



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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### CADET MEETING MINUTES

*08 September, 2015*

C/SrA led the cadets in a drill session.

A lesson on kitchen safety followed.

Lt Ray led a DDR session.

### SENIOR MEETING MINUTES

*08 September, 2015  
Commander's Call*

The meeting utilized telephone conferencing for members who could not attend. Squadron Commander Lt Col deAndrade set the record for distance, reporting in from London.

Deputy Squadron Commander Farley was the on-site moderator.

Lt Col deAndrade emphasized the importance of the calendar. Members are to rely upon the calendar for planning participation in events.

He also informed the Squadron about the planned "VIP" missions. In order to increase awareness of CAP and its capabilities, the airport managers, selected legislators, and influential citizens will be offered orientation rides.

Maj Noniewicz presented a safety lecture about protecting computers from hacking and files from loss.

Noniewicz reported details about the highly successful USAF evaluation of CTWG's SAR capabilities. The Wing received the highest grade, outstanding.

He also reported the the Cadet O Flight program has been hampered by availability of aircraft but is improving. O flights are scheduled for Thursday afternoons and Cadets are encouraged to sign up for them.

The fiscal year ends on September 30th. Federal funding for aircraft will be curtailed in the preceding week. However, this will not affect flights which are state, corporate, or self-funded.

Finance Officer Maj Lintelmann reported that the Squadron is fiscally healthy and mandated paperwork in up-to-date. However, the annual assesment is now due and delinquent members have been notified.

Lt Poe explained future Cadet programs and will investigate the details for participation in the upcoming 10 October Groton Town Festival. More senior members must become active with the Cadet program.

Lt Col Doucette noted that this is the last month for Long Island Sound Patrol missions. The Squadron will exert a maximum effort to use the remaining time to practice SAR techniques and train new scanners.

**Excellence**

September 2015						
SUN	MON	TUE	WED	THU	FRI	SAT
		1 Open House	2	3 OFlight	4	5
6	7	8 CDR CALL	9	10 OFlight	11	12 LISP Rifle
13 LISP	14	15	16	17 OFlight	18	19
20	21	22	23	24 OFlight	25	26 SLS
27	28	29	30	<b>Fruit Sale Information</b>		

1 Senior: Planning Cadet: Leadership, Open House  
 8 Senior CDR Call Cadet: Drill, Safety, AE, DDR, Promotions  
 12 LISP Cadet: Rifle  
 13 LISP  
 15 Senior: ES Cadet: Drill, CD:Special Spk Thayer, Promtns (Blues)  
 22 Senior Cadet: Fitness, Rocketry (PT)  
 24 O-Flight 26- Sq Leadership School  
 29 Senior Cadet: Drill, Rocketry (BDU)

**Respect**

October 2015						
SUN	MON	TUE	WED	THU	FRI	SAT
<b>Sell Fruit</b>				1 OFlight	2	3
4	5	6 PD visit	7	8 OFlight	9	10 Groton Festival
11	12	13 CDR CALL	14	15 OFlight	16	17 Rocket Contest
18	19	20	21	22 OFlight	23	24
25 Glider Day	26	27	28	29	30	31 Hallow

6 Senior: Planning, Professional Dev Visit from Wing  
 6 Cadet: Cadet: Admin, Testing, Leadership training  
 10 Groton Festival  
 13 Senior: CDR Call Cadet: Drill, Character, safety, presentations, Pro  
 17 Commander's Cup Rocketry Contest  
 20 Senior: Cadet: Drill, fitness, AE (outdoor field )  
 25 - Glider OFlights NJ  
 27 Senior: Cadet: Milestone Award Night

**Integrity**

November 2015						
SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5 OFlight	6	7 Cadet Ball
8	9	10 CC CALL	11	12 OFlight	13	14
15	16	17	18	19 OFlight	20	21
22	23	24 No Meeting	25	26 Thnkgvng	27	28
29	30	<b>Sell Sell Fruit</b>				

3 Senior: Planning Cadet: Drill test, admin, Leadership  
 7 Cadet Ball  
 10 CC Call Cadet: Fitness, Character Dev, AE presentations  
 17 Senior: Cadet: Makeup, fun night, drill  
 24 No Meeting

**Volunteer Service**

December 2015						
SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3 OFlight	4	5
6	7	8 CC CALL	9	10 OFlight	11	12
13	14	15 Party	16	17 OFlight	18	19
20	21	22 No Meeting	23	24	25 Cmas	26
27	28	29 No Meeting	30	31		

1 Senior: Planning Cadet: Leadership, admin, Drill  
 8 Commander's Call/ Promotions Cadet: CD, PT  
 15 Party

This schedule is not a replacement for good communications.

