

Missions for America

*Semper vigilans!*  
*Semper volans!*



## The Coastwatcher

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

<http://capct075.web.officelive.com/default.aspx>

S. Rocketto, Editor  
[srocketto@aquilasys.com](mailto:srocketto@aquilasys.com)

C/1Lt Brendan Flynn, Reporter  
1Lt Scott Owens, Paparazzi

Vol. V, No 20

18 May, 2011

### SCHEDULE OF COMING EVENTS

#### For Future Planning

Cadet meetings normally start with drill and end with aerospace history, current events, and Commander's moment. Blues are worn on the second week of the month and BDUs at other times. Main topics may be indicated on the schedule below. See website for updates.

21 MAY-CTWG RST Training  
21 MAY-EAA-Aerotech-HFD  
24 MAY-Meeting  
28 MAY-Cadet Drill and Rockets 0900-1500  
28-30 MAY-Long Island Sound Patrols  
31 MAY-Meeting

03-05 JUN-Red Cross Exercise  
03-05 JUN-CT/RI USAF Evaluation  
10-12 JUN-CTWG Mini-Encampment-Stratford  
18 JUN-RST Make-Up  
19 JUN-Open Cockpit "Day-NEAM  
21-25 JUN-National AEO School  
30 JUN-First draft IG evaluations due  
09 JUL-CTWG Encampment Training-Wing HQ  
09-16 JUL-RSC-McGuire AFB  
09-16 JUL-Cadet Ldrshp School-Concord, NH  
15-16 JUL-Mini-bivouac-ES and Drill  
23 JUL-07 AUG-NESA (two sessions)  
07-14 AUG-CTWG Encampment  
13-20 AUG-Reg. Cadet Ldrshp School-McGuire  
17-20 AUG-CAP National Summer Conference  
10 SEP-Multi-Squadron SAREX-Tentative  
22-24 SEP-AOPA Summit-Hartford  
22-23 OCT-CTWG Convention  
24 SET-Cadet Ball-Courtyard Marriott, Cromwell

### CADET MEETING NOTES

*17 May, 2011*

*reported by*

*C/1Lt Brendan Flynn*

Capt Wojtcuk, C/2Lt Wojtcuk, C/MSgt Schultz (the cadet lesson officer), and C/1Lt Flynn met early to discuss the scheduling of cadet lessons. Afterwards, teaming up with C/A1C Bourque and Mrs. Bourque, they set up newly donated folding tables and chairs in the cadet meeting room.

The cadet staff administered a uniform inspection.

C/A1C Ray taught an Aerospace lesson on Module One: Introduction to Flight. He went over Bernoulli principle, Newton's three laws, airflow around a wing and the parts of a wing, the four forces acting upon an airplane in flight, roll, yaw, and pitch, propellers, gliders and thermals, and the parts and controls of hot air balloons. Cadet Ray also commented on helicopters and the principles concerning flaps and spoilers. He concluded with a quiz.

Capt Wojtcuk talked to cadets about the current state of NASA's human space flight program, whereupon cadets held an open discussion on the program's continuation, funding, and possible privatization.

C/MSgt Schultz headed an Aerospace Experiment class on flight using paper airplanes. He instructed cadets on making their airplanes and adding rudders and elevators/ailers. Cadets were then encouraged to experiment on their airplanes to see how they could improve their flight.

Capt Wojtcuk discussed the revised aerospace lesson schedule. It is essentially like the old one, but some cadets will find their schedules revised. Cadets may use the lesson plans that Capt Wojtcuk sent out. If you are teaching AEX, photocopy your activity from the booklets on Capt Wojtcuk's desk a month ahead of time. Do not forget to get in touch with your senior member mentors.

Cadets were instructed to bring lunch, water, and snacks to the drill/rocketry day at the squadron on May 28. Cadets were also reminded about the June 10-12 mini-encampment at Stratford, and the September 24 cadet ball.

Capt Noniewicz told cadets about the June 4 Red Cross SAREX. We are planning muster at the squadron at 800 hours.

