

Missions for America
Semper vigilans!
Semper volans!



The Coastwatcher

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

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SCHEDULE OF COMING EVENTS

23 MAR-PT at USCGA (0800-1000)
23 MAR-CTWG Cadet Competition
26 MAR-TRCS Meeting
30 MAR-CTWG SAREX (06 APR Rain Date)

19 APR-Tentative Date-Senior Banquet
21 APR-Glider Orientation Flights
27 APR-PT at USCGA (0800-1000)
26-27 APR-CTWG Encampment Staff Training

10 MAY-Ledyard A/S Night (Friday)
18 MAY-Commander's Cup Rocketry Contest

7-8 JUN-CTWG Encampment Staff Trainin09
09 JUL-CTWG KC-10 O Flight (Tuesday)
21 JUL0-03 AUG-NESA-Camp Atterbury, IN
27 JUL-CADET Ball-USCGA

10 AUG to 17 AUG-CTWG Encampment

CADET MEETING

19 March, 2013

submitted by

C/A1C Justin Ketcham & C/Maj Brendan
Flynn

C/1stLt Daniels reminded cadets to continue studying and practicing customs and courtesies. He then gave a leadership class on character in leadership. Cadets discussed their ideas on character, the core values, and why America needs leaders.

Cadets retired to the back rooms for rocketry. They worked on alphas, junk rockets, fizzies, multi-stages, and payloads for the upcoming competition.

Cadet flight staff discussed and encouraged recruitment during a joint flight time session.

Capt Wojtcuck gave final announcements. She talked about encampment, basic and staff applications, and encouraged cadets to submit their applications in a timely manner.

In closing, Capt Wojtcuck and the cadets wished Cadet Powell good luck as he transfers to the Silver City Squadron in Meriden.

SENIOR MEETING

19 March, 2013

Officers worked on completing various qualification items. Major Noniewicz worked with Maj Welch on airborne photography academics. Maj Rocketto worked with Capt Farley, Lt Meers, and SM Simpson and completed their evaluations of ICUT academics and practical knowledge.

A small committee discussed ground team tasking for the CTWG SAREX on 30 March.

MEERS GRADUATES SLS

2ndLt David Meers successfully completed all requirements at the two day Squadron Leadership School which was held at Camp Niantic last weekend. Eight other officers also graduated. SLS is a requirement to obtain Level II in the CAP Professional Development Training Program.



Maj Rocketto also participated, teaching sections in communications and creative thinking.

TRCS FLIGHT OPS

On Friday, Maj Welch flew with Maj Noniewicz and practiced the science and art of aerial photography.

On Saturday, Maj Noniewicz flew three orientation flights. Sortie one went from Groton to Meriden with Cadet O'Toole in the right seat and Cadets Ray and Meers getting 99 rides. Cadet Ray moved to the front for the return trip and O'Toole and Meers rode in the rear. The third flight was a flight from Groton east to the Newport area. Cadet O'Toole occupied the right front and Cadet Johnstone received the 99 ride.

CTWG PILOT MEETING

Majs deAndrade and Neilson and Capt Farley and about 47 other CAP rated pilots attended the Wing Pilot's Meeting at Meriden on Saturday last.

The well run meeting was organized by Capt Johnny Burke who was assisted by LtCol Sanderson and Capt Mills.

A wide range of topics were either taught or discussed. The new Form 5 protocols, entering data into WIMRS, the importance of attaching an ORM to flight entries, and the legibility and completeness of aircraft logs were emphasized.

Instruction was given on how to avoidance deep vein thrombosis and the possibility of life threatening blood clots was presented by a medical doctor.

The possibility of air traffic control tower closures led to a discussion of good operational procedures at non-tower airports.

The students and instructors did not fail to notice that Maj Noniewicz, on an O flight stopover, skulked into the back of the room, snatched some of the pastries meant for the meeting, rapidly retreated back to his aircraft, and made good his escape.

AEROSPACE CURRENT EVENTS

K-MAX Test Extended

The U.S. Marine Corps has announced that it will continue testing the two Connecticut built unmanned Kaman K-MAX helicopter in its combat role in Afghanistan.



A manned version of the K-MAX in the Kaman hangar in Bloomfield.

Originally developed by Kaman Aerospace as a heavy lift utility vehicle, the helicopter has been modified by Lockheed Martin to operate autonomously. It is used to resupply Marine outposts, obviating the need for manned trucks to risk ambush or improvised explosive devices on the Afghani roads. Over 1,000 missions have been flown and three million pounds of cargo have been delivered during the tests.

