



President's Message *by Ken Benson*

Experimental Aircraft Association Chapter 166

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Greetings All!!!... We're starting to get into the summer flying season. Bet you thought it'd never come. Along with the warm weather comes the haze, thunder storms and the infamous density altitude. Remember that's where the airplanes thinks its performing at a higher altitude because of the temperature. You say, "Big Deal!!!"...Here I'm at my normal pea patch with 4000 feet of runway; I just won't pull back as hard on rotation. That may be all well and good but if you are using that 2000 foot grass strip just after a thunder shower or you are at the 4000 foot strip but now the your wife (or husband), the kids, the mother-in-law, the beach chairs, lunch, etc. you might be climbing out at 200 to 300 feet per minute with the tree line coming up at 400 feet per minute. Get the picture!!!???

Anyway do a little brush up on the performance charts. You remember where they are in the POH, right???...See what you get when your at your takeoff weight, a couple thousand feet density altitude and factor in a less the favorable wind. You may have to download fuel or leave the mother-in-law home. You can't throw her out after you're airborne....can you???

On a business note, the pictures in last month's newsletter of the Young Eagle Flight were done by our newest member Lamont McEvitt. I forwarded the photos to Al with out giving credit to Lamont, so Al put my name as the photographer. They were great photos and the Chapter appreciates Lamont's initiative and effort in taking them.

If any of you are flying to AirVenture a reminder the NOTAM is available through the EAA or FAA web sites. It's not a complicated arrival the second time you do it. The ground references are key and also listening and not talking on the radio.

Preston Kavanagh is maintaining the Chapter's video and reference library. The catalog of library items is on the web site. If you want to check out an item just send Preston an email note or give him a call and he'll mail it out to you. Just like Blockbusters.

Greg Prentiss ask me to remind you to get your order for Chapter shirts, jackets, etc. to him ASAP. You can check out the style, color and size you want on www.queensboro.com. Then send Greg a note or call him and he'll place the order.

(Continued on page 2)

Next Meeting

June 24, 2007, 6:00 PM ENFIELD AUTO RESTORATION

Program: John Shade will introduce Jim Glista who will conduct a tour of the Enfield Auto Restoration facility..

Directions: Print Shop Road, Enfield, CT. See page 2.

TOOL FORM**EAA CHAPTER 166**

EAA Chapter 166 Members. This form is intended to compile a list of tools that chapter members would be willing to loan other members of Chapter 166. The logistics of all loans would be the responsibility of Chapter members. Please provide completed forms to Aaron Gleixner (aarongleixner7@sbcglobal.net) or at any meeting for compilation and distribution to Chapter members.

Name: _____ Phone #: _____

Street Address and City: _____

List of Tools and Brief Description Available for Loan:

- 1) Example – HobbyAir Positive Flow Respirator System for Painting
- 2) Example – Engine Hoist for Mounting of Engine
- 3) Example – Compression Tester for Lycoming Engines
- 4) Etc

CLASSIFIED

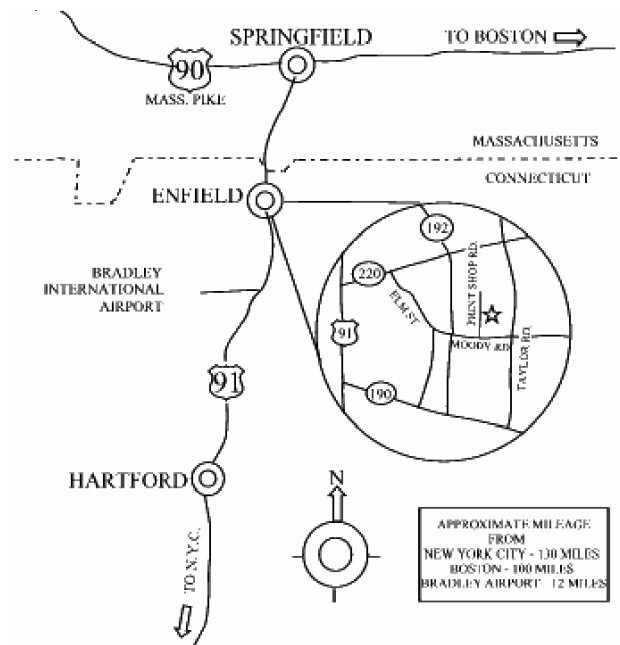
FLIGHT INSTRUCTION: All types of general flight training and check rides by a CFII. Flexible arrangements. Joe Gauthier (860) 635-4058.

