



EAA Chapter 32 News

Jim Bower, Editor



May, 2010

Come to the meeting on Saturday, May 15 at 10:00 am.

N41710 For Sale

CULVER CADET LCA 1942

Asking price \$16,000

Continental C-85
Airframe TT 927 Hrs / SMOH 84 Hrs
Last Annual June 2006
FS 450 Digital FF
Electronic Int'l volt/amp meter
Artificial Horizon
Airspeed Indicator, Altimeter
Micro-Air 760 COMM Radio
Garmin GTX-320a X-Ponder
Cylinder Head Temp Gauge
Ameri-King AK-450 ELT
Suction Gauge, Oil Temp Gauge
Turn & Bank (2 min)
Vertical Speed (100 fpm)

SPECIFICATIONS:

Wing Span 27'
Length 17' 8"
Height 5' 6"
Weight empty 750 lbs
Gross weight 1305 lbs
Fuel capacity 20 gals
Retractable landing gear
Maximum speed 140 mph
Cruise speed 120 mph
Stall speed 45 mph
Normal range 600 miles
Rate of climb 800 ft/min
Service ceiling 17,500 ft



**Aircraft based at Smart Field – St. Louis, MO
Contact Lon Lowe @ (206) 349-8495**

Volunteer Needed

We're looking for a qualified individual to install a 220V line in the ARC to power an air compressor. If you can do this, please contact President Dave.

April Meeting Minutes

Our April meeting began with the Pledge, Dave Doherty presiding. Official meeting attendance was small, due to the fact that this meeting coincided with a Young Eagles event. In reality there were plenty of members and visitors in the ARC, though at the time of the meeting most were outside, working on the flight line or attending Mr. Bill's pre-flight presentation.

We approved last month's minutes.

Don is away this month on family business, so Dave went over financial news. It's tax time, Don went over our taxes with an accountant, and good news: we do not owe. We did find a prior check from the Silver Swallows event that needs to be rewritten.

It's also mowing season again. Don replaced the mower battery and sharpened the blade. Don also took part in the audit of our welding supplies, identifying what we need to get up and running.

Bill and Dave attended the meeting of the Missouri Aviation Historical Society, approximately ten people. The meeting was recorded and we're working on getting a copy for our library. Dave offered to share our website, and help them with the 501c3 process, as they get started up.

We've discussed a 50/50 at our meetings; we'll start this next month.

Upcoming events include our next movie, The Great Waldo Pepper. Our last movie included a potluck dinner that went well, so we plan to do this in the future. An interesting note: a JN-1 from the movie is being restored at Creve Coeur airport.

While going over our calendar we passed around sign-up sheets. There's lots going on this summer, so whether you enjoy showing off your project, giving/arranging airplane rides, or even cooking, you can find something to do that will be fun and help out your chapter.

There's a Young Eagles event at Washington, Missouri, on May 1. On May 15 we'll be preparing the ARC for our open house on the 22nd. The open house will be an all-day event, starting at 10 am. We're doing a mass mailing to the names HQ provided us: all members within a 25-mile radius of the Creve Coeur airport. The object of this event is to increase our membership; we'll have plenty for new members to do over the upcoming months, though we'll need volunteers for the open house itself. In particular, if you have a plane in progress, even just a set of plans, consider coming out and sharing this. We'd like to drum up as much interest as possible.

Our May movie, on the 29th, will be Spirit of St. Louis.

In June (4 through 6) we'll be at the Boy Scout Jamboree in Forest Park. We need volunteers for this as well.

In honor of the upcoming B-17 visit our June movie will be B-17 related. We are trying to choose between Memphis Belle

and 12 O'clock High. If you can't get enough of WWII bombers, the Missouri Aviation Historical Society will be showing actual B-17 footage at their June meeting.

