The Daedalean

Semper Discens

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OLDE RHINEBECK AERODROME VISIT

by
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Five Connecticut Civil Air Patrol (CAP) squadrons converged on a small grass air strip known as the Olde Rhinebeck Aerodrome, in Red Hook, N.Y., where an air battle was about to engage.

CTWG Cadets at Olde Rhinebeck
(Olde Rhinebeck Pictures by Capt Noniewicz)

Fifty Connecticut cadets - representing six squadrons from the Connecticut Wing - and the towns of Stratford, Meriden, Thames River,

Oxford, Hartford, East Granby, Granby, Simsbury and Enfield, accompanied their senior officers and had come to learn more about the early years of aviation. The Olde Rhinebeck Airdrome is one of the last true "living" museums representing the era of early flight from 1900 to 1935.

The event included a vintage air show culminating in the recreation of a memorable dog- fight between Sir Percy Goodfellow, flying a 1917 SPAD, and the Black Baron, flying a red 1917 Fokker Tri-plane. While both planes were reproductions of the originals, they more than captured the spirit of the time.

Check Six!

Additionally, a 1909 Bleriot XI, the oldest flying aircraft in the United States and the second-oldest flying aircraft in the world took wing.

The cadets also toured the museum buildings and hangers filled with vintage airplanes, motorcycles and automobiles. As a special treat, the Rhinebeck staff allowed the cadets behind the ropes to get a close up look at the historic aircraft.

Before the "glass cockpit," Before glass faced "steam gauges," before "Pitot tubes," real aviators used direct drive air speed indicators.

Early 737 in the Livery of Pluna, an Uruguayan Airlines. Note the small circumference turbo jets and the stubby fuselage which led to the nickname "Fat Albert."

CURRENT EVENTS

Boeing Reconsiders the 737

Boeing is examining the future of the popular 737 design. An engine upgrade, design improvements, or a completely new replacement aircraft are all on the table.

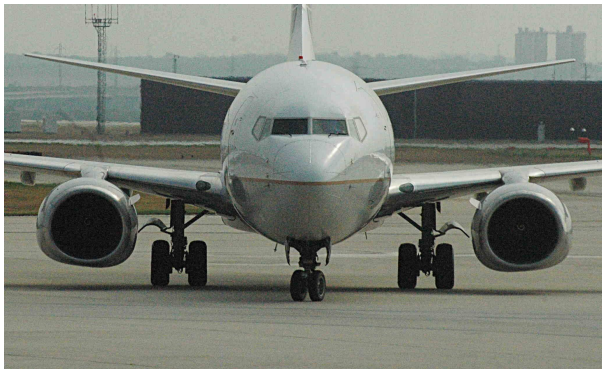
The problem which drives the decision is operational economy, a function of fuel efficiency and dispatch reliability.

The 737 is the only single aisle, narrow body fuselage on the Boeing production line. Over 4,000 are in service and since 1967, over 6,000 have been manufactured. Remarkably, back orders exceed 2,000 and Boeing is turning them out four model variants at the rate of 31 per month.

Chief Project Engineer John Hamilton seemly rejects a fly-by-wire upgrade based upon the fact that the aircraft flies with a 99.8% dispatch reliability and that the weight increase would not be cost effective.

Late model 737 of Dubai's Emirate Airlines. Note the stretched fuselage, winglets, and the unusual stowage of the landing gear.

Southwest Airlines is an all 737 fleet. Note the fan jet engines.



A Continental airliner displays the nacelle modifications necessary to provide ground clearance for the larger fan jets.

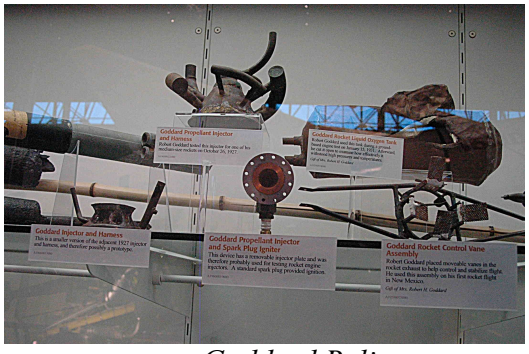
Farley to Florida

Lt Farley, our Thames River ES Training Officer, is off to Cape Canaveral to witness the 39th and last launch of *Discovery*. Liftoff is scheduled for Wednesday afternoon. An 11 day mission is planned to deliver 6,5000 lbs of supplies, The Permanent Logistics Module, and a humanoid robot to the International Space Station.

Mission Pilot is Col Eric Boe, USAF and a former Civil Air Patrol Cadet. This will be his second time in space.

AEROSPACE HISTORY

November 1, 1923-Robert H. Goddard successfully operated a liquid oxygen and gasoline rocket motor on a testing apparatus.



