



# THREE ZERO NINER

May 2007

Meets every 3rd Monday in Charlotte, NC

**EAA Chapter 309 was founded in 1973 by a small group of aviation enthusiasts. Since that time, the membership has grown in size and experience. Members come with a variety of skill and experiences. Current members have aviation backgrounds ranging from student pilot all the way to Airline Transport Pilot. Several are A&Ps and all share a love of aviation. Membership is open to anyone interested in aviation and learning about the construction of Experimental Aircraft.**

**EAA 309 is a 501 c.3. organization. Your contributions are welcome and may be tax deductible.**

## President's Corner

April was a great month for grassroots aviation. Spring sprung and people started flying again. Sun-and-Fun was enjoyable and cool, even if it was a bit windy for the first few days. Add to all that the success of the annual EAA chapter 309 builder's workshop. A big thank you to Hal Schwab for putting it together, David Borders for lending us his shop, and to the instructors; Ronnie Brown, Bob Thayer, and Radomir Zaric. A good time was had by all.



As much fun as fly-ins may be, they seem to carry a bit more risk than normal flying and this year was no exception. There were four accidents with two fatalities at SnF this year. As bad as that sounds, the FAA has stated this was one of the safest events yet. Two things struck me as I looked into these accidents. The first is a bit of dark humor; one of the airplanes that crashed did so in the parking lot of the GEICO Insurance company. (Luckily the pilot survived.)

The second was the inherent risk associated with fly-ins, even the small local events such as those hosted by EAA 309. Prior to bringing your plane to any fly-in, please review all the arrival and departure procedures, frequencies, etc. With airplanes buzzing all around you on approach it is not the ideal time to be trying to figure out what you should be doing and where you should be doing it.

In the week or two before you depart for any fly-in, why not go out and try some different landings and make sure you can put the wheels down exactly where you want. Pick a long runway and touch down at mid field as well as the very threshold. Try tight patterns as well as wide ones. Try some slow flight with S-turns and try keeping your speed up until over the threshold. All these things might come into play when arriving at OSH in your 350 knot WLSSGFRGTA (Wizbang Lightening Single Seat Go Fast Retractable Gear Titanium Airplane) that you spent five years building as you follow a 60 MPH J3 on short final. Remember, it is up to you, the PIC, to perform each exercise in a cautious and prudent manor. The goal is to be extra sharp before departing for that fly-in.

Each of us must exercise extreme caution and judgment when we fly; any incident impacts all pilots. In searching the web for accidents related to SnF, I ran across an editorial question-

**Remember - Chapter 309 of the EAA is now a charitable organization as defined by 501(c)3. Your donations may be tax deductible!**



309'ers WEB SITE [www.eaa309.org](http://www.eaa309.org)

[Previous Page](#) [Home](#) [Next Page](#)

**2007**

**EVENT SCHEDULE!**

Saturday, April 28 - EAA 309 Workshop at David Border's Shop

Saturday, May 19 - EAA 309 Poker Run - **CANCELLED**

Saturday, June 16 - EAA 309 Breakfast Fly-In and Young Eagles at Gastonia Airport.

Saturday, July 14th - Navigation School

Saturday, August 18th - Time and Distance Dead Reckoning Proficiency competitive flight

Saturday, September 8 - EAA 309 Fly out & lunch

Saturday, November 10th - Lincolnton Fall Fly In and Young Eagles.

Monday, December 10 - EAA 309 Christmas Dinner Party at the Acropolis Restaurant, Cornelius,

**And We need your suggestions and ideas for programs in 2007! Call or Email Kevin Cromie**

ing the safety of allowing airplanes to fly "over GEICO or Keiser college or anywhere near where the possibility exists for potential danger". We can all laugh at that statement and we can probably assume that the reason these facilities are located where they are is because the land was cheap and there was less risk to the general public in the event of an airplane accident. Remember, fly safe, stay sharp, and enjoy yourself. The future of General Aviation rests on your shoulders.

**Young Eagles / Andy Moscarelli Education Fund** *by Bill Repucci*

The Board of Directors is looking at two options for the funds collected in honor of Andy Moscarelli. Option one is to sponsor a child for the EAA's Air-Venture camp either this summer or next. Option two is to provide funds for flight training for one or two local youths. We continue to investigate these options and will report back with our decision soon.



**Chapter 309  
Charlotte, NC**

**YOUR NAME**

Name Tags are \$10 each. Contact Earl Fortner - Phone or e-mail Earl at 704-455-5326 or efortner@vnet.net

**Safety** *by Bill Repucci*

While working through the issues regarding the Andy Moscarelli Education Fund and discussing upcoming Young Eagle flights I was reminded of an old post from one of the aviation forums I frequent. The topic was Young Eagle flights and the post went something like this:

The Young Eagle was 14 or 15 years old, a good kid by all accounts. We did the normal preflight briefing; wing walk, seatbelts, canopy latch, flight controls, etc.

