

June 2008

Experimental Aircraft Association Chapter 33

A monthly publication of the Dr. Alexander M. Lippisch Chapter of the Experimental Aircraft Association, Cedar Rapids, Iowa.

Editor: David Koelzer

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## In The Works

By David Koelzer

I snapped a few pictures the other day. It was a sunny and warm spring day. Perfect for flying or if your favorite steed was in the barn needing a little TLC, it was not a bad day for that either.

Randy Hartman had just loaded up his Lancair 360 onto a trailer. It is headed to the paint shop for a coat of primer and then a light sanding before final paint. Randy had gotten the wing panels back from the paint shop and had sanded them down the primer. He hope he could convince his painter to allow him to sand the primer on the fuselage at the paint shop and save himself another trip back to Area 51.

Carl Carson was also there that day working on his Taylorcraft. He had gotten it back recently from Iowa City where it had received some brake work. We discussed a little about the new paint on his cowl. The shrouds around the new cylinder were chaffing against inside of the cowl and chipping the paint on the outside.





Of course, I was there as well working on my Sonex. I am sending back my early serial number Jabiru 3300 to be reworked and have the latest mods added to the engine. When I get that engine back I'll sell it or maybe start a new project around it. Right now I am putting on a new Jabiru 3300 I purchased last summer. The new Jabiru has all the latest features and is just different enough that I have needed to change some of the systems to suite it. One of which, was the Bing carburetor which is a pressure compensating carb. So I need to remove the mixture control I was using with the AeroCarb and install a choke control. Of course the small changes always take longer to complete than I had planned. I also took a little time to polish up the aluminum which I had not done for 3 or 4 years. Todd Millard help me reattach the wings and I am getting very close to flying again.





# Hydrogen Power Closer Than We Thought?

By Mark Navratil

Maybe I haven't been watching the news closely enough but I was not expecting to see hydrogen vehicles available for quite a few years. So I was surprised to see that Honda has announced a true hydrogen powered vehicle that is supposed to be available this year. It's not a hybrid. It will initially be available only in California for a lease of \$600/month, and later expanded to other parts of the country as hydrogen refilling stations become conveniently accessible. <http://automobiles.honda.com/fcx-clarity/>

I don't need a hopped-up grocery getter (my rusty Corolla still runs fine) so my thoughts immediately went to the potential for light aircraft applications. The fuel cell Honda is using puts out 134 HP (100 kW) and weighs 147 lbs. Not sure what the Honda motor weighs but from googling around the web I found a website on hybrid electrics that said a 200 hp motor weighed 180 lbs including cooling system. Applying this ratio, it looks like you can get an electric motor with a 134 hp output that weighs about 121 lbs (much less than an equivalent gasoline engine, especially when you consider the installed weight). So the fuel cell plus motor would total about 268 lbs, within the same ball park as a Lycoming installation of this power output. Then you have to add the hydrogen tank, presumably of kevlar or carbon fiber...not really sure what this would weigh compared to an aluminum or fiberglass tank typical of most light sport aircraft, but it seems feasible to acquire a commercially available tank that would be light enough to fly with. Bigger concerns would be crash worthiness and location of the tanks (you can't make a hydrogen tank the way you construct a wet wing tank for avgas).

Point being, at first blush it looks like the technology to put this stuff in an airplane may be closer than I thought. There was a guy flying an ultralight trike at Oshkosh last year using an electric motor and batteries. He claimed a 1.5 hour endurance on battery power alone. Seems conceivable that within the next decade, an existing platform like an RV-9 could be converted to hydrogen power, although the baggage compartment may be the only place to put the tank. If you could steal the stuff from a car it might even be affordable. The availability of hydrogen seems to be the biggest obstacle. Might be a lot more than a decade before the local FBO decides to install hydrogen tanks...



# Aluminum Overcast Comes to Cedar Rapids

Our Chapter has been offered the chance to do a B-17 tour stop again this summer and this time on a weekend shortly before July 4th. The previous visits have been extremely fun and successful, so we are looking forward to it again. The plane will be arriving on Thursday, June 19th and departing on Monday, June 23rd. So the main activities will be on Friday through Sunday with flights in the morning and ground tours in the afternoon.

This will be a big event and we will need a lot of volunteers to help man the merchandize trailer as well as to give ground tours of the plane. We have broken it down into three shifts for Friday & Saturday and two shifts on Sunday. 1st shift 9am-1pm, 2nd shift 1pm-5pm & 3rd shift 5pm-8pm. We have setup a web site where you can sign up for the different shifts. <http://www.eaa33.org/b17.php> Please sign up for as many shifts on as many days as you can.

**Young Eagles canceled** - Due to the construction going on near the PSair ramp we have decided to cancel the YE flights during the B-17 visit.



## American Barnstormers Tour

The American Barnstormers Tour is coming to Iowa City next month! This national tour of Golden Age of Flight aircraft will be stopping in cities all over the Midwest -- and Iowa City is the kickoff city on June 15th. (See their website here: <http://www.americanbarnstormertour.com/>)

Mike Tharp, airport specialist, is coordinating the event -- and he needs our help. He is looking for help with the following things: - Transportation for pilots - USO Hangar Dance - Food/beverage sales. Please Mike at 248-1200 or email him directly at [Michael-Tharp@iowa-city.org](mailto:Michael-Tharp@iowa-city.org)

# Grand Adventure

By Todd Millard

Last November when Mark Navratil nominated me for President, I happily agreed. I was planning on taking a sabbatical starting in February, so would have plenty of time to devote to one of my favorite hobbies, flying. About a week later, my wife's partner in her pediatrics office announced that she was quitting. After a furious attempt to find a replacement, my wife decided she would sell the practice to another pediatrics office in town and take a sabbatical too.