Goddard Relics

03 November, 1944-The first Japanese *Fu-Go* balloon bombs are launched against the United States. *(See accompanying article!)*

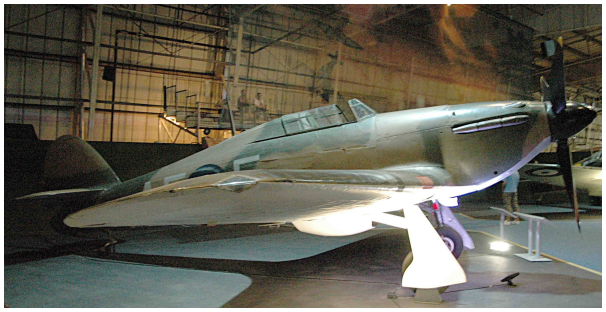
04 November, 1964-A BOAC Hawker-Siddeley Trident lands in dense fog, the first automatic blind landing by a passenger aircraft.

Trident 2E

05 November, 1976-The USMC received the latest model of the Bell Sea Cobra helicopter.

Sea Cobra-USMX Aviation Museum-Mirimar

06 November, 1935-First flight of the Hawker Hurricane, unglamorous sister of the Spitfire. but most, in respect to aircraft destroyed, the most effective RAF interceptor during the Battle of Britain.



Mk.I Hurricane-RAF Museum-Hendon

07 November, 1950-BOAC retires its last flying boat, a Short Solent, from commercial service.

Short Solent on its Beaching Gear

08 November, 1959-1st Lt Russell Brown, flying a Lockheed F-80 Shooting Star, downs a North Korean MiG-15 in the first jet vs. jet aerial victory.

Lockheed P-80C Shooting Star

09 November, 1904-Wilbur Wright flies for five minutes, four seconds over Huffman Prairie, Ohio, covering 2 ¾ miles.

Ground Fog Obscures Wright Hangar at Huffman Prairie

10 Nov., 1988-After five years of secret operations, the USAF reveals the existence of the F-117A.

Nighthawk, Now Retired

11 Nov., 1956-First Flight of the Convair XB-58A, the USAF's first supersonic bomber.

TB-58A Hustler at the old Grissom AFB

14 Nov., 1973-The first production McDonnell-Douglas F-15A is delivered to the USAF.

15 Nov., 1965-Captain J. L. Martin of Flying Tiger Airlines makes the first non-stop flight over both poles. The plane on lease from Flying Tiger Airlines was a Boeing 707 named *Polecat*. Arctic expert Bernt Balchen, the first man to fly over both poles, and famed weather pilot Robert Buck were part of the 40 on board.

16 Nov., 1961-The USAF Detachment 2A, 4400 Combat Crew Training Squadron, deployed to Bien Hoa, Republic of Vietnam initiating USAF involvement in the Vietnam War under the code name, "Project Farm Gate."

Douglas B-26K/A-26A Invader Used by the "Jungle Jim" Air Commandos at Hurlburt Memorial Air Park

22 Nov., 1929-Robert H. Goddard received a phone call from Charles Lindbergh setting up a meeting to discuss rocketry. Ultimately, this will result in funding from the Guggenheim Aeronautical Fund for Goddard's experiments.

23 Nov., 1947-First Flight of the Convair XC-99, the cargo version of the B-36.

C-99 at San Antonio but Since Moved for Restoration to the Museum of the USAF

24 Nov., 1959-First Flight of the Convair 990.

NASA's 990, Galileo Galilei

26 Nov., 1939-British Overseas Aircraft Corporation is formed by the amalgamation of Imperial Airways and British Airways.

28 Nov., 1946-The U.S.S. Norton Sound is assigned as an experimental rocket firing ship and will serve to test the Loon, Lark, and Aerobee missiles.

29 Nov., 1958-First Flight of the Pratt and Whitney J75 powered Douglas DC-8.

30 Nov., 1907-The Curtiss Aeroplane Company is founded.

HIGHLIGHTS OF NOVEMBERS PAST

JAPANESE BALLOON ASSAULT ON US MAINLAND

The third of November marks the 66th anniversary of the start of a desperate effort by the Empire of Japan to attack the continental United States. Previously, Imperial forces had struck against U.S facilities in North America. In 1942, here are two recorded cases of submarines shelling an oilfield in California and Fort Stevens in Oregon and a submarine launched seaplane dropped incendiary bombs on a forest in Oregon. Also in 1942, Japanese troops landed on Kiska and Attu in the Aleutian Islands, Territory of Alaska and occupied them for about a year.

But the most bizarre strike by Japan against the United States in World War II was the *Fu-Go* balloon campaign, arguably the first case of deployment of an intercontinental weapons system.

Japanese researchers planned to take advantage of the jet stream winds which had first been tracked by by a Japanese meteorologist, Oishi Wasaburo, in the 1920s. The jet stream is a high speed flow

of air, west to east, found in the layer of the atmosphere known as the tropopause, between about 25,000 and 40,000 feet above sea level depending upon the season. Geographically, the flow occurs in the temperate and sub-polar regions.

Under the command of Maj. Gen. Sueyoshi Kusaba,'s Army Number Nine Research Laboratory, the weapon was perfected, constructed, and launched with the hope of setting forest fires and weakening the morale of the American people.

