

June 2005

Experimental Aircraft Association Chapter 33

A monthly publication of the Dr. Alexander M. Lippisch Chapter of the Experimental Aircraft Association, Cedar Rapids, Iowa.

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"My Patience"

By Tom Meeker

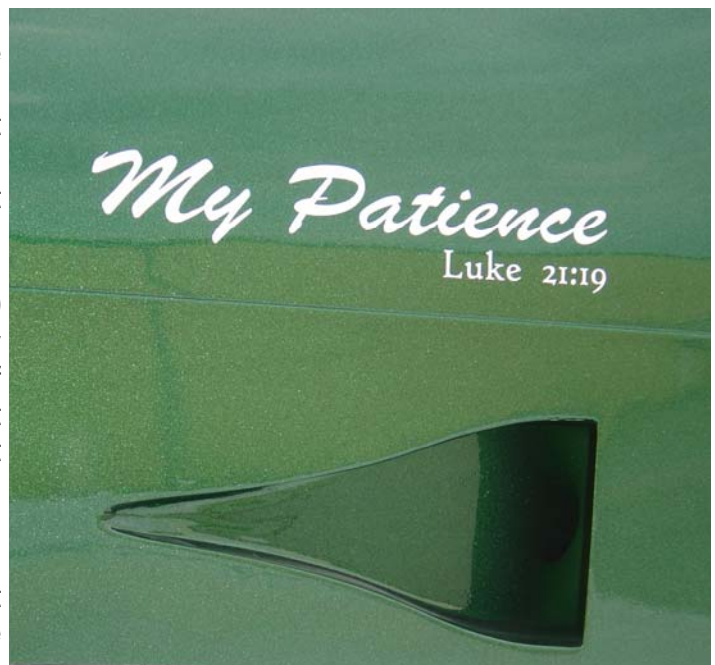
Flight testing started back in December of '04. The first flight was quite a thrill as I pushed in the throttle and that 180hp Lycoming began to roar. We leaped off the ground and climbed at such a rate that before I knew what was going on I was at my altitude of 5500 feet and trying to level off. It all happened so fast I didn't even have time to record rates or temperatures. I was just trying to keep up with the airplane. The only squawk for that first flight was a bit of left wing heavy. I have aileron trim but it wasn't enough to take the tendency out when up in the higher speed ranges. I did some approach to stall testing and flew around a bit, then headed back for that first landing. That was probably the scariest part because of not being familiar with the sensitivity of the controls. As it was that first landing turned out to be better than most of what I've made since.

I now have 17 hours on the bird. I have added a bit of trim to the left wing tip using 200mph duct tape and shims and can now fly hands off at cruise speeds. A permanent fix will come later. I had a bit of a problem with the prop governor control cable snapping at the gover-





nor end. It broke twice before I replaced the wire end cable with one of those sliding rod end type cables. That seems to have solved that problem. Testing for V_x I found that maximum angle of climb is something just under straight up. At about 10-15 mph above stall speed and full power this thing claws its way up like it belongs in space. I think taking off from runway 9 or 27 at Cedar rapids, I could be at 8,000 feet by the end of the runway if I held onto this angle of climb. So much for that 50' obstacle. I forget the rate right now but it was at least 1400 feet per minute and that was with me and full fuel. Maximum rate of climb was around 115mph which, with me and full fuel, resulted in 2,100 fpm. Based on that, at gross weight (which for me is 1800lbs) I should easily be able



to meet or exceed the manufacturer spec of 1700rpm at gross weight. Cruise is fast. My IAS reads a bit high (about 9mph) but using the GPS and some math I was able to calculate a TAS at 6500', 0deg C, 24"mp and 2400rpm of 207mph. That's pretty good. The other day I took her up to 10,000 feet. At full throttle and 2400rpm I could only get 21.5" of mp. But even at that I was making 201mph TAS. Fuel burn is real good getting down to about 9gph in cruise.



I still have 23 hours of testing to go before I am let out of my 25mile radius cage. Seems like it takes a long time to get those hours flown off. But someday I will be flying off your wing to interesting places across the country. Thanks to everyone in the chapter that helped with advice, encouragement and support. For those of you that are still building, keep at it. It's worth it.



Young Eagles

By John Anderson

May 14 found the usual group of EAA members making happy faces on kids from the Vinton area. It was the Vinton Airports annual open house but as it happened last year, the weather did not want to cooperate. This time, instead of mushroom clouds, we had brisk straight line winds that for awhile were coming right down the runway. As the day progressed, they became stronger and started quartering the active. We did manage to get twenty seven fledglings off the ground before the turbulence and cross wind indicated it was time to shut down.



