



EAA Chapter 32 News

Jim Bower, Editor



January, 2010

Happy New Year, everybody! Come to the meeting on Saturday, January 16 at 10:00 am and help us kick off the new year right.

Upcoming feature in January!!



Come see our first in a series of evening entertainment movies on Saturday, Jan 30 at 6:00 pm. We're going to kick the movies off with some very early flying productions. This will be a double feature of early classic World War I stories. The first will be The Dawn Patrol starring a very young Errol Flynn has some wonderful dogfight scenes that set a standard for how they were done. The second feature is Howard Hughes' production, Hell's Angels with Jean Harlow, Ben Lyon and James Hall. At the time, this movie was the most expensive ever made. Flying in this movie was done by WWI veterans in authentic aircraft for the period.

Immediately prior to the movies will be several episodes of a cinema serial from the 1930's. If you never saw these before, you won't want to miss this.

Popcorn will be sold and soda will be available to round out the experience. Come and enjoy the event.

November Meeting Minutes

VP Steve Morse presided, and began with the pledge.

We first recognized visitors, including Jeff Stevenson who is thinking about a Sonex or RV-12. Chris from Lake St. Louis was also in attendance; he currently has a Long-EZ and an empennage for an RV-8.

Next on the list was outstanding business. With a new administration coming on board some items, i.e. water and driveway, will transition over.

Ernie Buzard's estate has officially donated his Cavalier and quite a bit of model airplane stuff which is now in the ARC. We're still deciding how to liquidate this. One option may be a sealed bid auction.

Steve welcomed Dave Doherty for his first meeting as president-elect.

Dave is working with the new Fly Girls restaurant on the holiday party and has a menu. The bill of fare will include the following: meat: beef au jous & white wine chicken breast, oven browned potatoes, baked beans, and garden salad with dressing. He noted that we'll be putting half down. Cost will be \$15 per person and estimates about 60 people in attendance. The party will take place on 12/5/2009 date, Saturday 11/28/2009 after Thanksgiving we'll do setup. Don Doherty has donated several long strings of Christmas lights for the outside of the ARC.

Don spoke on treasury issues. (He's been working with Gary to get the paperwork handed over.) Don and (former treasurer) Jim Hann went to the bank Thursday and got Don's name on the accounts. (There's a regular account and a hangar fund.) Gas tank, some of Laura's

expenses, and Christmas party expenses are current items we need to deal with. Don may call on former treasurers to help get things straightened out. Gale suggested following up on Trimotor reimbursement from HQ. Don would also like to talk with folks in our hangars to find out if they've sent in any checks.

Since the lock has been handled by the treasurer, Don will take this over and will distribute new combinations. Dues will remain the same at \$36.00, checks will now go to Don.

Dave is looking forward to the next few years. We will move forward on the ramp. Bob Kraemer has offered to help with this expense, but could not make the meeting due to foot surgery.

Regarding Young Eagles, he suggested some scholarships, which implies fund raising. We're thinking of trips to the YE Academy (Troy does this). Gale mentioned that Julie Kitchen (Phil's daughter) went in the 90's, though we haven't sent any others since.

Dave is looking for new committee chairs. He has two pages worth (education, community liaison, scholarship, fund raising, membership, ARC, executive) from by-laws. If you're interested in heading a committee please step up.

We'll also begin having movie nights on Saturdays, i.e. Hell's Angels by Howard Hughes. It's the only color movie of Jean Harlow - you don't want to miss that.

Steve Morse closed the meeting by saying thanks for help he's received over the past two years, and notes he'll still be doing education.

Dues are Due to our New Treasurer

Well, gang...it's the first of the new year and that means now is the time to pay your Chapter 32 dues. Please send \$36.00 to our new treasurer before the end of the month:

Don Doherty
1036 Pegasus Circle
St. Peters, MO 63376
Home: (636) 397-4713
Cell: (314) 452-0067

Please note that our roster will be published in time for the February meeting. You MUST pay your dues by the end of January in order to have your name in the 2010 roster. Also, if you need to make payments or get reimbursements, contact Don and he will leap into action and take care of you.

