

# Hendricks County EAA Chapter 1311

## Monthly Newsletter — February, 2003

### From the Chapter President

I don't know about you but I'm ready for spring. The fishing flies I've tied this winter are dying to get wet and the itch to go flying is getting stronger. We have a lot to look forward to this year with the chapter fly-ins, trip to Dayton Air force Museum, Sun 'N Fun and Oshkosh. Hang in there and keep your eyes peeled for the robins.

### February's meeting

EAA Chapter 1311 met at the Aviation Technology Center at Indianapolis International Airport. Starting at the appointed time of 6:30 p.m., President Tim LeBaron brought the meeting to order with the Pledge of Allegiance.

**Attendance:** David Clark, Glen David, Dave Helton, Ken Hill, Tim LeBaron, Glen and Robin Matejcek, Dirk Melchior, Michael Mossman, Gary Reynolds, Paul Vogel, Bob Vondersaar. In addition to the usual suspects, Tim invited the members to introduce their guests, of which at least eight were present.

Treasurer Paul Vogel reports that the chapter has \$1200 in the kitty. The chapter has some annual expenses that are due and checks will be written soon. Paul also reports that approximately one-half of the member roster has ante'd up with the 2003 dues.

**Old Business:** Gary Reynolds reported that the chapter would like to host two fly-ins this year. The Fly-In Committee is considering holding a fly-in during the latter part of April or early May at Hendricks County Airport then hosting another fly-in at a different location in the fall. If you would like to help with the planning contact Gary Reynolds or Larry Rush.

Glen Matejcek volunteered to chair a committee to organize a trip to the Air Force Museum in Dayton. When asked for a co-chair this reporter believed that his wife Robin raised her hand. Glen would like to locate a bus so that whoever wanted to could ride together. If you know of someone who has a bus (and driver) or would like to offer any kind of logistical assistance, please contact Glen.

**Mount Comfort Update:** Tim's intention was to pick one area from the needed jobs and ask the chapter to focus on that for the show. After meeting with Bob Mackey from Mother Oshkosh he learned that the chapter will not be covered for any liability incurred for the show, except that we could have a booth only for the purposes of recruiting new members. Tim relayed that in Bob's experience the airshows do not bring potential members looking for a chapter. Tim did mention that any members volunteering as private individuals are likely to be covered for liability under the show's blanket coverage.

**New Business:** Michael Mossman reported that the chapter needs to file its annual report with EAA headquarters. Included in the report must be a chapter roster with EAA numbers and expiration dates. So far we have current information on about one-third of the members.

**Trivia Question:** Tim LeBaron asked "What was the first practical use of the airplane?" Glen David offered "air mail" as his answer and Tim concurred\*. A prize of a very rare 1958 edition of Air Progress magazine was awarded.

\*Tim claims that he will debate this answer at a separate time!

**50/50:** A new monthly feature for the chapter is a 50/50 drawing. Glen David was the winner.

During an intermission of the program, David Clark presented a commemorative certificate, plaque and "Charter President pin" to Bob Vondersaar and thanked him for his tireless efforts in founding the chapter. David also presented to Bob a certificate for Teresa thanking her for her dedication as chapter Secretary. Bob challenged the members present to stay active in the organization and consider running for chapter offices in the future so that the leadership stays fresh and viable.

Following the 50/50 drawing, Tim quickly concluded the meeting to allow time for the program, Professor Jeff Holle, who presented "The Fundamentals of Composite Structures." See story at end of newsletter.

## New Members

No new members were reported to the newsletter editor, but we did record at least thirteen guests at our February meeting. Next time you talk to Mike, Paul, Tracy, Chris, Matt, Bill, Ron, Tracy, Tom, Jack, Steve, Terri or Bob, thank them for visiting with us and invite them to join our ranks. By the way, if you have their email addresses please forward this newsletter to them.

## To Our Old Members:

Are you a Charter Member? During the winter of 2001 we received our EAA charter from Mother Oshkosh. Anyone who joined in 2000 or 2001 is recognized by the chapter as a Charter Member, and is entitled to sign our charter. Please contact our president, Tim LeBaron, or secretary, Michael Mossman, so that we can get your John Hancock on this historic document.

## Memoriam

For the members of the space shuttle Columbia, their families, NASA, and all of the brave pioneers who made great sacrifices for the pursuit of knowledge, Chapter 1311 offers its condolences.

