
EAA Chapter 32 News

The official publication of Experimental Aircraft Association Chapter 32 - St. Louis, MO (Jim Bower, Editor)

July, 2015

Here We Go Again



Photo by mr. bill

It seems like only yesterday this newsletter showed airplanes huddled in the ARC waiting out the flood. Deja vu all over again!

**We'll see YOU at the EAA Chapter 32 meeting.
Be at the ARC at 10:00 am on July 18, 2015.**



Friends and fellow aviation enthusiasts,

Once again, the ARC is living up to its alternate definition. I think it's rained for 10 consecutive weekends, not to mention most weekdays. As a result, the Mississippi River has gone out of its banks again. The ARC has taken in planes whose owners rent hangar space at Smartt Field. It is full. At the time of this writing, in the ARC are the following; Sonerei II (chapter mascot), a Fly Baby project, RV-6A, Mini-Max, Sonex, Powered parachute (and trailer), and a Long EZ. This is in addition to the usual tables, chairs, machinery, etc. There are not many square feet left in the building. As a result, we're having to do some shuffling around. With AirVenture Oshkosh starting on July 20, the Movie at the ARC for July is canceled. On the positive side, the river has recently crested. A new lower crest is expected, but shouldn't be as high as the one that flooded parts of the field and some hangars. With a little sorely needed dry weather, everything should be returning to normal in the next few weeks.

Our next Young Eagles event is scheduled for July 11. With the ARC full, we're going to relocate operations to the main terminal building at Smartt Field. Everything should be fine, as there is plenty of room to do the Aviation merit Badge Scouting clinic, registration and traditional BBQ. The building has been given a total renovation, and it should be a great time for everyone involved. I hope we have a good turnout. Our members should be able to see what a great job St. Charles County did with the renovation.

Last month, we announced the Spirits of Aviation Flying Club was official, with the intention to build an RV-12 as a chapter project, and an opportunity to be awarded one of five sets of wings for the plane which are going to be built at the Show in Oshkosh. Alas, Chapter 32 was not awarded one of those sets. At our last meeting, we started construction on the empennage kit, riveting several fuselage bulkheads together. A couple chapter members hung around and tried their hand at pulling rivets. As the river rose and planes started making the way to the ARC, the project was moved out of the building due to increasing space constraints. The five members started working on the rest of the empennage kit at several locations. Joe and Bob worked on the Elevon and trim tab components at Joe's house. The empennage portion was moved to Dave's garage where Dave, Ron and Jeff worked on building the tail cone section. See the article in this newsletter for the first in a series of articles about how this project of fabricating this light Sport Aircraft is progressing.

It's hard to believe Airventure is here. This year, we again hoped to stake out our Chapter 32 compound early.

President's Corner

by Dave Doherty

Weather prevented us from going to Oshkosh early to stake our grounds out. However, one of our member is going up on the 15th, and will try to reserve an area for the Chapter 32 compound. It's a lot of fun camping together. Planned activities include showing movies at night, having campfires, and generally enjoying camaraderie with the gang. I'm looking forward to it. The Air Force will have numerous front line aircraft there this year including a B-52 Stratofortress, F-22 Raptor and F-35 Joint Strike Fighter. Among warbirds will be one, possibly two B-29 Flying Fortresses and many other planes of the WWII era. Warbirds are among my very best favorite aircraft.

Our next regular chapter meeting is July 18. We'll make final preparations for heading up to Oshkosh, and provide whatever late breaking news there is. There are some interesting speakers engaged for the August through December meetings. The schedule for speakers and our Movie at the ARC feature presentations will be announced at the July meeting. Following the meeting, we'll have a BBQ and have an opportunity to do some hangar flying. Don't worry, there isn't a hidden agenda to put everyone to work on something. Let's have a social day meeting.

Looking back, I think our chapter has improved over the past few years. Many members are working on projects, flying their pride and joy, and enjoying each other's company. I always look forward to going to the meetings and being with many of my best friends. To find out more about our chapter, come to our next meeting on July 18 at our ARC facility at 1610 Grafton Ferry Rd, Smartt Field, St. Charles County. Meeting time is 10:00 AM. See you there!