Capt Wojtcuk asked Cadets Bunevich and Chartier about their experiences at the recent Great Start weekend, and she commended Cadet Schultz for his work on cadet staff there. Capt Wojtcuk asked cadets to hurry and get their paperwork in for the summer encampment.

An awards ceremony ended the night. Cadet Brendan Schultz was promoted to Master Sergeant, upon his completion of the Lindbergh achievement.

C/1Lt Brendan Flynn, has served successfully as a Public Affairs Officer and completed a Staff Duty Analysis. This completes his requirements for Achievement 11 in the Command Phase of the Cadet Advancement Program.

## **GREAT STARTS WEEKEND**

*13-15 MAY, 2011*

*reported by*

*Capt Robin Wojtcuk*

A group of TRCS cadets attended the Great Start Weekend (GSW), hosted by Waterbury's 143 Composite Squadron at Camp Niantic. Thirty-six Connecticut Capsters attended either as "campers" or staff.



*Where's Waldo?*

*Find the TRCS cadets in this formation!*

The purpose of the GSW is to give new cadets a concentrated introduction to CAP, its core values and missions, drill, AE, and Leadership, and to prepare the cadets for the larger CTWG Encampment on August 7-14. Many of the classes were taught by Cadet Staff members and some were taught by Senior Officers. On Saturday evening the cadets watched the movie "Master and Commander" and discussed the different styles of leadership modeled in the movie.

On Sunday, at a church service, TRCS Cadet Commander C/1stLt Brendan Flynn played "Eagle's Flight", a piano piece which he also composed.

## SENIOR MEETING NOTES

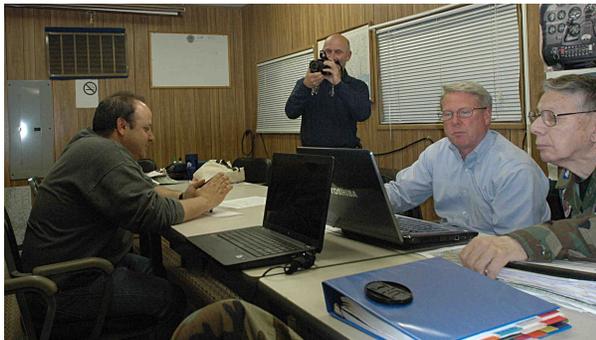
17 MAY, 2011

Lt Dickenson and Col Doucette developed the roster for squadron members who will be flying on the Long Island Sound Patrol this summer.

Maj Neilson and Col Bergy led a discussion involving the mission planning and aircraft reservations for the upcoming SAREX.

Col Kinch spoke about the various ramifications in the scheduling and planning of the May and June ETHOS missions.

Maj Rocketto instructed the assembled officers in the use of the Nikon D70 and D90 cameras.



*Lt Lintelmann captures Lt Looney trying to figure out a camera while Capt Farley and Col Kinch try to figure out how to enter pictures on WIMRS while Lt Dickenson tries to figure out what everyone else is figuring out!*

## AEROSPACE HISTORY

*Memories of May's Past  
Celebrating 100 Years of Naval Aviation*

May 19, 1949--The Martin JRM-1 Marshall Mars broke the record for number of people carried on a single flight when 301 passengers and a crew of seven were flown from Alameda to San Diego.



*The Philippine Mars, one of only two surviving JRMs reposing at Sproat Lake, British Columbia.*

May 20, 1976--Bell Helicopter's AH-1T Sea Cobra made its first flight.



*USMC Sea Cobra close air support helicopters depart Groton*

May 21, 1953—A Douglas AD-4 Skyraider took off from NAS Dallas with a bomb load of 10,500 pounds. Combined with the weight of its guns, ammunition, fuel and pilot, its total useful load of 14,491 pounds was 3,143 pounds more than the weight of the aircraft.



*One of designer Ed Heinemann's most notable successes, the AD-4NA displays its powerful punch.*

May 22, 1912--Lieutenant Alfred A. Cunningham, USMC, reported to the aviation camp at Annapolis for "duty in connection with aviation." This date is recognized as the birth date of Marine Corps Aviation.

