

November 2006

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

EAA Chapter 33 Officers

President: Randy Hartman
319-365-9775
randy@aoaircrafters.com

Vice President: TomCaruthers
319-895-6989
tacaruth@ralcorp.com

Secretary & Newsletter Editor:
David Koelzer
319-373-3257
david.koelzer@mchsi.com

Treasurer: Larry Wood
319-395-9348
Elwood140@aol.com

Flight Advisors:
Dave Lammers 319-377-1425
Jud Brandt 319-378-8147

Technical Counselors:
Tom Olson 319-393-5531
Ron White 319-393-6484
Marv Hoppenworth 396-6283
Jud Brandt 319-378-8147

Young Eagles:
John Anderson 319-362-6159
Connie White 319-393-6484

Board of Directors:
Todd Millard
Tom Olson
Alan Kritzman

www.eaa33.org

Velocity Project Update

By John Tvedte

During the week of Oct 13-20th my wife Ann and I gathered everyone to head to Greenville, SC to work on our Velocity. Ann and I are building an XL-5 Fixed Gear model. Our agenda was to work on our side yoke system, the seat installation, and getting the engine mounted to the firewall. We have two 18 month old toddlers - Matthew and Karina, so Ann and Jasi (our cultural exchange AuPair) spent time in the area with the children, while my brother David and I worked on the airplane.

Our seats were purchased used from an auto recycler on ebay. The factory designed seats work, but we wanted more modern seat sliders and the ability to recline the seats. On a previous project session, my brother and I had determined the size allowances, and

