOC Seagulls from midship.



A Grumman F6F-3 Hellcat on the hangar deck catapult aboard U.S.S. Yorktown. (Credit: U.S. Navy)

The onset of World War II would result in a massive ship-building program and varied and new uses for ship-borne catapults and aircraft.

Next Week-Part II

From The Battle of the Atlantic to the Zero Length Launcher Experiments