

# WINTERMAIL

EAA CHAPTER 25

MINNEAPOLIS / ST PAUL, MN

NOVEMBER 2012

## *First Flight - Zenith N63PZ*

*by Pat Hoyt*



I took N63PZ up for its first flight shortly after sunrise on Saturday, October 27th, with takeoff occurring at 8:02 a.m. Weather conditions were clear, with no wind and

*(Continued on page 4)*

*N63PZ after first landing - Photos by Dave Olson*

## *A Preventable Near-Accident*

*by John Koser*

Planning on a short flight, I taxied my Sonex to the run-up area of runway 30 at LVN. On performing the magneto check, when I switched off the left mag, the engine quit. This surprised me, but upon re-checking, it happened again when switching off the left mag, so I suspected the right one was faulty.

Returning to the hangar, we (Bill Brown and myself) *(Continued on page 5)*



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# "Say Intentions"



-an update from Kim V. Johnson,  
EAA Chapter 25 President

We moved the date of our November Chapter meeting from the usual 3<sup>rd</sup> Wednesday of the month to the 2<sup>nd</sup> Wednesday this month (11/14/2012) because the 3<sup>rd</sup> Wednesday of November is Thanksgiving Eve and members and their families will be busy with Thanksgiving preparations and perhaps travel. Please mark your calendars accordingly.

Our meeting speaker will be Gary Stinar, who will discuss his MIA search and recovery trips to New Guinea.

Also put **Sunday, December 9, 2012 from 1:00 to 5:00 pm** on your calendars for our annual Chapter 25 Christmas Party. This year's Party will be at Pat and Mary Hoyt's home in Eagan. Come join your fellow chapter members and spouses for food, beverage, and fellowship. If you can bring a dish, salad, beverage or dessert to share, to add to what Pat and Mary are preparing, please feel free. See page 8 for directions.

We will continue to offer members the opportunity to extend our Chapter spirit of giving by asking members to donate money to one or two local charities at our Christmas Party. The two charities that we are suggesting are:

- 1) Dakota County 360 Communities Food Shelves (formerly known as the Community Action Council). This would help provide food support to residents of Apple Valley, Burnsville, Eagan, Farmington, Hastings, Lakeville, Randolph, Rosemount and rural Dakota County.
- 2) Minnesotans' Military Appreciation Fund – This is a statewide initiative that provides a variety of financial support and other services to service members deployed in combat zones and to the families of service members killed in combat.

If you are so inclined to give back in this way, bring a check made out to one or both of these charities to the EAA Chapter 25 Christmas Party at Pat and Mary Hoyt's home on Sunday, December 9, 2012. If you cannot attend the party you can mail your donation to Kris Olson, Treasurer.

Hope to see you all there. The Party takes the place of our Chapter meeting in December so there will not be a Chapter meeting on December 19, 2012.

Want a way to get involved in Chapter 25 activities? I have a number of ways you can get involved. You get out of your Chapter participation what you put into it and then some. Participation is fulfilling. I have found that the more I

*(Continued on page 7)*

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# ON FINAL



Minneapolis/St. Paul

Visit our website at [eaa25.org](http://eaa25.org)

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# ***This Month: Wed Evening Nov 14th—BSAEC at Airlake***

**Grill on at 6pm, Meeting starts at 7pm  
Please bring something to share**

**Program:** Our meeting speaker will be Gary Stinar, who will discuss his MIA search and recovery trips to New Guinea.

**Saturday Nov 17th Young Eagles at Airlake, 9 am.**

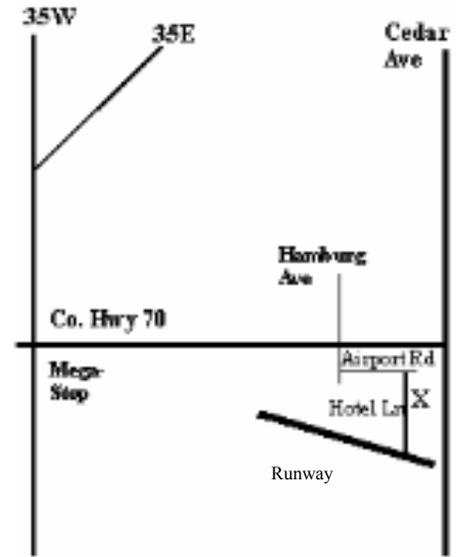
**Saturday Dec 15th Young Eagles at Airlake, 9 am.**

To volunteer to help with young eagles, contact **Bill Brown: 952-432-4231**

**Sunday, December 9th: Annual Christmas Party, 1—5 p.m.**

Pat and Mary Hoyt will host at their home in Eagan. See page 8 for directions.