Lt Col Rocketto reported that all of the papers for the annual fundraiser are on hand and expects to start training our sales force in the last two weeks of this month.

Rocketto also spoke about the importance of the Commander's Cup Rocket Contest and urged full participation by the Squadron. The new date for the event is Saturday, 17 October.

He also informed the Squadron the new STEM kits are in stock or on the way. STEM is an acronym for "Science, Technology, Engineering, and Mathematics" and the kits provide a wide range of hands-on activities for the Cadets. Plans are being made to run weekend activities starting in January and explore the many possibilities offered by the materials to study astronomy, robotics, flight simulation, and rocketry.

### **SQUADRON LEADERSHIP SCHOOL**

A Squadron Leadership School, required for advancement to Level II of CAP's Professional Development Program, will be held at Sikorsky Airport on 26-27 September. The cost is \$10. An application may be obtained at

<http://ctwg.cap.gov/sls-registration-form.html>.

Squadron Leadership School is intended to prepare members for contributing to squadron activities. The course consists of an introduction to CAP's Professional Development Program, the role Squadrons of Squadrons in CAP, Squadron staff specialities, leadership, communications, and problem solving and will probably be taught by CTWG members.

Lt Crandall has already signed up for the course and all Level I officers are urged to do likewise.

### **CURRENT EVENTS**

#### *Challenge to Sailplane Altitude Record*

In August of 2006, Steve Fossett and Einar Enevoldson flew a modified Glaser-Dirks DG-500

to 50,720 feet establishing a new record for manned sailplane flight.

Now, Enevoldson is ramrodding a project to reach 90,000 feet using mountain wave lift and the polar vortex. Mountain wave lift is well-known to sailplane pilots and is formed by ripples formed downwind of a mountain or mountain range.

The Polar Vortex is a winter phenomenon. Strong winds circle the earth at jet stream speeds. When these winds pass over the Andes Mountains, they can generate mountain waves as high as 100,000 feet. Enevoldson plans to use this wave lift to reach 90,000 feet.

A special aircraft is being constructed by Windward Performance of Bend, Oregon. Founder and Chief Engineer, Greg Cole, has used composite materials to fashion an extremely strong pressurized sailplane. In the rarified atmosphere which exists at 90,000 feet, the plane is expected to fly at around 370 knots which calculates out to about Mach 0.5 and an indicated air speed of about 55 knots!



*Perlan II mock-up on display at Oshkosh  
(photo credit: FlugKerl2)*

The aircraft, equipped with a number of scientific packages, will also gather data on the conditions which exist in the Polar Vortex at 90,000 feet. The experimental flights are planned to commence in 2019.

#### *Side-Stepping Problems*

In business, scientific, and social spheres of

conduct, problems offer opportunities for unique solutions which might be profitable, win a Nobel Prize, or be personally advantageous or gratifying,

A number of airport features restrict the size of the aircraft which might utilize them. Chief among these are runway length and load bearing strength, ramp space, and the width of taxiways and gates.

But the airlines find that larger planes, under the right operating conditions, are profitable investments. One limiting factor is the adequacy of the airports which the airlines serve. But how to make these heavier and wider aircraft suitable for older airports designed for smaller aircraft usable?

More powerful engines and performance enhancing devices are ways to solve the problem. Flaps and slats increase lift and spoilers and reverse thrust can be solutions when the runway is short.

The load bearing strength of many runways restrict the weight of the aircraft which can use them. But by adding wheels to the landing gear, the weight of an aircraft can be distributed over a larger area thus reducing the forces on the surface.

Wing length of commercial aircraft is a newer problem. In the search for greater fuel efficiency, engines have been improved and devices such as winglets installed. However, an even greater improvement in wing efficiency can be achieved by making the wing longer or, as the engineers say, increasing the aspect ratio. The idea is not new. High performance gliders and the Lockheed U-2 illustrate this concept.

For reasons too complex to discuss in this article, a high aspect wing reduces the drag created by tip vortices and less drag means more efficiency.

But long wings create other problems. The heavier wings droop and create ground clearance problems. Witness the necessity for outrigger wheels on aircraft such as the B-52 and the U-2. But the development of light weight carbon fiber-reinforced plastic allowed for longer wings without using outriggers.

Efficiency, driven by high fuel prices, created a need not only for better power plants but also other tacks and one of these is to build longer wings.

