

# CHAPTER 55 EXPERIMENTAL AIRCRAFT ASSOCIATION

FEBRUARY 2013

Meetings are the 2nd Saturday of each Month

EAA Chapter 55 Hangar-Mason Jewett Airport-643 Aviation Drive, PO Box 443, Mason, MI 48854

Pres: Ken Vandenberg 589-5051 Vice Pres: Joe Madziar 676-4341 Treas: Al Spalding 676-3370

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## Climb and Maintain Flight Level 55

With a little luck, this will be our last month of real winter. Of course, it is Michigan and you never know.

I don't have much of anything to report this month.

I am very excited about the Special Recognition Award that Chapter 55 will receive from the Mason Area Chamber of Commerce. Mason is a great town. When we hold our events - EAA Chapter 55 is an ambassador for the EAA, for general aviation, for Mason Jewett Airport and for the Mason community. Wow - put that way, it's kinda scary.

**Board of Directors Meeting  
February 6, 2013, 7:00 pm  
Chapter Membership Meeting  
February 9, 2013  
Breakfast 8-9 Meeting 9:30 am**

We did put together a great deal of pictures from past events, plus chapter members with their planes. I hope to have a presentation of them at the February meeting and I

hope that we will keep adding to the collection. If we don't have a picture of you with your plane (past, present or project), please get one to Vickie electronically or get her a print that she can scan (she will return the original).

This month our program will be presented by Dale Alexander. He has put together a DVD on a flying vacation he and several others took to various airports of New England.

Share the passion and keep your fingers crossed for continually improving weather,

Ken Vandenberg, President

### Breakfast Teams

<u>February</u>	<u>March</u>
Lynn Brown	Ron Broschart
Greg Hover	Becky Broschart
Joe Pirch	Rick Dallas
Tom Schroeder	Ray Fink
Phil Tartalone	Greg Hover
	Greg Shannon
	Carl Zayatz



**January Breakfast Team: John Caron,  
Judy Search and Pat Salow**

**THE EAA MISSION:** To grow participation in aviation, by inspiring people to fly, build, volunteer and outreach to promote aviation.

### EAA Chapter 55, Board of Directors Meeting January 9, 2012

→Attendance: Ken Vandenberg, Joe Madziar, Al Spalding, Jack Voss, Vickie Vandenberg. Jim Spry, Ed Search, Dave James, Steve Houghton, Bill Purosky; Absent: Warren Miller.

→Meeting was called to order at 7:00 pm →Secretary's report dated 12/5/12; Houghton moved, Madziar supported, report approved as written. →Treasurer's report as of 12/31/12; Purosky moved, V. Vandenberg supported, report approved. Additionally, it was pointed out that we have approximately \$1,000 more than last year at this time. →Membership: Vickie reported that we have two, new members, plus a new student member. →Flying activities coordinators: planning new adventures for all of us! →Programs: Vickie reported that she has programs set up through October. →Young Eagle credits; received \$962.89. Noted that this constitutes about 10% of our treasury. →Christmas party 2013; Several options were discussed. V. Vandenberg moved, Houghton supported, and it passed to have Jim Spry explore Trippers. →Newberry Aviation Scholarship recipients will be at our membership meeting Saturday morning. Purosky moved, James supported, and motion passed to accept and fund the scholarships as

recommended by the awards committee. →YE of the Year Stephen Foster was selected and will be at the membership meeting on Saturday morning. →Visitation of control tower at Lansing airport KLAN: Madziar is arranging it so we can visit after our 4/13/13 meeting. →EAA55 Logo Coffee mugs; Madziar has found that there are LOTS of options. He is looking for best ones to recommend for approval. →Purchase of an electric frying pan: V. Vandenberg moved, Houghton supported and motion passed to buy a pan if under \$40. →Door closers for storage and latrine: Madziar will get these. →Whitesides sold plane to Greg Shannon; will move into builders' hangar. →Madziar moved, James supported, and motion passed to purchase 3 rolls of USPS Forever stamps. →V. Vandenberg moved, James supported, and motion passed to extend honorary memberships for 2013 to Kyle Curtis, Ryan Todd, and Zach Eberole. →Voss suggested that as a flying organization, we should have a safety officer. After discussion, Houghton will research this and report next month. →A coordinator for Adult Eagles activity is being sought. →Brats & Movie night on 2 Feb, at 6:00 pm. →Purosok moved, Houghton supported, and motion passed to renew our Chapter with National EAA. →Mason Area Chamber of Commerce (MACC) awards banquet, 13 Feb 2013: Our Chapter is being recognized with a special award. Purosok moved, James supported, and motion passed to have the Chapter subsidize attendees with \$15 per member towards the \$35 cost. →Great Lakes Aviation Conference: Purosok will be one of the featured presenters at this occasion. →IRS tax filing for 2012: Spalding announced that this is completed. →2013 events planning: there will be an organizational meeting, and volunteer positions will start. →Adjourned at 9:10 pm →Respectfully submitted, Jack Voss