May 23, 1957--A drone Kaman HTK-1 helicopter, carrying a safety pilot, operated from the fantail of Mitscher (DL 2) in the vicinity of Narragansett Bay. Ultimately, the project evolved into a true unmanned anti-submarine helicopter, the Gyrodyne QH-50 series.



*Designed and built by Connecticut's Kaman Aircraft, the HTK-1 was the world's first successful drone helicopter.*



*A torpedo armed QH-50C is on display at Connecticut's own New England Air Museum*

May 24, 1962--Lt. Cmdr. Scott Carpenter, USN, becomes the second US citizen to orbit the earth in the Project Mercury *Aurora 7* capsule.



May 25, 1973--Skylab II, carrying a three-man, all-Navy crew of Captain Charles Conrad, Commander Joseph Kerwin, and Commander Paul Weitz, rendezvoused with the earth-orbiting Skylab I workshop. The space station was a McDonnell-Douglas conversion of a Saturn SIVB stage.

May 26, 1976—The US Navy contracted with Beech Aircraft to produce its H90 King Air for use as a multi-engine trainer. In naval service, the aircraft was designated the T-44A Pegasus.

May 27, 1927--The Chief of Naval Operations orders the Commander of the Battle Fleet to commence experiments with dive bombing.

May 29, 1925--The standard color of naval aircraft was modified: hulls and floats of seaplanes were to be painted navy gray; wings, fuselages, landing gear, etc., aluminum color; and the top surface of upper wings, stabilizers and elevators, orange yellow.

***And Let's Not Forget Britain's Senior Service, the Royal Navy!***

On May 7<sup>th</sup>, 2009, the Royal Navy celebrated a century of naval aviation. In 1909, the Admiralty placed an order for the airship HMA 1, the *Mayfly*.

## AEROSPACE CURRENT EVENTS

### *Airspace for Drones*

The rapid proliferation of unmanned aerial vehicles (UAVs) has caused a demand for airspace in which to test them and use them operationally. The USAF seeks restricted special use airspace and civilian interests argue that the Federal Aviation Administration approve airspace, shared with manned aircraft, for UAV flights used to train the operators. A number of agencies are considering ways in which the National Airspace System might be configured to meet the needs of both constituencies.

### *Endeavour Docks at International Space Station*

The *Endeavour* rendezvoused and docked with the ISS early Wednesday morning. A major particle physics experimental device will be transferred before Endeavour returns to the earth for decommissioning and exhibit at the California Science Center.

### *Israel Displays New Missile Defense System*

Israel, long been plagued by rocket attacks from the West Bank and the Gaza Strip. Long term concerns over the possibility of long range attacks from hostile nations which surround them. After Iraq's Scud attacks during Desert Storm, Israel pushed the development of a more effective shield than that provided by US supplied and manned Patriot missiles. Public display of the new multi-layered system was made last week at Palmachim Air Base south of Tel Aviv.

"Iron Dome," developed by Raphael Advanced Defense Systems is designed to destroy short range rockets and artillery. "Magic Wand," the second part of the shield, is designed to intercept intermediate range ballistic missiles. The primary interceptor is the Arrow, an Israel Aerospace Industries-Boeing product.