However, many airport gates are limited to a 213 foot or sometimes a 262 foot wingspan. Reducing the number of airports which an airliner can serve will not enhance profits.

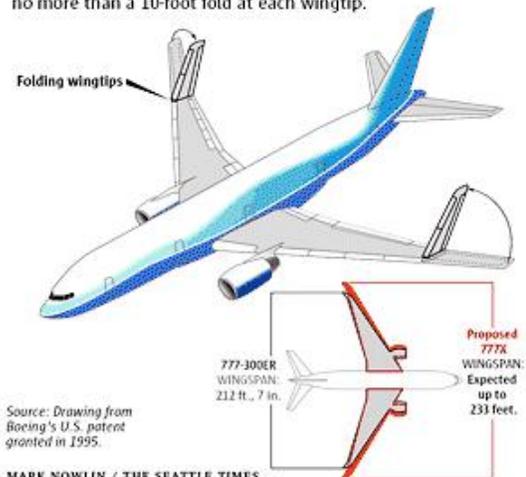
Boeing has decided to build its newest version of the 777 with 235 foot composite wings. In order to meet the problem of limited gate space, they are equipping it with folding wingtips. Folding wings are not a new idea. Short Brothers patented it in 1913. What is new is the application of the idea to a commercial airliner.

The tips will be 12 feet long and when folded, reduce the wingspan to 211 feet allowing access to most of the world's commercial airports.

### Folding wingtips for the 777X?

Because of the oversized wingspan Boeing is projecting for its forthcoming 777X twinjet, engineers are studying wingtips that fold upwards to avert the need for airport infrastructure changes such as wider gates.

In 1995, Boeing patented such a design - never used - in which the outer 21 feet of each wing folded upward (shown). The new design under consideration for the 777X may require no more than a 10-foot fold at each wingtip.



Production is expected to commence in 2017.

## AEROSPACE HISTORY

### *First of the Breeds*

The designations applied to military aircraft vary from the clear to the abstruse but a complication arises series numbers has been repeated. A cursory examination of the systems used reveals that at around 60 aircraft were "first" in that they used the suffix -1. Here are some examples.

The XA-1 was applied to aircraft from both Cox-Klemin and Douglas. In 1920 Cox-Klemin produced two biplanes as aerial ambulances. Over 3,000 A-1 Douglas Skyraiders, arguably one of the finest attack planes, were produced from 1945-57.



XA-1 and A-1H (XA-1 courtesy of Museum of the USAF)

Huff-Deland produced one copy of the XB-1 in 1927. Curtiss and Sikorsky both manufactured competing bombers for the Army Air Corps and the Curtiss XB-2 Condor was chosen. The next B-1 was a product of North American Rockwell, named the Lancer but called the "Bone," just over 100 were turned out in the '70s and '80s.



XB-1 and B-1B (XB-1 courtesy of Museum of the USAF)

In 1925, Douglas contracted for 26 C-1 single engine biplane transports which they delivered to the U.S. Army Air Service. The modern C-1, a Grumman product, served as a "carrier onboard deliver" (COD) aircraft. Some 83 Traders were produced and had a service life of almost 40 years.



C-1 and C-1A (C-1 courtesy of USAF Museum)

Two Gallaudet DB-1s (Day Bomber-1) were produced but never flew. We can find no other "D" prefix U.S. military aircraft. One civilian aircraft, the Wing D-1 Derringer designed by the eminent engineer John Thorp. However, on a dozen were ever produced.



DB-1 and D-1 (Courtesy of Museum of the USAF and RuthAS)

The Standard E-1, a pursuit aircraft as fighters were then called, was the only U.S. produced fighter in World War I. However, it was a day late and a dollar short. It came out too late to see combat service and its lackluster performance relegated it to a role of trainer.



E-1 and E-1B

The modern E-1, Grumman model number 117, the Tracer, came out of Grumman's Long Island plant and served as the first of the U.S. Navy's carrier-borne early warning aircraft. Its design was derived from the C-1 Trader.

The Trader is a good example of an aircraft which underwent changes in their designations. Originally the WF-1 and nicknamed the "Willy Fudd." Its predecessor, the S2F Tracker, another C-1 derivative, was better known as the "Stoof" so the E-1 became the "Stoof with a Roof."

*We haven't run out of letters but we have run out of column space. "First of the Breeds" may be continued in future editions of The Coastwatcher.*

*The study of aircraft designation systems is complicated by the fact that different services used different systems until a unified method was imposed in 1962. But the change-over resulted in some aircraft ending up with multiple names.*