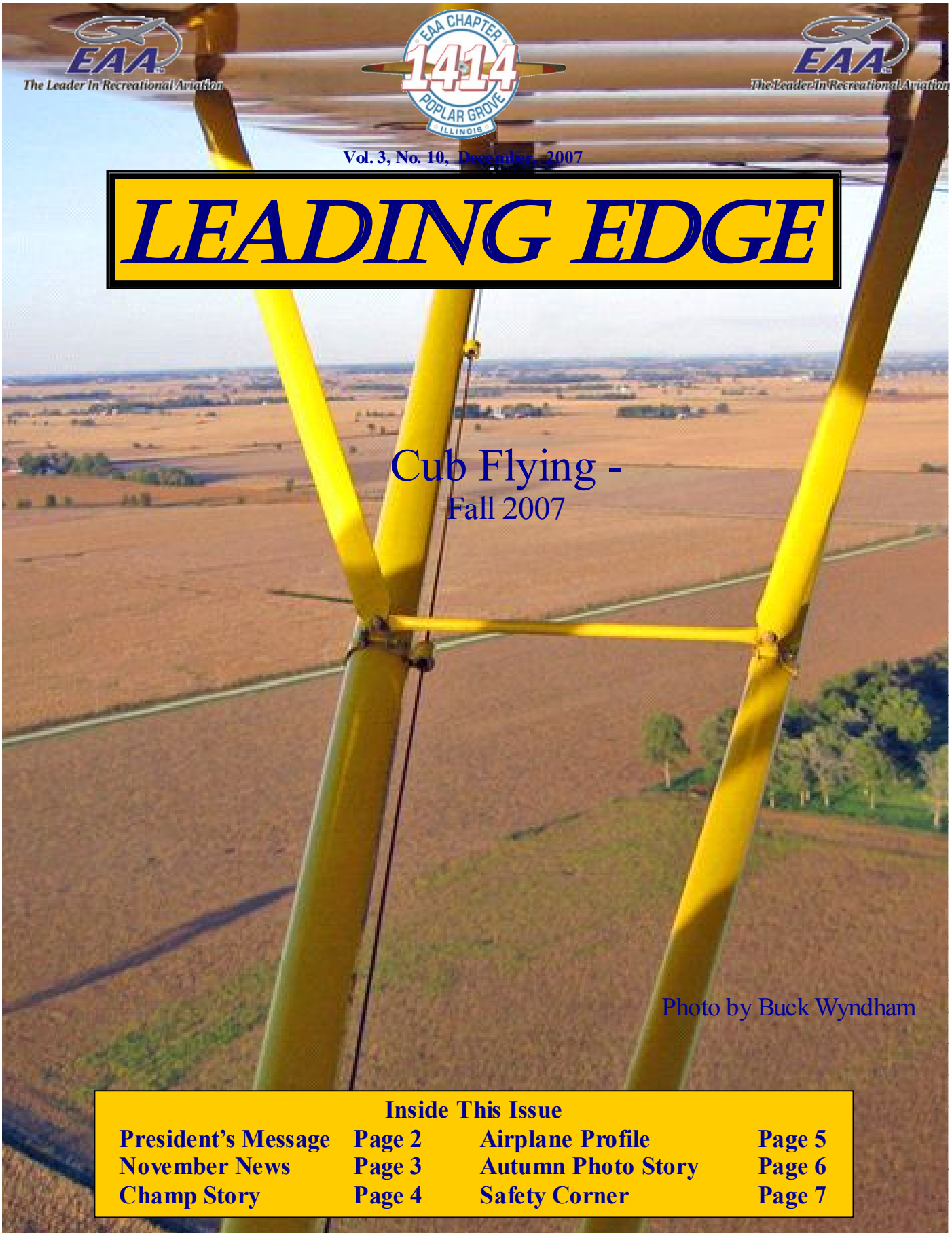
Vol. 3, No. 10, December 2007

# LEADING EDGE



## Cub Flying -
Fall 2007

Photo by Buck Wyndham

Inside This Issue

# *EAA Chapter* 1414

5151 Orth Road
Poplar Grove
IL 61065

Mission Statement

**Promote, encourage and facilitate an environment that fosters safety, education and high standards in the design, construction, restoration and operation of all types of recreational aircraft, as well as, nurture camaraderie and friendship amongst all members!**

## President's Corner

*Lee Hilbert*

*As the new president of Chapter 1414, I would like to welcome everyone to another year together. It was great seeing so many of you at the November meeting. If you weren't there, you missed a very entertaining presentation.*