The startup, taxi, run-up, and takeoff were all normal with the expected questions and observations.

At about 600' AGL I turned the controls over to the YE to try his hand at flying. Before I could say a word the kid and rolled the airplane inverted with the nose coming down.

Quickly I grabbed the stick, pushed forward and continued the roll until the plane was right side up. The flight was terminated shortly there after.

When I asked the kid, in a not so pleasant voice, what he thought he was doing, his reply was, "I do that all the time in Microsoft Flight Simulator. What's the big deal?"

The moral of the story is, prior to turning over the controls to your Young Eagle, brief them on what is expected and be ready for the unexpected. You might also wish to think about your altitude prior to relinquishing control.

**EAA 309 NEEDS YOU!**

On May 19<sup>th</sup> EAA 309 was to sponsor a Poker Run. Unfortunately we were unable to find a

*(Continued on page 4)*

**Chapter Officers**

**President:**  
**Bill Repucci**  
**704-607-4572**

**Vice President:**  
**Kevin Cromie**  
**704-366-8529**

**Secretary:**  
**Bob Allen**  
**704-892-4095**

**Treasurer:**  
**Sam Stewart**  
**704-588-0776**

**Directors:**  
**Bob Dobbins, Dale Ensing, Tad Sargent, John Schroeder, & Bob Thayer**

**Young Eagles Coordinator: Don Sink**  
**Membership: Ken Poindexter**

**Technical Counselors:**  
**Kent Ashton, Neil Stewart, Dale Ensing, Ron Murray, Ronnie Brown and Glenn Babcock.**

**Flight Advisors:**  
**Dale Ensing & Ronnie Brown**

**Newsletter & Web Page Editor:**  
**Ronnie Brown**  
**704.892.5122**

## THREE ZERO NINER

...--      -----      ----.



**One of the casualties at Sun-n-Fun. A really nice Hummelbird reportedly lost power while on final to the ultralight field. The pilot survived but suffered injuries.**

### Tight patterns....

*by Ronnie Brown*

Two people also died while on final approach on Monday at Lakeland. Apparently, the pilot was told to turn it tight, that he was getting into the path of airplanes using the wide, left runway (27 Left). The Wheeler Express is a high performance plane which can stall abruptly and an accelerated stall can be deadly when low and slow in the pattern.

John Wigney said one of the John and Martha King presentations he attended suggested that the maximum bank angle when in the pattern shouldn't exceed 15 degrees. This reduces the chance for an accelerated stall - 15 degrees raises the stall speed by only about 5%; 45 degrees of bank is a 20% increase in stall speed.

Yank and bank it at 60 degrees and you have increased your stall speed by 40%. If you have a fast, laminar flow wing that has a pronounced stall break, you're asking for sudden stall/spin into the ground.

**So, be careful out there!!!**

## Mark your Calendar!

**NEXT MEETING** - Monday - May 21 - 7:00 PM - EAA 309 Dinner Meeting at Hal Schwab's home to check out his scratch built Sonex homebuilt - which is nearly complete. See Map on back.

5/18 - 20 Lumberton, NC -- Mid-Atlantic Fly-In & Sport Aviation Convention. Flying, forums, exhibits, 1st class airshow. Email: mafsacboss@yahoo.com; Web: www.mafsac.com

5/18-19 - Ft Jackson, South Carolina -- Thunder at Fort Jackson, (CAE) Web: celebratefreedomfoundation.org

5/19 - Hickory, NC -- EAA 731 day of flying, food, and fun. Young Eagle rides, static military/ civilian aircraft . Visit the new Sabre Air Museum. Email: president@eaa731.org Web: www.eaa731.org

5/26 - 27 - Florence, South Carolina -- May Fly Air Show, (FLO), 9am-5pm, JUST PLANE FAMILY FUN. Web: www.mayflyairshow.com

6/2 - Asheboro, NC -- NC Aviation Museum Craig Branson Memorial Fly-In, free BBQ lunch for pilots/passengers, 9am-5pm, Asheboro(HBI). Email: ncam@atomic.net; Web: ncair-museum.org

6/2 - 3 - Hendersonville, NC -- Western North Air Museum Air Fair Email: bbcarter@bellsouth.net Web: www.wncairmuseum.com

Events Downloaded from [www.southern-aviator.com](http://www.southern-aviator.com)



Based at Gastonia Municipal Airport, GAC is a flying club, with three aircraft, including a Cessna 172 and 182 and a Piper Cherokee 180. Memberships available. 704-892-4095 or [info@gastoniaaeroclub.com](mailto:info@gastoniaaeroclub.com)



