

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>

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C/2Lt Flynn, Printer's Devil

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### SCHEDULE OF COMING EVENTS

#### October

- 02 OCT-First Aid Course
- 05 OCT-Squadron Meeting
- 10 OCT-CTWG Olde Rhinebeck Trip
- 12 OCT-Squadron Meeting/Citrus Fruit Fundraiser
- 16 OCT-Wing SAREX
- 19 OCT-Squadron Meeting
- 22 OCT-Cadet Ball
- 22-23 OCT-CTWG Conference
- 22-24 OCT-NER AEO Conf.- *Intrepid A&SM*
- 26OCT-Squadron Meeting

#### For Future Planning

- 05-07 NOV-Glider Orientation Weekend
- 12-14 NOV-NER Conference
- 15-20 NOV-USAF Graded Training Exercise
- TBA-1109 AVCRAD Helicopter Flights
- TBA-Lifestar Field Trip

### CADET MEETING

21 September, 2010

(Reported by C/2Lt Flynn)

Details of the new Cadet program were discussed in a forum headed by Capt Wojtcuk and C/Lts Wojtcuk and Flynn. Specific points addressed were empty Squadron positions, color guard, and customs and courtesies training.

Cadets from the US Coast Guard Academy directed drill practice.

Testing in rocketry, leadership, and aerospace education was carried out.

### CADET MEETING

28 September, 2010

(Reported by C/2Lt Flynn)

Under the leadership of C/Lts Wojtcuk and Flynn, the Cadets practiced flanking movements during the drill session.

Returning to the trailers, Cadet Wojtcuk taught a class on Learn to Lead; Chapter 1, and cCadet Flynn taught about the tradition and method of saluting.

Capt Wojtcuk led a team building activity.



*Dancing Through the Minefield*

Tests were administered for prepared Cadets.

## **PARENT MEETING**

28 September, 2010

Capt Wojtcuk informed the assembled parents about plans for the First Aid Course, Wing Conference, Cadet Ball. The issue of transportation was discussed and the necessity of following the strictures established by the Cadet Protection Program.

Maj Rocketto briefed the parents on the financial status of the Squadron and explained the importance of the upcoming Citrus Fruit Fundraiser.

## **SENIOR MEETING**

21 September, 2010

*(Reported by Lts Owens and Farley)*

Maj Neilson led a discussion about landing on soft fields emphasizing the importance of a stabilized approach and a nose high roll-out.

Lt Owens delivered the Red Cross CPR/First Aid manuals to those attending the class on Saturday.

Lt Looney requested assistance in the trailer roofing project scheduled for Saturday, 25 September.

Lt Farley worked with new member Lorenzo and covered the CAP website: eServices, Cadet Protection, and ES 116.

## **SENIOR MEETING**

28 September, 2010

Capt Noniewicz led a G1000 training session using computer simulations of the Primary and Multi Flight Display Screens. Officers practiced setting up flight plans for various CAP rescue patterns.



## **OLDE RHINEBECK AERODROME TRIP**

A Wing visit to the Olde Rhinebeck Aerodrome is scheduled for Sunday, the 10th of October. Olde Rhinebeck is a veritable flying museum with a wide range of aircraft dating from as early as 1908 and continuing into the early 1930s. The show for Sunday is based on World War I dogfights. In addition, their collection of rare aircraft and artifacts will be on display in a number of buildings on site.

The cost for the trip is \$2 for Cadets and \$15 for Seniors. The Finance Committee will investigate the possibility or underwriting the trip. Food arrangements will be determined, Transportation will be by Squadron Van.

Interested Cadets should contact Capt Wojtcuk via email as soon as possible. Space in the van is limited and the first to apply will be given precedence.

## **GLIDER WEEKEND IN VERMONT**

05-07 November, 2010

The following Cadets have committed to the Glider Weekend: VanDevander, Herzog, Daniels, Chartier, Flynn, Schultz Hall, Ray, Cathcart, and Bunevich.