The Marines have not ordered any more models and are unsure of how the K-MAX will fit into future operations.

AEROSPACE HISTORY

Canadian Government Cancels a Contract

From time to time, government's cancel defense contracts after the expenditure of millions, sometimes billions of dollars in development funding. The 25th of March marks the first 45th anniversary of the first flight of the AVRO of Canada's CF-105 interceptor.



*This model reveals the clean lines of the CF-105.
No actual aircraft survives due to an act of
Canadian government vandalism.*

The Cold War threat of Soviet bombers crossing the polar regions to attack North American led to plans to produce create radar warning nets and long range, forward based interceptors to counter any attack. The Distant Early Warning (DEW) Line, Pinetree Line, offshore radar equipped Texas Towers, surface picket vessels, and a line of electronic warfare aircraft, blimps included, were all placed into service. Even the the U.S. and Canadian Ground Observer Corps were activated.

Eventually, these varied systems were integrated into U.S.-Canadian venture called the North American Air Defense Command (NORAD) based in an underground bunker outside of Colorado Springs, Colorado. The joint venture would adversely affect the adoption of the Arrow.

A.V. Roe of Canada ((AVRO) was a subsidiary of Hawker Siddeley in Great Britain. They developed the CF-100 Canuck all-weather interceptor and then, a follow-up design which evolved into the CF-105 Arrow.



*CF-100 Mk.4
Canuck at the
National Air
Force Museum.*



*A pylon mounted
CF-100 Mk.5 is
on display at
RCAF Winnipeg.*

The Arrow was designed as a supersonic aircraft and its development involved solving a wide range of technological problems in aerodynamics, materials, weaponry, and electronics. The designers settled on a delta wing design which featured a delta wing. The delta wing provided a swept configuration, advantageous for supersonic flight and a large area which provided extra lift. The down side of the delta was that it provided poor maneuverability but this property was not necessary in an interceptor since it was not expected to dog-fight.

Concurrently, Orenda was designed the advance Iroquois engine to power the Arrow. The new engine also involved a wide range of innovation including the use of titanium and the prototypes proved them to be extraordinarily powerful. Interestingly, flight testing of the

engine was done in a borrowed Boeing B-47 Stratojet, designated by the Canadians as the CL-52. The engine was side mounted at the starboard rear of the Stratojet and underwent about 40 hours of flight testing.

The aerodynamics of the design were tested by the usual wind tunnel methods, computer analysis, and launching instrumented models on research rockets.

To speed production, no prototype aircraft were to be produced, a most risky procedure as the U.S. Military found out later. The idea is that the fixtures would be built to handle the production aircraft. Changes needed would be done by modifying the jigs to correct problems found in the initial tests.

On 04 October, 1957, the same day that Sputnik was launched, the first CF-105 was rolled out equipped with two Pratt & Whitney J-75 engines since the Orenda Iroquois engine was not yet ready. Some five months later, on 25 March, 1958, Jan Zurakowski, AVRO's premier test pilot took the aircraft aloft and this aircraft and four sister ships took part in an 18 month development program. A series of minor problems were rectified and an altitude of 50,000 feet and a speed of Mach 1.9 were reached in the very conservative test flights. The Iroquois engines, never installed, promised near Mach 3 speeds.

However, changes in the Canadian government lead to criticism for financial reasons. John Diefenbaker's Progressive Conservative Party replaced the reigning Liberal Party and joined with the United States in the NORAD partnership. The United States was the dominant partner and leaned heavily on the Canadians to fall in line with U.S. policy decisions.

The United States Air Force pushed a computer based air defense system called the Semi-Automatic Ground Environment (SAGE) which was coupled with anti-aircraft missiles such as the Boeing-Michigan Aerospace Research Center (BOMARC) which gave its name to the IM-99 missile. This missile was the only SAM ever

operated by the USAF.



BOMARC IM-99

Cost were high as was US pressure so the Diefenbaker government agreed to deploy the BOMARC system and this was a major factor in cancellation of the CF-105 production. The manned interceptor was seen as redundant and not worth the cost. US plans to equip the BOMARC with nuclear warheads caused a split in the Diefenbaker government and the Liberal Party, under Lester Pearson, accepted the concept and won the election in 1963.

Perhaps as important, Canada's attempts to interest other governments, notably the United States, in purchasing Arrows failed. Purchase of a foreign aircraft by the United States potentially would weaken the U.S. aircraft industry and harm our national interests. We were pushing our Convair McDonnell F-101 Voodoos and F-106 Delta Darts.