Please note that the Washington Iowa airport folks have planned their annual breakfast for June 5th. and have invited us to do another Young Eagle Rally. A lot of us usually end up there for a pancake or two so you may as well stick around and fly a few kids.

We will want the heavy traffic out of the way so the plan is to start at 10:00 and go to 2:00. We will need to know that we will have some planes on hand so please let John Anderson 399-5711 or Connie White 3936484, know if you plan to fly some prospective aviators.

Benefit Concert

By Charles Wendt

June 11th Drive-in Fifth Annual Hangar Concert at Green Castle airport. Benefit for the Bill Kimble Flight Scholarship. 6:30 pm for great food & drink. Concert at 7:30pm out under the stars. Exit 4 on I 380 , North Liberty exit, then west 4 miles (on F-28) . Bring folding chair or blanket. Performers will include Charles Wendt, Joshua Russell, Trisha Dunn & Lisa Cantrell.



All Proceeds to benefit the Bill Kimble Flight Scholarship which is awarded to a local youth in obtaining their private pilots license.



Read Back

By Jim Meade

Weather Flying is an old book that still has a lot of value. Written by Robert N. Buck in 1970 and revised in 1978 and 1988, some of the aspects such as how you check weather are outdated. However, his discussion on how to interpret weather charts and understand weather systems is as valid for today's small plane pilots as it was 20 years ago.

Some pilots solve the question of weather by flying only when it is perfect. Buck shows us how to fly confidently but within our skill and comfort level when weather is not perfect by helping us better understand weather.

Buck's weather credentials include thunderstorm research for the Army Air Force in a B-17 and later in a P-61. This is on top of his TWA experience. He reminds us that in the last analysis, we are both the meteorologist and the captain. Most of us are prepared to be the captain if ATC will let us. Are we as ready to be our own meteorologist?

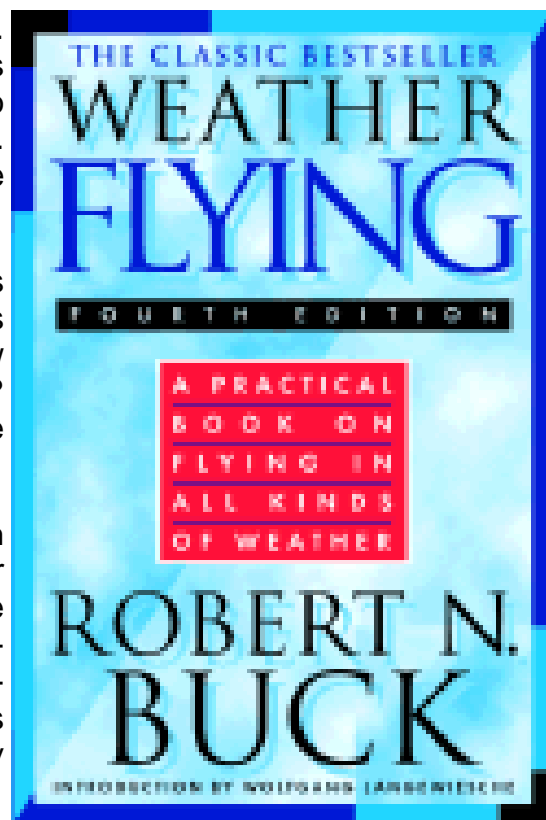
What I like about *Weather Flying* is how Buck will take something we all know about such as wind and terrain and then show us how these affect weather. Knowing that rising terrain will be in the path of a front will help us be prepared for how it may change as the weather system is lifted.

We VFR pilots will appreciate his advice that VFR pilots should fly toward better weather. We need a better understanding than the IFR pilot of the big picture and how the fronts are moving because we have fewer options if we confront a deteriorating situation. Don't fly toward a front, and especially don't race a front to your destination, Buck cautions.

The closer we get to the cloud base, the worse the visibility. We can still see straight down, but not as well laterally. This is also true in snow. We're probably illegal here anyway, so it's best to drop 50 or 100 feet and see if visibility improves. If it doesn't, then maybe going even lower won't work. Time for the 180 if we can.

My favorite parts of the book are the chapters that discuss how to look beyond the cold statistics of weather forecasts and reports and see how the weather may develop. If a low goes slower than expected, what does that mean to you? Buck points out that weather changes over time and we can't be certain a forecast that is 8 hours old will hold true.

Yes, this book is showing it's age a little. We have much more sophisticated instrumentation and much better weather forecasting and presentation now than when he wrote 20 years ago. However, for VFR pilots we may actually to flying in similar circumstances to those he was so familiar in his flying. If you're not sure you want to buy this book, check it out at a local library and read it. You may want to add it to your aviation library as I have done.



