



Der Flügtag

EAA Chapter 958 New Braunfels, TX
Where every day is a good flying day!

May 2014 Issue

Experimental Aviation



The Success Continues...

EAA Chapter 958



The Leader In Recreational Aviation

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May Chapter Meeting at Redbird Skyport in San Marcos

Chapter 958 will be meeting Saturday 5/17 at 10:00 a.m. in the conference room at Redbird Skyport

**Program: Waterborne Paint Systems
by: Russell Ross**

Prez Sez

Howdy 958

We had a great month in April. I would like to express my thanks and gratitude to all those individuals who came out and gave of their time and energy in support of the young eagles and the AOPA fly-in. The young eagles event was a great success and we made some new contacts with the model aircraft folks out of Canyon Lake. I've heard that they were a hit and I believe we will see them around our events in the future. I understand that their members were impressed with our group as we were with them. May see some of them at our future meetings. The April chapter meeting was great too, also in attendance at this meeting were members of chapter 187 from Austin, Texas. Officers of both chapters had the opportunity to meet, converse, and share ideas. We will be working with chapter 187 on some things as we go forward. Trevor Janz spoke to all in attendance on the renewed efforts of National to support the chapters. There is a renewed sense of back to basic thinking within the EAA headquarters. There are many new programs supported by national which will be rolled out in the coming years. Some of these will certainly surprise many as they have me. Mr. Janz made it clear whether you have a certified aircraft OR experimental, if the aircraft and pilot are properly licensed through FAA for flight, they can partake in the young eagles and eagles program. EAA is in ongoing talks with the FAA to remove the medical for pilots too include aircraft 6000lbs gross and below. EAA is working on a program to offer below market rate loans to individuals seeking to purchase an aircraft or aircraft kit. EAA will be offering their work shop programs on aircraft building at the chapter level. A chapter can have Sport Air work shops at their locale. No more Houston or Dallas just right here in San Marcos, Austin, or San Antonio. EAA will be rolling out a program which will allow chapters to start and operate flying clubs offering aircraft rental and flight training to chapter members. There are more This is just few, It sure has my attention and with our new home it has opened the door to a world of possibilities for our chapter. (cont. next pg.)

(cont. from pg. 1

Along these same lines of thought if you did not attend the AOPA fly-in you would have seen what many of us would enjoy seeing often. There were over 250 aircraft on the ramp in front of Red Bird, EAA's B-17, the CAF flying many of there war birds, forums on everything from learning to fly, usage of avionics, flight planning, on and on. The EAA and AOPA both had tents setup and personnel too introduce and explain there respective organizations. A number of aircraft parts and avionics dealers were showing and offered merchandise for purchase. Even aircraft manufactures and kit aircraft companies were there. To name a few, Aviat Husky, Cubcrafters, Cirrus, and toping it off a gyroplane company I believe vortex. There was a EAA style pancake breakfast served that morning and a BBQ lunch that afternoon. Fly overs later in day as weather cleared by a group of Beech Bonanzas, several of the CAF fighter aircraft and the CAF B-25. One could walk the ramp and see just about any type and model of aircraft. Because of the EAA presence several prospective new members were introduced to the chapter. Simply put, get ready, we are going to have some fun, and a good deal of learning going on this year. I hope to see all at the meeting.

Phil Steele Sr.
Prez

Young Eagles Event Big Success

Mike short coordinated a great Young Eagles event on April 12th. We had 2 planes form the Chapter and one from Mr. Sam Fullman of San Marcos. (Sam is one of the principles of the Flying Vikings, an organization to give a free flight to children with chronic illnesses or disabilities. see flyingvikings.org.) Dick Froebel, Jim Malloch and John Hall of The Canyon Lake Area Modelers brought in some fantastic large scale models for a show and tell as part of the program. Models brought in included a Fokker DR-1, Aeromaster, and Gloster Gladiator. Many thanks to all the folks who contributed their time, talent and aircraft to make this a special event.

Youngsters participating in the program came from the New Braunfels Big Brothers, Big Sisters program. Parents, guardians and mentors had almost as much fun as the kids; snapping photos of the whole thing. One of the mentors commented about one of the young aviators; "I've never seen him smile like that since we've been working with him."



