

# Leading Edge



## Chapter 1414



at  
Poplar Grove Airport

Vol.1, No.2 April 2005

What brought all these  
Members of Chapters 1414 and 790 together  
to work on recovering this airplane? Read about  
this story and "The Story behind the Story"  
on pages 3 - 6.



# EAA Chapter 1414

P.O. Box 399  
Poplar Grove  
IL 61065

**President**  
*Sam Helsper*  
(815) 389-1957

**Vice President**  
*Tom Barnes*  
(847) 541-6072

**Treasurer**  
*Frank Herdzina*  
(815) 544-6787

**Secretary**  
*Carol Von Bosse*  
(815) 544-7689

**Newsletter**  
*Alex Von Bosse*  
(815) 544-6789  
e-mail:  
flydo27@northboone.com

**Mission Statement**  
**Promote,  
encourage  
and facilitate  
an environ-  
ment that fos-  
ters safety and  
high standards  
in the design,  
construction,  
restoration and  
operation of all  
types of recre-  
ational aircraft  
as well as nur-  
ture camarade-  
rie and friend-  
ship amongst all  
members!**



## Greetings Freinds

Well, we started with 50 or so members and within two months we are at 70 plus members. Its great to see so many people in the community interested in flying.

Last month we had our first *Workshop Open House*. It was a big success. This month, our members had the opportunity to work on recovering Lee Hilbert's Aeronca Champ. I went to Frank Herdzina's hangar to check on the progress of the guys and gals working on Lee's "submarine". I pulled up and saw about 25 people. They completed the elevator, rudder, and ailerons by the end of Saturday and were well on their way with the wings. I want to thank

Lee for allowing us to use his airplane for our project.

We now have an official tool crib run by Steve Langdon. If you would like to give tools to the chapter or have some you would like to loan out, please contact Steve at 815-874-5432.

Ed Harvey has volunteered his services for our Young Eagles program and will coordinate our efforts with Dennis Blunt. Dennis runs the Wings and Wheels Museum's "Introduction to Flight" program. If you would like to contact Ed Harvey as to when these programs will be conducted, he can be reached at 815-765-0412.

This month, Chapter 1414 is planning a brunch at Clow International (1C5) on April 16, 2005. We will plan to arrive there before 11:00AM. From Poplar Grove, Clow is 49 nm, so plan your departure accordingly. There is no rain date.

I want to thank Dip Davis and Lee Hilbert for speaking last month to prepare us for a successful project. For those who missed this project, please stay tuned as there will be more.

Get ready, April is the month Bill Boughton comes to speak to us about Log Book entries. He is a Rock Valley College professor in the field of aviation. This should be an interesting topic, bring your note pad and a pen.

Sam Helsper



## Scholarship Fund

The Poplar Grove Aviation Education Association, commonly known as "The Poplar Grove Wings and Wheels Museum", will be awarding scholarships for the 3rd year in a row. We gave three scholarships in 2003 and five scholarships in 2004 for advancement in aviation flight or maintenance training.

The scholarships are available to students currently enrolled, or intending to enroll, in an aviation related education program. Applications are available at the museum office. The number there is 815-547-3115 or call Tina Thomas at 815-544-3471 with any questions. Application deadline is May 1, 2005.

Tina Thomas

## Events Calendar

April 12,	Chapter 1414 General Meeting	7:00 PM	PGA Maintenance Hangar
April 16,	Chapter 1414 Board Meeting	8:00 AM	Frank Herdzina's North Hangar
April 16,	Brunch Fly-Out; to arrive at	11:00 AM	@ Clow International (1C5)
April 23,	Hangar Tour	10:00 AM	@ Tim Gallagher's 2904 Howard St.
May 1,	Vintage Aero Meeting	12:00 PM	Seneca Hangar @Janesville
May 1,	Chapter 22 Pancake Breakfast	7:00 - Noon	Courtesy Hangar @ Rockford
May 10,	Chapter 1414 General Meeting	7:00 PM	PGA Maintenance Hangar
May 14,	Chapter 1414 Board Meeting	10:00 AM	Frank Herdzina's North Hangar
June 5,	Vintage Aero Meeting	12:00 PM	Bayer's Hangar @ Naper Aero
April 12 - 18	Sun 'n Fun		
July 26 - Aug. 1	Air Venture Oshkosh 2005		
Aug. 5-7,	Rockford Airport Air Show		

NOTE: EAA Chapter 1414 does not project or accept any responsibility for the participation by any newsletter reader or Chapter member at any fly-ins, functions, forums or events that may be publicized in this newsletter. All material herein of a technical nature is for reference only and is not necessarily recommended or approved by the editor of this publication or any official of Chapter 1414. This publication is produced only as a medium of communication amongst members and friends of Chapter 1414s.