## Photos Needed

Since we don't see each other as often as we'd like, we might not recognize each other next time we meet. For this reason we've started a chapter photo album with mug shots of each member. At least that's the idea; we have several long-time members that we haven't seen in a while, and we'd like to get your photo for the album. Next time you come to a meeting, let's get together so we can get your picture. Can't make it to a meeting? Send a photo to the secretary; he'll scan it then return it to you. Wish you had a better photo of you in the album or on the website? We can shoot another one, no problem. Since we use a digital camera, on-site vanity approvals are no extra charge. Send photos to:

Michael Mossman, 2655 Elizaville Rd., Lebanon, IN 46052 email: michaelandkatie@tds.net

By the way, you can now download a "printer friendly" PDF copy of the photo album from the web site. Select [http://www.eaa1311.org/PDF\\_files/album\\_030112.pdf](http://www.eaa1311.org/PDF_files/album_030112.pdf). It is a very large file (448 kb) so allow extra download time.

## Status Reports

Chapter 1311 is composed largely of members who are actively building or restoring airplanes, plus a few who have recently completed their projects. How about keeping each other pumped up on our projects? Consider participating in the chapter Status Reports. Send a brief email to the secretary with a report on the current status of your project, or a description of what you've accomplished since your last report. Not only will this help you stay energized and focused with your project, your fellow members may have recently completed the phase you are about to encounter. Status Reports may help get you over the hump.

We can add the Status Reports to the newsletter, plus post them on the web site. If you'd like to include a photo of the most recent work on your project, we can add that, too.

## Young Eagles

A supplement to the February 2003 Sport Aviation magazine listed more than 3,400 persons who flew at least ten Young Eagles in 2002. Prominently mentioned was Chapter 1311's own Chuck Long. Many more of our members have volunteered their time, aircraft, fuel and enthusiasm for this worthy EAA project. If you hit this number (or close to it) you should get some recognition. Let us know how you contributed.

Chuck has a group of 10-15 Boy Scouts that want a Young Eagles ride. He is tentatively planning a rally this for April and needs 3 or 4 volunteers to give rides and provide ground support. Contact him at [charles.long@gm.com](mailto:charles.long@gm.com).

Across the EAA, more than 865,000 Young Eagles have taken their first airplane ride. In order to achieve its goal of one million Young Eagles by the Wright Brothers' 100th anniversary, the EAA needs to loft an additional 135,000 children by the year end. If you would like to participate contact the chapter president. Let's keep this excellent project on track!

## Chapter Library

A few members of the chapter have books, video tapes and other materials that they are willing to lend to members. Lacking a permanent home for these tomes, you'll need to contact the individual members to get these books. For a list of what's currently available, see <http://www.eaa1311.org/library.html> on our web site. There is also a link for a printer-friendly PDF copy of the list.

Why not consider adding some of your materials to this list? Just send the information to Michael Mossman, chapter secretary, and he'll get it added. Since you would still be the owner, you could set your own terms for loaning them out.

We could take the chapter library concept a bit further. Have any unusual tools (or skills) that you would be willing to lend to members? We could also build a list for them, too. If you need access to some tools (or skills) not listed we could post it on the site.

## PBS Aviation Programs

Doug Roever wrote to mention that PBS / WFYI was to broadcast two Nova programs of interest the night of our February meeting. The first was about the design and construction of Charles Lindbergh's Spirit of St. Louis, called "Lindbergh's Great Race." The second covered the Concept Demonstrator Aircraft (CDA) portion of the Joint Strike Fighter program in which Doug is still involved. That episode, called "Battle of the X-Planes," referred to the X-35 and X-32 aircraft that competed in the program.

At Doug's suggestion this reporter taped both programs and watched them the following weekend. Both are fascinating and are strongly recommended. Let's keep this videotape in our "chapter library" for all to see who might like to see it (contact Michael Mossman; other members may have taped it, too).

Doug's employer, Rolls-Royce (formerly Allison Gas Turbine) was responsible for designing the "LiftFan" unit that helped Lockheed's X-35 beat out Boeing's X-32 to win the competition. The version of the aircraft that they're involved in will eventually replace all of the U.S. Marine Corps' Harriers, as well as those flown by the British RAF and Royal Navy. It should be of interest to all of the EAA people what sorts of things the local Rolls-Royce plant is involved in, and that this project is a large part of Rolls' future in supplying hardware to the U.S. Military. Perhaps we can get Doug to talk sometime about the non-classified part of the project for a future meeting or newsletter.

