

WINTERMAIL

EAA CHAPTER 25

MINNEAPOLIS / ST PAUL, MN

JANUARY 2016

Homemade ADS-B Receiver



By Patrick Hoyt

For some time I've been wanting a reliable, low-hassle, low-cost way to get in-flight weather - especially "winds aloft". Several of the longer cross-country flights in a small homebuilt airplane have given me a greater appreciation for the effects of headwinds, particularly during those times when I watched cars on the road appearing to go just as fast as I was, despite whatever my airspeed

The ADS-B Receiver installed in Pat's Zenith N63PZ for the flight to Texas

(Continued on page 4)

Chapter 25 Works on a B-25

By Pat Halligan

On Thursday, November 12, I hopped into Peter Denny's new Jeep (or his single engine Cherokee as he calls it) along with Bruce Anthony and headed to Oshkosh, WI. Five hours later we arrived at the EAA AirVenture Lodge. We were greeted by a number of EAA Chapter 237 members and assigned our rooms in the EAA staff lodge. Since it was only 6 PM a number of us decided to head out for dinner. The restaurant of choice was Friar Tucks,

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Flight Lines



—from Craig Nelson,
EAA Chapter 25 President

Happy New Year! I hope the start of the year finds you in peace and good health. Since On Final was not published in December I have a few things to update you on.

During our November meeting, the following officers were re-elected to serve in 2016.

- Craig Nelson - President
- Mamie Singleton - Vice President
- Kim Johnson - Secretary
- Gordon Duke – Treasurer

I want to thank my fellow officers for their outstanding service in 2015 and I look forward to working with them again this year.

The Christmas party at Dan Carroll's beautiful hangar was great fun. We had a good turn out with folks enjoying good food and conversation. It was nice to see members that I have not seen for quite some time. Thank you Dan for hosting the event.

I want to pass on an update that I received from Tree of Hope Co-Chair Deb Klier. On December 5th, 22 planes flew toys to Maple Lake Airport, the staging area for toy distribution. These toys were then sorted into 108 bags of toys which were then delivered to 39 hospitals across the state. Thanks to all members that donated toys and helped with this project. It sounds like demand still exceeds supply so let's plan to help out again next year.

Santa brought a present to Chapter 25 this past Christmas. We are now the proud owner of a flight simulator. Peter Denny happened to see it for sale on Craigslist at a very reasonable price. After consulting with our Board of Directors we decided to buy it. We will be placing it in the BSAEC for members to use once the weather warms up a bit. More information about the system will be presented during our January meeting. Thank you Peter for all your efforts in obtaining and debugging the simulator.

Chapter 25 has received a donated disassembled Continental 65 engine. I have had members express interest in obtaining the engine for their use. This was discussed at a recent Board of Directors meeting and it was decided that the fairest way to sell the engine is to auction it off to the highest bidder. This auction will occur during our February meeting. Stay tuned for more details on how the auction will be conducted.

On another donation topic, chapter member Steve Wozniak has a nearly completed Quadcity Challenger II that he would like to part ways with. We have agreed to champion the sale of the Challenger for *(Continued on page 8)*

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On Final



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This Month: Wed Evening Jan 20th—BSAEC at Airlake

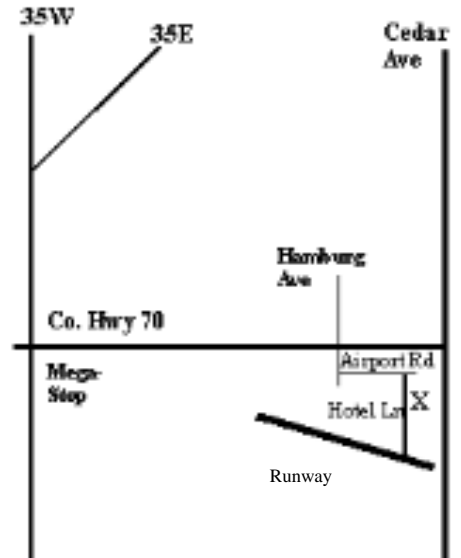
Grill on at 6:00 pm, Meeting at 7:00 pm

Please bring something to share (meat and buns provided): deli salads, chips, cookies, utensils, soft drinks and water.