## AEROSPACE CURRENT EVENTS TECHNICAL NOTE

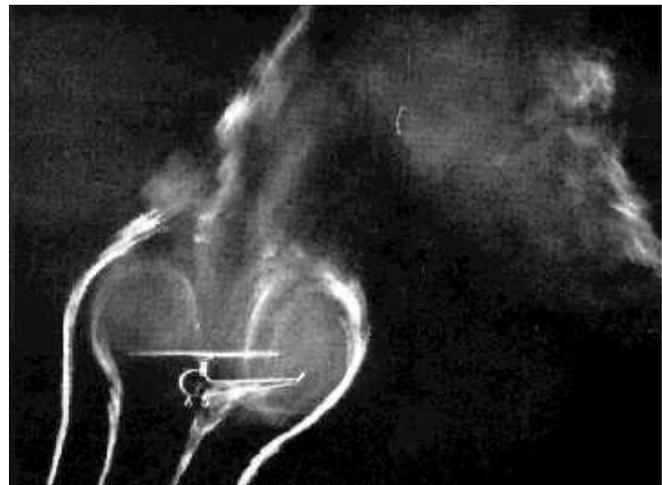
by

*Maj Stephen Rocketto, Maj John deAndrade, Capt Edward Miller*

### *Loss of the Helicopter on the bin Laden Raid*

A reasonable explanation for the crash of the helicopter during the bin Laden raid in Abbotabad, Pakistan might be a phenomenon known as vortex ring state. This is a possible result of operating within one rotor diameter of the ground, in ground effect.

What likely occurred as the helicopter slowly moved forward and slowly descended over the wall into the compound is that the air which was being driven down struck the ground and reversed direction, moving upward and passing around the rotor disc. Since the rotors were producing lift, a low pressure area existed above them. Therefore, the ascending air was now redirected inward and down. The helicopter was now in a parcel of air which was descending so its descent rate also increased. The walls of the compound probably contributed to this condition of flight, containing the downwash of the helicopter and redirecting it upwards.



*A smoke tunnel picture clearly shows a model helicopter enveloped in a fully developed vortex ring state.*

(from Drees and Hendl)

This effect would be amplified by the higher than sea level altitude of Abbotabad, slightly over 4,000 feet, and higher than normal temperatures. Both conditions would decrease the density of the air and reduce lift, aggravating a bad situation.

According to experienced chopper pilots, when this situation occurs, the rate of descent cannot be arrested by the use of increased power and full collective (increasing the angle of attack of the rotor blades). The solution in an aircraft is to decrease the angle of attack and use power if it is available. In a helicopter, one must pitch down, and move forward out of the disturbed air. Additional power must be used judiciously because if applied too early, it will only increase the rate of descent.

A series of crashes of the Marine Corps' MV-22 Osprey tilt rotor aircraft were attributed to this vortex ring state conditions. Two prototypes crashed in the early '90s and two operational aircraft crashed in 2000. The loss of control is even more viscous in an Osprey than in a normal helicopter since the rotors are mounted at the tips of the wings so asymmetric thrust and ring vortex interference not only causes a loss of lift but a loss of stability.



*Prototype Osprey at West Chester, Pennsylvania bears USMC marking.*

Groundings, analysis, and pilot training have solved the problem by avoiding flight regimes in which vortex ring state conditions are likely. The Osprey has the additional option of tilting the rotors forward and moving out of the helicopter regime of flight.

What is so remarkable about the hard landing of the Blackhawk at Abbotabad is that the entire complement aboard not only survived unharmed but exited the helicopter, armed and ready to fight. This was due to the extraordinary skill of the aircraft crew who were wearing night vision devices and flying a loaded copter into a restricted, a very restricted, landing zone. The reputation of US Army's 160<sup>th</sup> Special Operations Regiment and the men they carry into battle is well deserved.

### Erratum

Captain Miller of Thames River joins LtCol Stidsen on Wing Staff as a Coastwatcher Astute Observer. Miller, formerly of Sikorsky Aircraft and Chief of Design for the MH-60K, submitted the following correction to our last edition.

The 4 May *Coastwatcher* SOAR Blackhawk photo on page 6 labeled an MH-60L is actually an MH-60K. It is, in fact, the first MH-60K. There were 22 production Kilos. The aircraft in the photo is the test aircraft. You can see the orange instrumentation racks through the gunner's window. The first flight of this aircraft was on 10 August 1990. The MH-60K has the Multi Mode Radar on top of the nose, the Forward Looking Infra Red Radar (FLIR) under the nose, the refueling probe, the gull wing External Tank Support, which was developed for the Kilo, and the Seahawk folding stabilizer. The 160th had previously done their own FLIR and Seahawk stab installation on the UH-60A and designated them MH-60A. Both the Alphas and Kilos had Robertson internal tanks installed by the unit. The last of the 22 production Kilos was delivered in December 1994.

*Sikorsky MH-69K*

