

EAA 252 OSHKOSH Steve Wittman Chapter

Issue
May 2010
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Oshkosh – Sport Aviation Capitol of the World Oshkosh – Sport Aviation Capitol of the World Oshkosh – Sport Aviation Capitol of the World Oshkosh – Sport Aviation Capitol of the World

Next Chapter 252 Meeting

May 15th

Starting at 10:30 AM

(Wear Your Chapter
Name Badge)

EAA Weeks Hangar

20th Street, Oshkosh
Wittman Regional
Airport
(West side)

**Pilots – bring your
airplanes, bring a
friend!**

**Food contributions will
be greatly appreciated!**



Chapter May Meeting & International Learn to Fly Day, May 15th, 2010

Our May meeting will also help promote INTERNATIONAL LEARN TO FLY DAY (www.learntoflyday.org). The chapter is holding a cookout out at the EAA Weeks hangar on 20th Avenue in Oshkosh. We will be having brats with all the "trimings", but would appreciate it if chapter members could bring along whatever kind of side dish or desert they would like to pass around. This is being handled something along the lines of the annual corn roast at Muncil's. If you have a favorite dish that you like to make, please bring it along. Thank you. If you have any questions, you can contact Doug Milius, at 920-205-3349 or (drmilius@sbcglobal.net), or Janet Davidson at (gbvfx@hotmail.com).

Interested Chapter pilots and their planes should meet at the EAA's Weeks Hangar at 10:30 AM. There they will be available to give Chapter members and their friends' information about how to obtain their pilot licenses and the process and costs of owning an airplane (or as Janet would say, "an aeroplane").

EAA Staff member John Hopkins and his group of volunteers will be available to show Chapter members and guests the various EAA projects they are working on. Festivities should wrap up by 2:00 PM. This is a great opportunity for our Chapter to help promote aviation to our non-flying Chapter members and their aviation-interested friends. If you are able to attend with or without a plane, be sure to bring along a friend that is interested in aviation. We hope to see you there!

Get Ready For Aeromart 2010!

By Janet Davidson

This past week we've had rain, tornados, sun, wild winds, and now they are forecasting snow, bleurgh - it must be spring in Wisconsin! That means its time to emerge from hibernation and start moving along with Aeromart plans. Jim Kress and Warren Baier have done a fine job with taking what was learned from Chapter 252's first endeavor at running Aeromart last year and building on that success. Jim is still "da' man" in charge, and Warren will be assisting him with this during the week of AirVenture.

A big change for this year is a "Chef". I'm sure many of you will be pleased to learn that we did listen to volunteer input and comments from last year, and one of our chapter members, Al Follendorf has very kindly agreed to take on the role of "caterer-to-the-volunteer-troops". He is planning a exceptional menu of Wisconsin's finest gourmet brats and other well known delicacies, without which a Wisconsin summer just wouldn't be the same.

We will also have Volunteer Coordinators in the shape of Wayne Daniels & Doug Milius. Between those two coordinating, and myself addressing the communications via email, we hope to keep our volunteer team happy and involved - without you, Aeromart just wouldn't happen! The main email address is oshkoshaeromart@gmail.com. I will be monitoring that email address and will distribute the emails as necessary. For example, if you need to email Wayne, then please put "FAO Wayne Daniels" (or whatever you want to call him) in the subject title of the message.

Chapter member and web-guru, Mike Goetzman has very kindly agreed to take maintenance of the Aeromart website, and has done a great job of updating everything - <http://aeromart.webs.com/>. You can also find the email address on the website.

Another change we have is to offer "free"

Continued on Page 2

For Membership in Chapter 252

Send \$20.00 to:
Janet Davidson
3218 Bellfield Rd
Oshkosh, WI 54904

2010 Chapter Calendar and Wittman Airport Events

May 15th

Chapter meeting & cookout & "Learn To Fly Day" at the EAA Weeks maintenance hangar on 20th st., Osh.

June 17th

Chapter meeting & cookout at Pioneer Airport Wittman Hangar.