Program: Our speaker will be Brian G. Utley. Brian supervises world and US record attempts in aviation for the National Aeronautic Association. Several years ago he supervised the parachute jump of Felix Baumgartner from 125,000 feet. This jump will be the subject of his presentation. This presentation should be very interesting and informative.

Wednesday, February 17th: February Chapter Meeting

Saturday, February 20th: Young Eagles Contact Kris Olson, pilots/ground crew needed: 651-675-6826, ksimpson2@yahoo.com



Thank You Pat and Mary! The Board of Directors of Chapter 25 unanimously passed the following declaration: "to offer the sincere and heartfelt thanks on behalf of the entire membership of EAA chapter 25 to Pat and Mary Hoyt, in recognition of their outstanding contributions to and enthusiasm for Chapter 25".

A Simulator Affair Part 1

by Noel Allard

I think we pilots have a good deal more expertise in judging distances and perspectives than the average landlubber. For example, we are used to judging our speed in three dimensions relative to distance to a touchdown spot, and to just know where our wheels are above the ground, even though we can't see them. If we fly formation, we have a sense of spacial judgment that is unique as well. Taxying between rows of parked aircraft at a fly-in breakfast is also a tricky dimensional situation.

This reality occurred to me after a wonderful experience flying the Air Guard's C-130 simulator at MSP. After a model airplane club meeting one night several years ago, an Air Guard instructor pilot who had attended the meeting invited four of us to an evening session of checking out the C-130 sim. Just like the airline simulators, the C-130 sim was mounted atop tall legs that gave it full motion and sensations of really being in the air. Even the shuuum of the turboprop engines was replicated. I stood at the back of the line of the four of us waiting our turns at the captain's seat. None of the other three of my friends were pilots. Each was super eager to take the controls.

The first friend made a successful takeoff with the instructor's coaching, and happily made some turns and altitude changes. After about fifteen minutes, the instructor pointed to the image



out the front window of a city with several bridges over a river down below. "Do you think you want to fly the C-130 under one of those bridges?" he

(Continued on page 7)

Final Approach Trivia Quiz

By John Schmidt

Aviators are among the over 800 luminaries in history who have had their likeness on US Post Office-issued stamps since 1847. Other than Lindbergh or the Wright Brothers, name at least 4 pilots or aviators who have been so honored.

Answer on page 6

ADS-B Receiver

(From page 1)

indicator was telling me...

I had seen talk in the online forums regarding a "\$100 homemade ADS-B receiver", so I studied up on it and then built one. It's a small device (photo at right) that does indeed pick up ADS-B weather data while in flight. It talks to a GPS-enabled iPad via a wireless network connection and displays information on a moving map. It's built out of inexpensive and easily obtainable components that simply plug together.



Homemade ADS-B Receiver

Recently I flew my 601 from Airlake to 50F (located about 30 miles southwest of DFW in Texas), and having this device in my airplane (cover photo) helped me select the best altitudes given current winds aloft, which in turn made the trip possible to do in a single day (wheels-up from Lakeville shortly after sunrise, a fuel stop in northern Missouri, another fuel stop in Oklahoma, and then arrival at 50F right around sunset). During the flight I was able to determine that if I cruised at 6,500 feet I would have the most favorable tailwind component available, versus less favorable winds or even headwind components at different altitudes.

Testing some additional functionality was inconclusive. This device should work with Android, and I also run Avare (which is a rough equivalent to ForeFlight, but runs on Android) on my Samsung cell phone, but I could not get the ADS-B functionality to work on that platform. Possibly a newer tablet would give better results (which gives me an excuse to go buy a new tablet!).

Supposedly this device also has the capability to report on the location of other nearby aircraft - assuming the other aircraft are equipped with ADS-B "out". I looked for that while in flight, however I never saw any indication of other aircraft on the display, even though I could see other planes in the air. Possibly there just are not very many small airplanes out there with ADS-B "out", and I simply didn't encounter any on that day. However, the more I think about it, the more I come to believe that the entire idea of ADS-B "out" for small aircraft like ours may be somewhat misguided, because when we're flying our Pietenpols and Pipers around small country airports, it seems that safety would be better served by everyone simply looking out the window, versus looking down at some instrument that may (or may not) be picking up other traffic that may (or again may not) have the right equipment installed (and working).