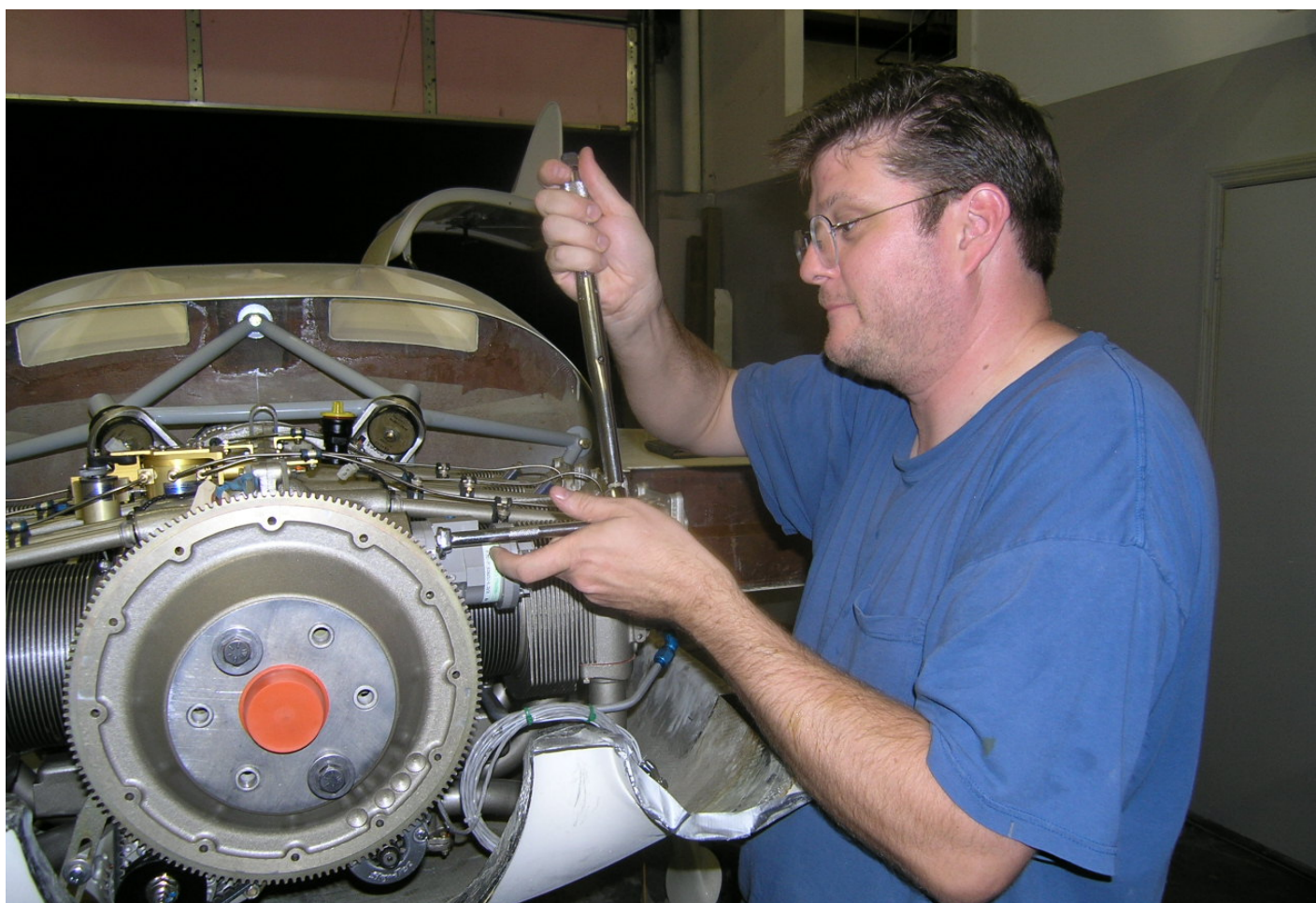


went to a few to many salvage yards looking. We ended up just driving to the new car dealerships, and found that a BMW series seat or a Porsche seat would fit. We originally thought a seat from a small Chevrolet or something like that would work - but the seats in domestic cars are just too big. We were able to purchase Porsche Boxster - semi-manual seats.. The slide rails needed to be removed because they are still too wide and heavy. We are using some Sparco brand sliders and will make some simple bracket adapters.



The engine is an IO-540K1G5 built by Bart Lalonde at Aerosport Power. It has higher compression pistons and an Airflow Performance fuel injection system. We will also be using a Lightspeed III on one side while sticking with a traditional mag on the other. We ran into a few small snags - noticing that Bart had installed a long oil filter on the engine - which would run into the firewall upon installation.

Apparently people using the K series engine on the Velocity use the shorter filter. We contacted Bart, and he said that the oil flow rates would be marginal with the shorter filter - 8gpm vs 12gpm -