WANTED: Seasoned Aviators - Do you remember that special adult that fostered your interest when you were young? We have a thriving Civil Air Patrol squadron that meets on Friday nights at Brainard. If you want to volunteer your time just once, or on a recurring basis, please contact Jeff Dill at 860-295-8372 (home), (860) 985-4315 (cell), or dillfamily@sbcglobal.net.

RV6 PROJECT: Needs Completion—Empenage & Wings built from Van's standard kit on Phlogiston spar with gold anodized ribs and skins primed inside and out. Quick-build Fuselage with top skins and interior components completed. Sliding Canopy cut and fit including Carbon fiber/Kevlar skirt. Factory new Mattatuck XP360 with electronic ignition and fuel injection. Project needs the engine hung, wiring, plumbing, fiberglass finishing work, paint and interior. Looking for an experienced builder or A&P to complete this project in my shop or yours. I will consider any reasonable arrangement including barter, a partnership or an outright sale of the whole project. I have well over \$50,000 and many, many hours invested in this project and really want to see it completed and flying. Contact Alan Ortner at 860-345-7795 or aeortner@comcast.net to discuss and make arrangements to see the project which is currently located in my shop in Haddam, CT.

DIRECTIONS TO ENFIELD AUTO RESTORATION

- 1: Take the ELM ST / CT-220 exit- EXIT 48- toward THOMPSONVILLE. 0.1 miles Map
- 2: Turn RIGHT onto ELM ST / CT-220. 0.9 miles Map
- 3: Turn SLIGHT RIGHT onto ELM ST. 0.6 miles Map
- 4: Turn LEFT onto MOODY RD. 1.9 miles Map
- 5: Turn LEFT onto PRINT SHOP RD. <0.1 miles Map
- 6: End at Enfield Auto Restoration:
4 Print Shop Rd, Enfield, CT 06082

**PRESIDENT**

One final item, we got a great note from Paul Poberezny at EAA Headquarters on our newsletter. Paul commented on the material we have had in the newsletter regarding the proposed FAA user fee schedule and how to contact our legislatures. He also complimented Greg on the Construction Corner article. Way to go, Al and Greg !!!! You've made the Chapter stand tall again.

That's all I have for now...hope to see you at the May 24th meeting...Remember new location....new time...

Ken Benson, President

Secretary's Report *by Aaron Gleixner*

John Ciolino performed secretarial duties this month.

EAA Chapter 166 Monthly Meeting
 Location: Pratt and Whitney Training Center,
 East Hartford, CT
 Time: 7:30 PM
 Date: May 27, 2007
 Members present: 7

President's Report

There have been several additions to the video library lately e.g. company produced product tapes from Glastar, LanceAir and Murphy aircraft. The list of available titles is on the chapter web site. You can order the tape you want and it will be mailed to you.

Greg Prentiss is putting together an order for shirts with the chapter logo. If interested, contact Greg to let him know type, size and number of shirts desired.

The chapter hosted a Young Eagles fly-in. Approximately 8 youngsters took a ride with chapter members.

The chapter participated in a visit to the Connecticut Corsairs located at Chester airport. Bad weather meant most had to drive to the function. Connecticut Corsairs is restoring a Corsair from a collection of parts salvaged from a wrecked plane.

Ken proposed that in memory of Walt Johnson who recently passed away, chapter make a donation to the Hospice in Middletown. The motion was accepted.

Ken also proposed that the chapter donate \$100 to Connecticut Corsairs. This motion was also accepted.