## Email Addresses

Several of our members have more than one email account, sometimes separate accounts for home and work, plus maybe more. If you would like to receive the newsletter at more than one email account, no problem. Just email the editor at [michaelandkatie@tds.net](mailto:michaelandkatie@tds.net) or [m\\_mossman@novationgraphics.com](mailto:m_mossman@novationgraphics.com) to let him know of your intentions. Now you can receive the newsletter at home and at work, if you desire.

If you change your email address, be sure to let the editor know that, too.

## Chapter Web Site

Chapter 1311 has had an active website since about the middle of September, [www.eaa1311.org](http://www.eaa1311.org). Because your dues support it, you own it. As a chapter member you are entitled to free classified ads, too. Since we are linked to the EAA's host site, your ads can get some national exposure.

Please feel free to comment on any part of this site. There is no "suggestion box" yet but there are links to send an email comment to the "webmaster." Say what you think; he's got a thick skin. We're always looking for the opportunity to improve the site and add extra material.

## Homebuilt Web Site

Speaking of web sites, Mark Gilmore, newsletter editor for Chapter 226 in Muncie, writes that a new web site was launched in December as a forum specifically for homebuilders. Not only for builders of sheet metal, wood, tube & fabric or composite airplanes, it also contains threads for restorations, rotorcraft, warbirds, ultralights, auto engines, "for sales," and just about anything else you might be interested in.

This is the kind of site where visitors can ask questions and post their own tips and ideas. Because it was just started a few months ago, some areas only have a few comments, but others are starting to grow quickly. After briefly perusing the site I could tell that they've put a lot of time and thought into its design. Check it out soon. And while you're at it, help out your fellow homebuilders with comments on your experience and knowledge, and pick up a few tips on the way. See <http://www.homebuiltairplanes.com/>

## Next Meeting

The next meeting will be Tuesday, March 4, at 6:30 p.m. at Chuck Long's house in Pittsboro We will have a short business meeting then check out Chuck's Zenair CH 601 HDS project.

### DIRECTIONS:

Take US 136 to Pittsboro

In the center of town turn north at the stop light

When the street ends (about a 1/2 mile), turn right (east)

At the first street, turn right (south) into the subdivision (Deer Meadows?)

Turn left (east) at the first street (Fawn Court)

Chuck's house is in the southeast corner of the cul-de-sac

237 Fawn Court - phone 892-3146

## Dues are Due!

EAA Chapter 1311's dues for 2003 are now due. Send your \$20 to the treasurer, Paul Vogel, 230 Avon Parkway, Avon, IN 46123-7950. Thanks!

## Chapter 1311 Board of Directors for 2003

President — Tim LeBaron

Vice President — Mike Laurenzano

Secretary — Michael Mossman

Treasurer — Paul Vogel

Director — David Clark

Director — Dirk Melchior

Director — Gary Reynolds

## Classified Ads

**FOR SALE** — Inflatable life jackets for over-water flight, only \$5 each! Contact Bob Vondersaar [bobandteresa78@msn.com](mailto:bobandteresa78@msn.com) or Tim LeBaron [TJLebaron@CS.com](mailto:TJLebaron@CS.com). Proceeds benefit Chapter 1311.

**FOR SALE** — Four sets of very nice Koss headphones. Contact Bob Vondersaar [bobandteresa78@msn.com](mailto:bobandteresa78@msn.com) or Michael Mossman [michaellandkatie@tds.net](mailto:michaellandkatie@tds.net) for details or to make offer. Proceeds benefit Chapter 1311.

**FOR SALE** — Three lighted and adjustable "flight desks." Contact Bob Vondersaar [bobandteresa78@msn.com](mailto:bobandteresa78@msn.com) or Michael Mossman [michaellandkatie@tds.net](mailto:michaellandkatie@tds.net) for details or to make offer. Proceeds benefit Chapter 1311.