But in my opinion, the best reason for ADS-B is the weather data, which you get from ADS-B "in". That piece alone is a winner, and makes building one of these little devices worthwhile.

Also handy during the long cross country flight was an app called "Glympse". This is a free application that I ran on my Samsung (Android) cell phone. It enabled me to send a text message that contained a link to a web page that plotted my current position and speed. Texting that link (which the app does for you) to my wife before takeoff allowed her to know where I was at any time. This was a great stress relief for me because I knew that SHE knew I was OK, since if she could see that I was in the middle of nowhere, yet still moving along at +100mph then everything must be fine. I had a handy mount for my cell phone, and was able to comfortably send text messages to people while in flight, and thus was able to get real-time feedback that things were working. Interestingly, during a long, shallow dive towards my destination airport, my speed crept up a bit and Mary actually texted me the question "are you pushing it?", in reference to my faster-than-usual speed at the time.

For detailed information on how to make one of these ADS-B receivers yourself, simply go to "<http://stratux.me>".

If you guys are flying cross countries in your homebuilts, and are using an iPad with ForeFlight, then you should seriously consider building one of these devices for yourself. It's easier than you think.

Patrick Hoyt
N63PZ



Ch 25 Works on a B-25

(From page 1)

just outside the Wittman Airport security fence, on the NW corner of the field. They have really good food at a very nice price.

After returning to the lodge, we watched a movie and were joined by Jeff Coffey who had driven to OSH, but stopped to see his parents in Appleton before joining us.

After a good nights sleep and a hearty breakfast, the four of us met a group of 237 members at the EAA Kermit Weeks Hangar, on the north side of the field, at 0800. We were given a briefing on jobs that they needed us volunteers to work on. The B-25 needed some Fuselage skin replaced, paint removed from its wings and some rivets drilled out. The Ford Tri-motor needed its interior removed, while a beautiful Waco needed some TLC. They also needed some help over at Pioneer Field pickling some airplane engines, cleaning spark plugs and replacing brake pads.

I believe it was Peter and Bruce who volunteered the four of us from chapter 25 to work on the B-25. Boy am I glad they did! I'm here to tell you, it was the neatest feeling I've had in a long, long time when I first climbed up the work ladder and stood on the inboard part of the wing and looked around and realized I was on a B-25. A B-25, the kind Jimmy Doolittle used on the Tokyo raid. While talking to Peter, Bruce and Jeff at lunch and later that day, I found out they each had a similar feeling to the one I had when they first got up close and personal to the B-25. We spent the day drilling out rivets and installing new ones on an area that needed some doublers added. Using old sheet metal skin as patterns we made new skin panels for the old girl.

Besides furnishing us with rooms, they also fed us lunch and dinner both days we worked.

The following morning we had about twice as many volunteers as more EAA members from Anoka had arrived the night before and some local OSH volunteers showed up to spend their Saturday working on airplanes.

It was back to work on the B-25 for the four of us. More sheet metal panels need to be made and the drilled holes deburred and dimpled. What a great feeling to see a new piece



of sheet metal clecoed in place. I don't know if it was the satisfaction of seeing a new piece of skin attached to the airplane or the fact we realized how many people were involved in building these B-25's during the war, but something gave each of us a wonderful feeling of pride. You couldn't help but day dream as you sat on the upper fuselage, and thought what it must have been like for a young "kid" and his crew to fly a B-25 during the war.

On Saturday evening, after dinner, we watched the film "Living in the Age of Airplanes" in the EAA Skyscape Theater. After the movie we were free to roam the EAA Flight Museum and climb over (or in Peter's case-under) the guard railings and climb in the cockpits. Jeff's parents, Fran and Sandy, joined us for the movie and tour. I'll bet they thought Jeff and I were like two kids in a candy store as we climbed inside and had our pictures taken in an F-4U Corsair, P38 Lightning, Mosquito and a few others.