## *You Asked For It*

As a group, you asked for a workshop on how to recover an airplane with fabric. Lee Hilbert stepped up to the occasion and offered his Aeronca Champ for the task.

Dip Davis and his assistances provided the guidance on how to lay down the fabric. With 50% of the membership in attendance on Saturday, they were able to recover better than 60% of the surfaces requiring covering on this airplane. Stepping back and looking at the quality of this recovering, we must complement both the instructors and, most of all, those of you who actually participated in this job.

Since there were a number of different pieces requiring covering, we were able to set up several work stations, each with its own team. These teams functioned as if they had been covering airplanes for some time. The judges are sure going to have a tough time picking out the best items covered for the prizes offered by Lee Hilbert

Sunday being a slower day, about 20 members showed up to finish some of the jobs left unfinished. Easter Saturday was the fifth full day that the membership worked on this project. One additional day should complete the final application of finish tape and the brushing of the Dac Proffer. Several layers of silver fill coat, some sanding and the final color coats over the next couple of weeks should complete this portion of the project. If by chance you have not seen this project yet, you owe it to yourself to come down and check out the quality of workmanship on this Champ. Following are more pictures of the project.

Frank Herdzina

## *What the members started with:*



*It's hard to beat a good crew!*



## The Franseen Team

When I first heard of the Champ recovering project, I immediately thought it a great idea. I have been on the search for a Champ



project myself and thought this would be the perfect way for me to find out what I'm getting myself into. I also wondered if my 21 year old daughter Katie would be interested in helping me. I feel

as though Katie and I have grown apart over the years as all Dads start to feel when other men come into their little girl's lives and hearts.

Katie and I both agree that recovering an airplane is going to be a fun project that we could both really get into. I don't actually know which one of us has been enjoying it more. We even wrote a poem about the project.

This chapter of ours isn't about cars or trains  
This chapter of ours is all about planes

So when one old plane became suddenly damp  
We happily agreed to help restore the old Champ

We decided to help out this poor fellow Lee  
We are pitching in with what some would call glee

All involved seemed so happy but down deep I hope  
The euphoria we feel is not the smell of the dope

Mothers and daughters or fathers and sons  
We are all pitching in just to get the thing done

Our teacher is Dip, assisted ably by Bill  
Without all their help we'd be fabric challenged still

My Katie and I have learned a great deal  
Pride in new knowledge is the thing that we feel

We toil away weekends in this hangar of Frank's  
What a great place to work, we all owe him many thanks!

Jim & Katie Franseen

## A Plane is Reborn

Dateline: Saturday, March 12, 2005



The story unfolded as you viewed each of the pictures there on the hangar wall. Plane in flight. Plane lands on ice. Plane does headstand and back flips in water. Plane gets rescued. And finally, ...future hopes of the little Aeronca Champ flying again.

The dot, dot, dot, was why some 30 people showed up that morning. The damage done to the Champ had created a need to be recovered in some new fabric skin. Pilot/owner Lee Hilbert had willingly offered to let that part of his recovery project be completed by Chapter 1414 volunteers. With the resident "aviation doctor" Dip Davis there to teach everyone proper technique and inspect all the work, anxious and excited people of a wide range of ages jumped at the chance to recover the beloved Champ previously named "Apachee". She lay all around the hangar in her many pieces, ready to be glued, wrapped in fabric and heat shrunk, to reveal a fresh new look for spring!

In this particular case, many hands made for a lot of sticky fingers. The air was permeated with the smell of MEK. It was great! We had volunteer youth from the YEA (Youth Exploring Aviation), several college students, people who had projects in the works of their own, and many others who just wanted an opportunity for the hands-on training. Even a couple of us ladies came out to get our chance at learning tube and fabric work. My husband Bob and I keep toying with the idea of either getting an experimental kit to build or restoring something, so this opportunity just couldn't be passed up. Even if the Champ couldn't, time seemed to fly as each team worked on their surfaces. It was awesome to see the wings and fuselage being prepped for covering. As each of our pieces was completed, excitement built just knowing we had a part in bringing the little plane back to life. This lady pilot is looking forward to more opportunities to learn through projects such as these in our EAA Chapter. Lee's going to have to invite everyone to witness the "first flight" and someone will have to bring some champagne!

Peggy Fry



Eh . . . Buck, what was that again, about dimples, a blonde and blowing into an exhaust pipe???

# *"The Story Behind the Story"*

*in pictures!*



During a beautiful flight, the engine decided to go on strike, refused to deliver rotational energy to the prop which therefore was unable to provide the necessary thrust to maintain altitude.