**FOR SALE** — Assorted used instruments and avionics. Contact Gary Reynolds [reynoldsgg@aol.com](mailto:reynoldsgg@aol.com)

**FREE** — Fuselage jig for RV 6. Contact Ken Hill [krhill325@aol.com](mailto:krhill325@aol.com)

**TIG WELDING** — Need custom welding for your project, or for repairs? Contact Tim LeBaron at [TJLebaron@CS.com](mailto:TJLebaron@CS.com)

## Aircraft Parts Now Available Locally

Mike Laurenzano reports that Indy Aero, LLC, is now stocking a growing inventory of aircraft parts. Need something in a hurry? Just drop into their shop at Mount Comfort Airport, or call 317-335-3371. You can also send them an email at [maintenance@indyaero.com](mailto:maintenance@indyaero.com). Mike says that their pricing is very competitive.

## Aircraft Spotter

Dave Helton's very rare BubblePlane has a new owner, so this month's Aircraft Spotter is his new "project," an AeroComp Merlin, currently moored in Tennessee.

Dave writes "The power plant is a Continental O-200 100 h.p. with a Warp Drive prop. The guy that built the plane was an airline pilot until he lost his arm in a motorcycle accident. He then became a lead investigator for the NSTB and retired and got his A&P. The plane looks brand new! I cannot wait to fly it this March."

Check out a photo of his Merlin. See the Member Roster page of our chapter website, click on Dave Helton's project, or just go to <http://www.eaa1311.org/adphotos/heltonmerlin.jpg>

The newsletter editor hadn't heard anything about last month's mystery aircraft so there is nothing new to report.

## 2002 Membership Roster — LAST UPDATED 1/9/03

NAME	EMAIL ADDRESS	PROJECT(S)
BACON, Roger	RogerDBacon @cs.com	Quest Air Venture
BALDWIN, Fred	dorvl@earthlink.net	2 Place Jet
BEETHAM, John	jabeetham@earthlink.net	Fokker D VII and Piper Dakota
CHAPMAN, Jeff	PoP6756@aol.com	Fly to Oshkosh 2003
CLARK , David	davecpd@iquest.net	Restoring 1946 Aeronca Chief
CRAWLEY, Dennis	crawley27@aol.com	Grumman Tiger
DAVID, Glen	propellerprecision@hotmail.com	RV6 and propeller carving
DUNAWAY, Jeff	jeff@spitfire.net	Rans S-12S
GORDON, Ginger	planecrazy13@att.net	RV3
GRIFFIN, Jim	jimg@netcapade.net	Questar Venture
GROVER, Troy	rv6grover@netzero.net	RV6
GUSTAFSON, Dale	DALEFAYE@msn.com	Piper J-4
HARRINGTON, Bill	bh101010@hotmail.com	Cessna 182
HATFIELD, Doug	Hatfielddoug@hotmail.com	—
HELTON, Dave	dhelton@iquest.net	Merlin GT
HILL , Ken	krhill325@aol.com	RV9
LAURENZANO, Mike	mustangdue@yahoo.com	Bushby Mustang II
LeBARON, Tim	TJLebaron@CS.com	RV8, Breezy, 1946 Ercoupe
LONG, Chuck	charles.long@GM.com	Zenith 601 HDS
MATEJCEK , Glen	aerobubba@compuserve.com	RV8
MELCHIOR, Dirk	d-r-melchior@msn.com	F1 Rocket
MOSSMAN, Michael	m_mossman@novationgraphics.com	Zenair 601 HDS
POULOS, Angelo	ampoulos@inetdirect.net	Cherokee 140
REYNOLDS, Gary	reynoldsgg@aol.com	RV6A
ROEVER, Doug	dmroever@iquest.net	RV-7 Tail kit
RUSH, Larry	k9hxt@msn.com	RV6A
SHULL, Kenny	PHONE 317-539-5542	Helping Others
SULLENGER, Vern	sullenger@iquest.net	RV8

TURNER, Arvel	aero451@hotmail.com	RV-9A
VITTETOW, J.C.	j_vittetow@msn.com	PA22
VOGEL, Paul	pvogel19669@aol.com	Tri Pacer
VONDERSAAR, Bob	bobandteresa78@msn.com	Steen Skybolt

Did we miss anybody? Please let us know; we'll get it updated right away.

## Quote of the Month

Famed helicopter designer Igor Sikorsky once said: "At that time (1909) the chief engineer was almost always the chief test pilot as well. That had the fortunate result of eliminating poor engineering early in aviation." (From AOPA Pilot, February 2003.)

