



EAA Chapter 166 Greater Hartford, CT



EAA 166 Newsletter

Vol. 46 – Issue 9

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Experimental Aircraft Association Chapter 166

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This month's meeting will be held on
Sunday October 24, 2010 at 7:30 PM
at the P&W Customer Training Center

Lamont McEvitt will give a presentation about
experiences from the recent
EAA B-17 'Aluminum Overcast'
visit to Groton.



President's Message

Well it has been a week of milestones for me this past week. The Hobbs meter on the RV-8A passed 400 hours, while the RV-10 passed 75 hours. At 400.3 hours, the RV-8A came down for the annual condition inspection. After completing the inspections this past Saturday, I might walk away for the first year with just new copper gaskets on the spark plugs, and an oil change. It's hard to beat a \$50 condition inspection. Hopefully the next 400 hours are as trouble free as the first. For the RV-10, it feels like most of the initial bugs have been worked out. With the exception of some sticky brakes, and landing lights that just aren't adequate, the plane is flying great.

In old business, the EAA B-17 visit at the end of August in Groton appears to have been a big success. This was a joint event with EAA Chapter 334 in Groton. Many thanks to all the chapter members who volunteered their time to make this a success. Special thanks to Lamont McEvitt and Bob Taylor for project managing the visit. A tremendous amount of planning and coordination goes into making an event like this a success, and these guys stepped up and made it happen. The net proceeds for Chapter 166 were on the order of \$550, so it was a great fundraising event for the chapter. Hopefully there will be an opportunity next summer for a visit to Hartford.

Looking forward, the annual banquet is being held on November 19th at the Chowder Pot restaurant. More information will be coming from Dave Armando shortly. Attendance the last couple of years has been strong, and it is a great time every year, so please make every effort to participate in the last event of the year. Consistent with years past, there will be a speaker, along with plenty of door prizes.

Hope to see you at the meeting on Sunday.

Aaron

Secretary's Report **September 26, 2010 Meeting Minutes:**

Meeting was called to order at 7:38pm by President Aaron Gleixner, with 24 people in attendance.

Our lone guest in attendance was Gary Sepulveda, from Guilford.

Progress Reports:

Nanji Chandra is currently finishing up work on the empennage of his RV7A. Nanji reports that the wing kit has also arrived recently.

Moe Schwartzmann is still working the Seawind project, and announced he's "one to one-and-a-half years" from completing the Seawind. His back injury is healing and he has made recent progress on sanding of the tail.

Jack Hilditch reported that he has begun riveting on his RV project once again..

The Secretary's report was accepted as published.
The Treasurer's report was also accepted as published.

Under Old Business, Aaron reported that the recent visit by Aluminum Overcast, the EAA's Boeing B-17 bomber, was a complete success! Lamont McEvitt and Bob Taylor reported that National EAA Headquarters was very happy with how the visit went. So much so, that next year it may be possible to secure a coveted weekend visit by the bomber. Visitors to Groton during the stay purchased ground tours, merchandise and flight time – to the tune of over \$1600 that will be split between the participating Chapters. Bob and Lamont will have a Powerpoint slide show for the next meeting.

Aaron indicated that Simsbury's annual Fly-in and Drive-in went very well again this year. The weather was near perfect, and the organizers made some changes to help create more parking for both show cars and visiting aircraft.

Our Fall Young Eagles event was also a success. Although, once again we had more aircraft than we needed, for the limited number of kids participating. The Chapter would like to keep the number of 2nd flights to a minimum. One way to keep everyone happy is to allow second flights for kids that bring a newcomer to the event. This keeps their interest high, while still getting new kids into the air.

Under New Business, there was a discussion of the up-coming election season, and the resulting Temporary Flight Restrictions that are popping-up all over the East Coast. Visiting VIP's (Obama and the like) are creating many TFR's, so be sure to get the latest information before making any flights (as always...). Signing-up at FAA.gov will get you e-mail notification of near-by TFR's.

