



PROPWASH

EAA Chapter 135 Newsletter

Book 7, Chapter 4

April 2005

president's Position

by Dave Kalwishky, President EAA Chapter 135

The safety seminar that was hosted by Exec 1 had a really nice turnout. The safety seminar was very informative and John McLaughlin gave short talk on the Robinson helicopters and some procedures that helicopter pilots use while flying, it was very informative.

I would like to tour the Fort Dodge Flight Service station on Saturday May 14th with a rain date of Sunday the 15th. Please let me know if you are interested, I will be flying up and will have an extra seat or two. If you have access to a plane and want to fly some people up let me know.

Letters have gone out to all the EAA chapters in the state of Iowa with our basic ideas of the Iowa Air Tour. I am now waiting to hear back from people. A date has not been set as I want to see what the other chapters and airports have for input before we commit to anything. The guys up in Boone would love to have us for one of the days which gave me an idea that as another event we could have a fly in/camping event with other airports in the area. We fly in for the evening, sit around eating food and talking with fellow pilots and fly home the next morning. I'd welcome some input on this as well.

With flying season upon us I have had a few events in recent months that really got me thinking about safety. Last year I completed phase I of the FAA's wings program, days after that I was flying a friend up to Boone when ATC (yes I take flight following EVERYWHERE) told me of a target at my 12 o'clock position and 2 miles at my altitude. My passenger and I did not see the plane; ATC then came on and told me to make an immediate turn right to 090 degrees (I was on a heading of 330). I could hear the proximity alert going off when ATC talked to me, I immediately banked the plane HARD right. ATC came on again and said the target was turning to match me direction and closing on me, he suggested that I make an immediate turn to 180. As I started this turn I remembered something that my CFI had taught me only days before, the chandelle. The chandelle is a commercial maneuver in which you climb and turn at the same time. Once you complete 360 degrees of turn you level off, your speed will be close to stall and when you lower the nose you do it slowly so you don't lose any of the altitude that you gained. As I started my turn I started to climb trying to get away from the other plane, before I turned 45 degrees ATC told me to turn to 270 and then back to my original heading all the while I hear the proximity alert going off in my headsets when ATC is talking to me. I firmly believe this saved my life on that flight. There is nothing more nerve racking than ATC telling you of a target at your altitude that is closing in on you!

This past week I was doing a training flight for my Instrument Rating and was shooting the GPS18 approach at Ankeny with Brant as my safety pilot. There were several planes in the pattern that day and Des Moines approach did not switch me to the Ankeny frequency as early as they normally did. The reason was the GPS18 approach takes you on top of Todd's field at 2500' and there was a plane inbound for Todd's that Brant could not find so stayed with Des Moines until we were clear of Todd's. As soon as they switched me to the Ankeny frequency Brant informs me of a plane on base to 18 which puts it at my 12 o'clock position and only a few miles in front of me. Recognizing the danger of this situation I took off the goggles and I joined the normal pattern and landed without incident.

I will be writing about safety in an upcoming series of articles, I hope you enjoy them and learn something you didn't already know.



The Leader In Recreational Aviation

—Dave

Soliciting Proposals for an Experimental Aircraft Panel – N9933X

By: Mark Melander
Murphy Moose (Demonstrator Shown)



About a year ago Cathy and I began planning the remaining steps to complete our Murphy Moose Project. We have been working on the project for over 6 years now and we can (finally) begin to see the light at the end of the tunnel! It's exciting!! Of course the major steps remaining for us were the firewall forward build-out and aircraft panel selection and installation. In the interest of time as well as recognizing our (severe) technical limitations, we decided to have our engine rebuilt and to have our panel built by a qualified panel shop. In

this article, I'll focus on the panel building process and save the firewall forward article for a later date.

So we began to ask ourselves: Where to start? How will we control our limited budget (considering some panels are \$50K, \$75K and some over \$100K)? What do we really need? And so on, and so on..... A little overwhelming at first.

After giving those questions considerable and careful thought, we decided to give our "Design-Build" (D-B) engineering "day-jobs" a little (more) use. We knew that the way to control our budget and get the panel we truly wanted was to prepare a bid document with specifications and other contract requirements for the panel shops to bid from. A well-written D-B bid document will also:

- * Drive cost competition without having to sort out "Apples and Oranges" after the bidding process.
- * Allow bidders to use their creativity to improve the project.
- * Be a one-stop shop.