July 26th – August 1

Aeromart at Airventure 2010

August 25th

Chapter meeting & post Aeromart cookout at the Weeks Hangar

September 9th

Chapter meeting & Corn roast at Munsil Williams farm

October 9th

Chapter meeting & Chili bust cookout at Wayne Daniels hangar

November 11th

Chapter meeting at Sonex

December 9th

Chapter meeting & tour of the Founders Wing, EAA Museum

January 20th

Chapter meeting, with discussion on aviation fuels, at Wittman Airport Terminal

For Wisconsin aviation events check out the calendars at:

<http://www.eaa.org/calendar/>

and

<http://www.dot.wisconsin.gov/travel/air/fly-ins.htm>



Chapter Name Tags

For those chapter members who do not yet have their nametags, or who never received them, please contact Janet Davidson at gbvfx@hotmail.com or 920 203 0046 by May 17th. They take about 2 or 3 weeks from when the order is put in, so, hopefully, should be available by the June chapter meeting.

Aeromart, continued from page 1

donuts & coffee to those waiting in line on Tuesday morning. I put free in inverted commas as we will have a donation box/tin/bucket to help pay for that. We will also have "free" lemonade and cookies available to the public all week somewhere within the tent, again with a donation container. We hope to make Aeromart somewhere people come to buy, sell, chat and make more friends, and hope that this will help with both that goal. We are working on seating for the folks waiting in line as we realize they start pretty early in the morning. The donut option may also be running on Sunday morning for folks waiting to sign in their items - that will depend on how far we can stretch our resources.

We will have a roster for folks to sign up. Shifts are 8.30am to 1.30pm or 12.30pm to 5.30pm. Please indicate what days and times you would be able to volunteer. The overlap is to allow time for handover briefings if necessary, and for sampling Al's lunch. If you have anyone who you think would like to become involved, please forward this email to them - we are always looking for more volunteers.

We really appreciate all the work and support you were able to give last year, and hope that you will be interested in signing up again this year.

Need Your Airplane Cleaned?

Chapter Secretary Janet Davidson reports that Fox Valley Tech flight training student Andy Hopkins has been doing aircraft cleaning as a part time job. He has been cleaning "aeroplanes" for her since last summer and she recommends him as reliable, conscientious, and hard working.

His experience has ranged from Janet's clip-wing Cub to the corporate Citation she flies. Janet says, "I pay him \$10 an hour, and feel he is easily worth that amount. Andy's father is John Hopkins, head of aircraft maintenance for EAA, meaning Andy has grown up learning how to move carefully around planes. So if you want to justify paying someone to clean your aeroplane's dirty bits you don't feel like doing, think of it as helping a future pilot work towards his goal!" Andy's cell phone number is 920/203-9108.

Journey, continued from page 3

(from behind the prop to the back of the engine) is fiberglass. The fuselage is fabric covered tubing, aluminum vertical stabilizer and fabric covered rudder. The wing and horizontal tail feathers are off my Ka-7 glider. If you decide to do a project that utilizes parts from another airplane be sure you get the FAA checklist to confirm that you meet the 51% rule. A couple of weeks ago I was ready to learn how to rib stitch so I arranged to get together with our local expert and Spirit Of Elo award winner, George Rotter. We did this on a Saturday morning at Munsil's. Put on the tape, punch the holes, start with a square knot with half hitch on both sides then push the knot thru the hole and push the needle down and up thru the next hole etc, etc. If you had been there you could have learned too.

After I finished one rib, Dennis Moehn took his turn and I had a cup of coffee. It was here that I was reminded of Tom Sawyer getting his fence painted. I figured that if we could ask Mark Twain (Sam Clemens) about this project question he would likely ask What's The Journey? In many ways your project does become somewhat of a journey.

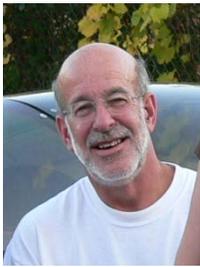
Scott? Oh he's building a Sonex, but he's my kind of guy. I talked with his uncle Tim a while back and they're planning to do another Husky Chaser.

