

# CHAPTER 55 EXPERIMENTAL AIRCRAFT ASSOCIATION

MAY 2006



Meetings are the 2nd Saturday of each Month

EAA Chapter 55 Hangar - Mason Jewett Field – 649 Aviation Drive, Mason, MI 48854

Pres: Bill Purosky 214-2729 Vice Pres: Tom Botsford 663-1318 Treas: Sharron Hacker 623-6476

Secr: Del Johnson 676-2756 Editor: Warren Miller 393-9385 (all Area Code 517)

## Climb and Maintain Flight Level 55

It is really nice to see the winter weather receding with many more days of good flying weather arriving. The fields are looking green, the flowers blooming and the days are getting longer. It's great to live and fly in an area that has the distinct four seasons.

This month the Chapter has the Teachers' Workshop scheduled for May 20<sup>th</sup> at the Capital City Airport. I want to thank the volunteers who have stepped to the plate to staff our booth. They are Doug Simons, Gilbert McKessy, Ted Lakin, Connie Stewart, Doug Koons, Tom Botsford, Vicki and Ken Vandenberg, and Karen Meirndorf. Ken Vandenberg, Tom Botsford and I will put up the booth on the Friday before the event. In addition, Vicki Vandenberg has acquired some additional handout material from AOPA for the Teachers to use and I have talked AOPA into sending about 250 copies of their new Pilot/Teacher handbook, "Path to Aviation". We will also be pushing the dates for our Young Eagles events in the hopes that some teachers may bring their class to the event. It should be great advertising for the Chapter.

For those of you that haven't heard, we have a new name for the drive that comes into the airport. It is now called Aviation Drive and our street number is 643 Aviation Drive. The Chapter needs a volunteer to install that number on our building in 6-inch size numbers facing the taxiway. They would have to purchase and install them and the Chapter would reimburse the cost of the numbers. Please call or see me at the meeting if you are willing to tackle this job.

As you know, June 10<sup>th</sup> will be our first Young Eagles event of the year. The Chapter is still in need of a Young Eagles Coordinator. We are looking for a member who is not involved with the Board of Directors but would like to take on this position. The Chapter has a good group of people who know how to run the event but needs someone to organize their efforts. We will train you to do the job so no prior experience is needed. This is a very rewarding position with regard to exposing these young people to aviation and the joy of flying.

On the following day, June 11<sup>th</sup>, we will hold our annual Pancake Breakfast Dawn Patrol. Again we are in need of a coordinator for this event. As in the past, I will take the responsibility for the food procurement, license and cooking. Others are ready to do the parking (both cars and planes), set up of the hangar, trash clean up, etc. Vicki Vandenberg has already taken the job of advertising and promotion. Sharron Hacker will be involved in the ticket and money handling part of the event. We really need someone to be a check on the different groups involved to make sure that our efforts are efficient and effective. Again, we have a great staff and we know how to do this event so we will train you to run this one and future Dawn Patrols if you so desire. This is a great way to get involved in our Chapter.

Well by all means, get out there and fly. If you don't have the resources to fly, talk to other members who do and ride along. Just remember to keep the dirty side down.

Bill Purosky, President

<p><b><u>MAY SCHEDULE</u></b> <b>Board of Directors' Meeting</b> Wednesday, May 10, 2006 <b>Chapter 55 Meeting</b> Saturday, May 13, 2006 8 – 9 Breakfast / 9:30 Chapter Meeting</p>
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## BREAKFAST W/CHAPTER 55

<u>May Team</u>	<u>April Team</u>
Robert Beck	
Jim Cushing	
Andy Hartsuff	
Gilbert McKessy	
Raymond Pruet	
Jim Spry	
Chris Myers	
	<b>To be Announced</b>