Limit any "change order" potential to control the guaranteed maximum price of the project. The approach made sense (at least to us)... so off we went!!!

How did we select our instruments and avionics in the bid document? Our first step was to recognize that we are VFR pilots with big cross-country plans when the project is completed. We wanted to use some of the latest navigational technology, but we had a budget to maintain (less than \$40,000). We loved the look of a "glass", but were willing to compromise if need be to maintain the budget. If we could afford some type of traffic avoidance and a good engine monitoring system, that would be a big bonus. We knew we were building a WWII observation plane (color scheme), so "steam gauges and toggle switches" would give the panel a more authentic look. So, we could compromise on the low priority items and hopefully fulfill our "mission" needs.

Our next step was to build a list of instruments and avionics in an Excel spreadsheet that we thought would be the minimum panel we could accept. We used the Aircraft Spruce and Specialty catalog to price each piece to be sure we were within our budget range. This spreadsheet was setup to ultimately become our panel bid document and specification.

As we developed this list of preferred equipment, we sought advice from fellow builders and pilots as well as read extensively from Kitplanes and the Internet. One such personal contact was Bill Gast (Chapter 135). Bill was kind enough to invite Cathy and me to visit his hanger at beautiful Panorama International Airport in the Spring of 2004! We spend a couple of hours together learning and listening to Bill explain the various options, technologies and give us input on the ideas we were considering. It was a GREAT help in making the next round of specification decisions for our bid document. We were amazed at Bill's knowledge and abilities in assembling his own panel! Thanks again Bill!

After visiting with Bill and working on a few iterations of adding and subtracting certain components to maintain our "needs" list and budget, we had finally completed our preferred equipment list and final "Request for Proposal" (RFP). The RFP was organized in the following way to make certain that each bidder had all the same and relevant project information:

Cover Page – Name, Address and Make and Model

Design Criteria – An overview of the panel design requirements and intent.

Specifications – Technical requirements regarding wire, switches, paint, mounting, etc.

Electrical – All Aircraft Electrical Circuits, Ampacities and over current protection requirements.

Instruments – Required Instruments.

Avionics – Required Avionics.

Control Cables – Control Cables that would be mounted to the front of the panel.

Panel Dimensions – A drawing with dimensions of the panel.

Panel Pictures – 3 pictures of the panel to communicate the appearance of the panel.

(cont'd pg 3)

N9933X Panel Project

Last Update: April 8, 2004

REQUEST FOR PROPOSAL



Owners: Mark & Cathy Melander
Address: 29 Northwoods Rd
Adel, IA 50003

Home Phone: 515-996-9266 (Evenings)
Cell Phone: 515-707-6224 (Day)

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It was now time to find interested bidders. Based upon advertisements in various trade and kit magazines, we decided to contact and invite the following panel shops to make a proposal on our panel:

Aerotrionics – Billings, Montana

Avionics Systems – Leesburg, VA

Chief Aircraft – Grants Pass, OR

Gulf-Coast Avionics – Lakeland, FL

Pacific Coast Avionics – Aurora, OR

Our RFP indicated that each firm had 3 weeks to develop and finalize their proposals. With their (apparent) interest I sent the RFP to each bidder via e:mail. As engineer's that regularly develop similar proposals for industry, it's to be expected that some bidders drop out of the process, because they find a specification a bit overwhelming, controlling or intimidating. This was to be the case in our process as well. Shortly after inviting the 5 companies to propose on the panel, we learned that Gulf Coast and Pacific Coast were no longer interested. They said their backlog was too large. About one week into the process, Chief dropped out for the "same reason". Now we were down to two (2) bidders!!

After 2 more weeks, we received the two (2) well written proposals with drawings of the proposed panel layout. There were a few differences to sort out, because the RFP encouraged better ideas to be included (voluntary alternates) in the offer, however the proposals were complete and within our budget!!

Nice Proposal Drawing



Although it wasn't easy, we decided to select Avionics Systems from Leesburg, VA to build our panel, since their bid was nearly \$3000 lower than Aerotrionics.

What would we do differently next time? Probably (2) things:

1. We would have invited Aircraft Spruce and Specialty to propose on the panel project, since they are kit aircraft focused. (I forgot!!)
2. Put more emphasis on due dates, since Avionics Systems was poor in meeting schedule commitments. The panel was about 2 months late, however I did not need the panel as quickly as I thought.