**Directions to BSAEC (Chapter Hangar at Airlake):** South on I-35 to Hwy 70 (Megastop), then East to Hamburg Ave (3rd stop sign.) Right turn and South to airport perimeter road. Left on airport perimeter road then right on Hotel or India Lane. If the surface is firm, please park on space between hangars.



## **EAA Chapter 25 Meeting Minutes**

**October 17, 2010**

**Presiding Officer: Kim Johnson**

**Location: Bert Sisler Aviation Education Center  
at Airlake Airport**

### **Business Meeting Discussions**

Duane Steuart led the pledge of allegiance.

Kim Johnson asked for a moment of silence for all who serve and have served.

Kim Johnson thanked the temporary food coordinators Ned Lebens and Bob Poore.

Kim Johnson had the members introduce themselves to someone that they don't know.

Kim Johnson asked for anyone who wanted to run for an officer position. Hearing none a motion was made and seconded to reelect current officers. Vote passed unanimously.

Kim Johnson asked for approval to change the November chapter meeting to the second Wednesday due to Thanksgiving Day. Hearing no objection the next meeting will be November 14<sup>th</sup>.

Kim Johnson announced that we were blessed with two offers to host our annual Christmas Party. The party will be hosted by Pat and Mary Hoyt on Sunday December 9<sup>th</sup> from 1:00 through 5:00 pm.

Sharon Sandburg of All Star Warbirds was present and showing her custom shirts, jackets and hats. Pat Halligan suggested that those interested consider ordering shirts with the chapter logo for fly in events.

Kris Olson said that she has membership forms and that two new members signed up today.

The treasurer's report shows cash balance of \$12,574.69 as of 10/17/12.

Ned Lebens reported that this year's banquet netted \$462 for the silent auction and about \$2500 for the raffle.

Mike Tompos gave a short statement about Eagles Flights, he has form from EAA for getting insurance to cover an Eagle Flight.

There will be a special Young Eagles event Saturday 10/27/12.

Air Academy Scholarship winner Juan Villalobos spoke about his experience. Juan is 13 years old; he was born near Mexico City and now resides in Hopkins. He stated that the food at camp was good. He had a chance to ride in a helicopter and a fixed wing where he experienced zero g maneuvers. The camp also built parachutes for an egg, his egg survived. He brought some of the projects that he made. They were three wing samples, one hot wire cut from foam, one built of wood, and one from aluminum.

Dick Navratil said that the Piet builders meet on every Saturday at his hanger from 10:00 until 4:00 at Crystal Airport, all who are interested, are welcome to help.

### **Program**

Amy Lauria (Director of the Minnesota Wing of the Commemorative Air Force)

Amy Showed a documentary "The Restorers" that follows MN Wing's Miss Mitchel (B-25) from it's restoration through a recent flight to the Doolittle Raiders Reunion at the Dayton Ohio Air Force Museum. The title of this first episode is "They Were All Volunteers". Amy had information on how to help sponsor this and future episodes.

Submitted by Paul Brown



# N63PZ First Flight

(From Page 1)

a temperature of 28 degrees. The sunrise azimuth was 108 degrees, which strongly favored runway 30 at that hour.

Other than being one of the biggest accomplishments of my life, the actual flight was relatively uneventful (which was \*exactly\* what I wanted). I flew a quick circuit around the airport area at 2,700 feet to check some basic functionality, and then flew east to set up for a gentle final approach with the sun at my back.

Preparation for the first flight began with low-speed taxi testing, followed by incrementally faster high-speed taxi tests, which in turn were followed by land-back tests. I also got about 20 hours of time in two other Zodiac 601XL's during some transition training in Tennessee in the days immediately prior to N63PZ's first flight. This transition training was exceptionally valuable (and was a whole lot of fun).