*This month, after a brief business meeting, we will be having our annual Potluck Christmas Party. I invite you all to come and share the fun and good company.*

*I am looking forward to working with all of you for another dynamic year for Chapter 1414.*

*Lee*

## Officers

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**Welcome**
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*Abbieinair@sbcglobal.net*

## Directors

**Buck Hilbert**
**Jeanie Hill**
**Ken Kresmery**
**Scott Ross**

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## November Meeting

*Speaker David Shelton with his wing designed for a ground effect vehicle*

At the November meeting the general election for 2008 officers and board of directors was held. Most of the 2007 slate were reelected. Vice-president Lee Hilbert became President and Dean May became the new Vice-president.

The evening's presentation was given by new chapter member and aeronautical engineer David Shelton. He spoke about his designs and projects for "very" experimental aircraft.

For next month, after a very brief business meeting, Chapter 1414 will be hosting its annual potluck Christmas party during the regular meeting time.

*Ken K. congratulates new president, Lee.*

*Jim Pratt with cover photo for November*

## *Events Calendar*

| | |
|---|---|
| **December 11** | Chapter 1414 Christmas Party, 7 PM, Museum |
| **January 8** | Chapter 1414 Meeting, 7 PM |
| **January 26** | WWII Canteen Party, 7 PM Kresmery's Hangar |

## Volunteer Opportunities

For anyone wanting to be more than a once a month member, there are plenty of ways to extend the fun and help the chapter at the same time. Following are a few exciting ways to do so:

**1940 Canteen Party** - January 26, 2007
Contact: Ken Kresmery
**L-Bird Event** - May 30 - June 1, 2008
Contact: Tom Murray
**2008 Calendar Committee**
Contact: Lee Hilbert
**2008 Young Eagles Events**
Contact: Dennis Blunt
**2008 Pancake Breakfasts**
Contact: Jeanie Hill
**Refreshments for Meetings**
Contact: Jeanie Hill
**Ford-Trimotor In 2009?**
Contact: Jay & Abbie Friddell

In addition, the newsletter and website are always looking for submissions of stories or photos. Contact Glenda or Scott with those.

To get involved, get in touch with the contact persons, chapter officers, or ask someone at the next meeting.

## Welcoming Our New Members!

New members in November were:
Marc Kresmery of Elgin
Chuck Pazdzioch of Poplar Grove

The officers, directors and members of Chapter 1414 would like to welcome you to our group.

## On The Cover

The brown fields of late fall signal the approaching end of a pilot's desire to fly a Cub with the door open.
—Buck Wyndham

**More photos from Buck on Page Six**

# A Champ for Poplar Grove

Knoxville, TN to Poplar Grove, IL 11/25-11/28/07

*by Scott Ross*

Dennis Blunt called me up one day in October and said he thought he'd found his Champ.
Dennis had sold his beautiful PT23 a few weeks earlier and had been hot on the trail of a Champ ever since. Specifically he wanted a L16, either the A or B model with a gross weight of 1300 pounds in order to qualify as Sport Pilot.

Now at the time Dennis was going down to have a look at his airplane we were in the middle of the October harvest weather patter with dry, clear blue skies, light winds and upper 60's thru the 70's. Chuck Jansen and I talked it over, and Chuck volunteered to give us a ride down there in his Arrow. I'm thinking part of one day to get down there and a day to get back. Champ's cruise about 90 mph, right? Heck, Dip Davis's Cessna 120 does 105 mph with the same engine fitted, and this L-16 has two fuel tanks. Piece of cake!

*The PT 23*

*Captain Chuck Jensen Setting Up the Panel*

Well, as always the devil's in the details, and what with insurance and various forms of paperwork and what not, our October trip to pick up the little beauty got pushed back one week after another. Now it's the last week in November and, well, seems the weather has started to change from that nice harvest pattern to the pre-winter rains.

We sweated the weather reports and the time schedules of everyone involved. Lee Hilbert volunteered to go fetch her, and Dip Davis suggested we could use his 120 to go down there with if Chuck was tied up. Lee ended up with scheduling conflicts during our "weather window". So, the Sunday after Thanksgiving found Chuck and Holly Jansen, Dennis and me loading up Chuck's plane for the trip south. The weather was...sorta ok.