### **EAA Chapter 55, General Membership Meeting January 12, 2012**

→Called to order at 09:29 am. →Approximately 35 members plus 14 guests in attendance. →Following the national anthem, a big Thank You to the breakfast team! →Next month's team announced. →Introductions: Young Eagle (YE) of the year: Stephen Foster; Newberry Scholarship recipients: Kyle Curtis - WMU Flight Technology and Ryan Todd - EMU Flight Technology and Zach Ebersole - EMU Aviation Management. →Guests and new members. →Moved, supported, and passed to accept the Secretary's Report dated 12/8/12 as published in our newsletter. →Moved, supported, and passed to accept the treasurer's report as of 31 Dec 2012 →Phil Tartalone reported on 2012 YE numbers; year total is 156 flown, and our overall total is 2,931. Congratulations, YE pilots! →Jim Spry announced that our Christmas party for 2013 will be December 14<sup>th</sup> at Trippers in Frandor (The world's first shopping mall!). We can order ala carte. →On Saturday, 2 Feb 2013, at 6:00 pm we are having a Brats and Movie evening in the hangar. It will be a fund raiser activity. →Door lock code will be changed soon. Members in good standing can obtain the new code by contacting Ken Vandenberg or Al Spalding. →Mason Area Chamber of Commerce (MACC) is recognizing our Chapter with a special award at a dinner on 13 Feb 2013. It will cost members \$20; the Chapter is subsidizing attendees \$15. →Joe Madziar has arranged a tour of the control tower on Lansing Airport KLAN on Saturday 13 Apr 2013 after our membership meeting that morning. →The Great Lakes Aviation Conference will be held at Eastern Michigan University. Dan Schiffer responded to questions about the gate to the AOA. The Mason Jewett Advisory Group will meet with Keith Kaspari,

CRAA, on 16 Jan 2013. →Meeting adjourned at 10:25 am. →Andy Mathews of iFlight Planner presented our program. →Respectfully submitted, Jack Voss.



### **TIDBITS**

**By Vickie Vandenberg**

NEW MEMBERS: Chapter 55 welcomes new member Keith Byrd. We also welcome Zach Ebersole, Ryan Todd and Kyle Curtiss as Honorary Members (our Newberry Aviation Scholarship recipients for this year). And, joining us this year are new Student Members Peter Hensler and Stephen Foster (our Young Eagle of the Year).

ADULT EAGLES COORDINATOR: Margie Clark has agreed to fill this position for our chapter and Dan Schiffer will assist as a pilot.

UPDATE ON THE GATE FROM CRAA: Keith Kaspari, CRAA, advised at the MJAG meeting January 16th, 2013, that the gate to the airport operating area will remain open until an electronic gate opener is operational.

FUEL FARM NEWS: Reminder - Jet A has been eliminated and both pumps are 100LL. Quantity is important in the ordering of fuel for the tanks to get the best price. Therefore, you may occasionally see a "Temporarily Out of Order" or similar sign on one or the other of the tanks. This is so that the fuel stock is used from both tanks.

CHAPTER TOUR OF THE LANSING TOWER: Response at the last meeting was positive so we are going to pursue this for a road trip.

SPECIAL OFFER FOR EAA55: iFlightPlanner is pleased to offer members and friends of the EAA Chapter 55 special pricing on iFlightPlanner Premium Annual and Quarterly memberships for a limited time! Our annual membership is available for \$69.95 (reg. \$89.95) and our 3-month, quarterly membership is \$19.95 (reg. \$24.95). Simply head to <http://www.iFlightPlanner.com/EAA55> to take advantage of these discounts!

### HUMOR:

After 20 years as a pilot, I became an airport manager and soon found the stress getting to me. I needed a release and wanted to buy a motorcycle, but my family thought it was too dangerous. My wife said, "Why don't you start flying again?"

The next day, as I showed a businessman around the airport, he looked longingly at the planes. "I used to take flying lessons, but my wife made me quit, he lamented. "She said it was dangerous."

"Tell her you want to get a motorcycle," I advised. My new-found friend has earned his pilot's license.

Kenneth F. Wiegand; *Readers Digest*, 1992



## YOUNG EAGLES

By Phil Tartalone

No report this month.



Young Eagle of the 2012 Stephen Forster with Ken Vandenbelt and Phil Tartalone

and his beautifully built KIS TR-1 named “Therapy”. It’s about how he worked with the chapter Flight Advisor to prepare for flight-testing his airplane and to build a virtual safety net. It was preparation that paid dividends, because on his third flight, something unexpected happened. George was prepared, and didn’t forget to fly the airplane. Without spoiling the story, many of you will recall the successful forced landing he made on the Trap Shooting Association range just south of the Mason Airport. The article will likely appear in the March issue of Sport Aviation.