Take Advantage of Chapter and Local Resources When Developing Your Project

For amateur-built - the FAA will not inspect your aircraft during construction of the aircraft - only after it is finished, and you have applied for your airworthiness certificate and registered the aircraft (working with the local amateur-built DAR has it's advantages). During construction invite your local A&P Mechanics or EAA Technical Counselors over to see the project. They'll be glad to help and they'll enjoy seeing your project! EAA Tech Counselors in Chapter 252 are: Lyle Forsgren, Randy Novak, Joe Norris, & George Rotter.

If it's a certified aircraft, basically don't do anything until you've discussed the project with an A&P Mechanic who will supervise you during the project. It could save you time and money in the long run.

President's Message



By Wayne Daniels

A huge thanks goes out to everyone that helped make our Wittman Birthday celebration/pancake breakfast a big success. The volunteer turnout was one of the best ever and this made everyone's job that much easier...and a lot more fun! We served over 215 meals with the assistance of 25 volunteers and an appearance from Miss Oshkosh - Shana Pawlowicz! Included in the over 25 aircraft that arrived were three "Wittman Tail-Wind" aircraft including Jim Clement, a noted Tail-Wind enthusiast from the Baraboo area. Unfortunately the winds that day precluded any Young Eagle flights.

Aviation author Jim Cunningham flew to Oshkosh from Bloomington IL to captivate the audience with a few stories about "Witt". Jim is writing a book on the legendary air racer though it is temporarily on hold awaiting some archives. In the mean time Jim has started a new biography on Bill Brennand who worked alongside Steve Wittman for many years and became an award winning racer in his own rite. I am sure that when the books are published they will generate a big interest, especially in the Oshkosh area! Also introduced at the breakfast was the first installment of our Wittman exhibit in what was formerly the baggage claim area. This will be a growing exhibit and we owe a big "thanks" to Cindy Boelk and Jim Casper for the landing gear of this project. Stop and see it sometime and if you have anything to contribute or suggestions please contact either Cindy or Jim!

The Chapter 252 meeting May meeting will be on Saturday May 15 in conjunction with International Learn to Fly day. This first ever event is a relative of the Young Eagle's effort, but is aimed at introducing anyone to the fantasy of flight. The chapter is planning a cook-out and intro flights at the Kermit Weeks hangar. If you can't be there, at least introduce a friend or neighbor to aviation with a flight, or just a "bull session" about aviation. Hopefully we can help grow our passion, and get aviation's numbers back to where they

What's The Journey?

By Lyle Forsgren, EAA technical counselor

When I accepted the challenge of writing this article I was faced with many of the same problems and decisions that many of us have faced when deciding what kind of project we should build or do. So I decided that that would be the subject of the article.

For many people, the selection of a project is primarily done by emotion or by being inspired while attending AirVenture. Maybe that's why we see so many unfinished projects for sale, or maybe the project was too much for that person. But there are a lot of factors that should or could be involved in the decision, such as personal skills, workspace, tools, help available, and as always, cost. Funny how often it's about money. If you were to ask Owen Russell, he would probably ask what's the mission. If the answer is to get something to fly, he would say something like if you want an airplane, go buy an airplane, but if you want to do an airplane then you have a project. Our friend Scott, married, 4 kids, putting wife thru school, they all want to fly, he's looking for a low cost Cherokee 6 homebuilt. Yeah, sure.

How about rebuild projects - either restorations (primarily antiques), or rebuilding a salvage. These are both viable options but before you get too far make sure you have good A&P or IA available to keep you legal.

I find that often it's the size of the project that is overlooked. Not the size of the airplane but the amount of time that is

were several years ago. Please see any of the chapter officers if you would like to help out. It would be nice to get a count of those interested in participating as well.

AirVenture and Aeromart will be here very soon and we want to make it even better than last year. This will require contributions from as many members as possible. If everyone could participate in at least one five-hour shift it would surely be a successful event. Please contact Jim Kress to volunteer some of your time for working the tent or Al Follendorf to assist in the "feeding" of all our great volunteers. THANKS!