Young Eagles learn about controlling aircraft in flight, through the use of Models



Dick Froebel and Jim Malloch of the Canyon Lake Area Modelers - Many thanks guys



Mentors had almost as much fun as the kids



Buckling up for the ride



Steve kept them smiling



Sam Fullman from the Flying Vikings let one lucky Young Eagle fly from the Left Seat each ride



Our fearless leader Mike kept them flying

Building the New Mooneys By Stan Timmerman

This week I had a chance to attend the Return to Kerrville Reunion Fly-In. I had to get there by driving instead of flying. The trip by car through Hill Country has its own rewards. As an aside, I had time to contemplate my nemesis, the buzzard. While flying I learned that buzzards will make no effort to get out of your way. Experts on the subject insist that the best strategy in a close encounter with them is to try and climb above them, assuming that they will choose to dive; good luck with that. Driving by car offers the same game of chicken. On highway 473 I saw no cars but road kill and buzzards were common. As before, buzzards make no effort to get out of the way. After a while you get nervous when you realize that there are no cars and you are seriously outnumbered by buzzards.

Back to the main article about the fly-in. My wife and I toured the flight line and enjoyed talking to everyone. But, for me the trip was about visiting the Mooney factory. The factory is restarting production after 5 years of being closed. The tour was very interesting.

Some of the unique features of the Mooney airplane were clearly visible at the different stations. The company is proud of their safety features, many of them unique to the Mooney line. One of the most unusual is their 4130 steel structure that protects the pilots

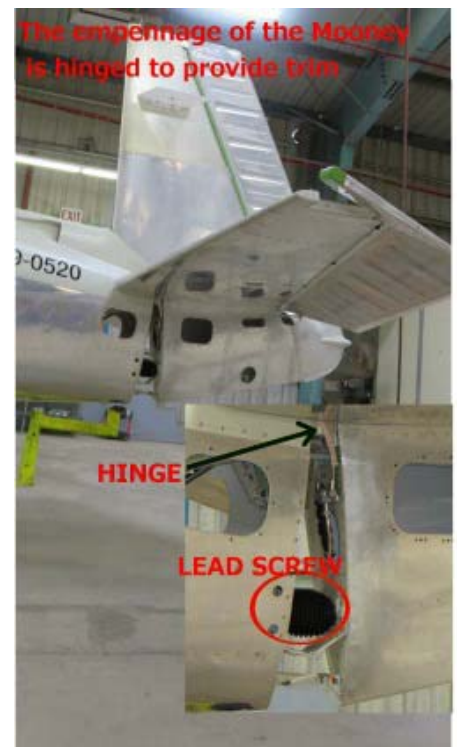


The tour guide pointed out that steel is very different from aluminum. When aluminum starts to bend, the strength of the piece instantly goes to zero. All of the strength in an aluminum structure is in the bends and flanges that provide its initial stiffness. Once that changes it folds like a beer can. Steel retains its strength throughout the entire deformation.

Here is another feature that I have not seen done before. This is Mooneys way of trimming the airplane:



The assembly line has many stations laid out in a long line. At each station, I looked at the tooling and saw similarities to the tooling used by amateur builders. Here is a tool that can be recognized by builders that are using sheet metal.





Tube and rag builders typically use plywood and a plumb bob, but here is how it is done if you make multiple roll cages:

I have read many build logs where the builder laments sagging during the connection of the wing spars and ribs. Here is how to do it - if you have a spare I-BEAM laying around the yard:



Up until this point in the tour I could entertain the delusion of building a Mooney in the garage. But, the tooling just gets bigger and bigger. Here is a jig for the wings that has stations calibrated to 0.003 inches:

Ok, it is clear you cannot build a Mooney in the garage. If you look at the wing construction, you can see that the aluminum is not done length wise. Each section has a different gauge that is appropriate for the wing loading at that point. The picture is from the wrong angle to see the dihedral built into the wing. The taper in the wing is shown in the picture. Although I tried, you cannot see the twist in the wing. The twist lessens the angle of incidence at the wing tip. This is done to enhance the stall characteristics. If you were going to twist the wing, you certainly better have control of the stations in the thousandths of an inch.

The tour convinced me to stay with Hershey Bar wing. The best I can hope to do is straight, and I will consider the lack of a twist and taper to be a good thing.