Blue Skies to all,

Dave Doherty



Safety Tip of the Month:

Inattention

Read this accident report about inattention !!!!!

Initial reports that a pristine North American P-51D Mustang had crashed into Galveston Bay 10 minutes after takeoff baffled the aviation community. The airplane was operated by a respected museum, which maintained it meticulously. The October weather was perfect: 3-knot winds under clear skies. It was under the command of a 51-year-old, 11,300-hour airline transport pilot, a former Naval aviator whose experience in vintage warplanes included more than 100 hours in P-51s. He held instructor ratings for single- and multiengine airplanes, instrument airplane, and gliders, and had received a first-class medical certificate the previous month.

The Mustang took off from [Galveston's Scholes International Airport](#) at 11:20 a.m. on Oct. 23, 2013. At 11:30 a.m., a witness on a fishing boat saw it make a slow descending turn from a southerly heading to north before hitting the water, wings level. He thought the engine was running at full throttle throughout. Radar data showed the airplane descending from 3,500 feet before contact was lost at 2,800. The force of the impact shattered the airframe; even though the water was only four feet deep, significant portions of the fuselage were never recovered.

This accident might easily have remained unexplained, classified as “a failure to maintain aircraft control for unknown reasons.” However, an explanation did eventually emerge. It proved even stranger than anticipated.

During the 1960s, the 1944-model fighter had served with the air force of El Salvador, where it was converted to a two-seat training configuration. The tandem set-up was preserved during its subsequent restoration. In addition to flying it in airshows, the museum offered rides in the Mustang as a fundraiser. The October flight was a gift to the passenger on the occasion of his wedding anniversary.

The airplane was equipped with an audiovisual recording system that included two digital video cameras, one in the cockpit aimed back toward the rear-seat passenger and one mounted on the tail aimed forward. It also captured the radio and intercom communications from the audio panel. The investigative team was able to locate the system's storage card; despite the damage from immersion in salt water, the NTSB Vehicle Recorder Laboratory eventually succeeded in recovering the files recorded on the accident flight.

Two minutes after takeoff the passenger commented that it was “an amazing sensation ... the noise, the vibration, the smell.” The pilot agreed. Three minutes later, after demonstrating left and right turns at 30 to 40 degrees of bank, he asked, “You want to fly it?” The passenger replied, “Uh, yes, I do, if you'll guide me through it. I'm not a pilot.”

The pilot explained the basic functions of the control stick, and then had the passenger start a left turn. As he rolled through 40 degrees, the airplane's nose began to drop. The passenger commented, “Very responsive,” and as the pilot had him roll into a right turn, he gestured for the passenger to add back pressure. The bank reached nearly 90 degrees and the nose sliced down through the horizon as he explained, “As you roll, you're gonna lose lift, so you gotta pull back on the stick. Go ahead and roll level.”

The footage shows the wings returning to level, but the nose had only just begun to come back up before the recording ended. The actual impact was not captured due to a delay in the recording system, but up to the moment the system lost power neither man seemed to show any awareness of the impending collision.

The NTSB concluded that “the pilot's focused attention on instructing his passenger contributed to his lack of recognition” of the situation, and also noted that the water was glassy, making proximity more difficult to gauge. Probable cause was given as “lack of situational awareness while instructing the passenger.”

If true, it was an utterly uncharacteristic lapse from a pilot described as careful and conscientious—exemplary in every way. But lapses do happen, sometimes even to the best of us. Any time a flight seems so straightforward as to not require your complete attention, it's worth remembering that momentary lapses have ended the careers of better pilots than most of us will ever be.

Bob Kraemer

Learning as we Go

Getting Ready for the Big Show - Oshkosh!

mr. bill

Seems like it was just last year that we were talking about the Oshkosh Airshow. A lot has happened in the past year. In fact just last month the Sonex Aircraft Family lost their CEO Jeremy Monnett in an aircraft accident.



Helping Jeremy secure the display aircraft last year.