Learning As We Go

“New Beginnings”

By mr. bill

“EAA IS NOT ABOUT AIRPLANES, IT IS ABOUT PEOPLE!” EAA Founder, Paul Poberezny.

We here at EAA Chapter 32 now have new leadership: Brothers from the same mother, who are leading EAA 32 into the new decade. (Y2K what?) These men worked hard for us to put on a great Christmas Party in the EAA A.R.C. (our Aviation Resource Center.) Ms. Libby let us know about the beginnings of the “99s” Women Aviation Group with her lovely presentation.

What about these new beginnings for the New Year for EAA 32?

New President DAVE DOHERTY (aka #1), who is a pilot (ask him about hanggliding) and a caring fellow whose Dad was an early member.

New Vice President BILL DOHERTY (aka #2), who is also a pilot (and his Dad was an early member).

New Treasurer DON DOHERTY (aka #3), who is also a real tail wheel pilot. Folks, Don has done so much work in the last month to right our EAA 32 ship that he should be given a vacation. His Dad was an early member in this chapter. Hey, I am starting to see a trend here. This is looking like a Chicago “family run” organization. “You know whatta I mean....”

Something had to stay the same and that was Secretary DAVE DEWEESE (aka #4) who quietly behind the scenes was published in the E-mail EXPERIMENTER for his work on the Double Eagle aircraft his is building!

Great guys with great leadership skills! Back in the day we used to have the ladies and the children come out and join us for our meetings. It is the intent to make those times prevalent again. We need young kids to take up flying, and tell our stories too so we can pass on this love we have for building and flying. Last time I looked everyone had gray hair IF they even had hair at all!

The YOUNG EAGLES mafia had new cabinets installed on the East side of the EAA 32 ARC. The funds were courtesy of EAA-Oshkosh Fundraising, and the fact that EAA Chapter 32 actually flew Young Eagles in 2009. Thus we received money from the Oshkosh fund raiser for new equipment. Awful nice of the parent organization to help out the chapters!



So with new leadership and new equipment we ask you all to come on out and see the “new” EAA 32 with its family-friendly leadership and programs. You will find it a great and growing place!

But wait, is there anything else new?

By the time you read this the new EAA SPORT AVIATION magazine should be in your hands. Instead of splitting the

material into two magazines it was decided to make ONE great magazine! I was able to preview this gem and it is a cooler magazine with more tips for the builder.

Along with the new magazine’s look, EAA headquarters is looking for new leadership. It is amazing how everyone is getting older and we need replacements! Can’t believe I have been a EAA member since getting out of college in January 1982!

But wait ...there is more! Former EAA treasurer Mr. Gale D. in his new Troy Airpark construction zone is working hard on his Rans S6S Coyote II. Somewhere in the mess in the hangar next door to Gale is a Volksplane II that is getting ready to have the wings mated to the fuselage in anticipation of the spring flying season. More on that mess later!

So, things are happening! Movies are being rented, popcorn is being prepared for popping, for Family Film Night at the EAA32 ARC! The EAA 32 Group is getting ready for Flight # 2010 and it is shaping up to be a great and enjoyable year! Come and join us at 1000 hours Saturday, January 16, 2010 for the inaugural flight of EAA32!

Flyable Cars/Roadable Airplanes

By Bud Cole

FLYABLE CARS and/or ROADABLE AIRPLANES have been part of the airplane designer's dream almost since the very beginnings of aviation and it comes as a natural thought simply because to take off and fly with wings requires a considerable distance to get up to flying speeds. Vertical takeoff and landing devices like airships, dirigibles, autogyros and helicopters require far more controllability or power and loss of safety to be practical. The basic purpose of the car is a box on wheels to move people from where you are to where you want to be with a maximum of safety and convenience and at a cost of time, treasure, and talent that the public can afford. The purpose of the airplane is to utilize the unique ability of a wing to move people farther, faster, more efficiently and if possible with more safety.