The Chapter now has an aircraft fabric covering tutorial DVD available to members. Contact Aaron if you are interested.

Effective October 1, operation of Robertson airport will be taken over by Interstate Aviation. Members indicated that various fees at the airport may well be decreased as a result!

Dave Armando made a motion that the Chapter sponsor 8 to 10 local students that are enrolled at the Aviation school at HFD to attend the PAMA show later this year. The Professional Aviation Maintenance Association website states their goal is:

The Professional Aviation Maintenance Association is the premier association for the Aviation Maintenance Technician. PAMA promotes professionalism and recognition for

the Aviation Maintenance Technician. PAMA does this by fostering continuous improvement in aviation safety and community through communication, education, representation, and support.

The motion would allow the Chapter to help students with the cost of attending the PAMA event (which costs about \$110 to attend), by providing a \$50 grant. Attendance allows the students to network and do some job searching, as well. Joe Gauthier suggested we make some inquiries with EAA Headquarters to ensure that there are no conflicts with existing programs. The motion was shelved.

Aaron will investigate purchasing a set of high-visibility vests for Chapter members to wear during Young Eagle events and where members might be helping to marshal aircraft at Fly-ins like Simsbury.

Our presentation for the meeting was provided by Joe Gauthier, who discussed the virtues of Human Factors in aviation. This topic is sometimes called Aeronautical Decision Making, and encompasses a number of areas. Unfortunately, almost none of this is provided to pilots seeking a Private Pilot license currently. Pilot skills are taught, but not methodologies that foster solid decision-making. Joe encouraged everyone to Google the term “aeronautical decision making” where one will find a great deal of information regarding topics such as attitude, Cockpit Resource Management, poor judgment, risk management, and others, including AC 60-22 on the topic.

The meeting was adjourned at 9:25pm.

Respectfully submitted,

Russ Beers

Treasurer’s Report

Checking Account:	\$ 3,095.69
Deposits:	\$ 590.57 B – 17 profit
Total Deposits:	\$ 590.57

Total bills:	\$ 700.00 (\$ 200.00 Banquet deposit, \$ 500.00 PAMA donation)
Balance in Ck	\$ 2,986.26

Plus decals, & etc.

Chapter Scholarship Fund ACCOUNT

Balance:	\$ 730.23
Deposits:	\$ 00.00 - DAR inspection
Bills:	\$ 00.00 –
Balance:	\$ 730.23

Duly reported by Dave Armando, Treasurer

As a reminder dues are renewed in January and are Past due now.

Construction Corner

Torque Wrenches – Some Basics by Ken Benson

The Torque Wrench is one of the few tools in the aircraft mechanic tool box that the FAA recommends maintenance action, in this case annual calibration or calibration if dropped or otherwise mishandled. Most experienced mechanics have a ‘calibrated elbow’ or ‘Armstrong’ torque wrench. You may feel that you also have a calibrated elbow, and perhaps you do, but I recommend a more conventional and repeatable torque wrench.

Why do we torque a nut...notice I said nut, not bolt???? A part is held in place by the stretch of the bolt applying tensile force to the part. The stretch of the bolt can be measured two ways. The most accurate, and used by jet engine makers and some piston engine makers, is to put a dial indicator on the head of the shank of the bolt and measure its extension as the nut is tightened. The more conventional method is to use a torque wrench that measures the rotational force on the nut that is translated into a stretch or tension force on the bolt. For some applications such as oil filters and fuel injection b-nuts, a specific amount or rotation is called out after initial seal contact.

In the absence of specific instructions, always tighten the nut whenever possible. This reduces the rotation of the bolt in the hole and increased wear, as well as reducing frictional drag.

Torque wrenches come in many flavors and sizes. There is the beam type that is cheap but hard to read and best avoided in preference to the settable, click-over wrench that gives a nice audible click or buzz when the set point is reached or the analog dial type. I recommend starting with a 3/8 inch drive in the 10 to 75 foot-pound class, 3% or better accuracy applies to that part of the range that is at least 20% of the scale value. With a Sears 75 foot-pound wrench the 3% accuracy starts at 15 foot-pounds. You can't use these wrenches accurately at the low end of their range.