July 3rd through the 5th we'll be in O'Fallon at the July 4th event. We'll be selling food, our new friends at the restaurant have given advice on the how's and where's of procuring supplies. This is a big event, with around 100,000 typically in attendance. Please help out if you can, this has the potential for making lots of money for our chapter. We're considering entering a float as well, though we have not yet submitted the official form, which is due by May 26. Please feel free to contribute if you have ideas for our float.

July 12th through the 15th we'll be hosting the B-17 at Spirit of St. Louis airport. The ramp space has been arranged. Here is yet another volunteering opportunity. I've helped out at one of these in the past, and it's worth braving the heat to take part.

Bill Doherty is working on our upcoming Aeromedical program. Dr. Mariani will likely speak in late June, though his schedule is dynamic so we'll play this by ear. The other two parts of this program will take place in the fall, after the busy summer/Oshkosh season is behind us. One piece will feature a speaker from EAA HQ in Oshkosh; the other will be a representative of the AOPA. We'll invite the public, and will prepare to arrange a larger venue, as these may be large events.

Business: We have a new name tag supplier, if you have (or had) a name tag and would like a new one the cost is 5 dollars. Last month we voted on the EAA Logo, old versus new. The majority voted in favor of the older, winged logo.

We mentioned water, and Ron Wright recalls a prior trenching issue. Evidently a prior attempt at running a trench was abandoned due to underground obstacles. Dave's going to speak with Tracy and find out if a previous building existed on the land between the ARC and the restaurant. If so there may be remnants of a foundation hiding there.

Estimate for asphalt between the ARC and the ramp is from four to six thousand dollars. We'll need to finance this, though our 4th of July event has the potential to take care of it.

We need to set up our flagpole, and need a crew to help out. Ron Wright explained the procedure: we'd dig a pit, and put a pipe in that. The assembled flagpole goes in there, surrounded by sand, and locked in place with wedges. This way it's removable. The actual location will depend on where our current power lines run.

We moved to close the meeting, after which our Young Eagles event continued.

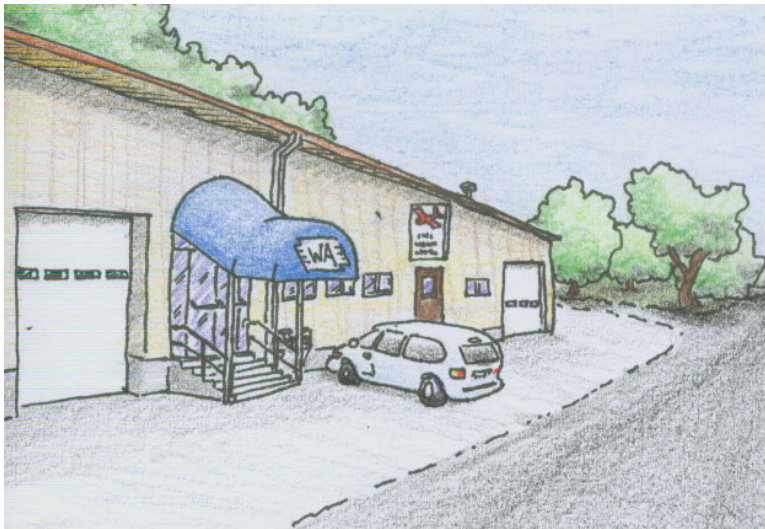
Dave Deweese

Secretary

Nose Art

By Dave Deweese

A couple of weekends back I made the trek out to Wicks for a sheet of quarter-inch birch ply with which to fashion nose ribs. It takes a bit more than an hour to get there from St. Peters, but if one left before seven he could be there around the time Wicks opens, and be back around ten, leaving most of the morning for other chores. It was Saturday, however, so I overslept and did not get on the road until around eight-thirty, and then repeatedly admonished myself for indulging in sloth. Upon arriving at nearly quarter till ten I met another customer, sitting outside in his car. Turns out Wicks has changed their opening time to ten on Saturdays, and my plan to arrive near opening time worked, despite all the grumbling and complaining.