The cost is \$35 but the Squadron will underwrite \$25 so total cost is \$10 per Cadet. This covers room, board, and transportation. **A check for \$10 made out to TRCS-CAP must be tendered to our Finance Officer, Capt Lintelmann by October 5th.**

Plans are to leave on Friday after school lets out and return Sunday afternoon.

Detailed information will follow as we get closer to departure.

### **Tentative Wing Conference Agenda**

Friday, October 22nd, 2010

1900-2300hrs Wing Commander's Reception (Invitation Only) NEAM

1900-2300hrs Col. Howard E. Palmer Cadet Ball Amelia's

Saturday, October 23rd, 2010

0700-0900hrs Breakfast Buffet TBD

0700-0900hrs Registration Front Hall

0900-1000hrs General Assembly Amelia's

1000-1050hrs AFROTC Presentation for Cadets Amelia's

FAA Class/Operations Workshop Ellsworth Room

Squadron Staff Workshop Hatheway Room

1100-1150hrs Cadet Activity Amelia's

FAA Class/Operations Workshop Ellsworth Room

Squadron Staff Workshop Hatheway Room

1200-1300hrs Lunch Buffet Amelia's

1300-1350hrs Communications Class Amelia's

FAA Class/Operations Workshop Ellsworth Room

Squadron Staff Workshop Hatheway Room

1400-1450hrs Communications Class Amelia's

FAA Class/Operations Workshop Ellsworth Room

Squadron Staff Workshop Hatheway Room

1500-1550hrs Communications Class Amelia's

FAA Class/Operations Workshop Ellsworth Room

Squadron Staff Workshop Hatheway Room

1600-1800hrs Mid Afternoon Break Front Hall

1800-1900hrs Happy Hour Amelia's

1900-2100hrs Annual Awards Banquet Amelia's

2100-2300hrs Dance Floor Open (Live Band) Amelia's

### **SPACE SHUTTLE LECTURE**

*15 September, 2010*

Allan J. MacDonald. Director of the Space Shuttle Solid Rocket Motor Project at the time of the Challenger accident delivered a lecture which discussed the causes of the disaster and explained steps taken to not only modify the solid rocket booster joints but also change procedures so as to minimize danger to future shuttle launches.

The destruction of Challenger and the death of its seven crew members was caused by a confluence of circumstances. In MacDonald's words. "Murphy was hard at work" and the removal of any one of the contributing factors might have prevented the loss.

The actual failure occurred in seal in one of the solid rocket boosters (SRB). An SRB is almost 300 feet long and consists of a stack of fuel filled cylinders joined by clevis and tongue joints and sealed with two O rings.

The night of the launch was unusually cold for Florida with temperatures dropping below freezing. As Prof. Richard Feynman graphically demonstrated at the Congressional hearings, the low temperature reduced the resiliency and sealing ability of the O rings. Thiokol Engineers, the builders of the SRBs, had discussions with NASA officials and wished to scrub the launch but NASA was adamant about keeping to the schedule. When MacDonald refused to sign off on the launch, NASA went to a higher authority at Thiokol and secured the necessary document.

NASA was caught in a cleft stick. They had argued that the Shuttle would be equivalent to a pick-up truck, making twice monthly trips into orbit. But it was really an experimental vehicle, not a mundane cargo hauler. The desire to maintain the schedule overcame the caution necessary in flying advanced vehicles.

Two factors had now been ignored: the unusual cold and the opinions of the cautious engineers. Their caution was justified because previous experience with low temperature launches had revealed that the seals did degenerate and they had set 53 degrees Fahrenheit as a lower limit. The temperature that night had dropped to 20 degrees.

But these were not the only contributory factors. The liquid oxygen from the external fuel tank gradually boils off and it is released by a valve on the fore end of the tank. The meteorological conditions at the time were NNW winds at less than 5 knots, the one circumstance which would cause the supercooled flow to drift down on the right SRB, the one which failed. Data indicates that the temperature in the critical area dropped to 9 degrees!



*The penultimate launch of Challenger*

But the unfortunate circumstances kept piling up. Upon launch, at T+0.678 seconds, a momentary plume of gas was observed at the joint which failed. However it stopped. The rocket fuel decomposes into a ceramic-like material and sealed the joint.