Now that we are close to installing the panel into the Moose, we are happy we chose this approach and are excited to see the panel in action! If you have any questions about our approach or would like to have the specification, please let me know. I would be happy to share it.

Contact Information:

Mark Melander
mark@bratney.com
515-707-6224



Completed Panel on our Workbench

For Pilots Only

submitted by Maury Hunter

Two men dressed in pilots' uniforms walk up the aircraft aisle. Both are wearing dark glasses. One is using a guide dog, and the other is tapping his way along the aisle with a cane.

Nervous laughter spreads through the cabin, but the men enter the cockpit, the door closes and the engines start up. The passengers begin glancing nervously around, searching for some sign that this is just a little practical joke. None is forthcoming.

The plane moves faster and faster down the runway and the people sitting in the window seats realize they're headed straight for the water at the end of the airport territory. As it begins to look as though the plane will plow into the water, panicked screams fill the cabin. At that very moment the plane lifts smoothly into the air. The passengers relax and laugh a little sheepishly and soon all retreat into their magazines, secure in the knowledge that the plane is in good hands.

In the cockpit, one of the blind pilots turns to the other and says, "You know, Duane, one of these days, they're gonna scream too late and we're all gonna die."

April Chapter Meeting



April Chapter Meeting will feature a video on:

"History of Van's Aircraft"
This is actually a pretty interesting video. 7:00 pm at Exec I at the Ankeny Airport.

What's Going On

Member Profile Chanler Childs



April 2005		
Annual Chili Fly-In / Drive-In	2-Apr	Fort Dodge, Iowa Regional Airport For more information: 515-955-3635 (Eldon)
Annual Fly-In Pancake Breakfast	10-Apr	7am - 12 pm - Sponsored by: Iowa Central Comm. Coll. FREE to pilots in command Webster City, Iowa Municipal Airport For more information: 515-491-3765 (Brad Wignall) e-mail: wignall2@iccc.cc.ia.us
Fly-In Pancake Breakfast	16-Apr	7am - 11 am -- Sponsored by: ISU Flying Cyclones / Haps Air Service Pilots in command eat <i>FREE</i> Airplane rides, and the Visionair EV-10 jet will be on display Ames, Iowa Municipal Airport For more information: 515-232-4310 (Christa) 651-261-6274 (Jacob)
15th annual Fly-In / Drive In Breakfast	24-Apr	8am-12 pm -- Hosted by: The Univ. of Dubuque Flight Team Dubuque, Iowa Regional Airport For more information: 563-589-3277 (Mike Glynn) e-mail: mglynn@dbq.edu
May-05		
Fly-In / Drive-In	1-May	7am - 12pm Sponsored by: Sac City Kiwanis Kite Tournament 2pm - 4pm Pilots in Command Free SAC City, Iowa Municipal Airport For more information: 712-662-7801 or 712-660-0414 (Julie Howes)
Pella Tulip Time Flight Breakfast	7-May	7am - 10am - Breakfast \$4 Adults, \$3 children under 12, Pilot-in-command eats <i>FREE</i> Shuttle avail. to Tulip Festival May 5-7 Pella, Iowa Municipal Airport For more information on Tulip Festival go to www.pellatulptime.com. For more information on Flight Breakfast call 641-628-9393.
Friday Night Cookouts	5/13-9/16	Every Friday Night 5pm - 7pm Sponsored by: Clinton Aeroclub Clinton, Iowa Municipal Airport For more information: 563-242-3292 e-mail: flycwi@clinton.net
Open House	14-May	EAA Young Eagles Vinton, Iowa Municipal Airport For more information: 319-373-397
Annual Fly-In Breakfast	15-May	Fly-ins eat <i>FREE</i> Cherokee, Iowa Municipal Airport
Flight Breakfast / Open House	21-May	7 am - 1 pm -- So-Sponsored by: North Iowa Air Service & EAA Chapter 94 <i>FREE</i> to pilots in command Aircraft Display & Rides in Vintage B-25 Bomber North Iowa Air Service Hangar Mason City, Iowa Muni Airport For more information: 641-424-9366 (Todd)

He became interested in flying when he took his first airplane ride when he was in 2nd grade! At 14 he started taking flying lessons, acquiring about 20 hours before the FBO lost its lease at the airport. Now, currently 30 years old, he's still pursuing his interest. Chanler is a native Iowan, who grew up in Cedar Rapids and currently works at Wellmark Blue Cross and Blue Shield as a server administrator. He attended ISU for aerospace engineering, but dropped out. His hobbies also include golf, photography, woodworking, computers and reading. ***He passed his checkride March 28, 2005. Congratulations, Chanler!!***