**July 23 - 29, 2007**

**Oshkosh, WI**

## WANT ADS



**1998 Yamaha Virago 250 motorcycle** for sale. 5000 miles, excellent mechanical condition. This is a cool little V-twin cruiser with a black tank, great for first-time or smaller riders. Asking \$1900. Glenn

Babcock 813-505-6027 (cell)

**RC Allen 22-11F vacuum gyro** for sale, new in the box. This is a flagged, lighted gyro. Sells for \$923 at Spruce; I'm asking \$750. Glenn Babcock 813-505-6027 (cell)

**LightSPEED 25XL stereo headset.** Has been used once since being returned from LightSPEED for complete refurbishment. New head band, head pad, ear seals and stirrups, both audio speakers replaced as well as the mic, boom and battery box. Essentially everything is new except the frame. I sent it back to LightSPEED for them to check it out and that is what they did. This unit doesn't work well with my Rotax 912S engine so I'm selling it. Cost \$599 new. First \$400 gets it. Includes the LightSPEED carrying case. **Call Dennis Scearce at 704-660-0860.**

**Watch repair services.** I also have an inventory of used fine watches - both quartz and mechanical, some antique. Gary Witt 704-866-0784

**For SALE: Aerona Chief** is 1941 model and has a 65-CA engine, The engine has just had a major overhaul with new millenium cylinders and pistons and has approx. six hours since overhaul. The wooden Sensinich prop was overhauled by Sensinich earlier this year. The plane is in annual and all AD's complied with. \$17,500. **Call Earl Fortner at 704 455-5326**

**Cherokee Arrow** is a 1967 with 2006 hours total time air-frame and engine. Engine has never been overhauled but runs fine. Aircraft is full IFR and has Narco mark 12 D radios, ADF, Loran, DME, etc. New upholstery 2004. All AD's complied with. Fuel tanks were pulled and all hoses and vent lines were replaced two years ago. Never had a gear up landing and never been used as a trainer. Priced to sell at \$46,000. Both aircraft are based at 8A6 Wilgrove and currently flying. **Call Earl Fortner at 704 455-5326.**

*(Continued from page 2)*

member who was willing to organize this event which has forced us to cancel it.

There are a number of other events scheduled for this year and without the direct involvement of you, our members, we may not be able to host these fly-ins, fly-outs, educational seminars, breakfasts, etc.

That would be unfortunate as these events are very entertaining and they allow you, as pilots, a way to hone your navigation, landing, and bragging skills.

If you would like to get more involved with your EAA chapter and help with any of the scheduled events, please contact either myself or Ronnie Brown.

## Meet your chapter treasurer

### Sam Stewart



Flight has always held a fascination for me even as a youth building model airplanes. While in the Navy during the Viet Nam era, I flew as an air crewman with VP-17 on the P-3a in WESPAC and the deal was sealed for a life-long interest in aviation. After being discharged it was a while before I actually learned to fly. Then it was out of a pasture strip behind my house in a Citabria 7ECA.

Planning to build someday, I came in contact with Chapter 309 and gradually gained the skills and confidence to start a project with my brother, Neil. We chose the Steen Skybolt primarily from the position that we certainly didn't need an airplane so if we wanted to build, build something that would be a challenge to construct and fun to fly. I can verify the construction part being a challenge. Hopefully we'll know about the flying at some point in time.

Currently I am a member of the Gastonia Aero Club and do all my flying from Gastonia in our Piper PA-28-180 or the Cessna 172. Aviation has provided a great deal of personal satisfaction for me. But more importantly, I am very thankful for the opportunity meet and work with folks who share this interest.

## Commercial ads available

EAA 309 offers commercial ad space on its web site [www.eaa309.org](http://www.eaa309.org) and in the monthly newsletter to Sponsors of EAA 309. Each ad will run for one year in both the newsletter and on the web pages. Your display ad would be approximately 3" wide and 2" high (similar to the example on page 3. The cost would be \$200 per year. Contact Ronnie Brown.

## THREE ZERO NINER

...--      -----      ----.

### UPDATE : Chapter Hangar at Lake Norman Airpark - by John Wigney

The latest information from our future landlord is that he now has the clearance to commence grading at the site. However, he has been requested to resubmit the plans to Iredell County because of some technicalities on dates and stamps on the drawings.

He also needs to complete a Fire Marshall review. Contracts have been signed for the concrete floor and the erection costs. Also the second part of the building which is the EAA 309 section has been ordered. Optimistic forecast for start is June 1, 2007.