**April's Cooks: Richard Houghton and Tom Schroeder**

## **EAA Board of Directors Meeting**

### **Board of Directors Meeting – April 5, 2006**

Bill Purosky called the Board Meeting to order at 7:00 pm. Attendees: Bill Purosky, Vickie & Ken Vandenbelt, Dave & Debbie Groh, Jack Toman, Doug Koons, Tom Botsford, Deanna McAlister, Connie Kowalk, Sharon Hacker (by Proxy) and Del Johnson. → The minutes were approved as published in the newsletter with two corrections. “Adjourned” was misspelled and Jim Palmer’s name was corrected in the General Meeting minutes. → There was no Treasurer's report. → Bill Purosky reported that 43 people made the bus trip to the Kalamazoo Air Zoo. → Our new address for our facility is 649 Aviation Drive. A stamp will be acquired with our name, address and website information so that we can stamp EAA pamphlets with the Chapter information → A motion was made and approved to authorize Doug Simon to lease space in the hangar. Doug’s hangar lease started effective April 1st. Current hangar rate is \$70 per month (this was incorrectly reported in last month’s minutes). There was a discussion of the Lease Agreement and it was agreed that the Board would review costs of utilities versus rental fees when Sharon Hacker gets back. → Vickie volunteered to chair the Social Committee. → There was a general discussion about ordering shirts and hats with Chapter 55 and Mason Airport logo information on them for purchase by Chapter members. → Vickie presented the samples of the flyers for Dawn Patrol and Mason Aviation Day events. The cost for children’s breakfast for the Dawn Patrol event was set at \$3. → The combination lock numbers will be changed when we know the status of paid membership. → A Thank You card was signed by all those present to be presented to Dennis Koons for the bookcase and tabletop donations that he made for the Chapter.

## **EAA Chapter 55 Business Meeting**

### **Membership Meeting – April 8, 2006**

The Membership Meeting was called to order at 9:30am. . → The minutes of the February meeting were approved with corrections. → Doug Koons gave the Treasurer’s report as well as the details on the Kalamazoo Air Zoo trip. The expenses for the bus trip totaled \$1,372.50 and generated \$986 in revenue. The Treasurer’s report was

approved. → Victor Schroeder, Tom Schroeder’s Dad, was our personal tour guide for the entire day. → Volunteers were requested for the Teacher’s Workshop and a sign-up sheet was passed around. → Tom Schroeder asked for volunteer pilots to fly Young Eagles at Hillsdale on April 23<sup>rd</sup>. → Requests were also made for a Young Eagle Coordinator and for someone with Graphic Artist talent to help re-design some of our website pages. → There was a request by the membership to look into purchasing a PA System for the meeting room. → Connie reported on Airport activities. The taxiway project has been delayed until June. The grass runway environmental impact statement is being worked on. On Wednesday, June 21<sup>st</sup>, a tour of WACO airplanes will be stopping at Mason. Bill Purosky suggested that the Chapter support the Airport Authority in hosting the WACO group. → The EAA banner that headquarters gave us was presented. → Bill Purosky mentioned that the Chapter is looking into purchasing shirts and hats with the Chapter logo on them. → Following the meeting Tom Schroeder showed a video on cross-country flying.

## **TIDBITS, MAY 2006**

**By Vickie Vandenbelt**

### **CHAPTER 55 LIBRARY:**

The Chapter has received a large donation of books compliments of Janet Smith. The collection is from the library of Harry Smith, a pilot for more than fifty years.

### **HOMEBUILDERS NEEDED:**

Mr. John Jenkins of Verona, WI is seeking information from homebuilders. His full explanation is in the Members Forum on page 76 of the April 2006 edition of *Sport Aviation*. He is writing a book with a strong emphasis on the people and institutions involved in homebuilding rather than the technical aspects. He has set up an easy-to-use interactive website. Your participation would be of assistance to him. All participants will be listed in the book and every EAA chapter that has a least two participants will receive a complimentary copy of the book for its chapter library. Visit the website at [www.aircrafthomebuildersstudy.com](http://www.aircrafthomebuildersstudy.com).

