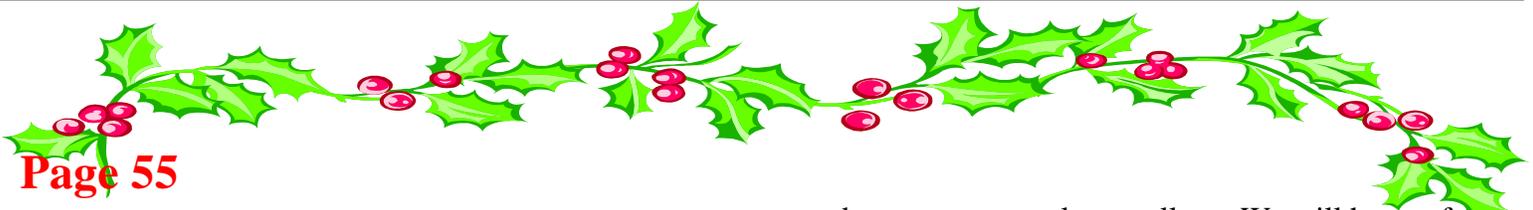




Meetings are the 2nd Saturday of each Month at the Hangar,  
Mason Jewett Field, Breakfast at 0800, Meeting at 0930.

Pres: Bill Hanna 627-4360 Vice Pres: Paul Barbour 627-3381 Treas: Gregg Cornell 351-1338  
Sec: Drew Seguin 332-2601 Editor: Charley Downey 349-3903 Graphics Editor: Sue Downey



## Page 55

**REFLECTIONS AND RECOGNITION** This last Chapter meeting will depart slightly from the norm. It will serve as our official Annual Meeting for maintaining the formal, corporate integrity of the Chapter, and we will elect officers to lead the Chapter for the next two years. Equally important, we will not have a formal program in favor of spending some time reflecting on the accomplishments of the Chapter over the past year and, especially important, we will recognize some of the Chapter members that made it all possible. I hope as many as possible will attend. This is your opportunity to assure your Chapter has a good leadership team and to show your appreciation to fellow Chapter members for their contributions.

**GOOD FOOD AND A GOOD TIME** Hopefully, everyone



remembered that Saturday evening, December 8th is the date for our annual Christmas Banquet and Party. The deadline was December 1st so theoretically this notice is moot. If you forgot or had a last minute change of circumstances

and want to come, please call me. We will have a few extra meals on order with the caterer and hopefully can accommodate latecomers. The same company as last year will cater the food so we know we will have GOOD food. Chapter 55 members always make GOOD company, so we also know a GOOD time will be had. Renee Arntz volunteered to decorate our meeting hall and I can assure you we will have GREAT surroundings.



### Board of Directors' Meeting

Wednesday, December 5  
7:00 pm at Hangar

### Chapter 55 Meeting

Saturday, December 8  
8-9:30 am Breakfast  
9:30 am Annual Chapter Meeting



**CHANGING OF THE GUARD**  
The time to elect officers for the next two years is here. This will be a key business item at this Saturday's meeting. As a result of the canvassing process by Joe Pirch and Tom Botsford and from a "smoke-filled room," a slate of nominees has been developed. We will solicit one last round of nominations from the floor before the elections, but your choices at this time will be:

President – Mike Arntz  
Vice-President – Paul Barbour, Gary Long,  
Steve Kent  
Secretary – Drew Seguin, George Haley  
Treasurer – Gregg Cornell



**LITTLE BLACK BOXES** Last month's speaker, Greg Toman from Grand Rapids Technologies, gave us some interesting insight into the capabilities of his Engine Information System. I never cease to be amazed at how much information electronic gadgets can give us – almost more than one can assimilate. As an airplane builder, he succeeded in thoroughly upsetting my decision process. The traditional part of me wants to build an instrument panel with round gages – that's what they are "supposed" to look like. On the other hand, the engineer in me wants to have the buttons and readouts and data gathering. Too many choices for one simple little airplane.

Thanks to the Program Team for bringing in Greg AND a great breakfast. This last Team of the year was:

Jack Toman	Bill Bezdek
Ted Forringer	Peter Greenfield
Dave Groh	Warren Miller
Joe Whitesides	Bill Hollenbeck
Ray Fink	Gordon Hempstone

**LAST PAGE** Once again I am hanging up the Presidential spurs (and whip). The last two years have been rewarding and fun, and I think the Chapter has grown as well. Not just in numbers, but in maturity, capability, and reputation. I absolutely cannot claim



but a small part of that progress. We have had an excellent leadership team in the Officers and Directors. That collective group, plus many willing Chapter members, is where the energy and effort to keep us moving have come from. I have found it interesting that the amount of delegation I have made to the

Board and members is directly proportional to the success of our initiatives. My contribution has been to try and stay out of the way. Thank you to all for your support over the past two years.