### **Sonex nears completion (I hope)**

*by Hal Schwab*

My son and I have been working diligently to try and complete our Sonex so we can get flying for summertime. The engine build is taking a little longer than I had hoped, but it will be done soon. All we have left to do are to mount the engine, cut and install the cowl and canopy. I hope these tasks will go quickly. (**Ed Note:** We will get to see this project in person at the May 21 dinner meeting!)



Above are the dual glass displays for Hal Schwab's Sonex - Dynon EFIS and Airmap moving map. Nice "carbon fiber" panel (actually a vinyl stick on!).

## UNDER CONSTRUCTION

### **RV-9 Project Status - Bill Repucci**

Get 'er done! That's what I keep hearing from some of our members with regard to my RV-9 project. Hopefully it will soon be an airplane and not just a project.

No excuses for my delay other than the typical last 10% taking FOREVER to finish. As I type this there are only six wires left to terminate on the engine, a bit more fiberglass work here and there to complete, and fit the gear leg fairings. Once those tasks are completed it will be ready to move to the airport. At the newer, slow pace I've taken up, it should be done some time in the next ...

The truth is, it really is close to flying and I hope to complete the last 10% in the coming weeks.

Hey, what's the hurry? I really enjoy building so why would I ever want to finish?

**Thane States** reports he has been called back to work at US Airways - and hopes to be based in CLT. "That will make it easier on Family, as well as afford more time to build my **RV-10**."

"I am currently working on paint prep on fiberglass parts, as well as wiring, and interior work. I really need to get my engine and avionics ordered soon, as I am going to run out of stuff to do soon."



**Ron Miller getting ready for the first flight of N623CM, an RV6A. Ron's 89 year old father was watching when he took off on May 1. Yet another homebuilt by an EAA 309 member!**

# THREE ZERO NINER

...--      -----      ----.

## Dead Reckoning Navigation Competition

August 18<sup>th</sup> -

by John Wigney

Today, Sam Stewart and I went out for our first reconnaissance of a possible route for the planned competition on 8.18.07. We were impressed when we arrived at our final waypoint within 25 seconds of the target time after 175 miles. However, our secret will not be revealed.

This competition promises to be a lot of fun. We will need two key participants in each plane :-

- (i) An intrepid navigator who can read a stop watch and
- (ii) a resolute pilot who knows where he/she is going!

Please brush up your plotting skills with compass, DG, chart and E6B because that is all you will have. Remember, you will not be able to use GPS or VOR. Pilots, please ensure that you have one of these skilled navigators lined up for the event. They will be snapped up fast.

The format of this event will be a course around 4 or 5 waypoints which will be advised on the evening before.

Planes will be handicapped based on published cruise speed to ensure that all planes are on a level footing. This is not a race. Accuracy of time around all waypoints will be the basis of awarding the winner.

Please let John Wigney or Sam Stewart know if you are interested in attending the July 14 navigation class (this class is NOT required to enter the competition scheduled for August 18 - but if its been a while since you only used dead reckoning and charts to navigate, then you might want to attend this refresher class).

## YOUNG EAGLES

by Young Eagles Coordinator, Don Sink



Since we did not have Young Eagle flights as we have had in the past for the March Fly-In at Lake Norman this will serve as a report on what is happening. I have asked three members to serve with me this year as a planning committee as we transition to a different manner of providing YE events. You will recall that we decided not to have these events concurrently with a fly in principally because the complexity of that arrangement raised questions about safety.

For the Lake Norman Fly-In I invited members of the Career Counselors for the Charlotte-Mecklenburg School System to come to the fly in and to participate in a YE program in which we treated them as we do the younger flyers.

These persons are those to whom students turn as they begin to form career interests. The counselors also had indicated to myself and John Wigney that they had interest in having us be a part of aviation activities in their counseling programs.

While at the Lake Norman Fly In Van Lawless gave them an introduction to an aircraft using a C-172 and explained to them the various functions of the aircraft. Then several of our members (Bob Dobbins, Van Lawless, and John Schroeder) took the nine participants one at a time and went through a traditional pre-flight ground check and then on a 30 minute flight. What follows is an excerpt of the response sent by one of the counselors on behalf of the group.

"Hi Don,

"What a fun experience! The best part of the day besides learning "how to fly" and actually going up in a plane was being surrounded by people who have a passion for flying. That is what we want our students to observe: how interests link to possible career options.

"Thank you so much for inviting us to your home and having us share in the EAA "Fly In" Day. We definitely have increased our knowledge of how the Young Eagles Program can assist students in developing career choices and have a fun future "lifestyle." This was one of the best experiences of my life and one that I always will remember.

"We don't want to stop here. We need to discuss how we can take this to the next level of getting students involved in the program and how we can get EAA members involved in participating in our career events for next year. We definitely want to "spread the word."

