

The Lippisch Letter



Experimental Aircraft Association Chapter 33

March 2001

The Lippisch Letter

is the monthly publication of the Dr. Alexander M. Lippisch Chapter (33) of the Experimental Aircraft Association, Cedar Rapids, Iowa.

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Fun-n-Ski

By Bob Lorenz

While a certain former Chapter 33 President was lounging about in sunny California, TDI members Walt Rich, Dave Seifkas, Rick Treiber and Bob Lorenz attended the annual EAA ski fly-in. Having outgrown Pioneer Field, this year's Ski Fly-in was moved this to Central Co. airport at Iola, Wisconsin. Conditions were perfect this year unlike previous years which were "grassed" out. Seventy planes were in attendance, thirty more than last year. We flew TDI's Cub to the event stopping at Plattville and Portage airports. These stops were for fuel and to trade in frozen pilots for warm ones.

We left Green Castle on wheels and transitioned to skis at Portage. Landed Central Co. at 1:30 on nicely groomed snow runway. Local Chapter fed us Chili and Audrey P's birthday cake. One of the local pilots offered his hangar for the Cub to overnight in. Sunday at 8:00 we headed south. Nice flight home except for last 20 miles...Snowing. Below is picture of TDI's Cub landing at Central Co. airport.

Don't forget to RSVP for the Annual EAA Banquet by Monday March 26, please review the details inside.



What you missed on the Internet

Here are some selected messages that were exchanged on our Chapter's email list. If you want to join in on the fun, you can sign-up by pointing your web browser to <http://groups.yahoo.com/group/eaachapter33/join>. Once you sign-up, you can send email to eaachapter33@yahoogroups.com.

You may be getting pretty tired of all the computer related stuff I have been putting into the newsletters. But just remember it is never to early to think about who to elect for next year's editor!

From: Trip Mellinger
Forwarded by: Tom Olson
Subject: New Forum For EAA Chapters And Members

Hello!

You are listed as an EAA Chapter contact and I wanted your chapter to know about a new web site I just got online that will service all kit plane builders and flyers.

For four years I have been standing next to my plane talking to builders at the OSH fly-in and thought it would be a great idea if we all could communicate easily at other times of the year.

This is a web site where kitplane builders / owners of all types can meet freely to discuss the many aspects of their sport real time in an immediate viewable and searchable format.

There is also a forum for EAA chapters and local fly-ins that you could take advantage of. Please check it out at <http://www.kitplaneforum.com>

From: Steve Ciha
Subject: New Member

I struggle greatly with computers. I think I have done the signup for this group correctly, so I am giving it a try. Just saying hi to anybody out there, especially to Keith Williams. Wanted to let you know that this past week, it has been sunny with daily high temps in the mid 70's. You need to come back soon and enjoy this weather.

From: Keith Williams (Wintering near Salinas, CA)
Subject: First Young Eagles

Greetings from Out West,

Thursday night I attended the monthly meeting of EAA Chapter 204, Monterey Bay Chapter, in Marina. They have been loaned (?) a building on the old Fort Ord airport (now Marina Municipal) for use as a chapter house.

Today they had their first Young Eagles event of the year; three more to go. I went over and was soon put to work. First, used my truck to reposition a table from hangar to clubhouse. Then was pressed into service registering YEs. Hours were 10 to ?? and we had a good crowd of kids lined up by 10. When I left at 1:30, 51 eager kids had registered for their rides.

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Although five airplanes were committed, only two C-172s showed up! Not a very good yield, in my opinion.

In addition to the rides, a member was explaining and letting kids help him bang out aluminum ribs for an ultralight he's designed. Also had a flight simulator running. And of course there were hotdogs and lemonade!

There were skydivers jumping out of one of those deHavilland animals (otter, I think) which gave a nice backdrop to the operation. The guys swore that they jump from about 12,000, free fall to about 2,000 feet, and - are you ready for this? - the otter beats them to the ground!

They were pretty well organized in most ways. Obviously, 33 does a better job of getting airplanes to show up! And I think we do a better job of getting the kids to the airplanes in an efficient manner. With only two airplanes, efficiency in this area could have reduced the waiting time considerably.

So, even though I'm not there with my CR friends, I've made several new ones, been to two EAA meetings and one YE event - and enjoyed the 65 degree weather the last couple of days!

From: David Koelzer (Wintering right here, thank you very much!)
Subject: Shielded wires

Hi Guys,

I am working out the wiring diagram for my Sonex and I have a question about the use of shielded wires.