Prior to the first flight I'd mounted two small video cameras on the airplane - one under the right wing that pointed inboard, and another behind my right shoulder that was pointed forward. I put together a video of the first flight and posted it here:

<http://www.youtube.com/watch?v=U-ubbYZGk1s>

It took me 5 years, 11 months, and 16 days to build N63PZ, from first rivet to first flight. I also built the engine, which I recovered from a 1967 Chevrolet Corvair that was parked in an auto salvage yard. More pictures of the project can be found here: <http://www.zenith.aero/profile/PatrickHoyt>

What really strikes me is how fortunate we are to live in a country and in a time in history when it is even conceivable to do this - that I could actually build an airplane (and build the engine) with my own two hands, and then fly it. Throughout most of human history, such a feat would have been utterly inconceivable and even today this would simply not be possible (or "allowed") in much of the world.

Thanks to John Schmidt and Dave & Kris Olson for their help and support early on that morning.

And thanks to my wife Mary who has been so supportive and encouraging of this entire project. Although this is our first airplane, it won't be our last, and we are already thinking about what to build next...

Patrick Hoyt



*Right—Before first flight*

*Below—first landing of N63PZ*

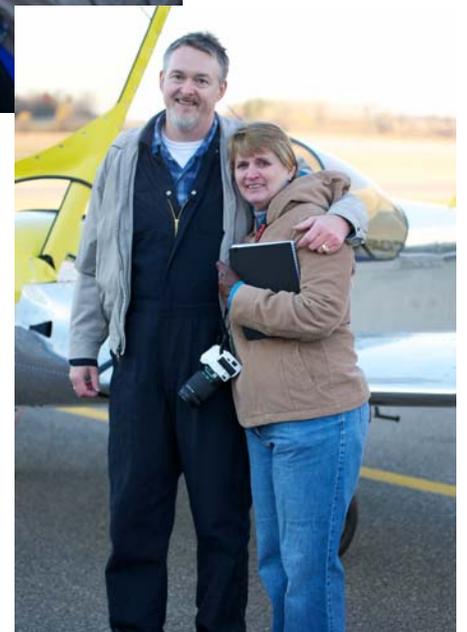


*Above: Reaction after first flight*

*Right: Pat & Mary with N63PZ after first flight*

*For more background on the building of N63PZ, go to [eaa25.org](http://eaa25.org) and see the following issues of On Final:*

- March 2007*
- February 2009*
- September 2010*
- May 2011*
- June 2012*



# **A Preventable Near-Accident** *(Continued from page 1)*

did some diagnosis of the problem, and decided that both mag switches were working properly, and that the right mag was indeed faulty. The coil was the culprit.

Fortunately, Bill had in his equipment supply a spare magneto coil, so we decided to install that coil and check out the engine. We mounted the coil using a feeler gauge to be sure the clearance between the magneto and the flywheel was as specified (0.0100 inch). I had installed the two bolts holding the mag coil using a small socket wrench and tightened them down securely (later to find that this level of tightening wasn't adequate).

I started the engine, and it ran well, sounded strong, and responded well to variations in throttle settings. I decided to make one circuit around the pattern to make sure all was well, so I taxied to runway 30 and prepared for a takeoff.

The run-up went well, with the magnetos responding properly. I taxied on and accelerated smoothly, lifting off and staying in ground effect to accelerate, then climbed at about 1000 feet/minute approaching pattern altitude. As I announced and executed a left crosswind turn, the engine suddenly displayed a hard knocking pulse and began shaking the airplane. What happened next was automatic. I continued the turn back toward the runway while cutting throttle to idle and announcing an "engine out – emergency landing on runway 21."

I descended under idle power, pulling one notch of flap while trying to line up with the runway and keep my descent under control. (This all happened in a very brief few seconds, as the pilot in an airplane ready to take off on runway 30 thankfully taxied off the nearest exit.) I was able to land the airplane about ¼ of the way down the runway and keep in on centerline until rolling to a stop.

Bill Brown and Keith Rhode walked out and we pushed the airplane back to the hangar. We removed the cowls and inspected the damage to find that both magneto coils had been damaged by impact with something, one magnet cluster on

*Flywheel with missing magnet cluster and broken off bolts visible*



*Damaged magneto coil (impact damage split laminations)*

the flywheel was missing with two bolts sheared off, and a single magnet was found stuck to the lower engine mount. It was clear that the engine would have to come off the airplane for damage assessment and repairs.

Thanks to the assistance of Bill Brown and Keith Rhode, we got the engine removed and on the workbench. See the photos above of the damaged flywheel magnet cluster with broken bolts and the damaged magneto coil.