Don Sink adds: Some additional information on how we currently are handling Young Eagle flights will be available at the May meeting. The roster of those interested in being Young Eagle pilots will be there and you are encouraged to add your name to the list.

## Avionics technicians....

Robbie Greer at Twin Lakes Avionics in Advance, NC is looking for qualified avionics technicians. If you know of any techs that are looking for a job, have them call Robbie at (336) 998-6120.

# THREE ZERO NINER



## Three Nice Days.....

I hadn't been to a big fly in since Oshkosh 2003. Health issues as well as getting tired of camping out in the rain kept me from going. But this year, I decided that if there was a forecast for three nice days, I would fly my Velocity to Lakeland and camp out. This would be my ninth trip to Sun-n-Fun and my sixth time to camp out under the wing. In my past camping trips, it always seemed to storm, complete with lightning, thunder and wind. In fact, at Oshkosh 2003, it rained every day – the last day it poured all afternoon and thundered and howled all night.

As the start of Sun-n-Fun neared, the weather was really looking pretty good. It was windy on Monday, it was supposed to calm down on Tuesday, there was a slight chance of showers on Wednesday or Thursday, and the rest of the time, the weather forecasters said it would be nice. I started my flight planning and gathered my camping gear – a new (in 2003) nearly self-erecting domed tent, air mattress, sleeping bag, cooler and a couple of chairs. As the sun rose on a clear Tuesday morning, aviation weather forecasted 10-15 knots out of the north. Clear but breezy up high too. So I packed everything in the pickup and headed for Lake Norman Airpark. Plane all preflighted, 40 gallons of fuel, and one last check of the weather. Sounded like it was going to be a bumpy flight. And indeed it was, as I headed toward Gastonia and skirted class B. After passing Gastonia, I climbed to 4500' and still bumpy. But as I got near Chester, I heard two RV's on the way to Lakeland on 122.75 MHz saying they had nice tailwinds and smooth flying at 7500 and 11500 feet. As soon as I cleared Class B, I climbed to 6500 feet and sure enough, smooth as glass and 20-30 kts tail winds to boot!

I punched Baxley, GA into the Garmin 430, engaged the Navaid autopilot in GPS track mode, and watched the green trees and fields pass quickly as I was making 175 to 195 knot ground speeds. The Velocity trims for altitude very easily, and I have a Microencoder which has altitude alerts. I set it for 6500' and it beeps when +/- 100'. Now, this is trucking!!!! In less than 90 minutes, I was setting up for a descent into Baxley and a top off with \$3.30 per gallon fuel. Baxley was quiet, it was bumpy but a good landing with a moderate crosswind on runway 8. I topped off, used the restroom, and took off, this time direct for Lake Parker – it has its own waypoint now (VPKER). I punched that in the Garmin and autopilot. As I climbed out from Baxley, I could hear folks talking about a big fire east of Waycross, GA. Sure enough, I could see a huge, long plume of smoke blowing toward Daytona which was up to about 3000'.



Around 11:15 AM, I was about 30 minutes out from Lake Parker, I reviewed the Lakeland Arrival NOTAM and dialed in the Lake Parker frequency. It was pretty quiet – arrivals were going smoothly. I steered to the east of the power plant and then flew directly over the power plant. No direct instructions for me, just “fly directly over the power plant on a heading of 270 degrees, then turn southwest over the interstate. Upon reaching the interstate, switch to Lakeland tower frequency and listen, don't talk.” I only saw a TBM in the high speed pattern above me, and no one in front of me. Starting these big fly-ins on a Tuesday rather than Thursday really helps improve the arrivals. The first time I flew into Oshkosh, there was a dozen planes in front of me when I crossed over Rippon – the first way point for flying into Oshkosh. This is a great big improvement. Then as I got directly north of the Lakeland tower, I turned south from the interstate. Then I turned east to join a tight right downwind for runway 27 Right – the skinny runway (actually a taxiway). The tower called me a Long EZ, then a Vari EZ and told me to turn base, then fly directly to the numbers, then fly down the runway and land over the green dot, which is 2/3 of the way down the runway. No problem, I kept the speeds up to 90 knots and stayed high. As I passed over the big green dot, the tower called “nice job Vari EZ, set her down and taxi to the end of the runway. Everything was going very nicely – no traffic in front of me and I got ready for my flare and touch down – BUMP, dang, everything had gone really nicely and I wind up with a runway that jumped up and banged into my airplane unexpectedly. Oh well, there was a pretty good crosswind and the landing went fine except for the “non-squeaker”!

I displayed my sign for HBC (Home Built Camping) and was directed to the south side of the airport, just south of the Lakeland VOR where there were a dozen mostly RV's tied down and tents already set up. I taxied up next to a great big Comp Air high wing powered by a Walter turbo prop. They had just arrived too, flying in from Missouri at 200 kts, burning 40 GPH of jet fuel but also had a great

## THREE ZERO NINER

...--      -----      ----.

tailwind and got there in three hours as well.