Tony Bingelis' Firewall Forward recommends shielded wires on alternator and ignition circuits to cut down on radio interference. However, neither the Sonex plans nor the Jabiru handbook seem to specify shielded wires. It is really necessary to use shielded wire on those circuits?

From: Ron E. White
Subject: Re: Shielded wires

Hi Dave:

It is a good idea to use a # 20 or 22 shielded wires on the mags as they are very noisy, and if you have a remote regulator on an alternator twist the field and ground wire between the two. a line filter on the bat. terminal of the alternator only if needed. The filter can be purchased at Radio Shack.

From: Tom Olson
Subject: Re: Shielded wires

Hi David,

I second Ron's comment. Shielded wire on the Mags is a Must and the alternator is also a good idea but to some degree the amount of potential noise depends on the

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regulator as well. Either way shielded wire for the Mags, Alternator, Strobes, and any other loads that have a lot of changing currents is a good candidate for shielded wire. I.E. any electric motors for trim and fuel pumps are good to shield as well.

It is interesting to note that the guy doing the panel for Mark's Glasair wants all wires to be shielded. A bit of over kill but easier than going back later to find and fix the source of a problem.

From: David Koelzer
Subject: Carburetor linkage

HI Guys,

I am working on my Jabiru's Bing carburetor and have a couple of questions.

1. The throttle arm seems quite short, about 1" which would give me about 1.414" of travel on a push-pull type of throttle knob. I want to lengthen that arm so I get a more typical travel. My question is what is the typical travel? 3"? 2.5"?

2. My Bing is setup with a spring that would pull the throttle wide open if the cable were to break. Is this the typical failure mode for an aircraft throttle? I am used to a car throttle which would close if the cable were to break.

From: Mark Navratil
Subject: Re: Carburetor linkage

Dave,

On question #2 the answer is Yes, you want the spring on the throttle to pull it wide open if the cable breaks. I expect the thinking on cars is that if the cable breaks you can just pull over to the side of the road. On the airplane it's preferable to have full power and be able to fly around until you are over a place you can safely land, and then cut power (if you turn the mags off you can easily flip them back on again if your glide is a bit short of your intended landing site, and have some power control in spite of being stuck at full throttle).

From: Mark Navratil
Subject: RE: Carburetor linkage

Dave (and Chap 33),

The message below was posted to the RV list yesterday. I suggested in my earlier response to you that you could turn the mags on and off to have some power control when stuck at full throttle. Some early aircraft circa WWI actually used this technique for power control (no throttle), and I have been told you can do the same with a Lyc. However this guy is adamant that it can cause damage and someone else suggested the possibility of fire....so the mixture should be used instead of the mags. Not sure if this info is correct or not but I thought I'd submit it as another perspective to avoid spreading any misinformation or one-sided opinions....

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From: Douglas G. Murray
Forwarded by: Mark Navratil
Subject: Re: RV-List: Faster than normal landing, (was Component structural failure...)

Bob - During my training - about 3 hours TT - I had the throttle cable bind up at 2300 RPM on Downwind, right as I was ready to slow down for Base. My instructor took over and made a very fast approach at the runway and once he was over the runway at about 5 feet he used the mixture control to cut the fuel to the engine. He said that the mags should NEVER be used to shut off the engine when there was fuel present because there would likely be a backfire that could blow cylinder heads or mufflers. He used the mixture control all the way to the hangar .

From: David Koelzer
Subject: RE: Carburetor linkage

Hi Mark,

My Jabiru uses a Bing pressure compensating carb and has no mixture control. So I will always have to stop the engine by turning off the ignition (we do that with our cars every day). I think the fear of backfire and blown heads is over blown. Cylinders are made to contain explosions. They do it 1350 times per minute at full throttle. Why would one backfire cause a head, that had just survived thousands of explosions, to suddenly blow its top???

In an emergency situation I think I would rather shut down the engine with the mixture control (if I had one) but I don't think I would taxi around with the mixture leaned back so far as to idle the engine. Sounds like the recipe for a new valve job to me.