### **POP & WATER:**

Summer is on its way (I hope)!! If you get thirsty when you visit the airport, remember that we keep a supply of pop & water available in the chapter refrigerators and a “Donation Can” in the refrigerator shelf. I am trying to keep it stocked with popular flavors. Let me know if anything is running low or if you have a flavor preference not stocked.

## **Young Eagles**

By \_\_\_\_\_

Again, we just want to mention that this position is needing to be filled. The Chapter has a good group of people who know how to run the event but needs someone to organize their efforts. We will train you to do the job so no prior experience

is needed. This is a very rewarding position with regard to exposing these young people to aviation and the joy of flying.

## Notes from Cape Juby

### By Terry L. Lutz, Chapter 55 Flight Advisor

Translated from Portuguese, the word **Embraer** comes from “Empresa Brasileira de Aeronautica”, or Brazilian Enterprise for Aeronautics. Those of us in the airline industry recognize the word from the airplanes that we have seen for the last two decades at airports around the country. They include the Bandierante, the Brasilia, and today the ERJs: EMB135, EMB145, EMB170, and now the 110 passenger EMB 195, recently introduced to the fleet at Jet Blue.

When Embraer first introduced the jet-powered EMB 135, they were given the unkind nickname of “jungle jets”. Having just returned from Brazil, where I flew both the EMB 170 and the newest airplane, the EMB195, I can say with certainty that the ability to desire and produce world-class fly-by-wire airplanes is alive and well, and it isn’t in the jungle.

My first visit to Brazil and Embraer was in 1981, 25 years ago. At that time, Embraer was a state-funded organization producing aircraft under a licensing agreement with Piper. The airport we visited at Sao Jose Dos Campos (in the state of Sao Paulo), was a joint military-civil use airport. There were some Aermacchi MB326 aircraft there, along with some Brazilian designed and built T-26 aircraft, equivalent at the time to the Beechcraft T-34.

The Brazilians were on the verge of trying something different back in 1980. They were producing Piper Navajos and while doodling on a piece of paper, someone figured out that if you used just the Navajo wing, and built a really cool tandem seat fuselage with a PT-6 turboprop engine, you could make a terrific military training airplane. Because the gross weight was lighter than the Navajo, the wing would support limited aerobatic maneuvers. Thus was born the T-27 Tucano. At the time of my visit, they had two prototypes flying. The man who made the first flights was test pilot Sergio Mauro Costa.

Sergio is also a homebuilder. He built and has flown a Piel Beryl for many years now. The Piel Beryl is a tandem seat version of the Piel Emeraude. They are two seat aircraft, similar in size and horsepower to the RV-8 and RV-7 aircraft that we often see today. The wooden wing design of these airplanes eventually evolved to become the wing of the very well known CAP 10 aerobatic airplane.

The Brazilians were also working on the EMB120 Brasilia, which at the time was still in the design phase. I remember very well that the machine shop facilities in 1980 were much like they were here in the 1950s: rather dark, with dirty windows above, and lots of shavings on the well-oiled wooden block floor. I also recall that the wiring harness for the Brasilia was taking shape on a long plywood table, using 6 penny nails for pegs as wire guides.

My next visit was in 2000. Embraer had been split off from the government of Brazil, and was now operating as a stand-alone company. The EMB135 and 145 were in full production, and

Embraer was getting ready to launch its first fly-by-wire airplane, the EMB170. I was asked to travel to Brazil and fly the engineering development simulator. It was just a chair with a control yoke and some simple instruments, but it gave me enough insight to comment on the handling characteristics, some of which were incorporated into the final design. The real eye-opener (no pun intended here), was the virtual reality facility, where engineers were visualizing the placement of wires and ducts within the airplane, and making decisions on maintenance access. It was a far cry from laying out a wiring harness on plywood with nails as wire guides.