We visited that aunt during family vacations to San Diego in the seventies. Walking from the car to the terminal at Lambert, I caught the airport smell, and felt excited to think we were about to board a big shiny airliner and fly above the clouds. Younger Dave had no other terminology for that scent other than 'airport smell,'

in fact I was probably in high school before I got close enough to a friend's space heater and realized that 'kerosene' closely approximated Lambert and Lindbergh fields in years past.

'Kerosene.' Sounds pretty mundane, and yet, if my mind looked like a dog, his ears would stand up when he smelled it. 'Pasture' sounds dull, too, but cow pies smell much like the leavings of the more exotic, cloven-hooved beasties at the San Diego

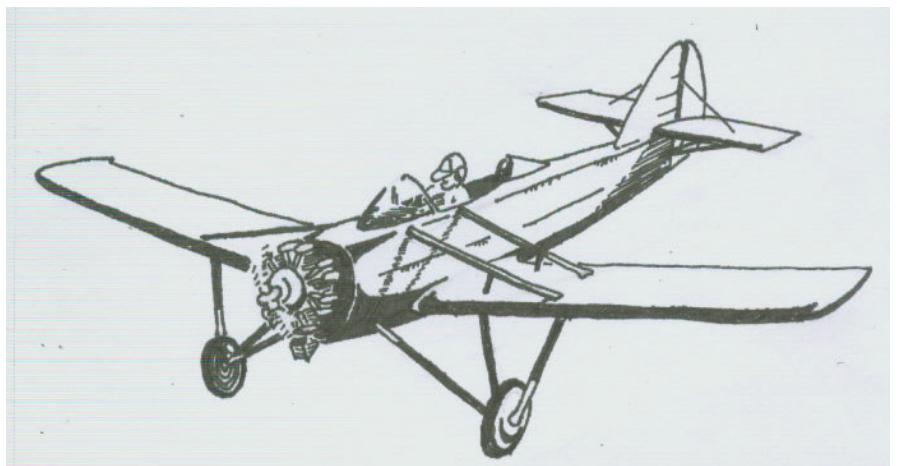
Zoo: zebras, giraffes, gazelles, and when the farmers who live along the road to the ARC start fertilizing, the zoo will come to mind. Fertilizer/zoo, space-heater/airport, late/on-time, one wonders how much of reality comes down to choice of perception.

Until next time, happy contrails.

(Do335)Dave

Other priorities have arisen in the meanwhile, so the birch ply sits, untransformed, in my basement workshop. It smells nice, though, as lumber often does: am I the only one who appreciates the aroma of a hardware store lumber section? Stringed instruments can have a similarly pleasant aura, giving off a whiff of carefully crafted wood when you first open the case.

Spring has also arrived between Wicks and now. Not arrived, really, let's say pounced. In a few days we went from brisk March to mid-eighties. It's enough to throw a fellow off balance, until last night when I stepped outside and caught that spring smell of budding trees, the same way spring has smelled every year since we moved to Missouri in 1971. I couldn't tell you what tree was blossoming, or describe the scent. We've got plenty of handy words for what the eyes catch, but the nose is another story. An aunt who passed away several years back used some sort of polish on her wooden furniture, fine and distinctive, and I'd know it right away despite the fact that I couldn't quantify it to save my life.



Learning As We Go

“Internet Beauties”

or

“It’s Not What You Think”

by mr. bill

My Internet search article of November 2006 about FOR SALE aircraft had me checking the web again for more "gems." I am amazed at what is out there being SOLD as an Airworthy Aircraft. Being a "gyro copter nut" I searched for some Bensen Gyrocopters and found a great "historic artifact." In fact this artifact (minimum bid \$100) was so old and decrepit that it still had the original wooden blades that were used back in the 1960's. You can see it now can't you..."Look Mabel I found me a gyro copter. I got that two stroke engine started and now I am going flyin'!" You can also see the lawyers running to that accident site, not too far from the liftoff point of this gyro copter, with business cards in hand!