It was breezy but nice as I set up camp, called John Wigney to let him know I had made it down OK. He invited me join him for dinner that evening – he had driven his truck down since his Rotax engine had a vibration after returning his Europa to service from its annual condition inspection. (It needed new motor mounts.) I checked out the exhibits – pretty much same as the last time I was there – in 2001. Well there were a lot of LSA's and VLJ's on display (that's the latest and greatest in aviation these days – light sports and very light jets). Oh and there are at least a dozen EFIS / glass panel suppliers now – which seemed to be attracting the most attention in the vendor buildings. But otherwise, not a whole lot of changes. I met John for dinner and he took us to the new restaurant located on the second floor of the new Lakeland terminal building. The food was very good and the view of the airport was fantastic as sunset approached. A couple of beers and a grouper sandwich and I was a happy camper!!!



There were several hundred thousand people there and it is amazing how many people you can run into that you know: Dan McCan, Howard Cochran, Steve Glasgow, Randy Utsey, Sam Stewart, Tim Good and Ed Anderson. Oh and I woke up on Thursday morning and through my sleepy eyes, there goes Ron Schreck walking in front of the tent – he had pulled into homebuilt camping the night before – and parked two planes away!

Wednesday and Thursday turned out to be very nice days, 80 degrees or so with fairly good breezes – but not windy. Thursday was cloudier and sure enough, there was a pretty good shower as dark arrived – it lasted 30 minutes and

cooled things off pretty good. In fact, I had to cover my head to stay warm that night in my tent and sleeping bag. I found a good place to get a sausage, egg and cheese sandwich for breakfast each morning – down next to the LSA/Ultralight field – it was a burger joint for most of the day – and they had hot, freshly brewed coffee. I was a happy camper!!! Even though it had rained for a bit – that makes a perfect six for six – rain every time I camp out at Lakeland and Oshkosh. Nearly a non issue compared to the first time I camped at Lakeland in 1996 in a leaky tent and a leaky air mattress which allowed me to be miserable in a big cold puddle of water. I was NOT a happy camper then!!!



### Homebuilder's workshop

*by Ronnie Brown*

Hal Schwab lead this year's Homebuilder's Workshop which had eight attendees coming from as far away as Huntley, Virginia and Fayetteville, NC. Sessions were taught by Bill Repucci, Radomir Zaric, Bob Thayer, and me. Bob Allen and Chuck Porter from own chapter also attended.

Topics included Aircraft Selection; Publications and Paperwork; Shop Safety; Engine Selection and Building; Sheet Metal Construction; Composite Construction; and Aircraft Electrical Systems. David Borders provided his excellent shop and tools again.

Each participant then built an aluminum tool box using techniques that are common to building a metal aircraft such as the very popular Vans RV kits.

I called my wife on Friday morning and told her that it looked like Saturday would be a good day to fly home as there was some weather in the Carolinas on Friday. So I had an extra day to check out nice paint jobs, simple panels and full blown glass panels. I also checked out some nice Sonex's, Zeniths, some powered by Corvairs and Volkswagens. Oh by the way, there was a nice Hummel Bird that crashed on final going into the ultralight field on Wednesday morning. Bob Thayer says he thought it was an engine stoppage.

On Saturday morning, I woke up early (six AM) and started packing my stuff. By 7:15, I fired up and taxied out to the conga line – but it was short – 10 planes perhaps, and departures were going smoothly. Then I got “Vari EZ, turn onto runway 9 Right, position and hold”. Then I got “Velocity, cleared to depart!” An RV was in front of me, and I climbed out with him in my gun sights. He wasn't getting away from me. I flew out over the interstate and up to 3000' before turning north. Another fantastic day for flying – some foggy areas below, and a bit of morning haze. But it was nice and smooth, with only 5-10 knot head winds to slow me down. I shot a GPS approach into runway 8 at Baxley. I had upgraded the Garmin 430 to WAAS a couple of months ago, so this was a precision approach. This was another very smooth approach to final – since the WAAS approach doesn't feature the needle wiggling of radio signal based LOC and ILS. (By the way, does anyone know how to determine which GPS approaches have the Vertical Guidance? - The approach charts do not indicate this!) I refueled and climbed back up to 7500 feet this time. Four and a half hours after firing up at Lakeland, I was back home at Lake Norman.

And so I had **FOUR** days great weather - camping with my airplane at a big fly in and enjoyed every bit of it – even the heavy, thirty minute shower wasn't so bad.

## Poker run cancelled

*by Bill Repucci*

By now I'm sure you read my note regarding (having to cancel this year's) poker run.