Presidential Words

by Tim Busch

The ancient Chinese proverb says, "may your life be interesting." Life is interesting. After a few years of flying with the best copilot in the world, Joleen and I decided to make a permanent pilot-copilot team. Given how much we enjoy flying together and that our subsequent move to a new location was taking all our time, we decided to take a flying "mini-moon" around the Midwest and reserve a bigger honeymoon for a future date. After a small private wedding at Lake Red Rock, we overflew the lake and watched a great sunset.

One of our stops was Anoka County airport north of the twin cities for a visit to a great flying museum hosted by Greg Herrick, originally of Ottumwa. He made it big in the internet boom and used his newfound resources to build a really nice museum. If you're ever in the Anoka area, stop in. It's worth it. It's the only place in the world with five, yes five, flying tri-motors! John and Martha King emceed the evening event. They flew in with six employees in their Falcon jet. Who says you can't make money teaching ground school! The event was capped with a talk by Burt Rutan about the future (of course) of private space travel. Burt talked about the people and events that inspired him to greatness and the people and events that would inspire future generations.

The following day in St. Paul was the Lindbergh Foundation's annual award event. One of the winners was Swiss balloonist Bertrand Picard, the man who flew around the world in a balloon. He was followed closely all evening by a team of three of his countrymen, creating a documentary. The name Picard is famous in Switzerland for many 'firsts' in aviation, including the invention of pressurization for aircraft. Several Lindbergh grandchildren attended the event, including Reeve Lindbergh, who bears a striking resemblance to our own Jill Fishbaugh! Another world famous aviator attending the awards presentation was Paul McCready, CEO of AeroVironment Corp. Dr. McCready is famous for designing the pedal powered Gossamer Condor and Albatross. The Condor won the Kremer Prize in 1977.

We did see a lot in a short period of time. That's why I call airplanes time machines. Zipping back to Cedar Rapids with a 40 knot tailwind, the landing was a little challenging with winds of 19 knots, gusting to 37, but we managed to pull a squeaker out of it. As I type this, we're in the process of completing the move. I will actually have a shop where larger airplane projects are possible. This finally solves the first of the three-legged airplane-building problem: Space, Time, and Money.



Last Meeting - The Cassini Mission to Saturn



If you missed the May meeting, then you missed a great one. Don Gurnett, Professor of Physics at the University of Iowa, gave us a presentation on the Cassini Mission to Saturn. Don explained the mission's objectives and its circuitous route through the solar system to reach Saturn. Don showed us some of the equipment he designed which flew on this mission. He also explained some of the discoveries made on this mission and showed us some spectacular photos of the surface of Saturn as well as playing recording of the unusual

"sounds" of Saturn, given off by the planet's aurora display, atmospheric lighting and strange chirping coming from the rings which Don believes are meteor impacts on the rings.

Don's presentation flew by and we were all enthralled by his presentation right up to the point when the librarians threw us out for the evening. We'll have to invite Don to speak again soon and hear more on this fascinating subject.



Next Meeting - D-Day Remembered a Living History

By Keith Williams

Remember D-Day, the Sixth of June 1944, on June 8 at the Chapter 33 monthly meeting. You've seen the movies or read the books but you've probably never heard it from one who was there.

Eighteen-year-old Bruce Fenchel from Strawberry Point drove a light tanks (only 17 tons!) off the ship and onto the beach after it was bombed by thousands of planes at the beginning of the end of World War II. What happened after that will cause you to listen intently as this articulate speaker tells it like it was. We'll realize how very, very, lucky we are that Bruce made it through the war and is here to share the experience.

The story of the liberation of one specific camp is especially poignant. Bring your family to hear this important history directly from one who made it!

The meeting is Wednesday, June 8, 7 PM at Swisher Trust and Savings Bank, Swisher, IA. Address: 59 Rose Ave. SW. Directions: "Exit I-380, head west into Swisher on the blacktop, cross the railroad tracks, and we're right there! You can't miss us!"

Speaker will be Bruce Fenchel, retired dentist from Cedar Rapids. Bruce will share his experiences as a teenage tank driver going ashore at Utah Beach and what happened in the air and on the ground in the grueling days, weeks, and months following.

Editor's Rant

By David Koelzer

When most of us think about diesels we think of eight-wheel semis, belching black smoke and driven by tooth pick chewing, ball cap wearing, long haul truckers. So it may come as a surprise to you that I drive a diesel. While I often wear a ball cap and have been known to chew the occasional tooth pick, the diesel I drive only has four wheels (five if you count the spare) and is quite environmentally friendly. I drive a VW Golf with a 1.9L TDI diesel engine. The engine is turbo charged, intercooled, fuel injected and develops 100 hp and 177 ft/lbs of torque. The best part about the TDI Golf is that I get 42 MPG in the city and 50MPG on the highway. This allows to pretend that I am a tree hugging environmentalist out to save the planet but in reality I am just a tight wad out to stretch my gas money as far as I can.