I've had the following torque wrenches for a number of years and had good luck with them:

- Craftsman – Digital, 3/8 inch drive, 12 to 100 ft-lbs
- S.K. - Clicker, 3/8 inch drive, 0 to 250 in-lbs
- CDI – Clicker, 1/4 inch drive, 0 to 50 in-lbs
- S.K – Clicker (long arm) 3/8 inch drive – 12 to 100 ft-lbs

I recommend staying away from the ‘made in China’ variety, a.k.a. Harbor Freight, Ocean State, etc. They tend to lose their calibration and are not very durable. Craftsman has a good reputation and readily available. Snap-On and Matco make excellent tools. The trouble with the ‘truck stores’ is finding the truck when you need them...but then

again there is always the Internet. The aircraft tool specialists like Cleveland Tool and Avery have both new and used tools, but can be expensive.

Whatever torque wrench you buy, be sure to get a storage case for it. Nothing will ruin a quality tool quicker than rattling around unprotected in the bottom of the tool box. You should use a torque wrench on securing any structural part like landing gear, wing attachments or control surfaces; any engine basic engine part; propellers; brakes; and the list can go on. Your installation or maintenance manuals will have the items that are critical to torque for installation. Use this information for both part durability and flight safety.

If your manuals do not give you torque information or in the absence of specific torque values AC 43.13-1B (available on the FAA web site) provides guidance for dry cadmium plated bolts.

Having oil or anti-seize on a bolt can cause torque errors of up to 100%. Spark plugs are assumed to be coated with anti-seize compound when typically torque to 30 ft-lbs.

There are a number of adapters made for torque wrenches, including crow's feet, spanner wrenches, specialty tools (big \$\$\$) and homemade tools. These helpers all change the arm of the torque wrench with the effective torque and the indicated torque being different. The chart below from AC43.13-1B shows how to calculate the indicated torque from the know length of the helper tool.

TABLE 7-1. Recommended torque values (inch-pounds).

CAUTION THE FOLLOWING TORQUE VALUES ARE DERIVED FROM OIL FREE CADMIUM PLATED THREADS.				
TORQUE LIMITS RECOMMENDED FOR INSTALLATION (BOLTS LOADED PRIMARILY IN SHEAR)			MAXIMUM ALLOWABLE TIGHTENING TORQUE LIMITS	
Thread Size	Tension type nuts MS20365 and AN310 (40,000 psi in bolts)	Shear type nuts MS20364 and AN320 (24,000 psi in bolts)	Nuts MS20365 and AN310 (90,000 psi in bolts)	Nuts MS20364 and AN320 (54,000 psi in bolts)
FINE THREAD SERIES				
8-36	12-15	7-9	20	12
10-32	20-25	12-15	40	25
1/4-28	50-70	30-40	100	60
5/16-24	100-140	60-85	225	140
3/8-24	160-190	95-110	390	240
7/16-20	450-500	270-300	840	500
1/2-20	480-690	290-410	1100	660
9/16-18	800-1000	480-600	1600	960
5/8-18	1100-1300	600-780	2400	1400
3/4-16	2300-2500	1300-1500	5000	3000
7/8-14	2500-3000	1500-1800	7000	4200
1-14	3700-5500	2200-3300*	10,000	6000
1-1/8-12	5000-7000	3000-4200*	15,000	9000
1-1/4-12	9000-11,000	5400-6600*	25,000	15,000
COARSE THREAD SERIES				
8-32	12-15	7-9	20	12
10-24	20-25	12-15	35	21
1/4-20	40-50	25-30	75	45
5/16-18	80-90	48-55	160	100
3/8-16	160-185	95-100	275	170
7/16-14	235-255	140-155	475	280
1/2-13	400-480	240-290	880	520
9/16-12	500-700	300-420	1100	650
5/8-11	700-900	420-540	1500	900
3/4-10	1150-1600	700-950	2500	1500
7/8-9	2200-3000	1300-1800	4600	2700
The above torque values may be used for all cadmium-plated steel nuts of the fine or coarse thread series which have approximately equal number of threads and equal face bearing areas. * Estimated corresponding values.				