When we try to combine both purposes into one vehicle we wind up frustrated by one of engineering's oldest bugaboos. "If you try to design something to do everything it probably won't do anything well." Any successful attempt to make a COMBINED vehicle is first going to have to produce a good, practical, and efficient road vehicle. A good car is 90 to 99% of our usage. Second, any time you start screwing around with normal conventional aircraft configurations it is frustratingly easy to wind up with a very poor flying, almost useless, airplane. The third factor in a COMBINED vehicle is its cost in time, treasure, and talent. It's going to have to cost no more than you are now spending on your impractical car and your impractical airplane and it actually needs to do both jobs better and preferably noticeably cheaper than your present vehicles or you won't switch.

Think about just how impractical your present car is. We have a 70mph maximum speed limit everywhere but most of our cars are capable of well over 100 and at least the running gear and engines are heavied up for it. Stand beside any highway during heavy traffic and you will see that at least 9 out of every 10 cars are carrying only one person, or two, or in a very small number a family of 3 or 4. Even 6 to 8 passenger station wagons and vans are usually occupied by the driver alone and even pickups rarely have a load on board. Many pickups and family RVs have high bumpers that would go over the top of the normal car protections the government has loaded up our passenger cars with. The high kinetic energy produced by these high powered, overweight, and oversized steel cars requires power steering, power brakes, automatic transmissions and so on for ordinary people to handle them and some still have high accident rates with the high kinetic energy making accidents far worse. The

heavy car or pickup has so much unneeded kinetic energy it cannot change directions easily or quickly. It is more or less locked on its trajectory and cannot dodge an accident or sudden stoppage in front of it. Most big heavy cars and pickups are nose heavy which increases braking distance and when they do arrive in an accident the increased kinetic energy greatly increases the damage they inflict both on themselves and anything they hit. A few of the better designed smaller and lighter cars are better balanced with shorter braking distances and better maneuverability so they can better avoid accidents, are easier and more comfortable to drive, and are tremendously easier on the pocket book. For many young people and even many oldsters the light weight convertible sports car has given many miles of very enjoyable driving and in my opinion the small size and weight make it the ideal car for those who want a combined driving and flying car.

Most of us who fly more or less set flying aside during our family years and take it up again after the kids are grown. As a result most who might be interested in a combined unit will only need a two passenger car and a two passenger airplane and it seems to me the tiny two place light weight sports car, or jeep for the off road types, would be the most practical and be the most likely to have enough sales to survive on what seems to be a dying lightplane market. It would also seem to me that adding lower cost, simpler to build kits is almost a necessity to go with manufacturing. Most of the better kits today are far beyond the cost most interested people can pay and the worst cost multiplier is a new or used 4 cycle engine. I think better, low cost aircraft-quality 2 cycle engines can be built as part of the kits for a fraction of the cost of present day modified snowmobile and other existing engines. Almost all present small aircraft 2 cycles are designed for low continuous horsepower and have a short stroke which requires some sort of reduction system to get the most practical propeller rpm. Ignition systems and carburetion are often poor and unreliable at aircraft speeds and power.

Most of my flying until the '70s was in a mixture of everything but mostly in Pipers and Cessnas, anything that people would lend me or EAA homebuilts with problems. Then in the '70s the Mexico, MO FBO gave me a cheap rental rate on an Ercoupe. It was an enjoyable little plane with excellent vision, reasonable economy of fuel and maintenance and I soon bought one in St. Louis. My son was the only one in my family who wanted to fly while teaching at Washington U. While hauling it to my farm to repaint we severely damaged it and before I

could rebuild it I found an Alon and another Ercoupe and still another for parts to repair the first. I put in over 700 hours and my son about 200. I decided the low wing safety airplane was the most practical for most flyers and although it was capable of fairly short take-offs and landings, I always wished it could take off and land in a lot smaller fields, preferably true STOL in under 100 feet. In my opinion the ideal combined vehicle would be a modernized Ercoupe capable of carrying a small light sportscar or jeep underneath. The replacement Ercoupe would be an excellent small aircraft by itself and the small sports car or jeep-like vehicle would be a low cost fun vehicle by itself. The combined vehicle would let you travel as far as you wanted taking your own low cost transportation along.