A successfully executed forced landing ends in the water when mother nature snuck some thin ice right underneath the airplane when the Champ was on final roll-out . . .



A crane was first thought of to be used to recover the Champ, but it could not have been brought safely close enough to lift the plane out of the water.



Where technology and machines would have failed, good old man power and brains were called upon . . .



They prevailed with the Rescue from the icy waters of the lake without any further damage to the Champ.



For the rest of the story, see the previous pages in this issue.



## Member Profile

### Tim Gallagher

My first memories of flying were from my role model, my Dad, an Air Force and airline pilot. (Marty is a fellow Chapter 1414 member, so I better watch out what I say.) He was either always gone, and I missed him; or always home, and I couldn't wait for the crew desk to call.

Dad never brought reports or presentations home to work on. Holidays were never on THE official date. They occurred when Dad got home. He only had to wear one suit to work (and he looked pretty good in it).

When it came time for career planning, I asked Dad what was so great about being an airline pilot. He told me that it was the best paying part time job he could find, and the view from the office window was incredible. That sealed the deal for me, because I am basically lazy and can stare out of windows for hours.

After High School, I entered Southern Illinois University with 0.0 hours in my logbook. Four years later, in May of 1984, I had a degree in Aviation Technology, Aviation Business, A&P mechanic licenses, commercial, instrument, CFI and CFII ratings, and 350 hours total time. Did I mention all the debt? How about all the pilots on furlough at the time? All dressed up and no place to go!

For the next three years I was a pilot prostitute. I would fly anything for money. It was feast or famine. I taught, performed maintenance, and flew corporate and charter flights. I must have flown 30 types of aircraft during that period. Hanging out at FBOs became an art form. I had just checked out as a King Air 200 captain when the airlines resumed their normal hiring cycle.

Simmons Airlines, aka American Eagle and Northwest Airlink, hired me in May of 1987. I logged 2500 hours of Shorts 360 time in about two and a half years of flying out of ORD. The jabs from flying the 'Sky Pig', or 'The Box from Belfast' were nonstop. You could say that I flew my Shorts off. Try to keep a straight face when Ground control asks United 46 Heavy if he can, for sequencing, split a pair of Shorts on the Outer. The standard answer was, "Oooh, I hate it when that happens!"

In 1989, Northwest Airlines took me away from all of the torment and badgering of flying with my Shorts exposed. At Northwest, I have had the opportunity to fully experience different pay rates for doing the same job. I went from B scale to A- scale, then A scale, and finally back to A- scale again. I had the honor of walking the picket line during our strike of 1998. In fifteen years at Northwest, I have been all around the world in B727, DC10, and DC9 aircraft. I am currently a DC9 captain, based at MSP.

About ten years ago, I started to think that it would be great to have an airplane of my own (our own – I have to share with Suzie, my wife and social director). I thought it might be neat to build something, and utilize some of my A&P knowledge. Buying a real airplane was out of the question (just getting off of B scale). I found plans for a Pober Junior Ace at Oshkosh 1995 – the best part... Dad bought them for me!

The Pober Junior Ace is a Paul Poberezny update of the Corben Junior Ace. He modernized it in the late 80s, and built a prototype using a C-85. Mine has a Rotec Engineering R2800 radial, custom motorcycle wheels, bigger fuel tanks, frizee ailerons, and a two inch fuselage stretch. She will also have an elevator trim tab and lights for night ops. The plane flies low and slow, open cockpit, and is a taildragger - totally opposite of what I do for a living. We thought it would be awesome if we could live on an airstrip with our little airplane.



At about that time we heard about Bel Air Estates from Steve Thomas. We were hooked! We bought a lot, and saved up a lot of money. At the end of three years, we took that big pile of money and threw it into a pit at the center of our lot. Nine months later, our own 'Money Pit' was born. Truth is stranger than fiction.

The Junior Ace resides in our hangar along with Don Claude's pristine 1946 Taylorcraft BC-12D. The Ace is starting to look like a real aircraft skeleton now. She stands on custom made 18" motorcycle wheels, with aluminum hubcaps engineered and manufactured by our own Frank Herdzina. Many surfaces are ready for primer and cover. All of the controls move, some in the right direction. The fuel tanks are in and plumbed.



The Rotec Engineering R2800 radial engine now adorns the front of the Ace. A wooden propeller is on order from Culver Props. I am now working on the various complexities of engine installation. She is about 90% done and 90% to go.