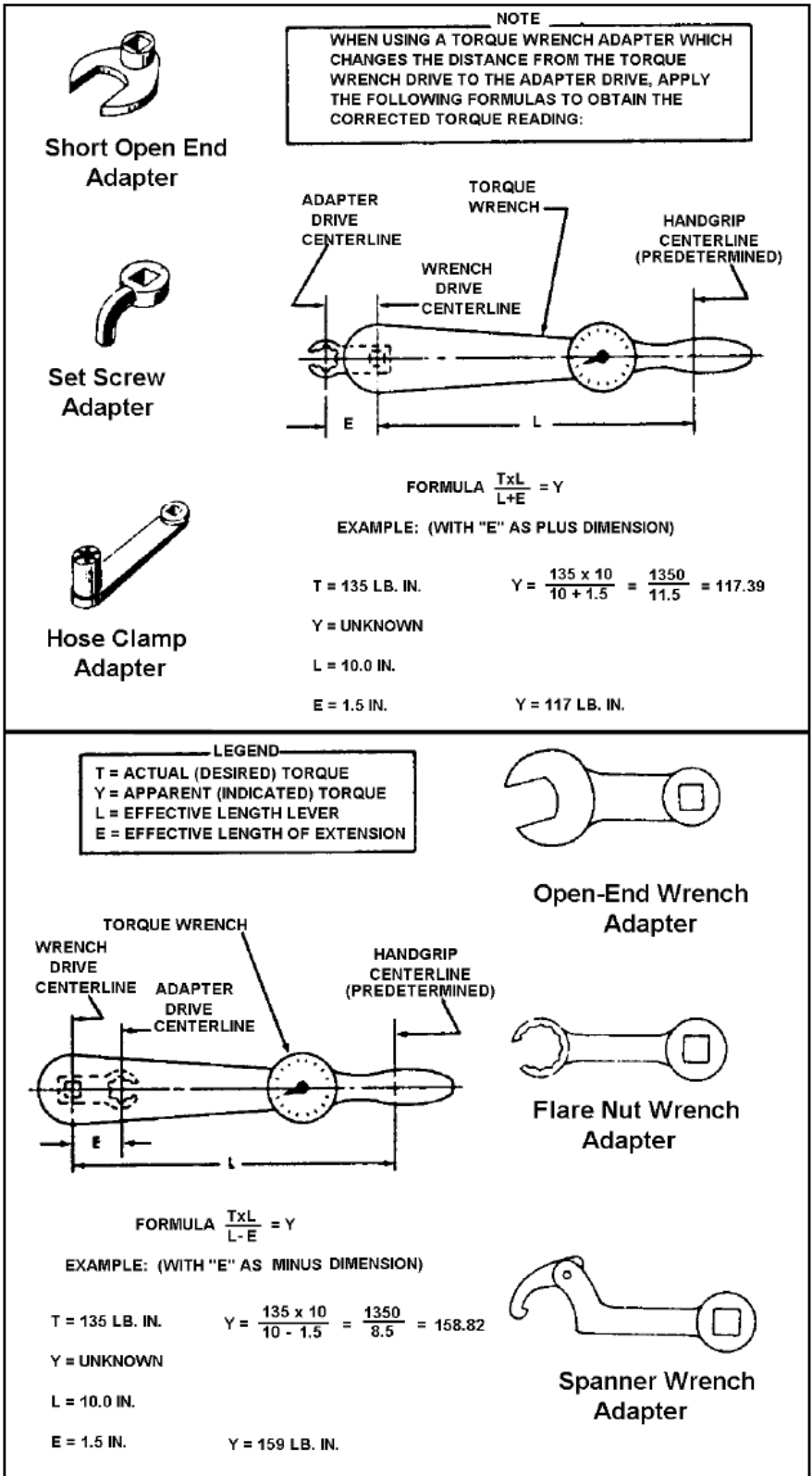


FIGURE 7-2. Torque wrench with various adapters.