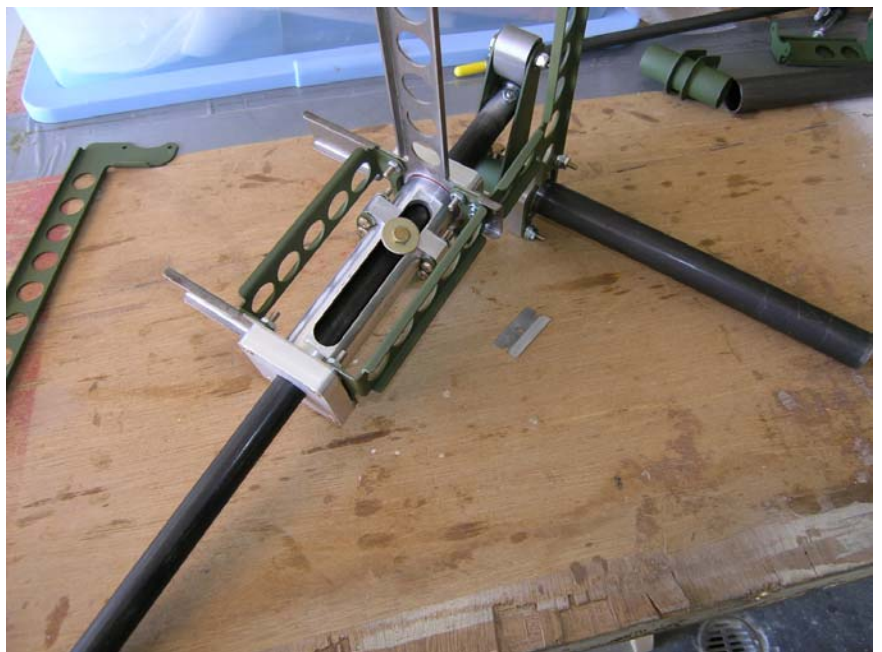




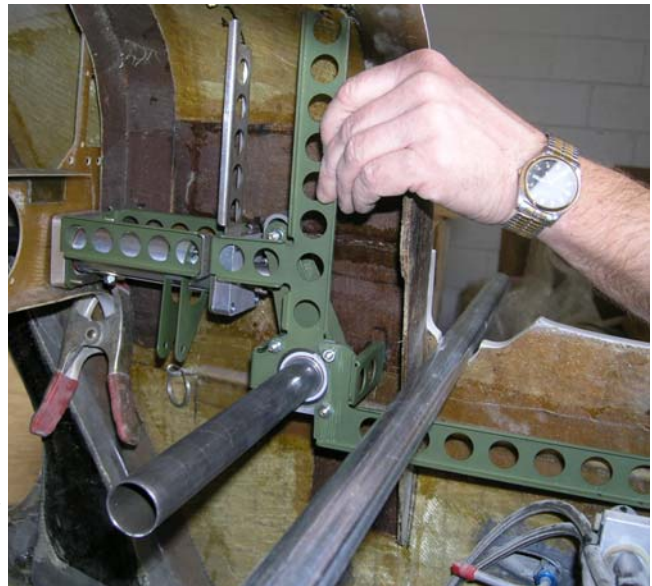
so he suggested we install a remote oil filter system by Airwolf. I had been thinking of using the system, and so decided that we had better install it. We contacted Airwolf to double check the part #'s required, and placed an order. In the mean time, we had to replace the engine mounting ears with the smaller center hole version - as Velocity mounts use the smaller ears. Aerosport had mailed us the replacement ears, painted to match our engine - and now was the time to install them. Well - I don't happen to have quite the right tools - so we ended up modifying a wrench (grinding) to get the nuts off. New nuts, washers and star washers

were used to replace the mounts. It was even trickier to install the new mounts - as the smaller hole didn't allow as much clearance as the larger ones. We had some claw foot tools and were able to get the nuts installed. It took more time to check the torque and how one has to keep the foot at a 90 deg. angle so it won't affect the torque settings than it did to actually torque them to specs. Once we had them all to spec, we used torque sealer to mark the nuts. Installing the Airwolf system was easy by comparison, but it still required that we move one stud on the engine accessory case. We choose to use the adapter system that mounts directly on the case, for maximum clearance. We also installed our SD-20 backup alternator, and the MT prop governor. The next item was to get the cylinder heaters installed. Safety wiring was interesting, as I had zero experience with that. My brother helped out and made sure that things were tight. We also took the time to reactivate the plug hydrators, as they were starting to turn pinkish - they are nice and blue, just like new again.

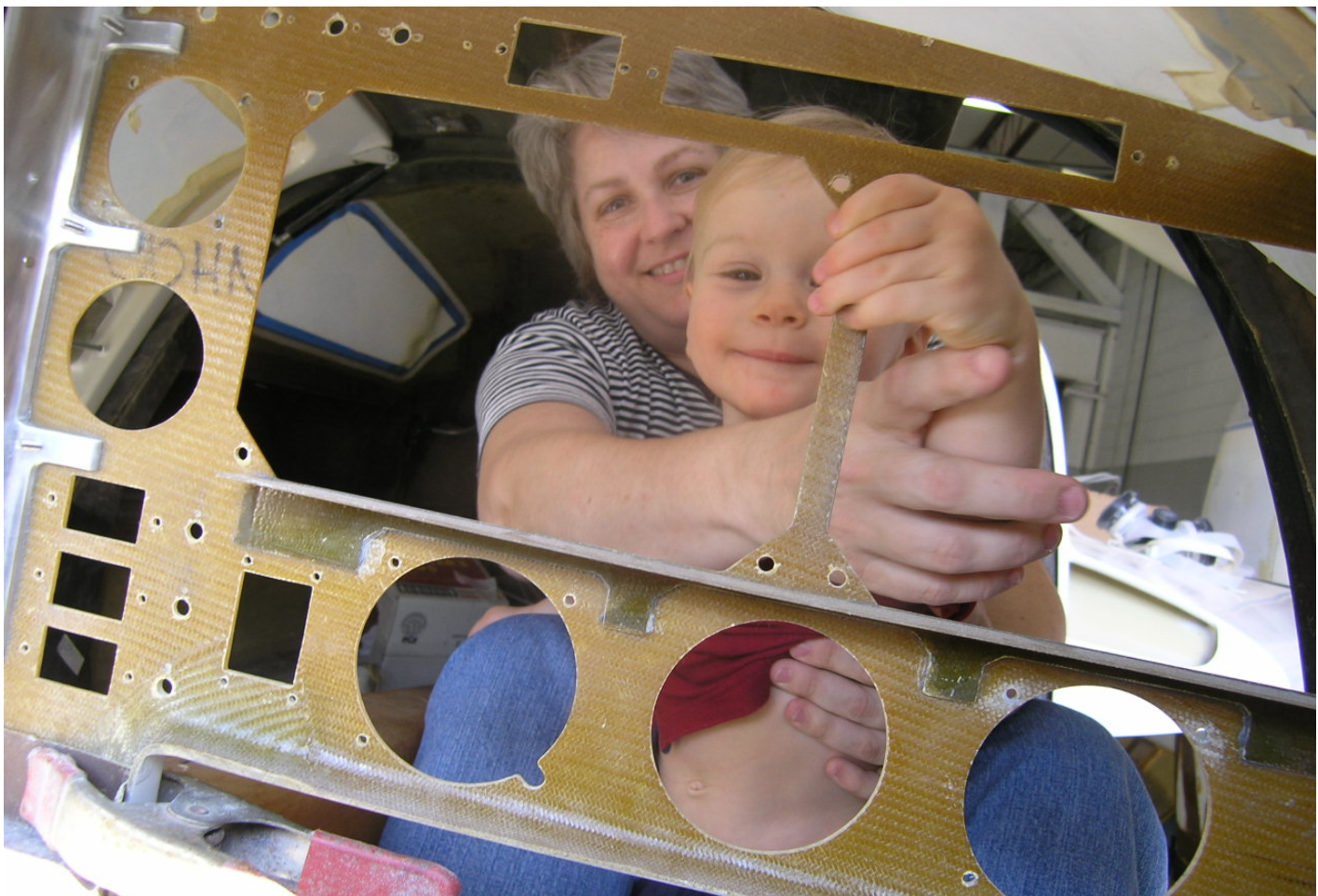
Our side yoke system is a custom design - originally based upon a design by Malcolm Collier of Hangar 18. My brother David did all of the drawings in a 3D solid modeling software, Autodesk Inventor. We also used Solidworks to allow some machining to be done via CNC equipment. Ron White spent quite a bit of time working with us on the design making sure we didn't get ourselves into trouble. Our machinists Jerry Kroeger and Jim Haro have helped us in numerous ways -not only making superb parts, but checking tolerances, making sure the parts can be made, etc. The computer will let you draw anything :o)