My first term of office was eight years ago. Greg Hover served as Chapter President for two years in the intervening years. I wrote this column while Greg was in office, so that means the membership has been served up a total of 96 doses of Page 55. I look forward to NOT having to generate this column every month to meet Charley's deadline. The column will go into "selective retirement." There are a lot of

stories floating around the Chapter and I plan to generate an occasional article for the newsletter -- when the stars are right. But, I am really looking forward to our new President's writings.

**BOARD AGENDA ~ 12/05/01 ~ 7:00 pm**

- Review of 2001 Chapter Goals
- Final plans for Chapter Recognition
- Election process
- Christmas Banquet plan
- LCC Visit
- Great Lakes Fly-In Sponsorship Resolution

*Bill Hanna, President* &

**EAA Board of Directors Meeting**

**Board of Directors Meeting – November 7, 2001**

Attendees: Mike Arntz, Bill Hanna, Greg Hover, Ted Lakin, Gary Long, Ernie Lutz, Joe Pirch, Bill Purosky, Drew Seguin → Minutes from previous meeting were not relevant as the secretary had a brain lapse and didn't really produce a new set. → Treasurer's report was approved. → Officer elections will be held at the December 8 meeting. We are still accepting nominations and volunteers for all offices. → The chapter 55 Christmas party will be held at the hangar on the evening of December 8, 2001. It will be a catered affair with admission of \$7.00 per person. Call or mail your reservations to Greg Cornell by Friday, December 7, so they can give a count to the caterer. Bill Hanna agreed to do a mailing on the event. → The facility will be rented out to Total Firearms for a safety class on several weekends in the upcoming months. Greg Hover is coordinating with them on the details. Bill Hanna will contact Mike Linn at CRAA to let them know about it. This is not a chapter-sponsored event, but rather a fund raising (through rent income) activity. → The Board authorized \$200.00 to pay for chapter awards to be presented at the chapter Christmas Banquet. → The Board agreed to purchase 25 EAA calendars from headquarters for resale. → The Great Lakes International Aviation Conference will be held at Kellogg Center at MSU on January 18 to 20. For details go to [www.state.mi.us/aero/gliac.htm](http://www.state.mi.us/aero/gliac.htm). → We now have natural gas heat and grills thanks to Charley Downey. This also allows us to meter the shop separately from the rest of the hangar. → The

roof still needs attention. → The Board finished the meeting by watching the dramatic conclusion of the chapter leader video provided by headquarters.

## EAA Chapter 55 Business Meeting

### General Membership Meeting – November 10, 2001

There were 45 people in attendance, including members and guests. → Meeting minutes of October 13, 2001, were approved. → The secretary hung his head in shame and apologized for problems with the minutes of the October board meeting. → The Treasurer's Report was approved. → Charley Downey was recognized and thanked for converting the hanger to natural gas. → The contribution to the World Trade Center fund from monies raised at the September "fly in" was acknowledged. → Bill announced that officer elections will be held next month. There are still openings on the ballot as of the November meeting. As additional incentive for candidates, a proposal to double officer's salaries will be placed before the Board in the December meeting. Please refer elsewhere in the newsletter for a list of candidates. → Charley Downey announced he will be moving out of the area in the spring, and we will need to find a replacement as newsletter editor. → Greg Toman, owner of Grand Rapids Technologies, gave a presentation and demonstration of his company's electronic engine monitoring instrument.

*Drew Seguin, Secretary* &

## Book Review

*Loving's Love*, by Neal Loving



After reading Terry Lutz' column in the November "Wingtips," I happened to be at the Bradenton, Florida library and spotted a copy of *Loving's Love*, the autobiography of Neal Loving. On the cover was a picture of the gull-winged sport racer he built, and I was moved to read the book. What a story of determination to overcome obstacles and lead an exciting and productive life, in spite of having been born into a poor black family in Detroit.

Neal Loving attended Cass Technical High School and developed an early interest in flying. He built and flew his own glider, and on its last flight it crashed, causing him to lose both legs. He spent many months

recuperating in a hospital in Mt. Clemens and was fitted with artificial legs.