Unfortunately, as the Shuttle reached "Max Q," the speed at which aerodynamic forces are greatest, it also entered a region of the jet stream, unusually far south, and vibrations broke the seal allowing hot gases to leak.

The final factor was that the leak occurred inboard of the tank, directly impinging on the vehicle and one of the tank supports. When the support burned through, the tank pivoted and the front end was ruptured, allowing an explosive mixture of oxygen and hydrogen to form.

After an analysis of the causes, NASA and Thiokol redesigned the field joints on the SRBs. Three O rings were used, a pressure relief valve was incorporated, heaters were installed, and installation was applied.

Other lessons were learned. Institutionally, lines of communications between the operations team and the engineers were opened and a more cautious and realistic appraisal of problems were applied. The limits of the equipment were appraised and better understood. MacDonald also advises that assumptions need be challenged, questions should be encouraged, a corporate memory must be fostered, and scheduling pressures must never trump safety.

The problems with the SRB which caused the destruction of the Challenger no longer existed but the known debris problem which damaged the heat shield tiles on Columbia would lead to the loss of a second craft and its crew.

The lecture was held at the Tagliatelia School of Engineering at the University of New Haven and sponsored by the American Society of Mechanical Engineers. Majors deAndrade and Rocketto attended.

## FAA SAFETY TEAM LECTURE

*17 September, 2010*

The FAA Safety Team presented a briefing on Preparing for Winter Weather: TAFS, Icing, and Turbulence at Lanmar Aviation, GON On Friday.

The event started at 0900 with a free breakfast bar featuring waffles, omelets, side meats, bakery, fruit, juices and coffee.

Breakfast was followed by a presentation by Mr. Richard Heintzman of AMSAFE Aviation, producer of the shoulder and lap harness airbags used in aircraft. Mr Heintzman explained how the bags functioned and the maintenance requirements. He pointed out that 70% of all aircraft accidents are survivable when the head and torso are protected from blunt trauma due to collision with the instrument panel.

Chet Moore, Chief of the GON Tower then spoke about the airport "hot spots" and the new phraseology for taxi and runway clearance introduced by the FAA.

The main speakers for the morning were introduced by Jim Adams, FAA Safety Team Program Manager for the Windsor Locks Flight Standards District Office. Jeff Tongue and Lauren Nash are aviation meteorologists stationed at the National Weather Service Office on Long Island, the unit responsible for aviation weather forecasts for our immediate area.

The speakers concentrated on the range and limits of Area Terminal Forecasts (TAFS) and special winter flying hazards.

Weather related accidents account for about 25% or all aviation mishaps with 50% caused by winds and 24% due to reduced visibility.

The construction of TAFS and their update schedule and area of applicability were explained. For example, TAFS are applicable within 5 nm of the runway center of the airport. If the term "vicinity" appears, it refers to a doughnut from 5 to 10 nm from the airport center.

Mr. Tongue advised us to also pay attention to the "TAF Discussion" which often considers what might go wrong and five day trends.

Mr. Tongue then covered, in succession, key details of visibility reports and Doppler radar readouts.

Ms Nash, a pilot as well as a meteorologist, covered the topics of wind shear, turbulence, and icing. She emphasized that submission of Pilot Reports is a great help to the meteorologist to both validate their conclusions and amend their forecasts. Pilots are encouraged to submit PIREPS.

The various classes of turbulence were defined and placed in perspective as functions of wind shear, convection, thermal activity, and wake effects. The definitions of turbulence from light to extreme and the distinction from chop were explained.

Thunderstorm classifications and precautions were covered and pilots were advised to maintain a minimum of 20 miles clearance from a storm and not fly under one.

The final topic was icing, a hazard which adversely effects all four forces which act on an aircraft in that thrust decreases, drag increases, weight increases, and lift decreases and causes 12% or all weather related accidents. The conditions which form both rime and clear ice and the actions which might mitigate their effects were delineated.

Col Herbert and Majs deAndrade and Rocketto attended the program. Mr. Benjamin Brennan, a member of the EAA, won a certificate entitling him to a

Lanmar Aviation and Ms Jessica Powers are commended for supporting the program.