Actually just got word this week (June 16) about the Breezy accident of last year at Oshkosh. Seems a White Piper Super Cub stopped on the runway which caused the Breezy pilot that was landing right behind the Piper to try some evasive moves to prevent hitting the back of the Cub. Seems the Breezy tried to pull up and fly right after touching down on the runway. Word is that he hit the tail of the Breezy during a strong pull up. As they say at Oshkosh “get on the runway at your assigned colored dot and then get off the concrete into the grass. Got to keep moving!”

This Oshkosh year will surely have the latest and greatest battery powered electric airplanes.

Word is that Boeing will be well represented with the Boeing B-52 Bomber. They say the last B-52 bomber pilot has not been born yet!

Well, here it is Friday, June 26 and the St. Charles Smartt Field Airport is getting hammered with rain. I have the latest picture of the EAA 32 ARC (Airplane River Container) which is full again (*see cover*). I am not sure the newsletter editor wants to print this sad

picture! As I type away down here in the DFW (Dallas/Fort Worth) hideout plans are being made to move Sonex “Tweety Bird” from the flood waters of Smartt to the moat island called Troy Airpark. Last Sunday (June 21) after DRIVING to the Quincy, IL Young Eagles Rally and Pancake Breakfast Fly-In, of which the first hour of the drive was solid pouring rain, we learned on the return drive that ALL roads into the Troy Airpark were under water! What a year!

The Sonex is ready for the flight to the airpark and to Oshkosh but how will Mother Nature treat us the rest of the summer?

Friday 6/26/2015: 1400 hours- Just received a call from the Smartt Field airport director saying the water is at 27.4 with a crest expected at 29.5 feet. At 28.5 feet the river flood waters will come over Portage Road, the north barrier of Smartt Field. Tune in tomorrow! Oh, it is raining at the airport as I type this right now.

Sunday 6/28/2015: A quick flight home from the day time big jet flying has me approaching the Smartt Field and it is not pretty. I have a boat in the hangar and with the high winds at 1800 hours and a tornado warning 40 miles to the northwest, I will leave the Sonex in the



Sonex “Tweety Bird” floating in the Smartt Hangar

hangar and take the boat to higher ground. One hour later as I was dropping off the boat hail started dropping from the sky. That is WHY I left the Sonex in the

hangar. Alrighty, now a quick return to the hangar at Smartt Field and plan "B" is to put the landing gear in thick trash bags and put the airplane up on car jack stands. Chock the wheels and put the tailwheel up on a bucket and boogie to higher ground.

Tuesday morning, June 06, after it rained for 24 hours I visit the airport and there is SIX inches of water in the hangar but the aero machine is OK!

Time to travel back to DFW for the day job so we will take a peek on the return trip on Monday, July 06 (T-minus 14 days for Oshkosh.) Monday all the water is back in the river but the place smells of raw sewage. I cut the bags off the landing gear, pull the chocks, and roll the Sonex down on the dried hangar floor. A quick run up of the engine and a few touch and goes in the pattern when I see lightening to the south as the storms suck up the humidity and proceed to hammer the city of St. Louis with afternoon storms. OK. Put the machine away, secure the place and get on to the other chores.

Off to the DFW Day job today and wait for Oshkosh minus 7 day mark next Monday to add the wheel pants and the gear legs for the final check on the Sonex. The plan is to departure on Saturday, July 18th for Oshkosh 2015. More next month!

With the MD-80s starting to be sent to the desert one needs to ask:

Q? How many DC-9-80 were built?

A: 1,191 airframes. The last 15 were made for TWA.

Q? What is the weight of one Pratt and Whitney JT-8D-219 the engine on the DC-9-80?

A: The engine weight is 4,660 pounds per engine.

Q? How old is the oldest flying pilot?

A: George Neal is 93 years 194 days young!

June Meeting Minutes

Dave Deweese



June's meeting began with the Pledge, Dave Doherty presiding. Jim Hann brought the Piper out for us to take a look.

No minutes to approve for last month; I was absent.

Don Doherty gave the treasurer's report, including checking and savings balances. Balances are smaller thanks to paying the bills for

our clean water project. We need to replenish this, and got a start with the RV-12 project.