In spite of this, he designed and built a sport racer, which he named "Loving's Love," and eventually flew it all the way to Jamaica and back! He also started a flight school and was the vice president and a founding member of the Detroit Chapter of EAA and a friend of Paul Poberezny.

Falling in love with his Jamaican sweetheart, he decided he needed a more dependable source of income and enrolled at Wayne State in aeronautical engineering at the age of 40, was married, adopted two children, and upon graduation, went to work at Wright-Patterson Air Force Base in Dayton. While there, he had a distinguished career and supervised much of the early work on high altitude turbulence. He also designed, built, and flew a low-winged monoplane with folding wings, which was designed to be towed from his home to the airport at 55 m.p.h.

He gave many inspirational talks to grade school, high school, and college students to encourage them to make the most of their lives in spite of any handicaps or obstacles they might face. He received many awards for his professional work, and it is not surprising that he was elected to the Wayne State Engineering Hall of Fame.

*Dick Wilke* &

P.S. Since returning to Florida, I've learned that one friend, Peter Legler, who grew up in Dayton and, as a young man, was invited by Orville Wright to his workshop and given a tour. Peter's father served on the Dayton Library Board with Orville Wright. I've also learned that another friend, Omer Meyer, helped build Pratt and Whitney radial aircraft engines during WWII. It's amazing what you learn when you mention an interest in aviation for friends and acquaintances.

## Notes from Cape Juby

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

In case you missed it, the flying weather last month was just spectacular. I'm trying to remember another November with warm days, bright skies, and predictable winds. Usually, you can count on the winds picking up about mid-day, but last month the

wind would come up with the sun, and then gently abate to a comfortable 10-12 mph out of the southwest. And stay that way for the whole day! It was great.

At the last chapter meeting, someone asked me about contrails, because he noticed that there were more contrails in the sky than he had ever seen. I noticed it, too. It reminded me of the late Sixties, when there really were a lot of contrails in the sky. In November, contrails were seen like a grid across the sky. This was the result of contrails being formed on the jet route from Salem (SVM) to Pullman (PMM), which drifted north from a southerly jet stream flow. For example, if the high altitude winds were from the south at 60 knots, the contrails would drift north at 1 nm per minute. If airplanes were spaced at 2-minute intervals on the jet route, the white ribbons would form stripes in the atmosphere at 2 nm intervals.

Contrails are produced by the exhaust gases of turbojet engines at high altitude. Within the exhaust products are tiny but hot carbon particles. If the air at altitude is moist, the hot carbon particles cause the moisture to condense around the particle, then almost immediately freeze to form ice crystals. The general rule of thumb on clouds at high altitude (these are the "cirro-" clouds, normally called cirrus) is that they normally appear pure white, which means that they are composed entirely of ice crystals.

If the air at high altitude is dry, there will be no visible contrails. If the air contains just a little moisture, there will be a short contrail, perhaps as long as 10 ship lengths. Then the ice crystals sublimate back into the atmosphere. The carbon particles fall on your head, which is the reason why a baseball cap gets dirty if you wear it long enough. I saw one of those short contrails yesterday, produced by a B737 at FL330. It looks just like a comet flying toward you.

If the air at high altitude is moist, contrails will be dense and persist for a long time, hours in some cases. This leads to a bit of history. Back in the Sixties, the airplanes crossing the sky were the first generation turbojet airliners. These were the four engine B-707 series, DC-8s, and an occasional Convair 880. The B747 and B727 were still pretty new. These older, four engine jets produced a lot of carbon particles because the exhaust was

considerably dirtier than the modern high bypass ratio turbofans of today. So even if the air at altitude was relatively dry, there were still a lot of contrails because there were so many hot carbon particles released into the air. Baseball caps got dirty a lot faster, too, but they were mostly dark blue with an orange "D" on them, so it didn't look so bad.

So in the Sixties, it was not unusual for the sky to become almost overcast with contrails, and the term "airplane cirrus" was coined. At about this time, the Concorde was under development in Europe. This was a joint venture between the British and French, and the aerospace industry here in the U.S. was feeling pressure to develop our own SST (supersonic transport). Boeing conceived a double delta, variable sweep airplane, designated the B2707. They even built a full-scale plywood mockup of the airplane. Can you imagine how difficult this was before there were any Home Depot stores around to supply the wood?

There was widespread support for the Boeing design, and there was widespread criticism as well. Critics claimed that the SST would have such high fuel consumption that the fleet would gulp down 10% of the world's oil production. In Carthage, a small town just outside of Nashville, a student group claimed that the "airplane cirrus" produced by a fleet of SSTs would darken the sky and lead to "global cooling." This was believed to be Al Gore's first attempt at political environmentalism. Proponents of the SST launched their own program called FASST, "Fly America's SST," but in the end Boeing cancelled the B2707. Al Gore was later elected to Congress, and embraced "global warming," since the skies would now be mostly clear.