I think I will try that on my flight simulator tonight and see what that does to my CHTs and EGTs

From: Mark Navratil
Subject: RE: Carburetor linkage

Dave,

I agree that fears of blown heads by using mags to turn the engine on or off are probably exaggerated but thought I'd present the perspective on this as food for thought. One thing to remember is there's an important distinction between normal operation of an engine and a backfire or detonation, with respect to what happens inside the combustion chamber. Normal operation does NOT involve explosions, but instead a steady flame propagation within the combustion chamber.....it happens very quickly but is not an explosion. Detonation is more of an explosion if I understand it correctly, and can happen if the engine gets too hot or the fuel octane level is too low....and it all ignites at the same time in an explosion before TDC. And backfiring, the original topic here, would occur when the mags have been off and the wind-milling engine is still pulling fuel through the cylinders and expelling it unburned into the exhaust pipes/muffler. When the mags are turned back on and ignition resumes, the fuel vapors in the exhaust system could be ignited by the hot gases exiting the combustion chamber on an exhaust stroke. This is a backfire and can cause quite a bit of damage.

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In either the case of detonation or backfire, the danger is that the explosive force of the fuel burning happens while the piston is moving upward toward TDC, so it can do damage including blowing the head right off, or damaging the pistons or rods.

The worst thing about not using mixture idle cutoff in an aircraft engine for shut-down is that the cylinders could be loaded with a fuel-air mixture that is combustible when the prop comes to a stop. If one of your mags becomes ungrounded and you pull the prop through, it can light up and kick over, killing or seriously injuring anyone in its way. Is there any published precautions or special instructions with your setup to avoid this scenario?

From: Bryan Hawkins

Subject: Re: February News letter

After some grumbling about the computerization of the world, I have finally decided that I like the Newsletter better on screen than on paper. Nice Job! (Editor: the electronic version of the newsletter is in COLOR!)

A FW-190 mixes it up with a pair of P-38s in "Jane's WWII Fighters" flight simulator



Next Meeting

By Tom Olson

Our next meeting will be Friday evening March 2nd in North Liberty at Hills Bank and Trust. Take the North Liberty exit off of I 380 and head East approx. 2 miles or so to Hwy 965 and turn right. The Bank is a few blocks South of this intersection on the right (West) side of 965.

Doors will open at 7:00 with the meeting starting at 7:30. The evening's program will be a presentation in the use and application of aircraft control cables and swaged fittings by our senior Technical Counselor, Marv Hoppenworth. Marv has recently researched this subject heavily while assisting the EAA museum in a restoration project. Don't miss it!

Last Meeting

By Tom Olson

The last meeting was held at the Hills Bank and Trust in North Liberty. We were treated to an interesting review of the progression in flight simulators over the past several years by David Koelzer. David brought his latest whiz bang Pentium III 1 Ghz computer and several simulation programs. David has worked on creating several models of specific airplanes including an RV6 and his Sonex. He gave us an interesting presentation demonstrating the advances in modeling and graphical rendering capability of the latest home PCs. We were also treated to some spectacular shots of these and other models in flight.

Mark Anderson also treated us to a review of the "Panel Planner" software package. This program lets users start with an empty panel of the size and shape for your airplane and then lets you take instruments and radios from its data base and place them wherever you would like on the panel. This way you can get an idea of how your new panel will look and feel before committing it to metal.

Many thanks to David who brought his PC and Mark who brought a video projector to the meeting enabling all of us to sample and enjoy the latest in computer software and hardware. Thanks also go to Hills Bank and Trust for the use of their fine meeting facilities.

Annual Banquet

By Tom Olson

Please mark the evening of Saturday March 31 on your calendar. This will be the date of our Ladies night out and will take the place of the April meeting. The date is being moved up one week to eliminate conflict with the weekend before and after the Sun & Fun fly-in which takes place from April 8 to the 14th at Lakeland Florida.

The Banquet will be held at the OxYoke Inn located at Main Amana. There will be a cash bar from 6:00 to 6:30. The meal will cost \$ 16 per person at the door, and you must RSVP by Monday Evening March 26. Please call Tom Olson at 319-393-5531 or Greg Zimmerman at 319-338-6921 to RSVP, We both have an answering machine and you can leave a message if we are not home.

The family style meal will feature 3 main entrees with vegetables, potatoes, cottage cheese, sauerkraut, desert, and coffee, tea, or Milk.

After the meal, our very own Tim Etherington from Rockwell Collins will provide an interesting presentation of recent developments in Synthetic Vision and the Highway in the Sky concepts being developed at Rockwell. This project is being performed in conjunction with NASA, a wide assortment other companies, and the FAA. The overall goal of this program is to enhance safety while greatly simplifying the process of pilot training and operation of general aviation aircraft in instrument meteorological conditions. This is something you will want to see.