Make sure the surface you torque to is free of paint, oil and debris. All of these contaminants will affect the torque being applied to the part. Also take into account the thread condition when applying torque. A boogered up thread can affect the applied torque. Self locking nuts (nylon insert, or certain hi-temp nuts) have their own drag that can be measured with your torque wrench and added to the applied torque.

I have been told that an accredited service company for torque wrench calibration can be reached at www.wecalibrate.com located in Hudson NH (603) 882-7464. Haven't used them. Let me know if you do. I'm getting close to a thousand words so I'll stop here. The torque wrench is a great tool. AC43.13-1B will give you a lot of good info...and there is always the web to satisfy your thirst for knowledge.

'Why is it after your hands become coated with grease, your nose begins to itch or you have to pee.'

Happy building!!!...,

Ken Benson...

Upcoming Events

Chapter 166 Annual Meeting / Dinner – November 19, 2010

Time: 6:00 pm - 6:45 cocktails, Dinner & guest speaker till 9:00 pm.

Where: US Chowder Pot IV, Hartford.

Dinner selections for your enjoyment after the hot appetizers will be;

- 1). Succulent **Prime Rib of Beef** (\$ 36.00)
- 2). Fresh off the truck! **Salmon with honey mustard glaze**...Oooh! So fresh they even talk back. (\$33.00)
- 3). Not just your average yard bird, and just back from their winged tour of the poultry farms, wait for it..... **Chicken Supreme!!!** (\$33.00)

But that's not all; you get the "Big Salad", free coffee, Tea, soft drinks, with our signature Blue Napkins. And if you act right now we'll even include Desert!!!

So send your check with selections to:

Dave Armando

1765 New London Tpke.

Glastonbury, CT 06033

RSVP to pay at the door: RigUSA@cox.net

(The claims made here have not been verified, winners are responsible for all prize taxes, can not be combine with other events or offers, not for sale in WA, ND, CA or VT. .05 deposit.)

Southern New England EAA Chapter Event Planning Worksheet

Date or Dates	Rain Date	Organization	Event
10/24/2010		EAA Chapter 166	Monthly meeting (CTC)
11/19/2010		EAA Chapter 166	Annual Meeting / Dinner (USS Chowder Pot Restaurant)

In addition to this event, EAA National has a searchable calendar with more events that you can access here: <http://www.eaa.org/calendar/>

EAA Calendar Events listed within 100 miles of KHFD

http://www.eaa.org/calendar/eventlist.aspx?SearchState=&SearchCountry=&Zip_Code=06106&Miles=100&MilesType=M&AirportID=HFD&EventType=&EventTitle=&StartDate=&EndDate=

Call for Construction Corner Authors

We are still in need of volunteers to pick up the slack for the available months (see below). If you would like to share some insights, tips or cautions please send me the month and topic of your choice and send me an email reserving the slot. . C'mon guys, someone has to have some tips or tricks to share with the chapter. Thanks in advance

Jack

Month	Author	Topic
January		
February	Fred Stucklen	Sealing the canopy on an RV tip-up
March	Russ Beers	Mattituck Engine Build Seminar
April	Joe Gauthier	Equipment Installation Problems
May		
June	Barry Stoner	Radio Installations
July		No volunteer
August		
September		
October	Ken Benson	Torque Wrenches
November	Greg Prentiss	Tbd
December		

Interesting & Helpful Links

New information for pilots regarding taxi instructions and read-backs at towered airports
<http://www.faa.gov/documentLibrary/media/Notice/N7110.528.pdf>