Personally, I am in the EAA experimental camp. For those of you in the GA camp, I will show some more pictures from the tour that will explain the cost of a Mooney.



The next picture is something they call a hammer. It is used to bend aluminum. The leading edge of the wing sections are formed around dies.

If I am not mistaken they consider the previous hammer to be small. For forming other parts of the airplane they have a big hammer:

I am not sure, but I think those are the dies for the sheet metal wrapped around the underside of the cabin.



Speaking of dies, there does not seem to be an end to the number of dies that are involved. Here are just a few:

I read everything I can find on building airplanes. In my internet travels, I have read of individuals that go so far as to heat treat and anneal the rivets before use. This is way beyond my interests. But, if you make planes for a living - and if you want sheets of aluminum that are annealed to form leading edges - then you have to go to amazing lengths.



I am not sure how they do it today, but not so long ago Mooney had a vat of molten salt. Molten salt solutions have a very definitive melting point, which is needed to control temperature. Mooney would dip aluminum into molten salt baths. From there it would go to a freezer. I do not think they use molten salt baths anymore (please do not call OSHA), but here is where it was done:

My interest is in building an airplane.

For those of you that want speeds of 242 knots @ 25000 MSL with a G1000, this is what you want to see:

This will be Mooney's first airplane out the door via an auction.

<http://www.mooney.com/first-to-fly-auction/>



Footnote: How do you slow down from 242 knots @ 25000 MSL? Answer: speed brakes.

From The Editor

Wow! What a great April for the Chapter. An outstanding Young Eagles program, the AOPA Fly-in and EAA B-17 in San Marcos coupled with the Chapters first meeting at its new location. Note; we were going to try to do a Pancake Breakfast for the May meeting but the short time frame between meetings made it impractical this time around. Please forgive!. We do want to do one either next month or in July though. We'll discuss this at the meeting. We also need to recognise new member Mr. Larry Bowels of Buda who I believe is either building or has built an RV-7. Welcome aboard. Also many thanks to Stan Timmerman who sent in the cool artical about his recent tour of the recently reopened Mooney plant. Keep 'em coming folks. I also want to thank those who responded to my March NL request for info re. a tripacer purchase. I've since included the Cherokee in the search and have a couple candidates I'm looking at right now. Thank you all.

We had an opportunity to talk with Haruku Reese, the president of EAA Chapter 187 at the Fly-in . That chapter is currently meeting in Pflugerville and is working to obtain a chapter hanger in Georgetown. There was mutual agreement that it might be prudent for those 187 members on the South side of Austin to investigate options of Chapter 958 membership. So things are in flux right now. We would like to welcome any new members deciding to make the move to our chapter

Chapter 958 officers have also discussed opening communications with other aviation oriented organizations in the area to see if there are ways we can interface and perhaps develop some joint programs. There are 2 Model aviation groups in the area, a Chapter of the 99's, the CAP and CAF not to mention groups such as the Flying Vikings for starters.

As Phillip mentioned, Trevor Janz EAA Chapter Manager also outlined new programs being evaluated by EAA National. They include affiliations with other organizations, flying club/chapter ownership of aircraft, and broadcast e-mails for chapters to name a few. He clarified the misconception that Young Eagles could only be flown in certified aircraft. They can be taken up in certified OR experimental. He pledged his support of all EAA chapters and is developing a support network for them.

We had a number of members that helped with the Volunteer efforts on the Fly-in weekend. Some as AOPA volunteers and others as EAA volunteers. THANK YOU ALL!

As you can see the chapter officers are busy trying to make EAA Chapter 958 a top notch organization where members can learn something new each meeting and spend a minimal amount of time "discussing" business. To do so, we need everybodys help; little or lots, to keep things rolling. If asked to head up a team, or be a part of the board, please do so.
Have a great day!!

AOPA/EAA-B-17 Fly-In/Chap 958 Meeting



Trevor Janz gets his computer program set for the chapter meeting



AOPA Speakers were entertaining and kept the programs moving

Could this be what Phillip is saving his coins for?
A personal air truck.



Many nifty aircraft lined the ramp for spectators to oogle over

And of course the food was great with pancakes in the morning and Bar-b-que for lunch. All in all a great local aviation event.