My wife will tell you my first love is aviation and my second love is her. That's not true, but airplanes were in a close second place this weekend. Peter had his speakerphone on in his car one day and I heard him tell Ludmilla's son "I've died and gone to heaven" the boy answered, "I'm glad you made it."

All the paid mechanics we worked with were so nice and seemed so thankful and grateful that we volunteered our time. They also spent time telling us about the different airplanes in the hangar.

EAA OSH is planning more volunteer weekends towards the end of January and February and every one of you, that loves airplanes, needs to try and make one of the work sessions. Then during the morning briefing make sure you volunteer to work on the B-25, or Ford Tri-motor, or another piece of history.

Peter, Bruce, Jeff and I are already talking about going back and we sure hope more members of chapter 25 will join us.

—Pat Halligan



Gone West

Jim Mayer

Jim, age 94, of Lakeville, passed away on November 13, 2015 surrounded by his children. Jim graduated from Alexandria High School and worked in weather stations until being drafted for WW II. He served in coded communications in London throughout the war and demobilization, returning to the US in 1946. Afterwards, he worked in air traffic control until his retirement, whereupon he applied his many craftsmanship skills to building his own experimental aircraft. He enjoyed flying the plane for years and won awards with it at the annual Oshkosh Experimental Aircraft Show. He served on the Lakeville Planning Committee, was president of his chapter of the Experimental Aircraft Association, and volunteered many hours at All Saints Parish in Lakeville. He and his wife Viola left the City of Lakeville the legacy of the wildflower garden they established over the years at Ritter Park. Jim was preceded in death by his loving wife of 71 years, Viola; parents, George and Barbara; siblings, Robert and Wallace. He is survived by his children, Tim (Phyllis) and Barbara (Mike) Christian; grandchildren, Jann (Sheri) Mayer, Danna Mayer, Heather (Dave) Knutsen and James Christian; great grandchildren, Bryan, Emily and Ryan.



Roger Anderson

Roger, age 92 died Nov 19, 2015, survived by his wife, four children and several grand and great-grandchildren. Originally from St. Paul, he built his own hang-glider in middle school and entering the aviation maintenance program at St. Paul Vocational in 1941, began a lifetime of maintaining and rebuilding aircraft. He worked on trainers, fighters and light bombers at Vandalia, Ohio and joined the Federal Civil Service in 1944, where he was assigned to Pearl Harbor Naval Air Station to work on carrier-based fighter planes. After the war, Roger converted military aircraft to civilian use and received his A&E license at Wiplinger, where he also learned to fly the military aircraft then being surplus for civilian use. Roger had 27 different aircraft listed on his student permit. In 1948, Roger joined the MN Air National Guard and was called to active duty with the Air Force from 1954-1956, where he served as shop chief, hangar chief, inspector, and supervisor of jet engine training. Roger joined Aero Precision Engineering Co. in 1958. During this period he also helped to build up seaplanes for Surfside Flight Training School and earned his floatplane endorsement. Beginning in 1962, Roger worked for four years at the Winona Airport, and Winona received Minnesota's Airport of the Year Award in 1964. In 1966, Roger joined the Aviation Training Center at Flying Cloud, where he served as the Instructor-Program Manager for the A&P Program. Over his career he rebuilt 53 aircraft, including a 1936 Fairchild 24 C8F, 1945 Stearman, an F51 and a Curtis Pusher. In 1988, Roger was awarded the Speed Holman award. In March of 1994, along with Steve Wittman, Roger was awarded the Charley Taylor Award. In 2006, Roger was inducted into the Minnesota Aviation Hall of Fame. In retirement, Anderson continued his work as an educator, mechanic and technical advisor to homebuilders. For more information on Roger's life and career, see his Member Profile in the July 2003 issue of On Final at www.eaa25.org.



(Continued on page 8)

Thank You Members!

Our Chapter 25 Scholarship Fund Campaign is a huge success! Forty nine members made contributions totaling \$3026 which exceeded our goal of \$2750. Thank you to those that contributed. Your donated dollars will be put to good use educating our next generation of aviators. Please see the list of contributors below.