Security Notams and TFRs locator
<http://www.aopa.org/whatsnew/notams.html>

Google Earth 3D TFR locator
<http://airspace.nifc.gov/mapping/nifc/index.cfm?isNIFC=True>

How to Overlay Sectional Aeronautical Charts in Google Earth
<http://www.wikihow.com/Overlay-Sectional-Aeronautical-Charts-in-Google-Earth>

Digital - Airport/Facility Directory (d-A/FD)
http://www.naco.faa.gov/index.asp?xml=naco/online/d_afd

Connecticut AME Listings
<http://flightphysical.com/search/search6two.cgi?State=CONNECTICUT&Areacode=&Zip=&Lastname=>

ForeFlight Mobile HD for iPad
(Weather, flight planning, AOPA directory, along with all the other apps, Internet, email, etc)
<http://www.foreflight.com/ipad>

iFly 700 GPS
<http://www.ifly.adventurepilot.com/>

SkyChartsPro (for iPad)
(Virtual stitching-together of all Sectionals, IFR Low, TAC and FLY charts plus A/FDs, SIDs, STARs, and Approach Plates)
www.skycharts.net

Highway in the Sky - Debut of New GE Flight Path Marks New Era in U.S. Airspace Modernization at Bradley (KBDL)
<http://www.naverus.com/Company/News/2536.htm>

Spidertracks Aviator
(Aircraft Location System That Survives Every Crash — So You Can, Too)
<http://spidertracks.com/Home.mvc>

Aircraft Piston Engine Cooling Systems by Peter Law:
<http://www.enginehistory.org/Convention/2005/Presentations/LawPete/Cooling.pdf>

Tools on-the-cheap Soda Blaster for Carb Cleaning & Rebuilding
http://www.aircooledtech.com/tools-on-the-cheap/soda_blaster/

Cooling Aircraft Engines:
<http://www.experimentalaircraft.info/homebuilt-aircraft/aircraft-engines-cooling.php#>

Chapter 27 Newsletter
<http://www.eaa27.org/newsletter/oct-2009.pdf>

Chapter 1310 Newsletters

<http://www.eaa1310.org/newsletters.htm>

Very cool sheet metal techniques

<http://www.youtube.com/watch?v=CwvBqRRvu00>

<http://www.lazzemetalshaping.com/>

To Join EAA Chapter 166

We welcome new members. Our membership application is on www.EAA166.org in the **Chapter Library** section.

NOTE 1: Chapter dues are \$16 and run for a calendar year (Jan-Dec) unless one signs up Oct thru Dec, in which case his or her dues are good for that period and carry thru the following year.

NOTE 2: If you are not already a member of EAA, our parent organization, it's easy to become one by calling (1-800-5646-322). Be sure to tell them you're joining EAA (national) as a prerequisite for membership in Chapter 166.

Be sure to send our newsletter editor, Jack Hilditch, wmjack@t3cs.net an email to be put on the e-mailing list ASAP while your membership application is in the snail-mail to our Treasurer! To join EAA (national) click <http://www.eaa.org/memberbenefits.html> or call: 1-800-JOIN-EAA.

2010 EAA CHAPTER 166 MEMBERSHIP FORM

Please fill in the following information and mail with your dues to:

EAA Chapter 166, c/o Dave Armando

1765 New London Turnpike

Glastonbury, CT 06033

(Dues are \$16.00 per year, due in January, make checks payable to: EAA Chapter 166)

Name: _____

Wife or Significant Other Name: _____

Home Phone: _____ Mobile Phone: _____

Street: _____

City _____ State _____

Zip _____

Email address: _____

EAA Membership No: _____ Expiration date: _____

Pilot rating(s) held:_____

A & P ratings held:_____

Do you own an aircraft?:_____ Make & Model:_____

Registration No:_____

Are you building an aircraft?:_ _____ Make & Model:_____

% completed?_____

Are you restoring an aircraft?:_ _____ Make & Model:_____

% completed?_____