Editor's Rant

By David Koelzer

This may come as a shock to many of you but I think computers are the greatest. When I am not in my workshop building an airplane, you will most likely find me working... all right, playing on my computer. Everyone got a sample of the kind of fun I have at the last Chapter Meeting when I demonstrated various flight simulators. Frankly, I could not believe that everyone sat through an hour of me playing on my computer. However, the shouts of "Watch out, he's on your SIX!" and "SHOOT! SHOOT!" from the audience, lead me to conclude that it was well received.

Of course, it is not all play (most, but not all) My computer has been invaluable to me as I build my plane. From the Sonex Builders Email List to designing my electrical system. I would be lost without it. And with all the flight planning software, real-time weather and online airport information, I really would be lost without it.

Even putting this newsletter together would be a lot harder without my computer. I do all the layout on computer. I receive most of the content via email and to photocopy the newsletter, I just drop off a floppy disk at the copy shop. My favorite computer tool thought is the spelling and grammar checker and I am sure you appreciate it as well.

Fly Market

FOR SALE: 1947 Stinson 108-1, four place taildragger, nice. New fabric on wings in 98, new paint on entire aircraft 98, new prop in 99, new Slick mags in 99, shoulder harness and wing tip strobes, IFR certified, 2900 TTAF, 700 SMOH. \$23,500 or looking for two persons for a partnership. Hangared at CID west T's. Walter Rich 319-364-3733

FOR SALE: Genesis Aircraft kit. Fuselage frame, tailbooms, lift struts, landing gear, nose gear, wheels, tires, instrument panel, seats/seatcovers, all flight control cables and hardware. Wing frames, upper and lower ribs, complete sailcloth set, (used, but still very airworthy) Elevator, stabilizer, rudder and vertical stabilizer frames. Fiberglass firewall, bellypan, nosecone, lexan windscreen, hydraulic brakes, and 2 electric trim motors for pitch and lateral trim. All these parts would retail for over \$11,000. I'm asking \$6000. Brian Jensen (319)652-6517 or jensenavi@aol.com

FOR SALE: 1940 Taylorcraft For our new members who don't already know, one of dear friends and past chapter presidents, John Giordano, died in an accident last year. John owned 1/2 share in a very nice 1940 BC65 Taylorcraft. Susan Giordano is still looking for someone to take over John's share in this aircraft, please help her get the word out to the local flying public.

Carl Carson (366-4545) is the other partner and recently called to remind me that now would be a good time for someone to contact him and see the aircraft before the spring flying season begins. This aircraft has been in Carl's family for all but 4 years since it was new. The engine was given a major in 99 and the prop was replaced the year before that. It was recovered in 1991 and is hangared in a T hanger at McBride Airport. This aircraft has to be one of the most economical ways to get airborne anywhere in the area. Please give Carl a call if you are interested.



Get 'em Flying!

By John Anderson

We are working with the Lone Tree School on a Young Eagles Flight after the first of the year. The principal has requested some sort of program for an aviation section and it appears we would be able to fly up to 32 students.

We plan to provide about an hour of ground school for the class at the Iowa City airport and follow with the flight program for those with parental authorization. Please make note of this as I will be contacting pilots as soon as we can set some possible dates. We are thinking of a nice winter day as they can be flexible.

EAA Chapter 33 Application & Questionnaire

Name: _____

EAA #: _____

Address: _____

City: _____ State: _____ Zip: _____

Daytime Phone: _____ Evening Phone: _____

Email Address: _____

Copilot's Name: _____

Pilot Ratings: _____

Aircraft Owned & Flying _____

Aircraft Under Construction: _____

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**Dues are \$15/year. Make check payable to:
EAA Chapter 33, c/o Terry Scherman; 1203 16 St SW; Cedar Rapids, IA 52404**



“Sonex over Aspen” in Microsoft Flight Simulator 2000



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In The March 2001 Issue...

Fun-n-Ski, What you are missing on the Internet 2001 Dues are Due!

Don't forget to RSVP for the Annual EAA Banquet by Monday March 26, please review the details inside.

Your 2001 Chapter dues are now due! Send it to Terry Scherman as soon as possible to keep your membership in good standing.

Chapter 33 Calendar

March 2, 7:00 PM
Hills Bank Marv Hoppenworth, Aircraft Cables and Swages

March 31, 6:00 PM
Annual Banquet, OxYoke Inn, Main Amana. Tim Etherington Synthetic Vision, RSVP



FW-190s attacking a squadron of B-17s
in "Jane's WWII Fighters" flight simulator