Suzie is a registered nurse, on sabbatical, and a student pilot, also on sabbatical. She is currently riding herd on Stephanie and Michael, our resident teenagers. The children like to fly as well. We are living the pilot's dream here on the airpark, and we are looking forward to warmer weather. Come and see the project during April's Hangar Tour.

Tim Gallagher



# *Aluminium Für Piloten*

*or the way you Yanks like to say it . . . (Editor)*

## *Aluminum For Pilots*

(Or “What in the World is A2024-T3?”)

Did you ever hear someone talking about the construction of their airplane say things like “2024-T3” or “6061-T4” and wonder exactly what those numbers mean?

These numbers are part of an index system used by the aluminum industry to identify its products. These numbers and their prefixes and/or suffixes are usually inked directly onto the sheets of aluminum for positive identification by the user. Here’s a quick education on how the designation system works:

First of all, aircraft “aluminum” is actually a mix, or alloy, of aluminum and one or more other elements. Pure aluminum is unsuitable for aircraft structures because it’s too soft, but if you alloy it with other metals, it gets much stronger and much more versatile.

The first number in the designation indicates the alloy group according to its major element. The following chart identifies each group:

1XXX	No major alloy element	5XXX	Magnesium
2XXX	Copper	6XXX	Magnesium/Silicon
3XXX	Manganese	7XXX	Zinc
4XXX	Silicon	8XXX	Other element

Therefore, we already know that 2024 aluminum is a copper-alloy aluminum. This particular alloy is known for its easy machinability, high strength, and excellent fatigue resistance. It’s a relatively soft product, which allows it to be bent, stretched, and formed easily (an important trait if you’re going to build a flying machine out of it). By the way, there is only 4.5% copper in 2024 aluminum. It doesn’t take much of the alloy metal to give it the desired properties.

The second digit indicates the alloy modification. Some manufacturers change the characteristics of certain alloys used in special applications, and this change is reflected by the second digit (1 through 9). A zero indicates no modification. Therefore, 2024 aluminum has no alloy modifications.

The last two digits have no special significance. They just identify the different alloys in the group. 2024, presumably, was the 24<sup>th</sup> alloy developed in its group.

The next character in the designation will be a letter. It designates the temper, or degree of hardness:

H means “Strain-hardened.” This is a non-heat-treatable alloy. It will be followed by a 2-digit number indicating both the hardening method and degree of hardness.

F means “As Fabricated.” It’s right from the factory.

O means “Annealed” (softened).

T means “Heat Treated.”

The letter “T” is always followed by one or more digits that indicate the method used to heat-treat the metal. There are too many of them to list here, but as an example, “T3” means “heat treated, then cold worked” and “T4” means “heat treated, then naturally aged.” (Sounds like cheese, doesn’t it?) Most aircraft aluminum has been heat treated, and therefore carries the “T” suffix. (For a complete listing of temper codes, see FAA Advisory Circular 43.13 Chapter 7, or any good aircraft maintenance reference book.)

Since bare aluminum alloy has a relatively low resistance to corrosion, most aviation aluminum is given an anodized (or oxidized) finish, or is “cladded” with a thin surface layer of high-purity aluminum. The trade name for aluminum products using this process is “Alclad,” and is designated by the prefix “A.”

Of course, various thicknesses, sizes and shapes of aluminum alloy sheet, angle, rod, bar and tubing are available. Some of the most-used types of aluminum used in aircraft construction today are A2024-T3, 6061-T4 and 6061-T6.

So the next time someone starts talking about “6061-T4 aluminum,” you can say, “Oh, you mean ‘A sheet of magnesium/silicon aluminum alloy that’s been heat-treated and naturally aged.’” Or, you can just nod and smile, which is probably a better option if you don’t want people to think you’re a know-it-all.

For more good reading on this subject, I recommend the book, “Aircraft Sheet Metal,” by Nick Bonacci, available from [www.BuildersBooks.com](http://www.BuildersBooks.com).

*You can also learn more about aluminum on Aircraft Spruce’s web site:*

<http://www.aircraftspruce.com/catalog/mepages/aluminfo.php>

Buck Wyndham

# Join the New Poplar Grove EAA Chapter 1414

**We meet the second Tuesday of the month  
at 7:00 PM in the Poplar Grove Airport  
Maintenance Hangar**

**Dues are \$20.00/Y and include the newsletter in e-mail form  
The dues are \$30.00/Y for those that prefer a hard-copy newsletter**

**To join, fill in the form below and mail  
together with the proper amount to:**

**EAA Chapter 1414  
P.O. Box 399  
Poplar Grove, IL 61065**

---

## 1414 Member Information Card

Name: (last, first) \_\_\_\_\_

Spouse: \_\_\_\_\_

Address: \_\_\_\_\_

Home Phone: \_\_\_\_\_ Other Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