Unfortunately I have never found anyone willing to back a small aircraft company but IF I could here is an outline of what I would like to build. Starting with a minimum of facilities and people I would hire a few older, experienced ex-McDonnell designers to make the complete design with all parts to make up the kit with a single semi-trailer, (8' x 53') automated kit building machine. Many parts might be made outside and fed into the trailer but essentially the automated trailer would produce kits. Then some of the kits would be furnished to our own company to produce finished airplanes. Kits would be sold to any homebuilder and in larger numbers to any one to manufacture. We would particularly encourage any EAA chapter group to set up their own manufacturing company plus letting them sell our kits to homebuilders. This should generate many jobs all over the country and maybe even overseas. Second it would greatly lower the cost of airplanes and flying giving a big boost to aviation in general. Third, making a lot of 100 ft. take off airports available could generate a lot of close up tiny football field size airports or STOLports. In time this could give a boost to any business or shopping center smart enough to promote an adjoining STOLport for access. A lot of people would be able to move out of the expensive crowded cities and still have easy access from the air instead of facing an hour or two every day in miserable traffic. For those people who could be able to commute back and forth to work there are millions of times as much space in the air as there is on the roads and if these low cost STOL planes and light cars are made as I would build them to use less fuel they could make a sizeable reduction in pollution. Now for a description of the plane and car I would build.

First the airplane: a light low tapered wing Ercoupe replacement. It would be built on an aluminum truss and fabric covered, at 6g STOL LSA condition it would cruise at up to 125mph with a 138mph top, land and take off in under 100 ft. and climb like a homesick angel, have under $\frac{3}{4}$ of the Ercoupe's weight and $\frac{1}{2}$ the drag.

In 1962 after visiting the Rockford EAA Fly-In I sat down to design a whole series of light planes to fit over 90% of the planes the EAA members should build to accomplish what I thought most wanted to do. As an extra gimmick I added one of my flying wing designs to fly around the world in one jump, thinking that I might attract a backer at the '63 Fly-In and give aviation a Lindbergh like boost. At the Fly-In no one was interested. No one wanted to see their logo burning up at the end of the runway, which they were sure would happen with an over 50% take-off fuel load and 2-cycle engines horrified many. The engine companies would only consider it with their engines which meant twice as big an airplane. Fifteen or so years later Gina Yeager had the same problem with her round-the-world aircraft. She finally got it financed with EAA member pocket donations. She deserves as much credit for raising the financing and help as she did for actually making the flight. I soon called this series of designs the "Angels." The 2 place side-by-side soon became the "Coupe" and the 4 place the "Sedan" similar to many earlier cars. In the early '70's when I took up driving Fiat 850s I discovered how much fun the small sports car could be and changed my earlier flying cars to a similar format but keeping the VW "Bug" style running gear and pan. When I took up flying Ercoupes, I soon changed the Angel Coupe and Sedan to be convertible to Safety-Planes with twin tails but with a rudder-pedal override for better cross wind landings. When the LSA specifics came out a minor change in weights put them right in line but able to carry my little sports car and an amateur-built carrier made a very long range car carrier Safety-Plane, yet at light full acrobatic weight it could land and take off easily in lightweight 100 ft. STOL condition. (Matching normal Ercoupe.)