We headed to BMG cruising at 5,000 feet in the haze. Chuck had called up flight following and the Arrow purred along at around 130 knots or so ground speed with a slight headwind. Cook Aviation is the FBO at Bloomington, Indiana airport and they really rolled out the red carpet. We walked into the door to the smell of fresh baked, piping hot cookies, three different flavors no less! We got reasonably priced fuel, a tasty snack and a potty break in no time at all and were on our way.


*Cook Aviation at BMG - well worth the stop*

We checked the weather before launching for the Knoxville area and it looked like the cloud decks were dropping down that way. Chuck Jansen decided a stop in Crossville was in order once the clouds started pushing us down. So we filed IFR into Crossville with the intention of topping up the tanks and getting another look at the weather.

Chuck requested the ILS into the airport only to discover halfway thru the procedure that he couldn't tune in the ILS on his radio. The young lady who filled up the tanks for us there wasn't real sure what an ILS was so she didn't know if it was out or not. Anyway Chuck performed the VOR Alpha flawlessly and seeing the airport pop up right where it was supposed to was a wonder.
The weather in the Knoxville area was very cloudy with rain and there's all that cumuli-granite all thru there to contend with to boot. Off to the west and south heavier rain was moving in with icing conditions threatening to develop on the route back to Poplar Grove. Dennis and I elected to rent a car in order to give Chuck and Holly a head start back home and we all went our separate ways. All of our problems were just beginning though.

Chuck and Holly got back into BMG with the icing levels dropping just above them. They ended up staying until 1030 Monday morning with Chuck not getting into work at all...and a customer meeting scheduled for first thing in the morning…! The good news there was Cook Aviation tossed Chuck the keys to a red Cadillac and said “See ya in the morning, take your time”. That’s hospitality.

Dennis and I hotfooted it to Gatlinburg/Pigeon Forge and after a long thoughtful look Dennis inked the deal on his new plane. Well, now we had a ride home except for the minor detail of the weather. Seems Mother Nature had some other ideas….

**To Be Continued Next Month…!**

## Airplane Profile

We fly our planes!

## Cessna Skymaster

Dean and Glenda May have become the proud owners of a Cessna 337. Dean flew down to Daytona, Florida to take possession on November 5 from Embry Riddle where it has been kept. The airplane will be leased to DeltaHawk Diesel Engines, who will use it for high altitude endurance testing of their engines for certification. Dean is now spearheading the certification program. He will also be the test pilot for the certification flights. The airplane is currently hangared at the DeltaHawk facility, while it is being refurbished, but it will soon be at home in the May's new hangar when hangar and airplane are ready.

### Current Specifications

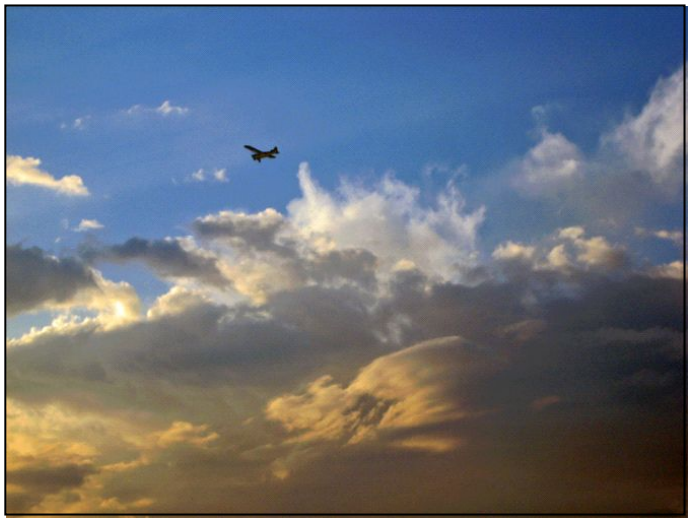
**Engine:** Continental IO 360
**Avionics:** Very Nice 1980's Instrument Stack, including RNAV, DME and LORAN

**Horsepower:** 210
**Top Speed:** 173 kts
**Cruise Speed:** 166 kts
**Gross Weight:** 4440 lbs
**Empty Weight:** 2600 lbs
**Fuel Capacity:** 93 gal

## *Autumn Skies*

Flying Photographs
By
Buck Wyndham

Poplar Grove's own Gray Hawks squadron perform a flyby in their Stearmans.



Poplar Grove Airmotive's ever-popular Piper J-3, in its element.

A deHavilland DH-82 Tiger Moth launches in the clear blue sky over Brodhead, Wisconsin.

## *Announcing*
### *The Rebirth of a Taylorcraft!*

Ron Liebman of both Chapters 790 and 1414 has written an account of the project to restore a 1940 Taylorcraft. Several chapter members worked together during a three-and-a-half year span to achieve this accomplishment.