As builders we are often the test pilots, too. Not wanting to suffer the losses from aeronautical Darwinism, I'd like to offer an additional quote from "Hill Street Blues": "Let's be careful out there."

## February's meeting program

Professor Jeff Holle from Purdue University presented an excellent program entitled "The Fundamentals of Composite Structures," or "The Very Least You Need to Know." Holding A&P IA credentials, as well as being a developer and teacher of composite classes, Holle worked for six years with the Rutans at Scaled Composites in Mohave. As a fellow EAA'er, private pilot and homebuilder, he is unabashedly a fan for composite aircraft structure technology. Holle took delight at poking fun at aluminum aircraft structures and the mindset of metal aircraft builders and owners. Although the majority of the members present were RV-builders, the good natured spirit of the jesting help draw the audience into a better understanding the challenges of building and repairing with composites.

Holle jokingly acknowledged that the basis of composites is to "sand away anything that doesn't look like the finished product." With that in mind, and along with his comprehensive PowerPoint presentation, Holle distributed handouts of the program, and had samples and actual production parts to illustrate the points.

As opposed to all other aircraft construction processes, composite is the only one where the builder actually "makes" the materials, which determines its final properties. He also asserted that it is difficult, if not impossible, to inspect the structure for defects when it is finished, so the builder must also be the "in-process" inspector. The builder must mix materials in the proper proportions, lay fibers in the correct orientation, control the building environment, and properly allow curing and post-cure processing, filling and finishing, he says.

Holle discussed the three different resins, called matrixes, used in composite work: polyester, vinylester, and epoxy, and the various fibers commonly used. Like all aircraft building materials, the various composite materials have their own trade-offs: cost, performance, safety, ease of use, viscosity, longevity, repairability, and maybe more.

Holle says that there are several significant differences between the ester matrixes and epoxy. Polyester and vinylester have all of the components already mixed in with an added inhibitor that prevents curing. By merely adding a catalyst the cure will begin. The builder can somewhat control the cure rate by adding more or less catalyst. No so with epoxy, Holle explains. Epoxies must have the proper ratio of each of the chemical components to attain the properties for which it is designed. These components should carefully weighed or measured by volume before mixing, and should not vary from the intended ratio by more than five percent.

Holle says that epoxies will decompose when exposed to ultraviolet light and therefore must be shielded from exposure to sunlight, usually with a light colored paint. While polyesters have more resistance to ultraviolet, they have the annoying property of continuing to shrink long after they are cured. This shrinking can cause the layers or plies to delaminate if the "ester" types are mixed with resins improperly when patching, and may cause many other cosmetic surface problems.

Holle stressed safety issues when working with composites. He claims that everyone "could" eventually become "allergic" to epoxy resins. Since our sensitivity levels differ, it's just a matter of time. Obviously, many people never become sensitized enough to cause an allergic response. He contends that avoiding exposure to the resins by using the proper gloves, barrier creams, face masks, goggles, respirators and even "bunny suits" will help prevent

the build-up of sensitivity. Safety is of paramount importance with the use of composites.

Since epoxies cure with heat, and that they create their own heat when curing, they have the potential to spontaneously combust if mixed in too large of a quantity without allowing the heat to safely dissipate. Holle admonished the audience to keep proper fire extinguishers handy and to mix quantities of no more than a few ounces of epoxy matrix at a time.

Once all of the laminates are built up and the matrixes cured, the builder must then use the proper finishing materials, such as a filler. Certain building processes can leave a nice surface that still contains many pinholes. These must be filled before the final painting. After filling, the long process of sanding the component begins. Holle cautions that the builder must be careful not to sand into the fibers, which will weaken the part and make surface finishing more difficult. If the fibers are sanded into, but not damaged substantially, a layer of resin must be added to the surface.

Although previously announced as being a hands-on session, due to the depth and breadth of the program we didn't quite get to actually mix resins and laminate cloth. Holle offered to conduct a "Composites, Part Two" program at a future meeting with a hands-on portion. Sorry, but this author's composite experience doesn't extend much beyond Bondo (a polyester that Holle claims is too heavy and shrinks too much for aircraft use!) so you'll have to attend the next session for the rest of "The Very Least You Need to Know" about the Fundamentals of Composite Structures.