My desire is to get some other members to volunteer to help out. As with most organizations, a small group does the majority of the work.

I'm hoping to use this event to push some others into helping out. However, if any of you know of anyone I should call and do some arm twisting, let me know and I will be happy to do just that. The people I have contacted (calls and email) are all busy and cannot help out.

**We need more folks to help run our events! Your turn to get out front!** (editor)

## THREE ZERO NINER

### TAIL DRAGGER GROUND HANDLING MAKE THE TIGER 'PURR'

*By Mike Penketh, AAA 44*



This pertains to single seat Pitts but can be applied to any tail wheel aircraft. I read and hear stories of difficult even viscous ground handling of these short-coupled little tail draggers. Some people even go as far as to recommend special instructors whom seem to have superior knowledge of these antique skills. Tire pressures (or types or tires) are commonly put to blame and held responsible for these unruly traits.

With the FAA now requiring a tail wheel sign off the common run of the mill CFI may not always be the best choice. Take the time to find the right CFI who is knowledgeable and familiar with the type of aircraft you plan to fly.

Tire types and pressures. Let's simplify this by saying the tires should be round with no tread showing. As far as air pressure goes, just be sure they are satisfactorily inflated, the key is they LOOK THE SAME (don't worry about the exact psi.)

WHEEL ALIGNMENT is what makes docile ground handling tail dragger. Below I'll describe the simple method I use to check and correct this common problem. A spring gear is the easiest because all that is needed are a selection of shims to add or remove between the bolt-on axle and the landing gear. A 'bungee' can be difficult because you will have to actually bend the axle or gear mounting points. In extreme cases a welders torch might be necessary to heat and bent the gear to correct alignment.  
WHAT IS NEEDED...?

1. one - 1 inch square 8 or 10ft length of SQUARE Al tubing,

# THREE ZERO NINER



(available at your local hardware store)

2. two - oil cans, (the old flat top oil cans work great)
3. a selection of 500:5 shims, 600:6 shims will work but you must redrill the bolt pattern to fit the 500:5 axle, (Shims can be found at an a/c parts house/junkyard or if you know a RV builder Van has them at a good price in his RV catalog)
4. two, four is better – 12 inch square sheets of aluminum,
5. one – can of good ole' wheel bearing grease,
6. one – metal roofers square,
7. one – sack of 'gummy bears,'
8. Cleaning solvent.

HERE IS HOW I DO IT – spring gear. This is so simple it escapes most of us:

1. Using the 12-inch square aluminum sheet make one preferably two skid plates. Simply put some axle grease between 2 aluminum sheets so as to allow them to swivel, one is ok, two are better.
2. Roll the main tires on to the skid plates; rock the wing tips letting the main wheels 'take a set.'
3. Try to simulate a landing weight, fill the gas tank, and put the neighbor kid (with a chute) in the cockpit.
4. Give him the 'gummy bears' as a bribe to shut-up.
5. Raise the tail to simulate the landing attitude. Again let the main wheels to take a set.
6. Put an oil can in front of each tire. Atop the oil cans put the 1 inch square aluminum tubing.
7. Using the roofers square compare the toe-in, toe-out between the two Wheels (not tires.)
8. Using the shims and the trail and error method simply make the toe-in zero or equal when measured with the roofers square.

**SUGGESTION - NO TOE-IN! ZERO TOE-IN TO A SLIGHT AMOUNT OF TOE-OUT IS YOUR GOAL. ZERO CAMBER IS THE GOAL BUT NOT THAT CRITICAL.**

**BINGO** – you're done. Don't worry about tail wheel alignment. Simply push or taxi down the taxiway. Does it go straight? If not adjust the tail wheel/rudder cable/spring tension till it goes straight. You'll find tire life will almost be forever and wear should be equally uniform. Remember, wear on the center of the tire indicates too much air, wear on the outside usually indicates not enough air. Oh, I forgot, use the cleaning solvent to clean the 'gummy bears' from your chute!

## THE PRACTICAL APPLICATION

It's easy; I've been there. I just scratch my head and look for the easiest way out. In the late 80's I built a hot-rod, highly modified S1S. 200mph in level flight, 4+ vertical rolls, DeMars, frame-up, spring gear, 76/60 prop, all the good stuff. But...the tire wear almost equaled the fuel flow, dragged wing tips were common and cross wind landings were a near death experience. At first I just chalked this up to being a Pitts, then one rainy day I was bored so I scratched my head and did a gear alignment check as described above. I found toe-in that could be measured with a ruler. Think about what happens if you land crosswind, wing low on one wheel and that wheel has excessive toe-in. That wheel darts towards the center of the aircraft the gear collapses (in an extreme case) and the aircraft cartwheels. It took very little head scratching to see what my problem was. A re-alignment turned the Tiger into pussycat. Next came the Zlin 50. An incredible aircraft, probably the easiest aircraft in the

world to take-off and land. The performance resembles a Super Cub with a brisk headwind. The tire wear was strange so I thought a wheel alignment was in order. The tall, soft, springy, magnesium gear proved to be a challenge, after several hours of head scratching I gave up!