2010 Chapter 252 renewals should have already been made. If you haven't renewed, please see Janet Davidson! We have a busy year ahead, and the more of us involved will ensure another successful chapter year.

required. We have a club member who is starting a P51 project. So far he's collecting parts and he recognizes that it will be a while. When I got ready to do my first airplane project there were not as many options as we have today. It was find a set of plans or design your own. Kits were just getting started. Now there are so many kits and quick build kits available that the time element has really been cut down. However, there's that money thing again.



But I have a different take on the subject. Our "fore members" spent a lot of time and effort to get the EAA and homebuilt, nay experimental amateur built, program authorized and approved by the FAA and one of the key words is educational! So my question is, WHAT DO YOU WANT TO LEARN? In the early '80s I was thinking about a two place something such as the Mustang II when I decided to learn about working with sheet metal by building the LF-1, an original design yes, but not much of a design challenge with all the things available to plagiarize. Our friend Dave Coan wants to build something but he has all of the excuses that we hear and has spent time working on various sheet metal projects, form blocks etc as well as helping others on their projects. He willingly helped me rivet my fuel tank together in spite of the Pro-seal that gets into everything.

My current project is a motor glider or powered sailplane that was inspired by the Geo Metro engine that Raven Redrives uses in their conversion package. Being an engine guy, I had to have a metro engine to play with and that's what powers my motor glider. Wanting to add some experiences to my list, it is not all sheet metal; the cowling

Continued on page 2.

Non-Ferrous Aircraft Materials - Aluminum Alloys, Types and Uses

The term “non-ferrous” refers to all metals that have elements other than iron as their base or principal constituent. This group includes metals such as aluminum, titanium, copper, and magnesium, as well as such alloyed metals as Monel and babbitt. For this article, we’ll focus on aluminum.

Aluminum has been accepted as an ideal material for aircraft use. When alloyed properly it can develop a high strength to weight ratio, and is fairly easy to fabricate. In structures it can have some problems with fatigue life, and so engineers take that into consideration and design accordingly, and maintenance personnel are constantly looking for problems during inspections.

Commercially pure aluminum only has a tensile strength of about 13,000 psi, but by cold working, or alloying with other metals and heat-treating, the tensile strength may achieve 65,000 psi – within the range of structural steel. Alloys in which the principal alloying ingredients are manganese, chromium, or magnesium and silicon show little attack in corrosive environments (coastal areas or industrial areas). Corrosion can be a problem with the copper bearing aluminum alloys, such as 2024, requiring proper treatment and maintenance practices.

A large variety of alloys are available, some specifically for use in castings, and some intended for use in extrusions such as bar, angle, and sheet stock – which are referred to as wrought alloys. Wrought aluminum alloys are divided into to general classes: non heat-treatable and heat-treatable.

Non heat-treatable alloys are those in which the mechanical properties (tensile strength, ductility, etc.) are determined by the amount of cold work introduced (by the mill) after the final annealing operation. These mechanical properties are destroyed by any subsequent heating and cannot be restored except by additional cold working – which is not always practical.

For heat-treatable alloys, the mechanical properties are obtained by heat treating to a suitable temperature, holding at that temperature long enough to allow the alloying elements to enter into solid solution, and then quenching to hold the elements in solution. The metal is left in a supersaturated, unstable state and is then age hardened either by natural aging at room temperature, or artificial aging at some elevated temperature. Uncontrolled

re-heating can destroy the mechanical properties, however the part can be re-heat treated back to its intended condition.

Today, wrought aluminum alloys are designated by a four-digit index system. If you are referring to older aircraft books you may notice that a different system was originally used for aluminum, with references to terms like 24ST, 17S, etc. The information contained in the older books is still good, just the designations have changed over time. The modern four digit system is a bit complicated, but the first digit can be used to identify the primary alloying element.