In Europe, Great Britain also decided not to purchase Arrows. The coming of the missile age led to a loss of faith in the value of manned aircraft and led to severe reductions in their aircraft production. A defense decision to support the English Electric Lightning interceptor played a roll in the British refusal. Sensing the possible collapse of the Canadian efforts, the French then cancelled contracts for the new Iroquois engine which they had intended to use in their Mirage IV.



The Lightning has its two engines mounted vertically! This 74 Squadron Lightning is on display at RAF Hendon.

The end came swiftly, without carrying out a planned review, and without warning. On Friday, 20 February, 1959, the Diefenbaker government cancelled the Arrow and Iroquois contracts. Approximately 30,000 workers found themselves unemployed. Within months, the government ordered the five completed Arrows destroyed as well as all production tooling, engines, and technical papers!

Workers reconsidered their political loyalties, engineers and technicians migrated to the United States and Great Britain. The US manned space program and the British-French Concorde were both beneficiaries. AVRO Canada faded into history and the Canadian aviation industry went into a long decline.

Soon, the Royal Canadian Air Force had to acquire 66 F-101s from the United States to bolster their air defense and meet their NORAD commitments. The Voodoo had once been rejected as unsuitable!



*CF-101
Voodoo*

Afterword

The cancellation of major aircraft programs is not unique to Canada. Two Cold War examples or unique aircraft come to mine The United States cancelled the Northrop Flying Wing (XB-35 and YB-49) and like the Arrow, destroyed all vestiges of the program save memories and photographs.

XB-35 (Northrop Photo)



A conspiracy theory states that Texas political strength and the political machinations of Air Force Secretary Stuart Symington and Convair's Floyd Odlum led to the adoption of the B-36. Evidence does exist that the "Wing" was an unstable bombing platform and a far from mature development.



Convair B-36J at the old SAC Museum, Offutt AFB.

Britain cancelled the British Aircraft Corporation's TSR-2, under the same premises which were used to refuse purchase of Arrows. Again, tooling and jigs destroyed but two aircraft were preserved in museums. The substitutes for the TSR-2 were the McDonnell Phantom and the Blackburn Buccaneer.



The TSR-2 and its two replacements, the Blackburn SB@ Buccaneer and the McDonnell FRG2 (F-4M)



Israel cancelled the Lavi (Lion) which was under development by Israel Aerospace Industries. Israel cannot afford single purpose aircraft so the Lavi was designed to be a fighter-bomber. A delta wing design with canards for greater maneuverability, she was powered by a single Pratt & Whitney PW1120 turbofan. Plans were also made for advanced electronics and weapons systems, many of them subcontracted from U.S. Firms.



Lavi #2 and its replacement, the F-16



Israel had high hopes for the Lavi. If the aircraft could be successfully exported, it would help their precarious economy. Development would employ and train a large workforce which would be a cadre for future arms work; thereby creating an indigenous capacity to produce weaponry and free Israel from some of its dependence on the good will of its allies.

The Lavi was rolled out and test flown in the last half of 1986, however the usual economic specter arose. The United States saw the Lavi as a competitor to the F-16 and F-18. With costs running into several billion dollars, shared between the U.S and Israel, the Israeli Cabinet decided that the program was no longer tenable for economic reasons and ended it. Two aircraft had been completed and showed exceptional performance. One was retained by IAI for experimental purposes and one relegated to the Israeli Air Force Museum at Hatzertim Air Base. The Israelis then adopted the F-16.

Do any readers see a pattern in the cancellations of the four aircraft? First and foremost, financial considerations are paramount. If you cannot afford it, you cannot have it.

Second, a dominant partner, such as the United States in the case of the the Arrow, TSR-2, and Lavi can wield huge amounts of influence on other governments.

Third, sometimes the existence of an off-the-shelf and currently available aircraft with known performance can trump the arguments for a novel or new design. Such are the cases with the Northrop Wing and the Lavi.

Finally, political factors such as the strength of a manufacturer's friends in power, the votes available in the region where jobs depend upon production, and the need to share contracts among a number of competitors must be considered. Again, the Northrop Wing possibly faced these negative forces.

The most current example of an aircraft which faced program curtailment is the F-22. Production was halted at 187 whereas 750 were originally hoped for. The money was needed for the F-35 and the mission was seen less vital given the development of the latest generation of fighters by potential enemies.