Gear alignment became very difficult if not impossible so I looked at tire psi as a possible cause for the abnormal tire wear. I came to a very scientific conclusion; too much air resulted in excessive tire wear while too little air proved to be somewhat better.

How did I gauge the tire psi....another scientific approach: if the aircraft was easy to push around the hanger there was too much psi in the tires, if the aircraft was difficult to push the psi was about right. Tires rotated about mid-way through the tire life was the best method of extending tire life which resulted in tire life of about 70+ hours. It may not seem like a long tire life but with a 15-gallon fuel tank an AEIO-540; 30-minute flights were the norm.

Eventually a G-202 was created in my hanger. Prior to the first flight alignment of the main gear was carefully adjusted. The 202 differs in that it comes over the fence a little faster than the average aerobat but with correct wheel alignment the roll out was straight as an arrow.

In conclusion: all three of these aircraft are now superb in ground handling. All three can actually take-off or lands with the pilot's feet flat on the cockpit floor (no wind of course.)

## PILOT TECHNIQUE and FINAL COMMENT

We all fly differently but getting the aircraft airborne with minimum take-off roll and landing at minimum speed, not using brakes on roll-out and minimum braking during taxi will result in much longer tire and brake life.

One last comment, I use the Lamb 500x4 tires and tubes. They are considerably smaller (less drag) a couple pounds lighter per tire, if aligned properly they have a long life and lots cheaper than a quality 500x5. One problem is that they are not readily available! I suggest having a mounted spare in your hanger and when on the road carry an extra tube.

Mike Penketh  
AAA #44  
IAC #3213  
IAC #93735

**NOTE:** Sam Stewart sent me the above article from the BiPlane Hangar list that he belongs to. The amazing part of this story is the fact that Mike lost both of his hands while trying to break a land speed record at Bonneville. One week in 1993, Mike won his class at the Reno Air races. The next week, Penketh tried to break a land speed record at the Bonneville Salt Flats. There he was, foot on the pedal passing two hundred fifty miles an hour. Do a Google search on Mike Penketh and you'll get the rest of the story!

**Membership**

**We Need You!**

**Drive 2007**

**As always Chapter 309 is looking for new members. This page should be removed and given to a potential member.**

**The form can be used to pass along enrollment information about the EAA and this chapter.**

**Pass it On!**

## About the EAA

The EAA is for both pilots and non-pilots who are interested in the dynamic world of flight. The organization, founded in 1953, offers activities for the entire family on the local, regional and national levels. EAA also offers support programs for those who are building and restoring aircraft.

The EAA is dedicated to serving all of aviation by fostering and encouraging individual participation, high standards and access to the world of flight in an environment that promotes freedom, safety, family and personal fulfillment.

If YOU like airplanes and the people who fly them, **EAA** is for you! For only \$40 you can be a member. EAA offers something for enthusiasts of every age and interest - pilots, designers, builders, dreamers and doers - anyone who enjoys the unique freedom made possible by flight. All are welcomed into EAA's growing family.

**Call the EAA Membership Department at 1.800.Join EAA (1.800.564.6322) or visit [www.eaa.org](http://www.eaa.org)**



### EAA Chapter 309 Enrollment Form

Name: \_\_\_\_\_ Spouse \_\_\_\_\_  
 Address: \_\_\_\_\_ Family Membership? (Y) or (N)  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone: \_\_\_\_\_(H) \_\_\_\_\_(W)  
 E-mail Address: \_\_\_\_\_  
 Pilot Rating: \_\_\_\_\_ EAA Member Number: \_\_\_\_\_  
 Aircraft Owned(?): \_\_\_\_\_  
 Current Project(?): \_\_\_\_\_

Membership is open to anyone interested in aviation. Dues are \$25 per year. Mail Enrollment Form with Check payable to EAA Chapter 309 to:

Sam Stewart  
13916 Sledge Road  
Charlotte, NC 28278  
704-588-0776

EAA Chapter 309  
18816-6 Nautical Dr  
Cornelius, NC 28031



**NOTICE: The next EAA 309 Monthly DINNER MEETING will be held at 7:00 PM, Monday, May 21 - at Hal Schwab's home, 21315 Townwood St in Cornelius, NC. Pizza and refreshments while we view Hal's nearly-ready-to-fly Sonex.**

**Call Bill Repucci at 704-607-4572 for more information.**