Usually, January is a slow month for flight-testing at Airbus. The assembly lines are starting up after the Christmas break, people are returning from vacation, and a lot of meetings are held to prepare for upcoming programs and testing at remote locations. This year has been remarkably different, mainly because of the development of winglets for the A320 family of aircraft. At Airbus, we call them “sharklets”. As many of you are aware, winglets have the potential to save fuel by reducing the induced drag produced at the tip. The overall efficiency is better than what is gained in cruising flight, because the airplane is more efficient in takeoff, climb, descent, and during landings.

Designing the sharklets and integrating them with the wing, both aerodynamically and structurally, is not easy. Aerodynamically, sharklets are small wings turned upward. The airfoil shape must be carefully designed. The leading edge of the main wing has slats for low speed flight, but the sharklets do not. But they still have to be designed with stall characteristics similar to the main wing. In high-speed cruise, where there is very little induced drag, the sharklet has to have a low drag profile. So between high speed and low speed, the fixed shape of the sharklet has to work in both regimes.

Another problem the designer faces is the increase in bending loads on the wing. Some of these loads are measured on the outer wing panel because the sharklet lift force is inward, which tends to bend the wing tip upward. And because the overall lift of the wing is increased, there is an increase in the bending moment at the wing root. We can’t simply bolt on a set of winglets and hope to fly the airplane for 100,000 hours without any structural problems. Additional strength must be built into the wings to carry the increased loads.

The combination of sharklets and increased structural material in the wing adds weight to the airplane. This cancels some of the benefits of the sharklets.

For example, if the sharklets could added with no change in weight, they could lower fuel consumption by let’s say 4% at cruise. But the increase in fuel consumption to



## NOTES FROM CAPE JUBY

By Terry L. Lutz

Chapter 55 Flight Advisor

In 2010, while speaking at AirVenture, I challenged the homebuilders in attendance to follow the lead of the Civil Aircraft Safety Team (CAST) and do the hard work it would take to reduce the rate of accidents involving Experimental Amateur Built (EAB) by 50% in 10 years. Maybe the speech was little ahead of it’s time, but if you have been following the news about the NTSB’s recommendations to the FAA about EAB safety, you’ve realized that unless each one of us gets involved, we could get lots of help of the regulatory kind.

Before attending AirVenture in 2012, I was asked by Paul Poberezny to join Shuttle astronauts Charlie Precourt and Hoot Gibson (both are homebuilders), to present our views on safely flight testing homebuilt aircraft. The two seminars where we spoke were well attended and well supported by EAA. Charlie Precourt is now a Director with EAA, and recently asked me to provide an article for Sport Aviation magazine about safely operating EAB aircraft. We agreed that while a lot of time is spent studying accidents, not enough time is spent studying events that happen where the result is a successful outcome. We should talk about what went right, instead of what went wrong.

In the flight test world, we take airplanes right to the limit. What is harder to see is the safety margin we build in to each test point. The example in the article is something I mentioned at AirVenture last year, and one that is part of the history of EAA Chapter 55. It is the story of George Moore

carry the additional weight could cut those gains in efficiency by 1%. Like many decisions an airplane designer must make, it's a compromise between weight and efficiency.

Because Airbus aircraft have Fly-By-Wire flight control systems, the addition of sharklets will not change handling characteristics. Flight control computers make sure that all the 1's and 0's line up the same way as before. But they can't mask the change in performance characteristics, particularly in the flare. The A320 family with sharklets are marvelous, with a noticeable change in the pilot's ability to "roll it on" every time.

One of the things we do in flight-testing, to determine takeoff distances, is to rotate precisely at  $V_r$  with a fixed stick input. This can generate pitch rates large enough to risk striking the tail on the runway. I recently flew a series of these tests with an A321 (which is a stretched A320) to determine takeoff characteristics. We conducted the tests at the French Flight Test Center at Istres, France (the equivalent of Edwards AFB) because of the long runway and long, flat ground off the end of the runway. In addition to onboard instrumentation, testing was followed by a telemetry station back in Toulouse.

To reduce acceleration, and pitch rates, we reduce the engine thrust. I am going to try and avoid bending your minds a little bit, but here's the explanation. We ask the engines to produce the level of thrust they would produce with a much higher outside temperature. For example if the real temperature were 50F, we could ask the engines to produce the power equivalent to a 100F day. As long as the runway is long enough, this is a common technique used by the airlines to save engine life: lower thrust = lower internal temperatures = less internal wear.