The basic three-control Angel Coupe has a 30 ft. wingspan and 135 square ft. wing, (same as the Ercoupe,) The wing has a 2-1 planform taper with swept L.E. and straight T.E. and 4-1 thickness taper. The wing has approximately 6 degrees twist and 5 degrees dihedral, 60% flaps and 20% droopable ailerons with either an outboard slot or slat in front of the ailerons to prevent outwing stall and insure very slow speed lateral control, particularly in deep stall landing approaches. The airfoils are my own but similar to symmetrical 4-digit NACA and we use 25% flaps and ailerons. The wings fold back for storage or trailering. The elevator is linked to the flaps to maintain automatic balance. The landing trigear is wire rod springs similar to later Ercoupes and foot pedals also raise hand-shaped rotary drag spoilers to aid short landings. The fuselage is the same basic airfoil shape of circular cross section on the Sedan with a notch cutout of the nose for windshield and engine cowl. The Coupe is also cut out at the rear deck to make a clean bubble canopy. The Ercoupe pays a big weight penalty for its sheet metal structure in this speed range

and my airframe is designed around a stamped aluminum truss structure, aluminum secondary structure and fabric covering plus a light weight 2 cycle engine with lower sfc giving me a much lighter and stronger airframe of less than 75% of the Ercoupe empty weight. A 60/80 hp engine makes this a 6g acrobatic 100 ft. STOL at 900 to 968 pounds and 4.4g at LSA 1320 pounds. If built as a normal amateur-built 3.8g it would carry 1613 pounds and a 3.5g Safety Plane would carry 1660 pounds. All this would easily allow it to carry a 600 pound sports car off any normal airport. Adding a 90/120 hp would get it out of a lot smaller airfield but still require a sizeable landing space. A welded chrome-moly steel truss structure would add up to 100 pounds and a 4-cycle engine would add up to 200 pounds plus doubling or even tripling the cost. Any airplane I design, I design a 2-cycle engine to go with it and since I thoroughly understand engines, I never design 4-cycles or airplanes to use them. The airplane could be designed to be built of wood and fabric with a weight between aluminum and steel. It could be made with all foam and composites at about the same weight as the aluminum truss but much higher cost and many more hours of work. It could be made with all aluminum skins but with a big cost and weight penalty. 600 pounds is about the maximum that can be carried under this aircraft design but the entire airplane could be enlarged to carry a bigger car like my Publicar design which is designed to be a lightweight all aluminum VW "Bug" replacement. Second the Sportscar: there haven't been many 2 passenger small sports cars available on the American market since WW-II, Crosley Sport, King Midget, Sprite, M.G. Midget, Fiat 850 Spyder and a few others. I got in a little time in an under 800 pound Crosley Sport, a few rides and drives in the others and about 350,000 miles in several Fiat 850s, the most fun of any car I ever drove including Porsches. All of the Crosleys were under 1000 pounds and in two years of driving and repairing them for a dealer I did not consider them as dangerous on the road but I have always recognized small car drivers are more cautious driver for obvious reasons. I have no qualms at all in suggesting a 600 pound mini sports car or jeep-like vehicle for carrying under my Angel aircraft designs.

The car I would build and furnish kits for would be a small, low to the ground, jeep-like all aluminum or composite vehicle along the size and format criteria of the Fiat 850 (48" tread and 80" wheel base with 12 or 13" wheels). It would be cut-off square just in front and just in back of the wheels with rigid channel bumpers. It would closely resemble a cut-off Fiat 850, 9 feet long and 4.5 to 5 feet wide. To drive as a streamlined sports car or to streamline it for carrying under a plane we would add 1.5 foot thick foam nose and tail pieces. Then the structural format would change basically to more like a smaller VW Bug built on an aluminum pan with fore and aft swing axles that would swing down to a foot +/- below the pan. 6 inches being hydraulic shock to absorb landing shock loads and 3 or 4 inches of air ride springing for a smooth ride on the road. It would have a small two cylinder alternate firing 2 cycle engine (2.25 bore and stroke) and wither a belted automatic or simplified 4-speed planetary transmission. With windshield and roll bar folded flat and wheels pulled up it would be less than 2 feet thick. The pan would be a 9" thick box with everything possible below the deck to make a flat sleeping space. The convertible top would be of clear vinyl for heating and weather protection. The car would be surrounded by a protective aluminum frame including the doors for occupant protection. A 40/60 weight balance would give minimum braking distance and better handling than other cars. At 125 to 175 mpg fuel consumption we only need a 3 to 5 gallon tank.