Donna Adams	Kim Johnson
Steve Adkins	Drew Johnson
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Answer to Final Approach Quiz

(see page 3)

The List: Buzz Aldrin, C. Alfred "Chief" Anderson, Neil Armstrong, Hap Arnold, Octave Chanute, Claire Chennault, Jacqueline Cochran, Bessie Coleman, Glenn Curtis, Amelia Earhart, Samuel Pierpont Langley, Charles Lindbergh, William T. Piper, Wiley Post, Harriet Quimby, Eddie Rickenbacker, Blanche Stuart Scott, Elmer Sperry, Alfred Sturtevant, Orville Wright, Wilbur Wright



Stuff for Sale/Wanted

Wanted: Your dusty old VFR instruments for my Pietenpol project. Please contact Ned Lebens 952-567-3329 or nlebens@gmail.com

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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.

A Simulator Affair (Continued from page 3)

asked the rookie. “Sure, what the heck.” was the reply. So down we went. Once low over the river with the plane shaking and veering, he aimed in the general direction of the bridge. You can guess what happened... “Boom” a terrible noise and the screen went blank! “Next pilot,” the instructor called out. So number two sat down and did some maneuvers. When the instructor asked if he wanted to try the bridge, naturally he figured he could do it much better than number one. He was a little steadier, but when plane met bridge, “Boom” and the blank screen. Now it was number three's turn. Having seen the two previous students slam the bridge, he was more wary when the time came. But, sure enough, the situation repeated itself. All had fun but they were now eyeing me, to see how I would blow it.

Remember, I am the only one who was a pilot. I took the controls and had the usual fun making turns, pulling the power, adding power. But, I knew what was coming. “How about it – want to try the bridge?” “Well, sure. Why not?” I did manage to get the Herky down nice and low over the river and fairly steady, and watched the bridge coming toward me. Whoa – I don't like this! I quickly pulled up and zoomed over the bridge. I didn't want to destroy a good airplane, and I wanted to keep flying. “Okay, good work, you can take us back to the airport and land.” So, I had chickened out because it just didn't look right to me. As we thanked our instructor and filed out, I stopped to ask him. “Does this plane's wingspan fit under that bridge?” “Nope” said the instructor.

—Noel Allard 1998

Next Chapter Meeting: Wed, Feb 17th

Young Eagle Events: Sat, Feb 20th
 contact Kris Olson (see p2) if you can volunteer

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Flight Lines

(from page 2)

him with Steve donating the proceeds to the Chapter 25 Scholarship Fund once sold. Terry Carmine will lead a small team that will setup and execute the sale. We are looking for volunteers to be on this team. If you are interested in helping, please talk to Terry or a chapter officer and express your interest.

It's hard to believe but our annual membership renewal process is underway once again. You should have received a renewal packet in the mail with a form to return along with your dues payment. We are well on our way with this project with 66 members responding. If you haven't already done so, please complete this task so we can get accurate information for our records and roster.

Our meeting this month will be at the BSAEC at Airlake Airport. Our speaker will be Brian G. Utley. Brian supervises world and US record attempts in aviation for the National Aeronautic Association. Several years ago he supervised the parachute jump of Felix Baumgartner from 125,000 feet. This jump will be the subject of his presentation. In February, we will try once more to have Ryan Mohr talk about the technical aspects of shooting video using small cameras mounted on various parts of the aircraft. Both presentations should be very interesting and informative.

Finally, we are looking for a chapter member to occupy a position on our Board of Directors. This team meets about 4 times a year to review and make decisions on chapter related business topics. Please contact me if you would like to be a candidate for this position.

I'm looking forward to seeing you at the BSAEC on January 20.



Gone West (from page 6)

Elroy Landela

Elroy, age 71, passed away on Saturday, December 12, 2015. Preceded in death by wife, Lois, and brother, Erwin. Survived by daughters, Roberta Mejias and Hollie (Christopher) Holcombe; granddaughter, Hazel Holcombe; stepchildren, Ethan, Timothy, Nathan Hoover and Lisa (Jerry) Hoover Lehne. Elroy was a retired glass machine operator and a resident of Prior Lake, Minnesota at the time of his passing. Members remember him as someone who was always nice to talk with, who re-joined us a few years ago after his wife died. Another aviation enthusiast who has gone West.



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