Secretary's Report

The Secretary's report was published in the last newsletter. The report was accepted as published.

Treasurer's Report

The Treasurer's report was published in the last newsletter. The report was accepted as published.

Treasurer's Report
June 2007

Checking Account:	\$ 4,399.35
Deposits: Dues,	\$ 16.00
Total Deposits:	\$ 16.00
Checks:	\$ 131.94
Total bills:	\$ 190.90
Balance in Ck	\$ 4,224.45
Petty Cash:	\$ 00.00
Plus decals, & etc.	

Chapter Scholarship Fund ACCOUNT

Balance:	\$ 2,559.38
Deposits: Flightstar,	\$ 25.00
Bills: DAR expenses	\$0.00
Balance:	\$ 2,584.38

Duly reported by Dave Armando, Treasurer

Progress Reports

Russ Beers is installing antennas on his Glastar project. He is using the Archer hidden antennas for Comm and Nav. Preston Kavanagh has just received the Dynon 180 EFS/engine monitor for the Gagnon/Gauthier/ Kavanagh RV-6A project. He has also removed the wings from his PA-12 for recover. Ken Terrio has removed the old cover and made some necessary repairs to the wing structure. Bill Foley is working on installing the engine on his Ryan STA project. He is using a different type of engine than the original and that is causing problems with fitting the cowl and other parts.

Program

Russ Beers made a presentation on an engine failure and forced landing which occurred to him several years ago when he was a new pilot.

John Ciolino — Acting Secretary

Construction Corner *by Greg Prentiss*

This month's contribution is written by Joe Gauthier.

Range and Endurance Testing

I have been working with the Homebuilt Council at EAA on a flight testing process for some time now. We are close to getting it done, finally. We have actually stopped telling people when it will be published because of the obstacles we've encountered that have nothing to do with the technical aspect of this project.

We are expecting some bad weather tonight and I will be away for the next week or so and that made me decide to go flying this morning "For Fun" in our little yellow and green airplane, the trusty Thorp T18. Rather than just go out and burn some gas, I thought I'd try an abbreviated version of the Range and Endurance test we are suggesting be completed in Phase One for Amateur Built Experimentals.

We all know that the airplane burns the most gas to go the greatest speed it is capable of. We also know that this high speed is far from the best endurance and range capability of your aircraft. What we may have forgotten is the linkage between Best lift over drag (L/D) and what I'll call a "Sweet spot" in the engine's performance that lets it make the most out of the gas it is using. How do we identify the airspeed and power that makes the best Miles Per Gallon (MPG)?

The short route to getting that data is to go out and fly the plane and record what happens at a range of airspeed/power combinations and then crunch the numbers to see how far you can go on the fuel you can carry. This is what I did today and the following are the results:

GPH	TAS	Manifold Pressure	MPG	Dist on full tank (no wind)	Hours endurance (no reserve)
7.8	160	22	20.5	574	3.6
6.2	140	20	22.6	632	4.5
5.5	130	18	23.6	662	5.1
4.8	120	16	25.0	700	5.8
4.4	110	15.5	25.0	700	6.4
4.3	70	16.5	16.3	456	6.5
4.2	70	17	16.7	467	6.7
4.4	65	17	14.8	414	6.4

If your eyes went to the MPG column like mine did, you may have been surprised. Remember the term, "Back side of the power curve" or the "Region of Reverse Command" for you newer trained flyers. It takes more power (Gas) to fly very slowly (less MPG) than it does at a higher speed. This is Induced Drag and Parasitic Drag combined into the "Total Drag" curve that is used to plot best L/D. Go back to your Private Pilot training material if this is not clear to you. Why do our airplanes have a Best Rate of Climb speed? Same reason, max L/D. Now you won't be at all surprised to know that the V_Y for our Thorp is 110 MPH IAS, Best L/D speed at full throttle. It is also very close to the Maximum Endurance speed for this airplane. Surprised?