He has only been in EAA and with the chapter for about 1 1/2 years. He is currently a chapter board member. He joined it to learn more about homebuilt airplanes. He has plans for an ERacer, but no space to build it in. For the time being he is helping Peter James with his RV10. When asked what advice he had for people "thinking" about joining our chapter, he replied "We're ordinary people and what we're doing isn't crazy nor does it take an engineering degree. What we're doing is within anyone's grasp and its done with safety for ourselves, our friends and our family, and for those on the ground." If he could change something about the chapter it would be to get more exposure. He would like to put the aviation bug in more people's ear, and let them know we are doing more than making lawn mower powered contraptions. He said that our chapter is something that can be enjoyed by both builders and flyers, not just those who want to do both! He is also looking forward to getting the new chapter hangar project underway.

The chapter is proud to have Chanler as a member, and appreciates the time he's donated back to the chapter.

Can anyone spell SPATIAL DISORIENTATION or VERTIGO?

By John Barcus

Get as much simulated instrument training as you can. Spatial disorientation, in some circumstances, make clouds look like the horizon or stars look like lights on the ground. The resulting illusions are enough to create spatial disorientation even in VFR conditions.

I've had the experience of a pilot attempting to cope with the onset of disorientation while his unconscious sense of level began to drift. Although his conscious mind was fully aware of the true bank attitude as shown on the bank indicator.

Why didn't he simply roll out of the unwanted bank? He couldn't. His conscious mind couldn't break the hold that his unconscious reflexes had on his hands. Yes, he was trying to roll out, but to him, it felt like the controls were jammed. He was just unable to move. I know this, because throughout the roll into the unwanted bank, he was literally shouting at me for HELP! Once he released the controls, I was able to roll us back to level.

Moral of this story—Fly with just one hand. Just because your conscious mind is properly oriented doesn't mean that you can overcome the disorientation that is occurring at the unconscious level.

If this should happen to you, let go of the controls as if they were **RED HOT!** Go directly to the turn coordinator. Look at the symbolic airplane and punch the ball. (Rudder High Wing.) With firm rudder pressure, step on the high wing until it is level. It is a method that will work when you are completely disoriented and/ or totally confused about the pitch attitude of the aircraft. If you are nose low, zeroing the rate of turn will point the lift vector up and the increased airspeed will pitch the aircraft up towards the horizon. If you are nose high, stepping on the high wing will hold the aircraft straight and its decreasing airspeed will cause it to pitch down toward the horizon.

Once the turn is stopped, and the aircraft is left alone, it will execute a series of alternating dives and climbs—called a phugoid oscillation. This you can stop by, gently, but firmly, pitching to the horizon on the attitude indicator opposite the motion of the needle on the vertical airspeed indicator. Remember to use an open hand. Don't close your hand around the wheel, lest we start the unintended input problems all over again! When the oscillation is stopped you have successfully recovered from an unusual attitude during spatial disorientation.

Now, with the utmost care, use your emergency instrument skills to get out of the instrument conditions—low visibility, etc. Think about this. Non-pilots do not understand this, as every year hundreds of pilots will pay the ultimate price in order to prove that pilots lacking instrument training, or instrument currency, don't survive very long in IMC. One might be inclined to deem this to be a noble act of self-sacrifice, if it weren't for the fact these pilots are going to give their ultimate to teach us something that we already know.

Special Thanks To Those Who Contributed to the Newsletter this Month:

Mark Melander, Maury Hunter, Dave Kalwishky, Chanler Childs, and John Barcus.

HANGAR UPDATE

We are in the process of securing the permit for the hangar repairs. We have received information on the trusses and once the permit is secured, we will be ready to start on repairs. You will be updated next month as to what plans the board has for the schedule of work. Please make yourself available as we begin the repair process. We will especially need everyone's help when we tear off the roof, so that it is not left exposed for any length of time. Thanks to all members for your help and support.

PROP WASH



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*EAA Chapter 135 dues are \$20 per year.
 To join our chapter please contact
 chapter Treasurer, Brant Hollensbe,
 who's e-mail and phone are below.*

UPCOMING MEETING
***April 9, 2005—Exec I, Ankeny Airport 7 pm. Video on
 “History of Van’s Aircraft”***

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