The full account of this story will be published in the January issue of the Leading Edge.

# Safety Corner

***by Ole Sindberg, Guest Writer***

*This month we have a guest safety writer. Ole Sindberg is a member of our sister chapter EAA 790 . He is well-known by many of our members. He is a retired airline pilot, a flight instructor and was Safety Editor for Chapter 790 for several years. This article appeared in their newsletter in June 2007, and Ole felt it was important enough to share with us.*

A safety article in **Wings Aloft** got me quite upset. You may recall that Mike Perkins wrote about two men in Fulton, New York who managed to get themselves killed on a first flight of a Lancair Legacy. The primary cause of the crash was fuel starvation, but a number of other factors made it a fatal flight for the two occupants.

It need not have ended this way. The thing that makes me upset is that I have been campaigning about a better fuel system for small airplanes since about 1995. The system I have in my own Prescott Pusher is an example of such a system. I have been talking about this at chapter meetings, here, in Canada, and in Denmark.

I have a web site that gives some details of this better fuel system; schematics have been distributed, but to this date, I am not aware of anybody who has actually made the recommended changes. And now another two aviators have paid the ultimate price.

When I was building my airplane I learned that the primary cause of engine failures in light airplanes was fuel starvation. Even more disturbing was the finding that in most cases there was fuel in the airplane – but it was not getting to the engine. In about 1995 I saw the wreckage of a Tobago airplane at Waukegan airport.

The airplane had come from across the Lake, refueled at Waukegan and then departed westbound. The pilot and his daughter were the only occupants. It was a hot summer day and on climb out the engine failed from fuel starvation. Changing tanks and turning on the electric fuel pump had no effect. The airplane was flown to a relatively safe (for the occupants) landing in a farmer's field. The fuel system in the Tobago is similar to what you find in typical single engine Pipers. But there is a vertical section of the fuel supply line just in front of the firewall approximately two feet high; at the top are the two fuel pumps – one engine driven and the other electric. Vapor lock in this line is thought to be the culprit.

Another Prescott Pusher builder built his airplane with the "Piper Fuel System". He forgot to switch tanks and after the engine failed, he was unable to restart it using fuel from the other tank. It is often the case that once the line to the fuel pumps has been emptied, the pumps are unable to do their job. They work well with fuel in the line, but not with vapors or air in the line.

At the time I was building I was flying for United Airlines, mostly Boeings – 727s and 737s. **There are very few airliners running out of fuel**. Consequently, I decided early on that I would duplicate the fuel systems in the Boeings to the extent that it was practical.

There are several key principles involved:

- Pumping instead of sucking the fuel
- Redundancy
- Warning lights

With regard to "Pumping instead of sucking": The fuel pumps in the typical low wing light airplane (Tobago, Piper and many others) are located in the engine compartment down line from the fuel selector. This means that the pumps have to "suck" the fuel all the way from the selected tank, through the selector, the fuel strainer and the several feet of plumbing, before sending it on the engine. My suggested system provides (just like the Boeings) electric fuel pumps by the tanks. The Boeings are actually in the tanks, but that is costly, so I elected to place my pumps next to the inboard wall of each tank. The result is similar. The fuel is under pressure all the way to the engine – vapor lock is not an issue anymore. With regard to redundancy: There are two kinds of redundancy - the "selectable" kind and the "up and running" kind. The first one is exemplified by having fuel in more than one tank and having to select the other tank when the first one goes empty. The "up and running" kind is exemplified by having dual magnetos. The normal position of the mag switch is of course "both". With two tank mounted electric fuel pumps replacing a single, engine compartment mounted pump, it is now possible to have "up and running" redundancy for the fuel supply. (Just like the Boeings)

My SOP is to use two pumps by selecting "Both" for the fuel feed pump switch during take-off and landing. This provides fuel from two tanks simultaneously during these critical phases. At other times single pump operation is used to manage fuel balance. My fuel **selector** stays in "Both", impossible in most low wing airplanes. All I do to maintain fuel balance is move one switch from "Left" to "Right" (or the other way). I also have redundancy for the fuel quantity function. A simple fuel management system is installed; it is programmed before start with the known fuel quantity onboard, and it then subtracts the quantity burned from the indicated (calculated) value. I installed the Aerospace Logic digital fuel level indicating system. Comparing the two systems – one a measuring system and the other a calculating system assures against gross errors. (Just like some of the Boeings). With regard to warning lights: Boeing provides lights that come on if a fuel pump is selected to pump fuel, but fails to do so. So do I. My system is designed and built by our own Mike Perkins, the lights are daylight-visible LEDs and are mounted in a cluster below the glare shield – it would be hard to miss one of these bright lights.