Another really neat aircraft was a Sonerai II that instead of a bubble canopy was made into the "two holer" version which had the tandem cockpit area that looked like a Boeing Stearman cockpit with small wind screens. It was cool looking but in the twenty some photos and the airframe descriptions another story was being told! Built in the late 1980's, never flown, and stored on a flatbed outside, it looks brand new. The Sonerai is a steel tube airframe with a fabric fuselage covering and aluminum wings. Again from the outside it looked great but the inside the cockpit pictures showed rust and paint peeling off the steel tubes!!! Outside looked pretty! Inside not so pretty!

Another beauty, a Hummelbird, had a great paint job and "some" wrinkled skin. The wrinkled skin was around the landing gear leg (can you say hard landing) skin and the lower wing skin. It was advertised as a "Fly it home!"

My reason for entering the world of EXPERIMENTALS was due to a 1957 Piper Tri-Pacer PA22-150hp that I purchased after college for building flight time and to later restore as a classic airplane. Also this fine year of 1983 another individual, not as fortunate, purchased a Tri-pacer that had been tied down outside for many years. It was advertised: FOR SALE WITH A FRESH ANNUAL (Annual Inspection which is the yearly inspection done by an Airframe & Powerplant mechanic with a minimum of 3 years experience and special Inspection Authorization (IA) from the local FAA to do yearly aircraft inspections to assure an airplane's airworthiness.) So, this fine, unassuming gentlemen purchased the aircraft thinking he could start to fly it immediately to build some flight time. It had a FRESH annual inspection, which in theory should have made the airplane "ready for flight" but.... When items started to break off the aircraft (step pad on left side of

the landing gear for cockpit access and when the right foot plate attached to right landing gear leg snapped and was found dangling) another mechanic was brought in and grounded the whole aircraft. This fine gentleman got the Friendly Aviation Administration involved in this "case of the airworthy aircraft purchased" and the mechanic signing off the annual inspection had his certificates suspended. The Tri-Pacer received a good looking-over and later some Airworthiness Directives (AD = Mandatory repairs or corrective action required on the aircraft) were issued on the bottom fuselage steel tubes and the rear door post steel tubing, to check for rusted tubes due to water gathering while these airplane sat outside. (The actual steel door post tube was inside an aluminum riveted box.) My 1957 Tri-Pacer airframe had the original fabric covering on it so the FAA, with the help of the Short Wing Piper Club, allowed an inspection hole to be cut in the bottom of the aluminum box of the door frame and using a Maule Fabric tester (a stainless steel punch tester with a rounded plunger end that can test the tensile strength of the fabric cover and thin steel walled tubing without dam-

aging the fabric) to pressure test the strength of the Tri-Pacers bottom tubes and vertical door post tubes. My Tri-Pacer was the test bed for this inspection. The aircraft was always in a hangar in the middle of Minnesota so it was in great original condition and passed all the strength tests.

The FAA, after digging deeper, issued several more Airworthiness Directives stemming from that bad airframe on the Tri-Pacer this fine gentlemen decided to purchase with the FRESH annual! The Tri-Pacer wing struts and rod barrel ends (the big nut that the wing strut attaching bolt fits into to attach the wing strut to the airframe) were all subjects of Airworthiness Directives to remove these parts and Maule test the steel wing struts for their strength and use bigger barrel ends.

Well, knowing all this guess what was on sale in the Internet Volksplane group web site last month? (Remember the Volksplane I and II airframes have four-five foot wing struts that need to be manufactured to bolt the wings on to the fuselage). You guessed it!

FOUR PIPER TRI-PACER STRUTS FOR SALE!

Perfect for making those wing struts on the Volksplane!!!

BUYERS BEWARE!!! One should wonder WHY these struts are no longer on an Airworthy airplane.