1000 series – indicates a 99% or higher aluminum content. These are non heat-treatable alloys; low strength but very easy to work, ductile, resistant to fatigue, and easy to weld. The most common version is 1100. In thicker sheets it is good for fuel and oil tanks as it is resistant to fatigue cracking. They are also good for cold forming into complex shapes – such as fairings, but would tend to dent easily.

2000 series – Copper is the principal alloying element. These are heat-treatable alloys and can achieve good strength. The 2017, 2117, and 2024 alloys are commonly used in aircraft for structural purposes with 2024 being a common sheet stock, and 2117 used as the material for common aircraft rivets. Because they are heat treated – reheating of these alloys above 212 degrees F can impair the original heat treatment. Therefore, reheating above 212F, including the baking of primers or paint, is not regarded as an acceptable practice without subsequent proper re-heat treat (which would burn off your paint anyway). This alloy is more difficult to work, requiring care to avoid cracking, and unless annealed will not stretch form or shrink easily. It is also prone to corrosion and so is commonly used in the “alclad” form, which has a very thin layer of pure aluminum bonded to the outside surfaces of the alloyed material. Sheet stock that is not clad is referred to as “bare” and precautions need to be taken to protect the material with proper conversion and primer coatings.

3000 series – Manganese is the principal alloying element. These are generally non heat-treatable. The most common alloy is 3003, used extensively in general industry and is easy to obtain. It has many of the same nice working characteristics as the 1000 series, but with slightly higher strength. This is a popular

material for forming into complex shapes as once formed; it is more stable at retaining its shape in service. It also welds easily and can be used for fuel and oil tanks, wheel pants, cowlings, etc.

4000 series – Silicon is the principal alloying element, which lowers the melting temperature. Its primary use is in welding and brazing wires and rods.

5000 series – Magnesium is the principal alloying element. This alloy has good welding and working characteristics and is generally the strongest of the non heat-treatable alloys. In aircraft it is often used for fairings and non-structural parts with similar uses as the 1100 and 3003 alloys. It is relatively easy to form, but will generally provide parts with greater stiffness and durability.

6000 series – Silicon and Magnesium are used to form magnesium silicide, which makes these alloys heat-treatable. It is of medium strength, has good working qualities, and has good corrosion resistance. The most popular alloy of this series is 6061 and makes a suitable structure when used in slightly thicker sections than 2024. This alloy has become popular within the homebuilt aircraft community, starting in the 70’s with Chris Heintz’s Zenith designs, and more recently with John Monnet’s Sonex designs.

7000 series – Zinc is the primary alloying element, but some versions add magnesium creating a very high strength heat-treatable material. Not so easy to get, typically difficult to work with. Sometimes strategically used in areas requiring high strength.

So, in the end – 1100, 3003, and 5052 are good materials for non-structural parts, each has its slight advantage over the other depending on the application (I recall building an Acrosport fuel tank out of a fairly thick sheet of 1100 - because the flop tube constantly beating against the side tended to crack tanks made from 5052 or 3003). If you haven’t tried learning the art of forming a complex shape from aluminum – you should – it can be a rewarding experience.

For your structural pieces 2024T3 and 6061T6 will typically be the material of choice, depending on what is needed to meet the design requirements (follow the plans). Both are good for non-complex cowl sections and panels. 6061T6 seems to have some advantages from the forming and corrosion perspectives, and besides – Sonex has a good stock of 6061T6 on hand!

References – AC43.13-1B, and FAA General Handbook.

2010 Wittman Birthday Fly-In



As all of us who have lived in Wisconsin for a while know, April weather can be unpredictable. For our Birthday fly-in the weather was great – except for the high winds... Despite that, we had a respectable number of aircraft fly-in (about 30 +/-), and a sufficient local turn out. However, Young Eagle flights for the day were cancelled because of the windy conditions.