## **Repairs**

Thanks to Keith's skills and tools, he was able to remove the ends of the broken bolts using a small drill and Easy-Outs. The damage look repairable, but it was going to take awhile. Pete Krotge of US Jabiru was called, and his response made it possible to begin repairs within less than a week. Pete sent me a magnet cluster and brackets from a 2200 flywheel assembly that he happened to have on hand. Two new magneto coils were ordered by phone *(Continued on page 6)*

## **Final Approach Trivia Quiz** *from John Schmidt*

What's a 'Huck's Starter'?

*Answer on page 6*

# A Preventable Near-Accident

(Continued from page 5)

also.

The following week, with assistance of Bill Brown, I mounted the two new coils, carefully spacing them at 0.011 in from the flywheel. I tightened down the two bolts, again with a small socket set, but I wasn't sure about the torque to apply.

## Re-thinking the Event

About this time, I had the sickening feeling that I'd brought this all on myself by not tightening the two magneto coil mounting bolts to torque specifications. Reading the engine manual and calling Pete at US Jabiru again confirmed that I had erred in not using a torque wrench and being sure those coils were torqued down to specs. Now, I'm sure that's why the right magneto coil we'd earlier replaced apparently moved under load and contacted one of the magnet clusters on the flywheel spinning at 2700 revolutions per minute while taking off!

Using a torque wrench, I tightened the mag coil mounting bolts further to specs (100 – 120 inch pounds) and am confident they won't move again under load.



*The flywheel area after repairs with mag cluster attached is functional. The engine is re-installed and two new mag coils are in place. As of November 11th, N167JK is ready to fly again. Thanks for valuable assistance from Bill Brown and Keith Rhode."*

## Afterthoughts

The reason for writing this detailed description of the situation I got myself into is to warn others to read the manuals first and be sure that all phases of repair and installation of new parts include the torque specs. This was partially a case of trying to fix a problem without considering the entire solu-



*The Pietenpol group met again on Nov 5th at "Let's Dish" in Edina. We made a number of meals for a chapter member and his family. Afterward we went to Cowboy Jack's for a beverage of choice and a bite to eat. Mary Hoyt organized this event, but she was behind the camera for this photo. —Pat Halligan*

## Answer to Final Approach Quiz

(See page 5)

A **Hucks Starter** is an auxiliary power unit to start up [piston aircraft engines](#), negating the need for hand-propping.

The starter truck is positioned in front of the airplane when starting, much like a groundcrew member. A shaft is fixed to the crankshaft hub, with a simple 'twist claw' protruding. When engaged, the power of the truck's engine is transmitted to the aircraft engine until start up, whereupon the faster speed of the now-running engine disengages the clutch, and then the starter truck clears the area prior to take-off. See photos and article at:

<http://www.vintagewings.ca/VintageNews/Stories/tabid/116/articleType/ArticleView/articleId/381/>

tion. With these precautions, the near accident could have been prevented.

Had I gotten several miles from the runway, I'd have had to put the airplane down in some bean field, or worse, and I might not have been writing this story. I was very lucky: to be near the runway, to have climbed to 700 feet AGL, to be flying an airplane that can take a tight turn within its aerobatic stress limits, and to have the pilot almost ready for takeoff on the other end of the runway quickly clear the runway. Having friends with skills and willingness to assist in repairs was a major part of making repairs.



## Stuff for Sale/Wanted

For Sale: Ellison EFS-2 Throttle Body Injector  
**don schlais** <d.schlais@hotmail.com> 763-479-8228

Wanted: Hangar space to rent at Airlake for a Cessna 150. Please contact Mike Tompos at mjtompos@yahoo.com or 507-301-1728.

From Peter Denny: A friend of mine in Atlanta is very ill and he has to sell his Cherokee 140. Please draw this to the attention of the membership.  
[http://cgi.ebay.com/ebaymotors/1975-Piper-Cherokee-PA-28-140-w-150-hp-engine-/300790995248?pt=Motors\\_Aircraft&hash=item46088a5930](http://cgi.ebay.com/ebaymotors/1975-Piper-Cherokee-PA-28-140-w-150-hp-engine-/300790995248?pt=Motors_Aircraft&hash=item46088a5930)

For Sale: Aviation Books. Oldies, classics, some brand-new, some auto-graphed. Inexpensive! Cutting down my library. I can e-mail a listing. Noel Allard. [nallard@unitelc.com](mailto:nallard@unitelc.com).