An important consideration when choosing fuel pumps is to make sure that they allow fuel to pass through without the pump operating. This will allow for continued engine operation even after pump or electrical system failure. In addition the fuel selector should have gates for each tank as well as the "Both" and "Off" gates. This will allow for normal fuel system operation, even after a total electrical system failure. Keep in mind that operating in "Both" is not recommended in low wing airplanes, when operating without the electric feed pumps operating. (As the tank levels go down, eventually one fuel intake will become uncovered and will begin to take in air.) The total system has now been operating in my airplane for over 600 hours and almost 9 years. It has certainly proven itself; it is inexpensive and light and would save lives if widely used. I am certain that the two Lancair flyers would be alive today, if they had had this – or a similar - system.

If you are building anything, or if you want to upgrade the safety status of your existing airplane, you may call me. In the meantime, help spread the word.
Keep the blue side up.

Coming to Poplar Grove Airport!

# Second Annual Canteen Dance

Sponsored by EAA Chapter 1414

## Saturday, January 26, 2008

Kresmery's Hangars MG 4 & MG 5
North Side of Poplar Grove Airport

Door Prizes!
Forties Movie Star Look-alike Prizes!
Live Music!
Big Band Sounds!
Dinner!
Wear any uniform and get extra door prize tickets!

Tickets: $15 per person
Sales start December 1, 2007
Tickets available at Chapter Meeting
Or from chapter officers

Tickets are limited, so act fast!

# Buy, Sell, Trade, Give Away, or Participate!

## Tailwheel Endorsement

Bob O'Quinn, CFI, is offering tailwheel checkout and endorsement in a Piper J-3 Cub, Cessna 140, or your personal aircraft.

For more information
Telephone (847)358-7554 or
e-mail roquinn@TurfGrassSod.org

For help getting your finished aircraft certified, contact me for any DAR services.
Jim Auman jimauman@comcast.net
630-886-0835

**1967 Cherokee 140 for sale**

Same owner 28 years. IFR Certified, S-Tec Autopilot with altitude hold, annualed till October 2008, hangared C77, like new paint and upholstery, Midtime engine, many STC's to update aircraft including autofuel STC

For details and pictures
e-mail gkujawa@verizon.net
or call 8 AM to 8 PM 815-544-4571

**Computer Technician**

My son-in-law can fix your computer problems in your home. Call Glenda for information: 815-544-0215.

**The aeroplane has unveiled for us the true face of the earth.**

*Antoine De Saint-Exupery, 1900-1914*
*French Aviator, Writer*

**Interested in Joining Chapter 1414?**

**Application For Membership**

## 1414 Member Information Card

Name (last, first)_____ _____
Spouse: _____ _____
Address: _____
_____
Home Phone: _____ Work Phone: _____
E-mail: _____

**Military:** Highest Rank: _____ Branch of Service: _____ Specialty: _____

**Aviation Interest:**
Pilot Rating (past or current): _____
Type of Airplane(s) I own: _____
Type of Airplane(s) under construction: _____
Type of Airplane(s) I have an interest in: _____

Would like to join a partnership to buy or build a plane (type): _____
Would like to see more: ☐ Social Functions ☐ Ground School
☐ Outside reps from aviation tech. dealers Other: _____
Would attend additional tech sessions (i.e. painting, welding etc.) ☐ Yes ☐ No

**EAA Membership No. _____ Dues: $20 email newsletter ___ $30 print newsletter ____**

**Send to:**
**EAA Chapter 1414**
**5151 Orth Road**
**Poplar Grove, IL 61065**

## *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 **Vintage Wings & Wheels Museum**, 5151 Orth Road, unless notified otherwise in the newsletter. The meeting starts at 7:00 PM.
**Directions:** From Belvidere, IL, go north on Rout 76 approx. 3.5 miles and turn right on Orth Road. Make the first right turn and the museum is on the left.

The Newsletter is always looking for interesting articles and pictures by our chapter members. Please submit anything you have written, would like to write, or any pictures that you believe would be of interest to the chapter membership. The preferred method for the editor to receive articles is by e-mail to: ***mayge46@verizon.net.*** 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
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61065

The Leader In Recreational Aviation