In 2003, I returned and had the opportunity to fly the EMB170. It is a very well designed airplane, with excellent handling qualities, and some display technology that is unique to Embraer. There were two things about that visit, however, that would launch Embraer into world-class manufacturing: construction of an 8-bay assembly hall, where completed components were mated together (in lieu of an assembly line), and the flight test runway at Gavion Pexoto.

About 40 minutes flying time on a heading of 020 degrees from Sao Jose Dos Campos is a 5000m (that’s 15,000’!) runway that is used for flight-testing. Embraer purchased several hundred acres of land in an orange plantation, and they have both the runway and the airspace all to themselves. This eliminates the need to travel to other countries where there are long runways for performance testing, and large pieces of airspace with instrumented ground stations nearby for telemetry.

On my visit last week, I found even more changes. The facility at Sao Jose Dos Campos is now focused primarily on commercial manufacturing. Military manufacturing, and civil aircraft manufacturing are now at separate facilities. The test capability at Gavion Pexoto is expanding, and a Japanese company is now assembling wings there.

The purpose of my visit was to explore the steep approach capability of the EMB170. I had been in Toulouse, France for a similar evaluation of the A318 in March. There is competition between the two companies to develop the capability to fly approaches at 5.5 degrees glide slope. This is compared to the 3.0-degree glide slope that we see on a normal ILS. There is one airport where there is a published 5.5 degree ILS, London City, which is right in the heart of London. There are tall buildings on the approach from either direction, making a steep approach necessary. It is presently being flown by smaller aircraft, in the 50-60 seat range, and airlines would like to carry more people because London City avoids the crowds and the delays of Heathrow and Gatwick.

Embraer has implemented the steep approach by capitalizing on the capability of fly-by-wire. When the Steep Approach pushbutton is activated, the flight control system extends the number 4 and 5 spoiler pairs on each wing. This gives just the right drag to control airspeed and keep the engine thrust above idle. You want to be “spooled up” so that pressurization and anti-icing systems are working, and so to give good engine response for a go-around. The result is a spooled up approach with a normal approach speeds.

Using the displayed 5.5-degree line on the attitude indicator, and the flight director display, the rate of descent is 1200 fpm. You can hold both the 5.5-degree flight path and the descent rate all the way down to an amazing 50' then do a normal flare and touchdown. One would think that it would take a high wing STOL airplane with barn door flaps to do this, but not so. The key is simple: When the control column is in the neutral position, the spoilers are deployed a nominal amount. But if you push forward to go down a little steeper, they deploy more. If you pull back to shallow things up, they deploy a little less. When you flare to land, they are almost all the way in, so there is no loss in lift coefficient from a normal landing. While designed and implemented by Embraer, these types of changes are the really powerful aspects of fly-by-wire technology.

The pictures you see are the view of the runway at Gavion Pexoto from a normal and a steep approach.



And at sundown, a view of the EMB195 I flew from Gavionexoto back to Sao Jose Dos Campos. Enjoy!



That's about it for this month. Maybe next month I can show you pictures of a silver and blue RV-8.

Until then, always remember to lend a hand to your fellow pilot when they need it. And never forget who your true friends are.

# 38th ANNUAL ALL YOU CAN EAT PANCAKE BREAKFAST Fly-In and Cruise-In!

**Sunday, June 11, 7 AM to 3 PM**

All you can eat **BREAKFAST**, Adult \$5.00, Children under 12 \$3.00 7 AM to 11 AM  
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30 minutes.

Also, don't miss **Wheels of Thunder / Hog's & Dogs** Motorcycle Celebration, June 9-10 in  
Downtown Jackson

# Experimental Aircraft Association



## Fly-In and Car Show

Sunday, May 21, 2006

Public invited

Breakfast served 7 AM until Noon  
Pancakes, eggs, sausage, coffee, and juice

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- 'Young Eagle' airplane rides for youth 7 to 17 years old
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