Bob Danner and Kai came out to help with Young Eagles last week and came to visit the meeting.

We flew 32 kids last weekend. The weather was sunny and fine for flying. Laura ran the Boy Scout badge program. Rick arrived late and gave a report. There were 31 flights total, 9 pilots. We were able to fly several parents, including 2 who rode along with their autistic son. Rick reported YE tallies for all of our pilots.

Jeff and Art are working on an updated, online roster.

Rob Burnett has food coupons for Dierberg's and Shop-N-Save.

Per Bob Kraemer there's no updates on a 2015 MACTS conference.

We had an ARC work project in May, got a pile of rocks removed from the dug-up area around the new well.

(Something big with a round engine flew very low over the ARC. Bill went to identify the bird: it was the CAF TBM.)

On the BD-4 project Art has taken a look and feels that, outside of scrap aluminum, all that's worthwhile is the spars.

The flying club was finally incorporated. The bank required a fictitious name for an account, so Dave and

the group settled on "Spirits of Aviation Flying Club, LLC." They're going to squeeze some rivets after the meeting.

Movie of the month will be tonight, *Flying the Feathered Edge*, a biography of Bob Hoover. Next month we'll see *Fighter Squadron* with Robert Stack.

Jim Hann gave a report on his PA-22. He went into this as a partnership and ended up as the sole owner, but purchased without a prebuy inspection, discovering later that he didn't have the correct wings. (There's a pair of Piper wings in his hangar for sale if you're interested.) He reports it as a work in progress. Having a type club or website is a great help when taking on a type certificated aircraft a project, Short-Wing Piper Club and www.shortwingpipers.org for example.

Thanks to the current monsoon Dave addressed flooding issues. The crest should not reach our airport this time around though it's a good time to review procedures.



Since the ARC is higher than the hangars we can store some planes in here, first come first served, though members renting hangars get top consideration, and members get priority over non-members. If the water gets as high as the ARC we plan to rent a container that we can fill and haul away. We'll call members for volunteers to fill the storage container. Note: 30 feet floods the north hangars.

Next month is Oshkosh, July 19 --> 26. Several members are going up early to stake out campsites. Our meeting is prior to this so we'll discuss AirVenture business, such as where to meet for the chapter photograph,

Tom Sparr notes that the International Stinson Club is flying in on the 19th. Poplar Grove (used to be Belvedere) sells mogas.

In August Jackie Jackson, a Harrier pilot will address the group. Libby will tentatively speak in September, and in October Tom Sparr will give a presentation. Charlie Becker from Oshkosh will be our speaker at our December Christmas event.

Spirits of Aviation Flying Club, LLC

Building a Vans Aircraft RV-12 E-LSA

Part ONE

This is the first of a series of articles about Chapter 32's Spirits of Aviation Flying Club, LLC efforts to build and fly an RV-12. While the flying club is not directly affiliated with Chapter 32, all its members are chapter members. Chapter 32's covenant with EAA does not allow a chapter to own or operate flying aircraft. The formation of a flying club LLC offers liability protection for its members. For this reason, a group of chapter members decided to form a club and fund the building of an RV-12. Chapter 32 members are encouraged to participate in the build process. The kits and completed aircraft will be the property of the Spirits of Aviation Flying Club, LLC (the club). Funding of the kits, aircraft and logistics is accomplished by the equity members of the club. There is an option for non-equity members to participate in the building of the RV-12, but they will not have ownership rights. Their rights are defined in the club charter.

Once the club became official, the first item on the agenda was to acquire the RV-12 kit that was donated to Chapter 32. The club purchased the kit for the list price when it was made. We had numerous discussions about building the plane, and what, if any, corrosion protection we desired. Initially we decided to prime mating surfaces with primer. After some more thought, we decided to alodine as much of the aluminum as we can. Since the vertical stabilizer and rudder were already fabricated, it was decided they'd stay as they are, unprimed. Then we had to decide where we're going to build the plane. First choice is the ARC, since we'd like to share the building experience. With an aggressive build schedule, we needed to get right to work.