Contrails are actually predictable, and can be forecast from data gathered by rawinsondes. These elegant little devices are sent aloft by weather balloons and transmit back the temperature lapse rate as a function of altitude. Forecasters can use this data to predict the contrail level, which is particularly useful for fighter pilots. In my air-to-air flying days, we would divide up the working airspace into 0-4s and 5-9s, meaning one group had the altitudes 10,000 to 14,000, 20,000 to 24,000, etc, and the other guys had 15,000 to 19,000, etc. This cut the risk of mid-air collision when you got to the merge. A clever flight lead would scrutinize the weather sheet, and stick his opponents

in the altitude block where there were contrails. This denied those guys one altitude block, and if they used it, they were instantly visible, towing a contrail...tally ho!

In WW II, fighters and bombers were often forced to operate in the contrail layer, and the exhaust products of piston engines at high altitude produced lots of contrails in the moist air over central Europe. If you look at some still photography of missions over Germany, look for the contrails. I cringe when CNN shows video of B-52s crossing over Afghanistan, with a bright contrail following them. This makes a big bomber an even bigger target.

As an airline pilot cruising along among contrails, you can learn a lot about the air around you. For example, if the air at altitude is smooth, the contrails will blend with wing tip vortices, and those horizontal tornadoes will persist for several minutes. Sometimes, they touch together, and form vortex rings. Other times, you can watch the contrails above you, and notice that they are rapidly being chopped up. This occurs in light to moderate turbulence, and you learn to avoid those altitudes. You can also find yourself following someone in the contrail layer, and end up directly in the contrail itself. This is generally a bumpy place to be, so you displace yourself 100 yds or so left or right, and you are in smooth air, flying formation with the clouds.

In the last few days, it looks like winter is has taken hold, and we are seeing lots of moisture with temperatures in the 30s and 40s. It's time to start thinking hard about the conditions that produce carburetor ice, and becoming constantly aware of the possibility. This means you Lycoming operators, too! It is also time to think about putting the winter kit on your airplane, and preheating the engine prior to flight. No matter how you do it, preheating the engine uniformly to a temperature above 40 deg F (oil temp off the peg), will increase engine life, make the engine easier to start, and reduce the chance of a dandy carburetor fire if you overprice.

At the December meeting, look around at your "extended family." be thankful for each person, and be thankful that the good old USA gives us the chance to fulfill our dreams. And as always, make sure you give your fellow airman a hand when they need it.

## Aircraft Builders Workshop

The following hands-on, 1- and 2-day courses will be offered January 19 and 20 at EAA headquarters in Oshkosh, WI (tuition prices are for EAA members):

Introduction to Aircraft Building - \$209 tuition – Decide whether to build or restore and what type of aircraft to restore – Try your hand at sheet metal, fabric covering, and composites.

Sheet Metal - \$289 tuition – 2-day course – Discussion of all the basics, including types of aluminum, rivets, tools, cutting, drilling, deburring, countersinking, and riveting.

Fabric Covering – \$259 tuition - 2-day course – Covering for any type of aircraft (certified or experimental). Class will cover DC-3 ailerons using the Poly-Fiber Covering System. Steps are demonstrated and practiced, including preparation, gluing the fabric, shrinking, rib stitching, taping, and spraying.

Composite Construction - \$259 tuition – 2-day course – Complete discussion of core materials, reinforcement materials, and different types of resin systems. Hands-on portion includes bonding, hot-wire cutting, and lay-ups.

Electrical Systems, Wiring, and Avionics - \$279 – 2-day course – Wire your aircraft and install your electrical system. Hands-on portion includes wiring projects. Definitions of electrical terms, selecting proper wire, how to route wire, and installing avionics and antennae are discussed.

Flight Testing Your Project - \$99 – 1-day course – First flight of a homebuilt or restoration. Prepare a meaningful flight test program. Topics covered: evaluation of the aircraft (weight and balance to performance characteristics), pilot preparedness and fitness, suitability of the airport, documentation and utilization of data from test flights, communications between EAA Flight Advisor and pilot during test flights, and preparation of a Flight Manual or POH. Safety and emergency procedures are stressed.

To enroll or learn more about, visit the website [www.sportair.com](http://www.sportair.com) or call 1-800-967-5746.