Chapter members, family members and friends who stepped up to help out were:

General Boss and Officer of the Day - John Eagan
 Airport facilities- Peter Moll
 Administrative help (getting in the way) - Wayne Daniels & Randy Novak
 Just in time supply delivery - Janet Davidson
 Egg preparation - John Weber
 Egg cooking - Terry Novak & Al Follendorf
 Food Service - Frank Freidman & Lon Naske
 Cashiers - Rene' Baier & Cindy Boelke
 Pancake & sausage cooking - Mike Butler, Cole Baier, Gary Geisler, Wally Ingraham
 Beverage service - Charlier Becker & Molee Eagan
 Young Eagle coordinator - Eric Von
 Airplane parking - Will Schaick, Steve Owen, Doc Mosher, Mike Goetzman
 Equipment - Jim Casper
 Planning - Doug Milius
 Eating Area - Jim Kress



People who helped on Friday were:

Randy, Terry, John, Molly, Wayne, Charlie, Eric, Peter, Lon, Will, Jim K., Charlie, Mike B. I hope we didn't miss anyone?

Chapter member Dennis Moehn along with Charlie Mader and Mike Youngs manned a display table for the aviation programs at Fox Valley Tech. Dennis is an instructor for the Aviation Maintenance Technician program there, and Charlie one of the Flight School's instructor's.

Steve Gustman & Chris Burke from Next Age News interviewed John Eagan on-site that morning. Next Age News is an Internet based company that provides local video news. Their website is www.nextagenews.com. Check out the local news section of their video archive where you'll find our event (EAA Chapter 252 Breakfast, April 10th). They did a great job covering the event, and John did a great job promoting our Chapter and it's activities! While you're out on their site, check out some of the other Oshkosh area activities that they have covered.



Jim Clement, Gary Volkman, and Bob Danner flew their Wittman Tailwind's over from the Baraboo area. The Tailwind's naturally fast cruise speed, along with the brisk wind resulted in a 210 MPH ground speed. Danner's example was a rare and very well done tri-gear version of the classic design, a modification that he and Jim Clement had developed. One of about 5 examples in existence, Danner reported that the tri-gear made his transition from flying a Cessna 172 to a Tailwind relatively simple.

The Chapter served about 230 people, consuming approximately 486 eggs, 6 gallons of pancake batter, 610 sausages, 9 gals of orange juice, 5 gals of milk, 3 gals of lemonade, 250 cups of coffee.

Miss Oshkosh, Shana Pawlowicz, was present – mingled with the crowd – and showed off her cooking prowess. She donned the required attire and tried her hand at flipping pancakes and cooking eggs - and did a great job. I'm sure the guys on the griddle wouldn't have minded if she had hung around for a while. Wayne also managed to get her into his airplane – not sure how that happened...



With a few final mods the Chapter grill can now really kick out the BTU's, and the pancakes.



641 Bowen St.
 Oshkosh, WI 54901



**Newsletters Are Available
 On-Line at www.eaa252.org**

Items for submission are welcome and must be received by the newsletter editor no later than 3 weeks prior to the monthly meeting date.

About Us

Our chapter is named after famed aircraft designer, airplane racer and Oshkosh resident Steve Wittman.

EAA Chapter 252 offers the opportunity to share the spirit of aviation with a group of local EAA members.

Our members are mostly people who enjoy the company of others who love aircraft, are fascinated by flight, and appreciate the history of aviation in America. They include r/c enthusiasts, pilots, aircraft builders, and aircraft owners.

Join Us!

Regularly meetings are held on the second Thursday of the month at 7:00 PM. Dates are subject to change, call to confirm, visit us at www.eaa252.org. Annual dues are \$20 for all current members of the Experimental Aircraft Association (EAA).

<p>President – Wayne Daniels 3778 Red Oak Ct Oshkosh, WI 54901 (920) 233-0410 wedan444@sbcglobal.net</p>	<p>Secretary/Membership – Janet Davidson 3218 Bellfield Rd Oshkosh, WI 54904 (920) 232-9238 gbvfx@hotmail.com</p>	<p>Young Eagles – Eric Von 983 Cozy Ln Oshkosh, WI 54901 (920) 230-6403 egvon@earthlink.net</p>
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