Most of the balloons were made of a special paper, manufactured from mulberry bushes. They were about 30 feet in diameter and inflated with around 20,000 cubic feet of hydrogen. Rigging suspended an aluminum ring below the balloon and bombs, sand bag ballast, and a timing mechanism was attached to the ring.

In principal, the balloons, launched from the eastern shores of Honshu and drifted westward across the Pacific at about 100 mph, reaching North America in about three days. Sunlight caused the balloons to rise at night as the gas expanded but to descend in the cool night air. A barometer was connected to a mechanism which either vented gas or dropped sand bag ballast in order to maintain an optimal altitude between 30,000 ft and 39,000 ft. After three days or so, a period calculated from forecasts of the winds, the timer dropped the bombs and initiated a self-destruct mechanism on the balloon.

The balloon raids were highly unsuccessful. Most of the balloons were launched during the U.S. wet season so few forest fires were set. Six people were killed. In 1945, a Sunday school group, picnicking in Oregon, found one of the bombs on the ground which exploded, killing six children and the pregnant wife of the pastor. Ironically, one balloon caused a short power failure at Hanford, Washington, the Manhattan Project plant producing plutonium for the atomic bomb dropped on Nagasaki. Production was halted for a short time.

Over nine thousand balloons were launched and about 10% reached North America. They were found as far north as Alaska and as far south as Mexico. Some actually reached Michigan.

Once the U.S. military realized that balloons were being employed, countermeasures were authorized. Aircraft were alerted and one balloon was downed by a P-38. At first, the authorities did not believe that the balloons were being launched from Japan. They suspected offshore launches by submarines or onshore launches by saboteurs and fifth columnists. However, army intelligence analyzed the sand recovered from one of the ballast bags and determined from its chemical makeup, physical properties, and included organic matter that the source was certain beaches in Japan.

The US military also kept a tight lid on information about the attacks so no publicity resulted. Consequently, the Japanese could gain no intelligence about their successes and failures and consequently, could not plan improvements in the system.

Fortunately, the Japanese did not consider the use of chemical or biological agents in their bombs. Their infamous Army Unit 731 had done serious research into the efficacy of weaponry utilizing anthrax, bubonic plague, smallpox, and cholera to name just a few. They carried out numerous experiments on human beings and deployed the weapons in China. The results of their use over the continental United States might have caused significant casualties.

However, no bad idea goes "un-repeated." At the end of World War II, the United States found a new enemy, the Soviet Union. Churchill once remarked that "Russia is a riddle wrapped in a

mystery inside an enigma." No good maps existed, little was known about the transportation net, industrial, and military infrastructure. Even telephone books were classified!

The Strategic Air Command, our premier strike force desperately needed targeting information and little was to be had. The United States even recruited former members of Hitler's intelligence service hoping to gain useful information about the Soviet's material means and intentions. The U-2 and satellite reconnaissance systems did not exist. So a plan was developed to use high altitude balloons and the jet stream to carry cameras over the denied territory, photograph what ever was below, and recover the film by snatching the parachuted cameras in mid-air using modified C-119s. Project Moby Dick was born.

Fairchild C-119J Flying Boxcar at the USAF Museum. This craft was used to recover Corona photo intelligence satellites. Note the special direction finding antennas on the nose. The same setup was used for the balloon recoveries.

The same C-119 showing its modified "beaver tail" fuselage from which a trapeze was deployed to capture a parachuted intelligence package.

Moby Dick and subsequent programs such as Genetrix and WSL-119 were instituted in the 1950s during the Eisenhower administration and lasted for a decade. Essentially, the balloons were launched west of the Soviet targets, carried by jet stream winds, then tracked and retrieved in safe recovery zones. Launch sites included Germany, Turkey, and Norway.

The projects were, at best, relatively unsuccessful. A relatively small number of balloons were recovered and quite often showed pictures of cloud tops and unidentifiable topography. Details of Soviet radar and nuclear tests were recorded and proved useful. Political ramifications were many. The Russians protested, allies objected to the use of their territory of espionage, and even the Central Intelligence Agency called a halt to the project. Their reason was that strong Soviet protest might cause President Eisenhower to reconsider the overflight plans for the newly developed U-2 aircraft!

Details of these U.S. efforts and other balloon reconnaissance and propaganda efforts are not within the scope of this article but if reader interest is shown, a future edition may explore the subjects in more detail.

FROM JUDY STONE, CAP AE MANAGER

You can view the latest AE Newsbrief at: http://members.gocivilairpatrol.com/aerospace_education/stay_informed/ae_newsbriefs.cfm on our CAP AE web pages.

Remember: The new fiscal year started on Oct. 1, so it is once again time for units to sign up to participate in the 2010-2011 Aerospace Education Excellence (AEX) Award Program and make sure the completion report has been done for 2009-2010. Also, the Teacher Orientation Program (TOP) Flights have new funding for the current year…so fly your teachers!