To do these tests, we reduce the engine thrust to the equivalent of an outside temperature of 160F. With everything properly prepared, the remaining element of the test is the human element: the ability of the pilot to precisely apply at 2/3 stick input at the rotation call out and hold it constant through rotation and to a specific pitch attitude. The engineers do a marvelous job of running the numbers to insure we do not strike the tail, as long as the stick input is correct. Then we do the same test after bringing one engine to idle at  $V_1$ .

These tests with One Engine Inoperative (for safety, the engine is at idle) are the most interesting. Because the acceleration rate is low, there is a lot of time between engine failure at  $V_1$  and rotation. If there is a slight wind from the left or right, we fail the engine on the side of the wind, which at liftoff will help keep the airplane close to the centerline of the runway. It is very important to rotate and

precisely hold the target pitch attitude, which will avoid a tail strike and insure that the airplane climbs at  $V_2$ . At precisely 35 feet the gear is retracted and from 35 feet to 400 feet, the second segment climb rate is measured. With very low engine thrust, climb rate is very low. For most of the takeoffs with One Engine Inoperative, the airplane would actually stop climbing during gear retraction, due to the increase in drag.

As you can tell, the safety margins we have are small, but the protective considerations are many, beginning with the choice of the location to do the testing. We continued testing until we reached a tail margin to the runway of 1.3 feet. It was close enough that we decided to stop and analyze the data to see if we could go further, or if we had reached the end point.

Well, that was the stressful part of the test. The fun part was bringing the engines up to full power and flying the visual pattern. Since the French the Mirage and Rafael fighters at Istres, we were able to fly nice, tight patterns to final. And with the sharklets, touchdowns were an absolute delight.

OK, forget the Ground Hog. Winter is going to last another month or two. Your best EAA friends are going to need help just to make it until Spring! So remember to fly as safe as you can, build a good safety margin around you in everything you do, and always remember to lend a hand to your fellow pilots when they really need it.



2012 Newberry - Curtiss - Todd - Ebersole



## FROM THE FLIGHT SURGEON

By Gregory Pinnell, MD

Senior AME/ Senior Flight Surgeon USAFR

Big changes are coming in FAA Aeromedical Certification. The biggest will be a new program called Certificates an AME Can Issue or "CACT". This will involve about 18 different medical diagnosis which previously were special issuance conditions generally requiring yearly documentation to go to the FAA.

Now your AME will ask you for supporting medical documentation for your condition and if you meet the criteria and are otherwise qualified they can issue a normal duration medical certificate. The AME does not even need to forward the medical documentation to the FAA. The specific diagnosis have not been announced but they will likely show up in March 2013. This program will reduce waiting time for medical certification and free up FAA time for more complicated cases. Feel free to call or write if questions. Fly Safe!

## CHAPTER 55 CLASSIFIEDS

### WANTED:

Serviceable ELT, model AK 450, 121.5 megahertz, with accessories. Kyle Bradford 517-663-3083

### FOR SALE:

Chevrolet Corvair 100-HP flight motor conversion; nearly complete, unassembled. Many custom parts; needs carb, oil cooler, intake pipes, exhaust, block halves work etc. \$5,000/negotiable. Greg Harris 517-775-4563 or [gkharris1974@gmail.com](mailto:gkharris1974@gmail.com)

EAA55: Builders Hangar space; Ken 517-589-5051  
Zenith Zodiac XL/650 Corvair motor mount;  
Greg Harris 517-775-4563 or [gkharris1974@gmail.com](mailto:gkharris1974@gmail.com)

DTV analog or digital antenna; \$20.00  
George Moore 517-536-1034

New surplus hardware source; Yesteryear Aviation  
517-676-4416

Hangar lights; 6 bell shaped lights for hangar or pole building;  
110 volt; free to someone who can use them.  
Terry L Lutz; cell +3367-821-5801 or [terry.lutz@attglobal.net](mailto:terry.lutz@attglobal.net)

Contact Warren or Vickie to place your ad here!



## POCKET CALENDAR

Feb 9 = Plymouth Mettetal Chili FlyIn 1100-1500

Apr 9-14 Sun-N-Fun

Jun 8 = YE Rally 1000-1400

Jun 9 = Dawn Patrol 0700-1100

Jun 15 & 16 = Thunder Over Michigan  
featuring USAF Thunderbirds

July 13 = YE Rally 1000-1400

July 29-Aug 4 AirVenture

Aug 10 = YE Rally 1000-1400

Aug 17 = Mason Aviation Day 0730-1430

Dec 14 = Christmas Party; Trippers; 1800

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**DEADLINE FOR SUBMISSIONS** is the last Saturday of the month. The Editor reserves the right to edit all submitted material. Photos, sketches or artwork sent by email must be in JPEG or BMP format. Text must be in a Word format or copyable from the email. Submissions may be sent by regular mail and must be accompanied by prepaid postage if you want them returned. Submissions should be sent to: Warren Miller, Newsletter Editor.

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