So how did we do? Well, we managed to make sure the side yoke system would fit properly, and that it didn't have any space restrictions that we didn't take into account. We also epoxied in all of the hard-points for the system. We had been concerned about the angle of the system and if we would be able to use the standard arm rest - the concerns vanished and a simple stick mount solution will work. Our seats fit and are very comfortable. They recline very nicely, and the control is easy to reach even with the door closed. We were able to fit them into the plane and determine the best fore/aft positioning. As they will slide, we had to determine the best location for entry into the back seat area, as well as for the pilot and co-pilot entry/exit. As far as the engine - well - it sure is nice to see it mounted on the fire-wall. It was a bit more complicated to get it prepared than I thought it would be, but it was fun to work on it.



Our next project is to work on the wiring harness, and avionics wiring, and the door locking system. It was a fun trip - even with 17 hours of drive time one way. The kids travel well now - so we look forward to the next trip.



A Charlie Brown B-17

By Chris Chandler (submitted by Snooks Bouska)

Charlie Brown was a B-17 Flying Fortress pilot with the 379th Bomber Group at Kimbolton, England. His B-17 was called 'Ye Old Pub' and was in a terrible state, having been hit by flak and fighters. The compass was damaged and they were flying deeper over enemy territory instead of heading home to Kimbolton.

After flying over an enemy airfield, a pilot named Franz Steigler was ordered to take off and shoot down the B-17. When he got near the B-17, he could not believe his eyes. In his words, he 'had never seen a plane in such a bad state'. The tail and rear section was severely damaged, and the tail gunner wounded. The top gunner was all over the top of the fuselage. The nose was smashed and there were holes everywhere.

Despite having ammunition, Franz flew to the side of the B-17 and looked at Charlie Brown, the pilot. Brown was scared and struggling to control his damaged and blood-stained plane.

Aware that they had no idea where they were going, Franz waved at Charlie to turn 180 degrees. Franz escorted and guided the stricken plane to and slightly over the North Sea towards England. He then saluted Charlie Brown and turned away, back to Europe.

When Franz landed he told the c/o that the plane had been shot down over the sea, and never told the truth to anybody. Charlie Brown and the remains of his crew told all at their briefing, but were ordered never to talk about it.