So, you may ask, what does this have to do with aviation? (calm down, I am getting to that.) Aviation engines come in two types piston and turbine. Piston engines run on 100 octane low lead, which is ironic because it's lead content is quite high and it also one of the last leaded fuels still available on the planet. Piston engine also rely on spark plugs and magnetos which have a tendency to fail at the worst times. Most piston engines are not turbo charged and so loose power as you climb to altitude. Turbines use jet fuel and tend to chug it like frat boys chug beer on Friday night. Which puts turbines out of the price range of most of us. Turbines also spin at very high RPM and need to be geared down to efficiently spin a propeller. So what we need is a new kind of engine that does not use spark plugs or magnetos, runs efficiently on an unleaded fuel, makes a lot power at about 2700 RPM where propellers work the best and it turbo charged to work efficiently at altitude.

If you have not guess the answer yet then let me tell you: DIESEL. Of course I am not the first person to recognize the advantages of diesel for aircraft use. Zoche aerodiesels have been working on just such a engine for several years and their engine is based on a 1930's the Junkers "Jumo 205" supercharged 2-stroke Diesel. More recently the Thielert Centurion 1.7L diesels are available in Diamond's new DA42 Twin Star and even though it is a twin it is more fuel efficient than most singles. Thielert is also coming out with a 4.0L 310HP diesel which will blow the doors off of any thing Continental or Lycoming sells and may give a lot of small turbines a run for their money.

So don't be surprise if you see a lot more diesels in the skies very soon. Now if I could just figure out a way to take the engine out to my Golf and fit it into my Sonex.

Fly Market

FOR SALE 0360 A4M first run Lycoming with 2335 hours TT sense new in 1989. comes with Carb, Mags, \$8100. Contact Ron white for further information. 319-393-6484 or E-mail longez38ar@juno.com

FOR SALE Custom Built trailer for taidragger type airplane. \$500 invested, will sell for \$300. Al Heinitz, 319-358-2144

FOR SALE: Airplane Parts, All prices open to negotiation OBO

Propellers: Warnke Ground adjustable --74" For Lycoming 0290\$250.00, Hegypitch 76" X4 \$200.00

Bounsall Prospector Airplane \$800.00

Continental 65 hp low time, Stromberg Carburetor, Eiseman Magnetos' Aeronca Exhaust Stacks, Gasculator, Sterba Wood Prop- 72" X 42"\$3,500.00

Cleveland Wheels, Brakes and Tires \$350.00

Master Cyls.\$100.00

Die Spring Shock Struts \$80.00

Matco Tailwheel- 6"- Solid.\$130.00

Airpath Compass\$ 30.00

Rate of Climb \$120.00

Slip Skid\$ 30.00

Altimeter\$170.00

Mag Switch\$ 40.00

Airspeed\$120.00

New Mechanical Tachometer with new Right Angle Drive\$200.00

Mechanical Oil Pressure Gauge\$ 20.00

This engine has about six hours on a rebuild but suffered an inflight partial power loss causing an emergency landing. It is completely disassembled. All parts will need a thorough cleaning and inspection. Asking price--\$2500.00----- OBO

Contact Raymond Hill at phone: 641-227-3189 anytime or 227-3566 evenings. E-Mail: raydot@pcpartner.net or randc@pcpartner.net



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In The June 2005 Issue...

My Patience, Benefit Concert, Weather Flying

Chapter 33 Calendar

June 5 Young Eagles rally, Washington Iowa

June 5 Flight Breakfast(s) at Washington IA & Red Oak IA & Muscatine IA, & Audubon IA & Denison IA.

June 8 7 PM Chapter Meeting, Swisher Trust and Savings Bank, Bruce Fenchel D-Day experiences.

June 11 6:30 Fifth Annual Hangar Concert at Green Castle airport. Concert at 7:30pm out under the stars.

June 12 Airshow, Flight Breakfast, Young Eagle Event & Air Guard Static Aircraft Display Spencer, IA

June 18 Fly-In Breakfast The Keosauqua Lyons Club Keosauqua, Iowa Municipal Airport

June 26 Pickart/Wilson Airport 4th Annual Flight Breakfast, see May issue for details.



How is this for “runway incursion”

Train tracks intersect the runway of Antananarivo, Madagascar’s airport making for some very unusual right-of-way issues.