COST. Once the tooling is made and the semi-trailer automated manufacturing units are operating I think the airplane kits can be sold profitably for under \$5,000 and the car kits for less than half that. To make flying experimental demonstration units would cost between 10,000 and 20,000 plus 300 to 500 hours of labor. To make the semi-trailer automated units could cost from hundreds to thousands to a million or more, and to get all this approved by the FAA is anybody's guess.



2010 Roster Updates

As was mentioned elsewhere in this issue, I plan to publish the 2010 roster next month (March at the latest). I would like it to be as accurate as possible, so please check your 2009 copy and make sure all your information is correct. I'm especially interested in updates to phone numbers, e-mail and snail-mail addresses, changes to your ratings, additional construction projects, etc. This is your one chance to correct any discrepancies before your old phone number is set in stone for another year, so please take the time to look it over. If you don't have a copy of the 2009 roster, let me know and I will tell you your current information. Thanks!

Jim Bower

EAA Chapter 32 newsletter editor and keeper of the database.

President's Corner

By Dave Doherty

Happy new year, everyone! Wow! Writing this section for the newsletter is a new experience for me. I'll give it my best shot with the promise that it'll get better when we have something real to write about.

Let me start by giving a little history about the Doherty's involvement with EAA and Chapter 32. We're second generation chapter members. Our father (Bill Doherty) became involved around 1963 when he heard about EAA and the fly-in held every year at Rockford, IL. I went with dad to Rockford in 1964, and became infected with aviation in earnest. We also attended the Antique Aircraft fly-in in Ottumwa that year, and a number of subsequent ones. When Chapter 32 voted to undertake building an airplane, I went with dad to Howard Henderson's house every Monday night. At the time, I was 11 years old. The plane was eventually built over the course of a couple years in spite of my getting in the way. Since chapters are forbidden to own aircraft, there were 3 people who eventually bought out the other interests. In the early 1970's I bought out Lindy Mueller's interest and became a proud partial owner.

At about that time, Don turned 11 (a magical age for aviation and the Doherty boys). He went flying a lot with dad in the Skycoupe, and was also smitten with the homebuilding movement. Dad was building his Pietenpol and Don was right in there helping. I went on to college and lost touch with the chapter for a while. Don now owns a Pazmany PL4 built by Hal Christianson.

All of a sudden it was 1978, Bill turned 11, and started going with dad to events like Oshkosh and airports, etc. He had his first plane ride in Howard Henderson's T-18. Bill was infected when the chapter undertook restoring the Lindbergh Monocoupe to display status. Bill's now in the final stages of his Private Pilot certification. Go Bill, go!

And so it went. As time passed, we matured, grew families, and enjoyed aviation each in his own way. The stars all aligned in 2009, I talked my brothers into running for office, and we all got elected. We won't let you down.

2010 should bring us a really fun year. Your elected officers are committed to growing our chapter and making it better than ever before. Looking forward, there are some projects we need to, and will undertake. At January's meeting we'll have events and activities we want to present. Among them are family events, such as a spring celebration at the ARC, with food, music and fun stuff for everyone. We'd like to get the water situation all cleaned up at the ARC. Improvements inside and outside the building still need to be made. Young Eagle events, seminars, workshops, technical assistance, and a whole lot of other things will be available this year. We want to host a chapter fly-in breakfast and BBQ during the summer. We want to make the ARC and Chapter 32 a place that's fun and active on more weekends than one business meeting a month. Your elected leaders will do our best to make it all happen. We can't do it alone and will need help from everyone. This is all going to cost money too, and we've got to come up with some good fund raisers to do it all. We have some ideas about that too. Please come to the January meeting. We'll have a tentative calendar of events and a budget to present. The subject for January will be the state of the Chapter and direction we want to head. Also, don't forget about Aviation Movie Night at the ARC. And we just may have some other fun surprises along the way.

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314-286-9932
 CALL THIS NUMBER FOR INFORMATION ABOUT
 UPCOMING EVENTS



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

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