For Sale: MAGNATEK Model HH2p011 1/4 HP compressor with spray gun and assortment of accessories. This equipment has been hardly used. Anyone into model airplanes or art would find this an asset. \$100 ONO Contact Peter Denny 763-529-5325 or email [peterthepilot99@gmail.com](mailto:peterthepilot99@gmail.com)

For Sale: Lancair 320/360 kit, Super-Fastbuild kit. Asking \$20,000 or offer. Call 608/797-5752.

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## “Say Intentions” (From page 2)

give in participation, the more fulfillment I get back. I am recruiting a food superintendent, newsletter writers, BSAEC Hangar Committee members and a librarian. Come and talk to me about it or call or e-mail me. We will work it so that you can participate at your own level of availability.

Four of my goals for Chapter 25:

Encourage Chapter 25 membership by young men and women with an interest in aviation.

Encourage younger members to get actively involved in Chapter 25 activities.

Have all members get to know each other better.

Perpetuate the Chapter 25 Mission which is to perpetuate interest in building custom aircraft and to support all we can who have an interest in aviation by sharing our knowledge and experience.

“Truth, like gold, is to be obtained not by its growth, but by washing away from it all that is not gold.”

--Leo Tolstoy, Russian writer

Looking forward to seeing you at the meeting!



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# Chapter Events

Nov 14th Chapter Mtg at BSAEC, 6 pm  
(see page 3 for map & directions)

Nov 17th Young Eagles at Airlake

Dec 15th Young Eagles at Airlake

December 9th: Annual Christmas Party

Future meetings 1/16, 2/20, 3/20, 4/17

5/15, 6/19, 7/17, 8/21, 9/18, 10/16, 11/20



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## Directions to Christmas Party

Sunday, December 9th from 1pm until 5pm at Pat and Mary Hoyt's. Come join your fellow chapter members and spouses for food, beverage, and esprit de corps. If you want to bring a dish, dessert, or beverage to add to what we are preparing, please feel free.

1620 Blackhawk Lake Drive, Eagan, MN 55122. 651-688-7747.

Directions from 494:

Get onto I-35E southbound

Take Yankee Doodle Rd exit. Get in 2nd lane from the right.

Turn right onto "Yankee Doodle Rd". (heading westbound)

Go straight through the first stoplight which is "Pilot Knob Rd".

At the 2nd stoplight turn left onto "Federal Dr".

After about half a mile, "Federal Dr" makes a hard right (if you miss that right-hand turn you'll find yourself crossing an overpass and will need to turn around).

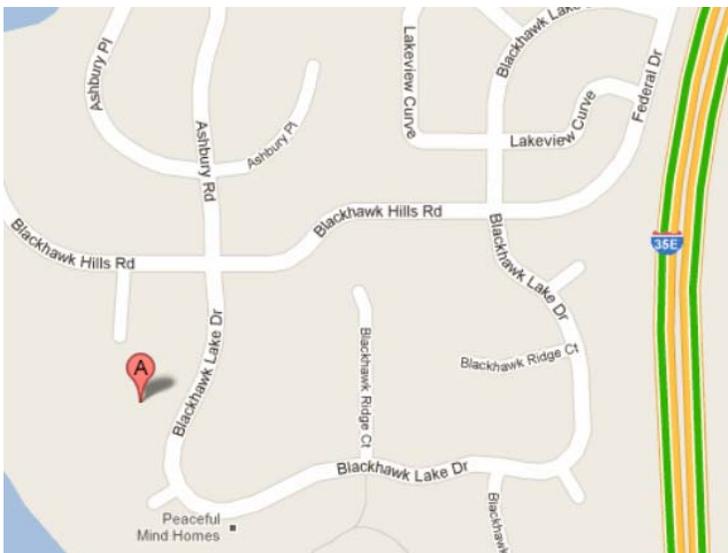
"Federal Dr" then becomes "Blackhawk Hills Rd", and bears to the right after about 1/4 mile.

Turn left at the \*second\* "Blackhawk Lake Drive" (it's a loop, the 2nd entrance is better).

We are the 5th house on right. The house is tan and will have an old blue Mercedes diesel in the driveway. The numbers "1620" are visible from the street.

Below is a link that shows our house (the one with the blue car in the driveway) and can provide driving directions with a map:

<http://tinyurl.com/EAA25Party>



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