Military Service: Branch: \_\_\_\_\_ Specialty: \_\_\_\_\_

**EAA membership no.** \_\_\_\_\_ Newsletter/fee: ☐ E-mail \$20 ☐ Hard copy \$30

### **Aviation Interest:**

Pilot Rating (past or current): \_\_\_\_\_

Type of Airplane(s) owned: \_\_\_\_\_

Type of Airplane(s) under construction: \_\_\_\_\_

Type of Airplane(s) I'm interested in: \_\_\_\_\_

Would like to join a partnership to buy or build a plane (type): \_\_\_\_\_

Would like to see more: ☐ Social Functions ☐ Ground School ☐ Hands-on Demos

☐ Outside reps from aviation tech dealers Other: \_\_\_\_\_

Would attend additional tech sessions (i.e. painting, welding, etc.) ☐ Yes ☐ No

---

## ***Buy, Sell , Trade, Give-away or Participate!***

---

Classified ads may be submitted by any chapter member free of charge. If you have an item that you want to throw away, don't!  
List it here and we'll find a new owner for it. - - Remember, one man's junk is another man's treasure!  
If anyone needs some form of help, you can list your request here.  
They will run for about 3 months unless canceled or renewed.

---

**For Sale:** 50 Years of EAA SPORT AVIATION Magazines. 1955 to present time. Many Annuals. Approximately 600 magazines.  
Make offer for all. Call Jerry at 815-963-5280

---

## ***Bees Knees Poker Run!***

Hosted by the Poplar Grove Vintage Wings and Wheels Museum  
Beginning Sunday, May 1st and running through Saturday, May 14th!  
Cost is \$15 per person and includes a meal and poker hand.  
For full details, contact the Museum at 815-547-3115.

---

**This space is available for your**

***Buy, Sell , Trade, Give-away or Participate!***

***Advertisements !!!!!***

---

## ***On the lighter Side!***

British Airways flight asks for push back clearance from terminal.  
Control Tower replies: "And where is the world's most experienced airline going today without filing a flight plan?"

Cont: "AF1733, You are on an eight mile final for 27R. You have a UH-1 three miles ahead of you on final;  
reduce speed to 130 knots."

Pilot: "Rogo', Frankfurt. We're bringing this big bird back to one-hundred and thirty knots fer ya."

Cont: (a few moments later): "AF33, helicopter traffic at 90 knots now 1 1/2 miles ahead of you;  
reduce speed further to 110 knots."

Pilot: "AF thirty-three reining this here bird back further to 110 knots"

Cont: "AF33, you are three miles to touchdown, helicopter traffic now 1 mile ahead of you; reduce speed to 90 knots"

Pilot (a little miffed): "Sir, do you know what the stall speed of this here C-130 is?"

Cont: "No, but if you ask your co-pilot, he can probably tell you."

## ***From AVweb's "Short Final..."***

From our "how bumpy was it?" file...

A few years ago, when Sabena, the Belgian airline, was still  
landing in Libreville, Gabon, a flight left in very rough weather  
toward Kinshasa, Zaire, in West-Central Africa. The following  
conversation was overheard:

"Sabena 123, maintain contact with Brazzaville."

"Control, I can't even maintain contact with my own seat."

From our "Bonanza-envy file..."

A Bonanza landed at an airport some years ago with the lead-  
ing edge of the left wing bashed in from hitting a goose in  
flight. A remark from a Cessna pilot was overheard, "If he'd  
been flying a high-wing airplane, he'd have missed it."

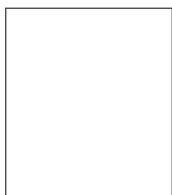
# Premeeting Checklist

- \_\_\_ • **Bring suggestion for activities, etc.**
- \_\_\_ • **Your member profile for the Newsletter**
- \_\_\_ • **Any aviation article of interest that you would like to share with the other members**

EAA Chapter 1414 meets on the second Tuesday of the month in the Maintenance Hangar at Poplar Grove Airport unless notified otherwise in the newsletter. The meeting starts at 7:00 PM.

The Newsletter is always looking for interesting articles and pictures by our chapter members. If you have written anything or would like to write something or have pictures that you believe would be of interest to the chapter membership, please submit what you have. The preferred method for the editor to receive articles is by e-mail to: ***flydo27@northboone.com***. Alternately, a ZIP disk or CD with articles written with any major word processor with a printed copy may be submitted to any board member at the meetings.

---



EAA Chapter  
1414  
P.O. Box 399  
Poplar Grove, IL  
61065