The Alodine process is a two step procedure. First, parts need to be acid etched with a phosphoric acid. The trade name is "Alumiprep 33" the solution can either be brushed on to the parts or the part can be immersed in the solution for a few minutes, then rinsed thoroughly. We chose the immersion process. Several tubs were purchased to dip the parts in. The second part of the process is to brush an alodine solution onto the part or immerse the parts in the solution, rinse, and let air dry. Again, we chose to immerse the parts. The process converts surface aluminum and bonds it with a type of chromate. Resulting parts are gold in color. Bigger tubs were constructed for the larger pieces, with good results. Some parts have been primed with an aluminum primer, and are gray in color.

After we settled on the corrosion protection scheme and had a number of parts deburred and Alodined, it was time to start fabricating. The first parts we put together were the fuselage bulkheads.



First, the parts are clecoed together.



Then, they get riveted.



Finished bulkhead.

About this time, the river started rising, and the ARC was needed to house migrant aircraft, escaping from the water about to enter hangars. The parts were divided up and taken to several locations. Bob and Joe took all the elevon and trim tab parts over to Joe's house. Jeff, Dave and Ron took the fuselage parts to Dave's garage and set up shop for the duration of the flood. Ron took the rear bulkhead, and worked on it. There are numerous nut plates and things on the bulkhead, and Ron set to work riveting all the parts together. Meanwhile, Joe and Bob were working on the stabilator parts.

We had an Alodine party at Dave's place. Larger tubs for dipping parts in the Alumiprep and Alodine solution were fabricated out of wood and covered with plastic sheeting. They worked out well, and we had all the parts corrosion protected in one day. Bob and Joe's parts went back to Joe's where they started riveting them together.

At Dave's, we fabricated the rear fuselage component. This involved clecoing the skins to the bulkheads per the instruction set provided by Vans Aircraft. First to put on place were lower left and right skins, then we worked our way up. It went together quickly.



Clecoing the skins

When the side skins were clecoed, we ran some string to pull control cables through the fuselage (later), servo trim wires, and installed static lines to the fuselage.



Once the lines and upper skins were in place, it was time to start pulling lots of rivets. Thank goodness for the pneumatic riveter. We figure we had over a thousand rivets to install.

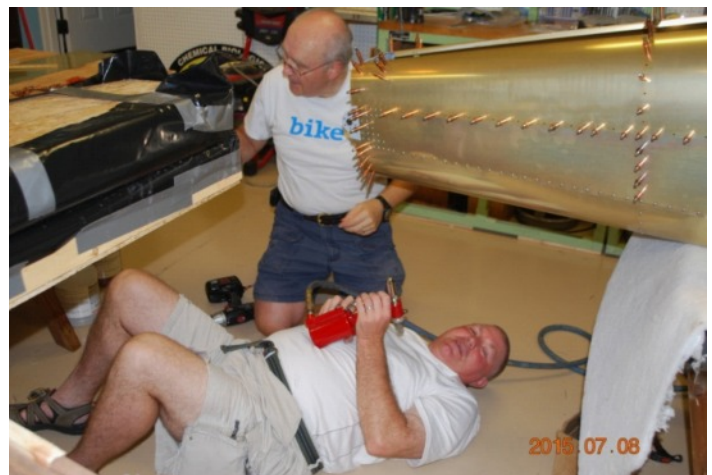
Finally, we had most of the rivets in place, and it was time to put the top skin on. It was clecoed in place and riveted down.