### CURRENT EVENTS

#### ***Gordon Bennett International Gas Balloon Race***

As of publication time, only three balloons are still flying in this year's Gordon Bennett International Gas Balloon Race.

Twenty balloons launched from Bristol England on Saturday. The winner will be the crew which travels the furthest. The balloons are inflated with helium and use sand for ballast. By carefully jettisoning ballast to ascend and valving helium to descend, they attempt to cruise at altitudes with favorable winds.

At this time, a Swiss team has landed in Rumania and holds first place. They traveled 1, 513 miles. One of the German teams is placed second with a 1, 123 mile flight.

A British team, still flying has moved into third place, edging out a French crew who have landed at the 1,122 mile mark.

A US crewed balloon, still flying, is in fifth place.

#### ***Astronauts Return from ISS***

A Russian Soyuz capsule returned three crew members from the International Space Station on Saturday. US Astronaut Tracy Caldwell-Dyson and Russian Cosmonauts Alexander Skvortsov and Mikhail Kornienko had spend six months aboard the ISS.

## AEROSPACE HISTORY

### *HIGHLIGHTS OF OCTOBERS PAST*

07 OCT, 1909-Glenn Curtiss becomes the first American to hold a license issued by the *Federation Aeronautique Internationale*.

08 OCT, 1940-The Royal Air Force forms the first of three Eagle Squadrons, Americans who, before Pearl Harbor, enlisted in the RAF to fight the Nazis.

*Eagle Squadrons Memorial, Westminster College, Westminster, Missouri*



09 OCT, 1930-Pan American receives its first Martin M130 Flying Boat.



*Model of a Martin 130 Flying Boat at the Hiller Aviation Museum, San Carlos, California.*

10 OCT, 1946-After 17 years, Carl Norden is issued a patent for his eponymous bomb sight.



*Norden Bombsight at the Virginia Air Museum*

11 OCT, 1910-At St. Louis, Mo., Teddy Roosevelt becomes the first US President to fly.. The aircraft was a Wright Model B piloted by Arch Hoxsey.

14 OCT, 1947-Capt Charles Yeager becomes the first man to exceed the speed of sound flying the Bell XS-1.



*Glamorous Glennis at the National Air and Space Museum, The Mall, Washington.*

15 OCT, 1939-LaGuardia Airport is dedicated by former CAP leader and NY Mayor, Fiorello LaGuardia.

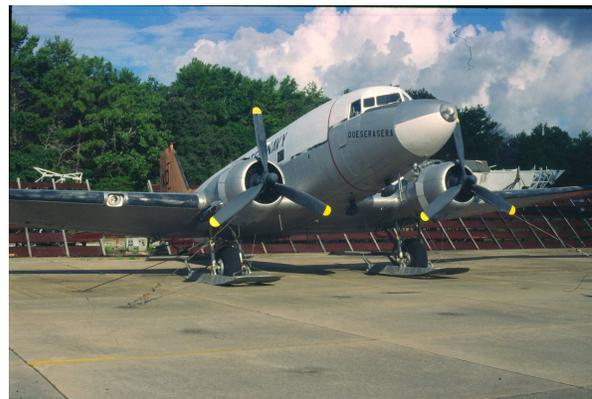


*The art deco facade of the Marine Air Terminal, LGA. Formerly the terminal for the North Atlantic flying boats, now serving the Delta shuttle.*

20 OCT, 1920-Robert Esnault-Pelterie wins the suit which establishes his claim as inventor of the joystick.

24 OCT, 1942-Charles G. Abbott, Secretary of the Smithsonian Institution, concedes that Langley's Aerodrome, which failed to fly in 1903 but did fly in 1914 was radically modified. This established priority for the Wright Brothers as the inventors of the first successful heavier than air, powered, man carrying, and controllable aircraft.

31 OCT, 1957-A USN Douglas R4D-5, *Que Sera Sera*, makes the first landing at the South Pole.



*Ski Equipped Que Sera Sera sits incongruously on ramp at NAS Pensacola, Florida.*