How many customized Volkswagen cars are used by EAA officials during EAA AirVenture? 30

What is the world record top speed for a RC model? 242 miles per hour



Flutter

By Bud Cole

Flutter is a problem that needs to be addressed in the design and development of any aircraft, particularly in EAA homebuilts. Some time in the late '80's, I spent an entire week at the Oshkosh fly-in and, walking around examining all the different homebuilts and even some older antiques, I discovered something over 80% had obvious potential control surface flutter problems and an unknown number possibly had deeper possible problems of wing and other structural flutter, porpoising, and buffeting problems. I went to talk with the seminar program director. I had been giving seminars on light airplane design and engine design for several years. We agreed the next year I would add one on flutter and curing it. From the first year we had a full tent with people standing outside. I normally give a one-hour talk then answer questions and have discussion as long as people wanted and they stayed until about eight that evening. Each year until I stopped was much the same, showing that EAA people were aware they had a problem and wanted solutions.

Flutter is a higher frequency flipping up and down of a control surface and is a rapid self energizing action that can soon cause structural disintegration if not damped or stopped.

At light-plane speeds most aerodynamic forces center about the quarter cord of a moving object and to eliminate aerodynamic flutter dynamic, lifting, and weight forces should balance about the quarter cord. Control surfaces usually follow and are part of an aerodynamic surface such as aileron follow a wing or elevators and rudders follow stabilizers. A great many are hinged at their leading edges with their cg located somewhat aft making them decidedly out of balance with the weight well aft of the hinge, a natural condition for flutter. In smaller, slower aircraft flutter is relatively easy to cure or prevent by the simple process of balancing, counterbalancing, or bob-weight balancing internally or externally over 90% of the time. Like the early Ercoupes and the Volksplane you can hang an external balancing lead weight outside and forward of the control surface. Or on a plane you want to keep aerodynamically clean, if the airfoil is thick enough, you can counter balance inside. If the airfoil is too thin, as on tapered wings or tails, you can mount a bob-weight system in the aft fuselage or wherever you've got room, connect and balance with wires and hook up cockpit control system wires to the bob-weight system. Under 160 mph you should not need to balance control surfaces aerodynamically, a more difficult job.

Wing, fuselage, or stabilizer flutter involve much more and are usually caused by either weak spars, insufficient torsional strength and aero-elasticity or mislocated control wire systems. In most normal wing designs the aileron control system is run along inside the top of the wing for pulling the aileron down when the wing bends down and along the bottom inside so it pulls the aileron up when the wing bends up. This dampens the wing bending and stops wing flutter and flapping. Torsionally when the wing twists up the aileron should move up and down when the wing twists down. Again this dampens the wing twisting with normal flight bending and twisting loads. If the wing is seriously weak in torsion it is very possible for the aileron to act as a tab control on the wing actually reversing the control signal you've sent to the aileron and reversing the direction of the control. This would mainly happen with sudden vicious movement of the controls like in an emergency when it would be most disconcerting to have your controls reverse. Fuselages and tails should also be designed to dampen out control actions even though it is unusual to have a fuselage structure flexible enough to make reversal problems. Fuselage and tail systems are more likely to be torsionally weak. Maneuvers such as snap-rolls place the aft fuselage and tail under high torsional loads. You should check any new aerobatic design very carefully to make sure you're not going to make a permanent twist in the aft fuselage or bend your tails if you do severe aerobatics. A 6g design is not sufficiently strong to be doing Lomsivaks or even multiple snap-rolls. Amateur pilots learning acrobatics may easily exceed the airplane's design limits.

Porpoising is a long frequency wave motion and is almost always due to either poor aerodynamics or aeroelasticity changing the shape of the plane as it flies through the air. Many less experienced and amateur engineers are caught up in designing structures with adequate strength but forget to check load deflection. In the EAA the use of plastics and composites which have high deflection rates has caught up with even well known and experienced builders. One of the classic examples was Yeager and Rutan's round the world Voyager. Using an unnecessary very long thin wing with very high deflections under load allowed the wings to flap up and down but at some speeds it both fluttered and porpoised. Only the fact that both were experienced pilots kept it in one piece flying. Actually they should have junked it after a few flights and started over but they knew if they did they might never have built a second plane. Soon after they finished their record flight they grounded the plane and never flew it again. They knew it would kill anyone else flying it. It now hangs in the Smithsonian, an example of what determined pilots can do with shaky designs.