Not all airplanes work out exactly like the Thorp. A lightly built, properly rigged RV6 has a Max Endurance speed range of 20 MPH. That means you can fly it at any speed near it's V_Y within 10 MPH above or below, and see almost the same MPG. Van and John Thorp are good engineers. Not all airplanes are that efficient.

Next time you have an hour or so to do some flying, don't waste it. Find some smooth air, have a pad and pencil with you and fly this test. Fly at cruise speed and record the data. Be certain to lean till the engine reaches best mixture for each speed tested. Don't get too technical with the leaning process, just do it the way you would on a typical flight/trip. Record the numbers. (This abbreviated test is possible only if you have a reliable and calibrated fuel flow measuring instrument in your airplane. Without that, you need to land and measure the fuel used during the cruise portion of your test for each speed you fly. Not impossible but much more time consuming.)

After recording the numbers for a particular speed, decrease the power by either a half gallon per hour or 2 inches of manifold pressure, (you can use a Tach but that is a bit more difficult) slow to the straight and level speed that power provides, lean the mixture and record the numbers. Maintain the same altitude for each test. Work your way in 10 MPH increments down to about 10 MPH below V_X or 10 MPH above stall. It is important to recognize and discard data that does not fit the "Curve". The testing and flying techniques needed here for consistent results are in deed a challenge for most of us. That is the reason there are two rows of data missing from the chart with this article. The data didn't "Fit", I had a lunch date with my favorite gal and it looked like the rain was about to begin.

(Continued on page 6)

The following is a reprint of an article that appeared in the May 2007 issue of the Atlantic Flyer written by Bill Foley and Ed Cassagneres.

New England Air Museum It's Beginning

In the fall of 1959 Bill Foley and Ev Cassagneres were members of the Antique Airplane Association of Ottumwa, Iowa. Neither of us knew the other existed here in Connecticut, but we both had a deep interest in old airplanes from the 1930s as we had grown up during that era, and built wood and paper and some solid balsa models of the popular airplanes from that time period. Today those unique and special full size restored aircraft are in the antique/classic category and can be seen at popular air shows and fly-ins around the country. In an issue of Antique News that year we read with much interest, an ad about a 1917 Bancroft biplane that was for sale. and could be seen in Hebron, Connecticut. This was an airplane we had never heard of, let alone seen in the flesh or even a picture of one. At that time we were only a couple of people in the area who were interested in old airplanes. As soon as I read the ad I jumped into my trusty old Hillman "Minx" English car and drove up to Hebron to check out this latest find. Bill Foley did the same.

So, what in the world was this Bancroft airplane? We learned that it was designed and built by Louis Frederick Bancroft, in 1917. Bancroft was born on October 12, 1874, in Windsor Locks; Connecticut, and educated in the East Windsor school system. He had served in the Spanish-American War and later opened a realty company in Hartford. He was for a time a tobacco farmer and did other odd jobs before he became interested in airplanes and their design. As it turned out, only that one airplane was ever built, which was to have been powered by an Anzani radial, air-cooled engine. The ship had a very unique design, but was basically a biplane, with a wingspan of 28'4". The most noticeable feature of the design was the conventional tail supported by the patented and canted surface (fabric covered) tail booms. They were to provide the lateral control, as stated in his patent. Bancroft did not wish to infringe on the Wright Brother's wing-warping patent. When we arrived on that very cold November day, we found many other gentlemen there, who also had a mutual interest in this airplane. This was the day that Bill Foley and Ev Cassagneres first met.

After viewing the airplane, and due to the extreme cold, we all went outside to sit in one of the large station wagons, with the heater FULL-ON, and introduced ourselves and kind of got acquainted. We exchanged names, addresses, phone numbers. We all agreed that we should get together again sometime soon, and perhaps form a club of some kind. Most of the men there were associated with United Aircraft, the parent company of Pratt & Whitney, Hamilton Standard Propeller Company and Sikorsky Aircraft Company. We all shared one passion, a deep appreciation of aviation and its historic significance in our state, and the preservation of this history.