With both of us freed from our businesses and our kids rapidly growing up, we have decided to take advantage of this golden opportunity and go on a grand adventure next year. We have ordered a motorhome and are planning on taking off on a 3 month tour of the western states after Oshkosh. We are planning on spending the winter in Steamboat Springs, Colorado (not in the motorhome) so that the kids can train and compete with a competitive ski team there, and then finish off with another 3 month tour of the eastern states. Then we will come back home and figure out what's next in our lives.

The downside of this adventure is 6 months away from my new plane (thank you everyone who has offered to take it out and make sure it isn't gathering too much dust) and that I won't be around to run the Chapter this year. As of the June meeting, I will be resigning as president of the Chapter. At the June meeting we will hold elections for a new President.

I will truly miss working with all of you this next year. As cool as the planes are, the best part of this Chapter and the EAA are the people.

Thanks for everything, Todd.





# Last Meeting - Breakfast and Spot Landing Contest

We had a nice day in Monticello for our meeting/contest. We started with a few donuts and coffee, thanks to Max Dirks and Paul Elmegreen. We soon laid out markers near the runway to help our judges grade the landing. After a contest briefing our pilots took to the air to test their skill. I would like to congratulate all our pilots who demonstrated great flying proficiency and adeptness. The final results are below and Steve has earned the bragging rights at least until our next contest.

	first	second	third	total
Steve Ciha	0	30	40	70
Tim Swift	60	50	10	120
Terry Scherman	70	80	20	170
Todd Millard	90	120	0	210
Gary Sharp	90	80	50	220
Tom Caruthers	300	30	50	380
Ron White	70	300	80	450
Tom Olson	300	300	70	670
Armin Jacobs	300	300	300	900



## Next Meeting – Tom Potts -- Aircraft Electrical Systems

By Todd Millard

After a great flying oriented meeting at Monticello last month, we are getting back to a building topic our next Chapter meeting. The June Chapter meeting will be on Friday, June 13th at 7:00pm (6:30 social time) in the Board Room at the Eastern Iowa Airport Administration Building. Our

guest speaker will be Tom Potts from the University of Iowa to talk about Aircraft Electrical Systems. With many of the newer aircraft being built the electrical system has gone from just powering the radios and such, to replacing the vacuum system for attitude instruments and even more important powering electronic ignition. The result is the design of the electrical system has become a critical part of the airplane. Also, the design of the electrical system is often left up to the builder, making it all the more important that we understand what it takes to make the electrical system robust and reliable.

Tom is a research engineer working on spacecraft systems at the University of Iowa and also a private pilot. His current project is developing the sensor systems for a spacecraft to measure the radiation in the Van Allen belts. Through his experiences at the U of I, Rockwell Collins, and others, Tom has worked on the power, data, and radio electrical systems for craft as complex as the Space Shuttle and the Airbus A380 all the way down to a Stearman. He is currently helping Dick Scotter with the electrical system on his Zodiac project.

Tom will talk about some of the problems he has seen in experimental aircraft electrical systems as the builders have either tried to save money using cheap components or not followed design standards. He will cover the right way to build an electrical system using proper guidelines for wiring, components and system design.

It should be a great presentation on a very important subject. I look forward to seeing you there.

## Fly Market

**FOR SALE BUSHBY MUSTANG II KITPLANE**, Folding wings, completely unassembled, 25 gallon fuel tank, can accommodate an engine up to 210 hp. \$9000 Aviation tools pertinent to this kit are available and can be purchased separately. More specific information can be obtained through the Bev Streba bevstreba@cox.net 402-493-2198

**FOR SALE** One tenth share in a 1975 Piper Arrow. Cloud 9 Flying Club. Full IFR. Hangared at CID. Asking \$6,000 or best offer. Includes 12 hours flight time. Moved, must sell. Keith Johnson (217) 483-7929.

**FOR SALE** Garmin 96C in at \$450.00. I think they sell new for around \$495 but I've included the auto kit which is another hundred or so. This is a small battery operated color display with obstructions. It will run for 12 to 13 hours on two AA batteries. I've got a 496 now and have to use my gell cell to keep it running! Jim Zangger 712-477-2230 (home) 605-370-1139 (cell)

**FOR SALE** GOLD WING aircraft in flying condition - Ken Dodson 319-629-4669

**FOR SALE** Wing & tail parts for UltraLite type airplane. Any Offer - John Banes 319-846-2033

**FOR SALE** P-38 Lightning ultralight for sale. - Dan Knoll at 848-4406 for details.

**FOR SALE** 2000 Phantom X1 Ultralight, 125 total hours, Rotax 447 engine, BRS 750 parachute, 10 gal tank, Great Flying Aerobatic Airplane, More info available at [www.phantomaeronautics.com](http://www.phantomaeronautics.com) \$7000 or make an offer, - Jerry Maxwell Phone (319) 393-8560

# Chapter 33 Calendar

**June 8** Fly-in Breakfast Red Oak Municipal Airport

**June 13 7pm** Chapter Meeting  
Tom Potts - Aircraft Electrical Systems, Eastern Iowa Airport Admin Building.

**June 14** Fly-In Breakfast, Keosauqua Municipal Airport

**June 15** Optimists' Fly-In Breakfast, Maquoketa Municipal Airport

**June 15-16** American Barnstormers Tour, Iowa City Municipal Airport

**June 19-23** B-17 "Aluminum Overcast", PSair, Eastern Iowa Airport.

**June 29** Fly-In Breakfast Marion Airport

**July 12** Zangger Vintage Airpark Fly-In Supper



In The June 2008 Issue...

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