President's Corner

By Dave Doherty

Learning to fly. That's a dream for so many people around the world. Here in the United States, it's still easier than most places to do that. I remember wanting to do that since I was about 3 years old, when my dad put a glider in my hand and showed me how to throw it. It made an everlasting impression on me. Dad was friends with a lot of private pilots as I grew up. I benefited from that by having the opportunity to fly in a number of different airplanes. Dad would usually have me sit in the right seat and experience what it was like to hold the controls and fly. Among the planes I had at least a few minutes stick time were, in no particular order, Piper J-3, Cessna 195, Beech Bonanza, Cessna 172, Spartan C-3, and a number of others. When I entered the workforce, I bought a car, and then signed up for flight lessons. I remember my first solo flight like it was yesterday. Boy, that C-150 climbed like a homesick angel. I was at pattern altitude before I got to the end of the runway. My solo was on the 50th anniversary of Charles Lindbergh's flight to Paris. It's been a long time since then, and in the interim, I obtained my pilot's license, then started a family. With us, it was always family first, and flying soon became unaffordable at my draftsman's wage. Well, the kids are all grown up, and I can afford to fly again. Soon, I hope to rejoin the ranks of active flyers. Like I said, it's been a long time.



Last month, chapter 32 hosted a young Eagle rally with the Sea Cadets and scouts. The crews flew 62 Young Eagles. It was an outstanding job. Everything was so organized. I stood back in amazement as everything flowed so smoothly. Nearly the whole chapter membership was doing some task related to the event, which made the meeting attendance (held in the middle of the event) very sparse. That's Ok. It's all about aviation, and that's why we're there. It was a good set-up for the month of May.

May is **Learn to Fly** month. International learn to fly day is May 15. Airports and FBOs all over the world will be promoting this event. Chapter 32 will also be active on that day. Our meeting will coincide with learn to fly day, and our theme for May will center on learning to fly. We are trying to set up activities related to that. Come to the meeting and see what we're all about.

The open house scheduled for May 22 will be pushed back into June. There hasn't been enough time to prepare prop-

erly. We need volunteers to help us get ready. There's more information about the scouting event on June 4-6. ScoutFest 2010 will be held in Forest Park. They are expecting in the order of 15,000 scouts to attend. Over 100 displays and activities will be available for them. Chapter 32 will have activities in the Technology Quest area. We will have a 50' x 50' square area to do our thing. Planning is under way. Bill Doherty and I are taking roles of activity chairmen. More will be announced at the meeting. International Young Eagles Day is June 12. Chapter 32 will have a Y.E. event at Smartt Field. The current thinking is to have our open house on that day. We want to have plenty of things for our visitors to see and learn from. Young Eagles will fit in well with the plan. June 19 is our Chapter meeting. The 26th is movie night.

This month's movie is "THE SPIRIT OF ST. LOUIS". As with the prior four monthly movies, it will be held at THE THEATER IN THE ARC, on the BIG SCREEN. It will be shown on Saturday, May 29. If you haven't made it to movie night, you don't know what you're missing. We've all been having a lot of fun. Prior to the movie, we'll have a social hour and a half starting around 6:00. There will be a pot luck dinner. Please bring a side dish, salad, or dessert. Meat will be provided. This month, a special video straight from Oshkosh will be shown prior to the main feature. It's titled Chapter Meeting. I just received it in the mail. There are chapter messages from HQ, and a discussion about EAA chapter meetings from the early days of EAA by EAA #1, Paul Poberezny. You don't want to miss it. Donations are welcome to help defray the expenses (suggest around \$5 per person; more if you're feeling generous). Come on down and have fun! We'll be at Smartt Field in St Charles County, at our Resource Center at 6410 Grafton Road. Here's a little trivia for you: The replica spirit of St Louis currently on display at the Missouri History Museum in Forest Park was built by the Ryan Aircraft Co, and was used in the movie. It is a completely accurate copy of the original Spirit of St Louis, built by the same people.