On November 24, 1959, 13 of us met at Willie's Steak House, in Manchester, CT. This meeting was to first of all take up a collection in order to purchase the Bancroft. Such money could be raised if the group could sell 15 shares in the airplane, at \$20 each. It was successful with twenty-three shareholders raising \$430.00, and they then owned the Bancroft. A restoration committee was formed under the direction of Paul E. Nissen as Chairman, with George Pranaitis and research headed up by Carl F. Schory (who put the official NAA timing mechanism in Lindbergh's Spirit of St. Louis before the New York to Paris flight in 1927), and Bill Foley. Thirteen of us attended that first meeting, the others were Frank Green, Harvey Lippincott, Vernon Muse, Muriel Harris, Robert Beh, Paul Nissen, Dean Quaille, Clifford Ulm, Donald Kirkpatrick, Raymond Peck, and Morris Ertman.

This 'plan of action' was spearheaded by Harvey Lippincott. The second purpose of this meeting at the restaurant was to form up an organization that would collect, and preserve aviation history in our state. It became the very first of its kind anywhere in the United States. We named it the Connecticut Aeronautical Historical Association (CAHA). Our little group had the foresight to and realized the importance of this history in Connecticut. The Connecticut Aeronautical Historical Association was incorporated under the laws of the State of Connecticut, as a non-profit, educational institution. Sometime later when we had about 26 members, all of us were deemed "charter members". Our long time President, Harvey Lippincott, was the man responsible for holding the group together. Cassagneres ended up as Vice Chair-man covering the southwest part of the state. Honorary members were Paul E. Garber from the Smithsonian Air and Space Museum, Igor I. Sikorsky, Jr. and Nels J. Nelson, early Connecticut pioneer aviator. Over many years CAHA has suffered through all kinds of adversity and tragedy, but these dedicated members

LAST CALL

PERFORMANCE *continued from page 5*

The data you record will reveal your airplane's best endurance speed and power setting. That just could keep you out of the tree tops some day in the future when the winds are stronger than you expected and the needles are bouncing on "E". It's a difficult thing to do when your destination is still miles out. The decision to pull the throttle back to make it there with the gas you have on board needs to be reinforced with this experience. My numbers show that I can go 100 miles more on a tank of gas when I pull the throttle back.

Lastly, I would ask you to share the results of your test with your Chapter 166 members as a learning experience for all of us. You don't have to fly a homebuilt to participate.

Who will be first to report?

Joe Gauthier

NEAM *continued from page 6*

and volunteers pulled together to build up one of the nicest air museums in the country. They were the thinkers and doers, some of which is recounted on these pages. This core group gave of their time, talents, knowledge and money to launch CAHA. As a result of this vision, and almost 47 years later, we have the current organization and it's fine museum.

We are both proud to have been a part of that beginning, and where we have come today. Through our regular meetings we had the opportunity to meet and get to know some of the greats of our aviation industry. Names such as Igor I. Sikorsky, Sr., flamboyant Roscoe Turner, the aviator who flew in the Cleveland Air Races, Ed Granville of the Granville Brothers "Gee-Bee" fame, and his engineer Howell Miller, Carl Schory of the National Aeronautic Association. At the annual meeting on April 8, 2006, a plaque recognizing the original 26 founding members was dedicated and mounted in the lobby of the museum. The four living members of the original 13 plus an additional member of the larger group of 26 were present. The son of an additional member was also present.

Greg Prentiss is still coordinating Chapter apparel. He will be placing the order at the end of this month. Let Greg know if you need anything as soon as possible. Go to the website <http://www.queensboro.com> to see what is available, as they have our logo and can add it to just about anything. Then contact Greg at (860) 872-2278 or gregprentiss@hotmail.com.

CALENDAR OF EVENTS

Meetings

June 24	August 26
September 30	October 28

No Meetings
July, December

Events

Fly-Out	TBD	July 14
	Rain Date	July 15
Fly-In	HFD	Sept 15
AOPA Conference	Hartford	Oct 4,5,6
Fly-Out-Flight Design	Woodstock	Oct 13
Annual Meeting	TBD	Nov 10

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