More than 40 years later, Charlie Brown wanted to find the Luftwaffe pilot who saved the crew. After years of research, Franz was found. He had never talked about the incident, not even at post-war reunions.



They met in the USA at a 379th Bomber Group reunion, together with 25 people who are alive now - all because Franz never fired his guns that day.

Research shows that Charlie Brown lived in Seattle and Franz Steigler had moved to Vancouver, BC after the war. When they finally met, they discovered they had lived less than 200 miles apart for the past 50 years!!

Last Meeting - Area 51

For our November Meeting we got to visit Alpha Omega Aircraft's Hangar 51 and see several of the aircraft under construction there. In addition to showing off all the planes in various stages of completion, Randy also cooked up a big pot of chili for us all and with all the other goodies other members brought we all had a very fulfilling lunch.

But before we got to dig into all the food, Luke Gerst gave the members a presentation regarding his interest in aviation and his plans to go to the EAA Air Academy. Luke, age 14, was able to go to the Air Academy this last summer and told us of the facilities, programs and activities in which he was able to participate. He seemed to spend a lot of time on the Academy's flight simulators but also told us of the many team building exercises the groups go through. Luke hope to start flight training when he is



old enough but for now he wants to attend the Academy again this Summer. Every one was impressed with Luke and his presentation. One member even asked if he really was only 14 as he claims. Our Chapter took a vote and decided to give our 350 young Eagle Credits to Luke to help with the tuition costs. Luke also was offered by several members to fly him up to Oshkosh and so save some travel expenses as well.

EAA Calendars available at Banquet

By Connie White

Max Dirks again this year will have EAA Calendars available to purchase at the Christmas Banquet. As always the EAA Calendar features some of the finest aviation photography around and looks great on any wall. The calendars are \$7.00 and you can pick one up at the banquet or if you can't make it, you can check with Max at 319-465-3754 .

Fly Market

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



Next Meeting - Christmas Banquet

By John Anderson

Where - Coe College Clark Alumni House, Cedar Rapids. Very nice place for a meeting like this.

When – December 14th. Social 6:00 PM. Cash Bar. Meal at 6:30. Program to follow.

Menu – Roast beef and Chicken with several choices of sides. Cheese Cake for desert.

Program - Bob “Prof” Struth. (to make time for Bob, we will **not** have a gift exchange his year)

Bob is a retired Navel Aviation officer now working at Collins. He sports a Christian Eagle out at the Marion Airport in which he gives rides on a share the operating costs basis. His topic will be various aspects of Navel Aviation and he will share his experience on his work with the “Top Gun” actors when they were put through altitude chamber, water survival, and ejection seat training. He has been asked to do this more than 50 times so it must be interesting.

Cost - \$20.00 per person and guests are welcome. We must have an accurate head count so please RSVP to John Anderson via joanderson@unitedfiregroup.com or call at 319 310 7089 by December 8th. **Note:** If you cannot make it after you have RSVP positive, please let us know as we will have to pay for meals ordered but not consumed. Thanks. Looking for a nice gathering.

Clark Alumni House is located on Collage Drive NE, just off of First Ave. Or if you are coming from the North, stay on Center Point road and it will become Collage Drive a couple of blocks before you get to 1st Ave. There is a horse shoe drive in front of it for those who can't walk far and ample parking at the rear off of 14th. Street. It is the second building past the alley just after you turn off of 1st. Ave. Call John Anderson if you are confused. Or check out this interactive map <http://www.coe.edu/admission/campus/>



Chapter 33 Calendar

Dec 14 6pm Chapter Meeting, Holiday Banquet, presentation by Bob "Prof" Struth. Coe Collage, Clark Alumni Hall, Cedar Rapids

Jan 27 11:30am – 2:30pm 10th Annual Chili Fly-In, Serving "Hot" Chili Price will include tour of the Museum, Greenfield Municipal Airport

Feb 2-3 16th Annual Midwest Aviation Maintenance Symposium and Trade Show, Sponsored by: The Iowa Chapter of PAMA, The Hotel at Gateway Center, Ames, Iowa

Apr 17-23 Sun 'n Fun Fly-In, Lakeland Florida



Some people are way too literal

In The December 2006 Issue...

Velocity Project Update, A Charlie Brown B-17



Experimental Aircraft Association
Alexander M. Lippisch Chapter 33
c/o David Koelzer
2930 Baker Street
Marion, IA 52302
david.koelzer@mchsi.com