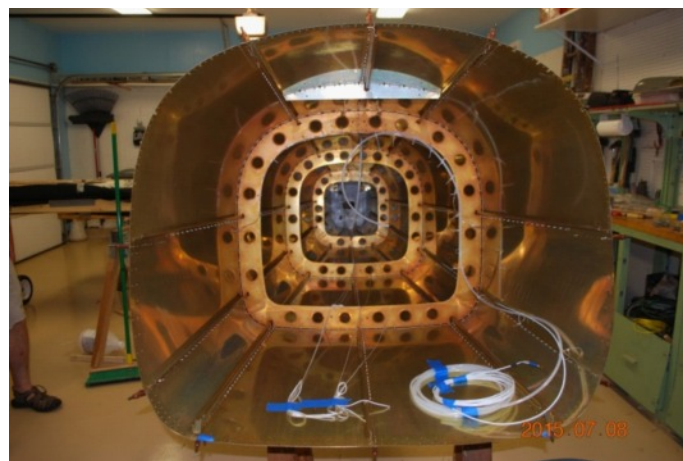
We finished assembly of the tail cone section. Joe and Bob have completed the elevon, and the vertical stabilizer/rudder are already complete. We were hoping to get a set of wings fabricated at Oshkosh awarded, but they went to another chapter. Oh well, perhaps it's better that way. Doing it ourselves gives us the opportunity to Alodine all the parts we'd like to. Here's what the finished tail cone looks like;

The next kit to do is the forward fuselage. It should arrive during the last week of July. We've also ordered the wing kit, and it should be here somewhere around the first week of September.

If anyone would like to get some experience building, contact us. We'd love to share the fun.

Next update: Elevon and/or forward fuselage.





The Joys of Building

Everybody knows I constructed a Van's RV-6A over more than a decade's time. I see these guys, just starting on their project and I feel like a college graduate setting eyes on the freshman class! Ah, the wide-eyed innocence...the eager faces. They are embarking on a journey few people take, and they will remember every step of the way for the rest of their lives.

Everybody should celebrate the wonderful start they have made on their project. From the pictures, it looks too beautiful to cover up! I like the alodined bulkheads and the shiny new skins. This airplane will be a show-piece. The new Van's kits are as close to "shake 'n bake" as you can get without just going down to the airplane store and buying a ready-built flying machine. Why back in my day, after I walked home from work (barefoot and uphill through the snow), I had to build a precision jig and strap all my bits and pieces to it. Then after careful measurement, I drew a pentagram on the floor and summoned all the gods and demons of homebuilding so they would guide my hands as I shakily drilled holes in virgin aluminum parts. These boys will never know the face-slapping chagrin of drilling a hole 3/32" out of place. (Far enough away to be wrong, but too close to disguise.) Straight lines of rivets were NOT easy to achieve, even with the most state-of-the-art rivet fans and adjustable Sharpie drawing tools. (Do they even know what a rivet fan is?)

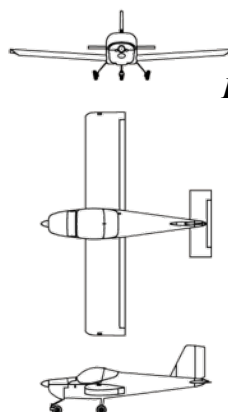
After they slapped all the parts together, they **RIVET-ED**. Well, no they didn't. They pushed some little thingie into a hole, stuck a pneumatic doo-dad onto it and pulled the lever. **CHUNK!** Another perfectly set rivet. No bitter tears to be shed over a totally clinched shop

head, requiring the rivet be drilled out...**CAREFULLY**, lest one end up with a hole big enough to drive a truck through. They are also going to miss the nearly suicidal feeling after the rivet gun or bucking bar takes a bad bounce, leaving a "smiley" on the aluminum that can be seen from orbit. And, no it won't buff out!

Regret? Oh heck no! I cherish every ding and scratch on my aluminum creation because **I** did it. I took a bunch of stamped-out ribs and bulkheads and finished forming them. I took some flat aluminum sheets, drilled holes and made skins that followed the curves of those stamped-out parts. I put all the bits and pieces together, crappy drilled-out rivets and all, and finally got a vehicle that would take me into the sky! It's like my kid and I'm proud of it...just like these guys are going to be proud of their creation. They are taking the journey all homebuilders take, and at the end they can stand up tall and say "I built this!", and people will be in awe.

Jim Bower

EAA Chapter 32 Newsletter Editor





Check out our fantastic Web Pages at
WWW.EAA32.ORG
 Laura Million, Web Designer
 While you're there, take time to join the
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 Chapter happenings!

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