I'll see you at the meeting,

Dave Doherty
President, Spirit of St Louis EAA Chapter 32
EAA #119064

1/4 share RV-6A - \$16,300.



- Slider canopy, hangared @ St Charles County, KSET
 - 160 HP Lyc, 1250 TT, 1110 SMOH, Fuel Injected, C/S Prop
 - Garmin GNC-300 IFR GPS/COM, Terra NAV/COM w/Glideslope, KT-76C Transponder
 - TruTrak GPS Attitude Direction Indicator
 - Rocky Mountain Instruments Engine Monitor
 - Built in 1998 by American Airlines mechanic
 - Easy cruise 167 mph @ 8.2 gph
 - Includes overhaul fund (currently > \$7,600.)
- Great plane, great partners, selling because I need 4 seats!

Call Mike Piccirilli (636) 530-1748

9/8/09

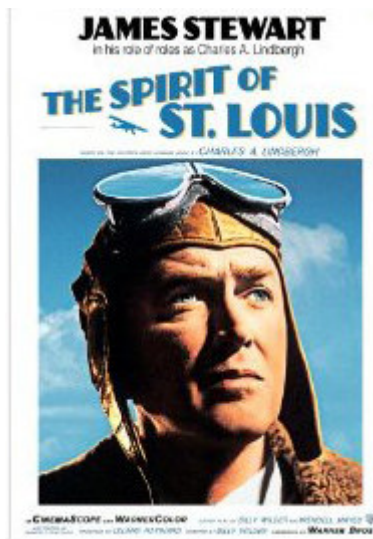
Movie Night at the ARC

Movie: Spirit of St. Louis

Starring: James Stewart, Daws Butler, George O'Hanlon, Phyllis Coates, Emory Parnell

Year: 1957

This month's movie is "Spirit of St. Louis." On May 21, 1927, the world changed. "Lucky Lindy" landed outside Paris. And people who previously talked about the limitations of air travel suddenly dreamed of its limitless possibilities.



The Spirit of St. Louis is six-time Academy Award? winner Billy Wilder's recreation of the struggles and success of Charles A. Lindbergh, the pioneering flyboy who, like test pilots and astronauts to follow later, had the "right stuff" of aviation heroism. Lindbergh fan James Stewart, himself a pilot, sought the role and was initially turned down. But his persistence paid off, as Stewart added Lindy to his gallery of indelible portrayals of American heroes.

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



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

TO:

EAA CHAPTER 32 NEWS
 Jim Bower, Editor
 10350 Toelle Ln.
 Bellefontaine Neighbors, MO 63137



Officers and Committees

<u>President</u>		
Dave Doherty	636-240-5982	president@eaa32.org
<u>Vice President</u>		
Bill Doherty	636-978-4777	vicepresident@eaa32.org
<u>Secretary</u>		
Dave Deweese	636-939-3974	secretary@eaa32.org
<u>Treasurer</u>		
Don Doherty	636-397-4713	treasurer@eaa32.org
<u>Flight Advisors</u>		
Bill Jagust	636-922-5786	BSARJ@cs.com
<u>Tech Counselors</u>		
Gale Derosier	636-724-4735	kgderosier@sbcglobal.net
Jerry Erickson	618-281-3398	jerick@htc.net
Rick Galati	636-561-2099	rick6a@yahoo.com
Gary Liming	636-778-9998	gary@liming.org
<u>Communications</u>		
Newsletter: Jim Bower	314-869-8971	newsletter@eaa32.org
Webpage: Laura Million	618-288-7099	webmaster@eaa32.org
EAA Hotline:		