



THE GRAPEVINE



EAA CHAPTER 663 Livermore, California

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There is a very fine line between "hobby" and "mental illness."

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MEETING AND PROGRAM

Our September meeting will take place at 7:30 P.M. on the 6th of September in the Terminal Building at the Livermore Airport. Our guest speaker is Doug Henson, sharing his recent trip in his beautiful yellow Falco to the Bahamas

MINUTES: GENERAL MEETING EAA CHAPTER 663, 08-02-07, 7:30 PM LVK TERMINAL BUILDING.

Guest: No guest were present.

Treasurer's report: Barry Weber reported \$4,798.38 in chapter funds.

New Business: Eric Helms reported that he has 10 Young Eagles ready for the August 4th Young Eagles event and is looking for pilots and volunteers for ground support.

Ralph Cloud said he is working on getting a more reliable server for the chapter Web site.

Announcements: The next chapter meeting will be on September 6th at 7:30 and the next chapter BBQ will be on September 22nd at Hanger 114 after everyone puts their airplanes away after the LVK open house event.

Members Forum: Bruce Cruikshank spoke about his nearly flawless first flight of his RV9-A that took place on July 19th. Bruce said with his Eggenfelder engine the vibration level is very low. One data point he shared with us is: @ 9,600 ft. 133 ktas@4gph=38mpg. Congratulations Bruce!

Program: About 7 or 8 chapter members fresh from 2007 AirVenture shared what was new and what has changed at AirVenture this year. The members who flew their Homebuilt aircraft to Oshkosh told of some of the highlights and adventures they had on their flight to and from OSH.

Adjourned for **pie** at 9:30.

BOARD OF DIRECTORS MEETING, EAA CHAPTER 663, 08-16-07, 7:30 PM, FARNAM'S HOME

The secretary not being there, this report will be less than precise.

The status of **the chapter trailer** was discussed--again! There was more interest expressed in buying really good kit, if one can be found, but no action was taken.

Our participation in Airport Appreciation Day was discussed and we have a big pile of EAA pamphlets ready to hand out. Manning for the booth/tent will be by member-volunteers; sign up at the September meeting. Oh, and we are dipping into our accumulated stock of soft drinks for

the volunteers.

SO, ARE YOU LEGAL WITHOUT O2?

by Bruce Hughes, Canard aviators list

Yes, you are LEGAL below 12,000, BUT...

Everyone should do more physical activity, especially me. If you are in good shape, you can fly higher without a problem. I once had a student who could RUN uphill at 10,000' (Maui Run-to-the-Sun Winner). I walk very slowly at that altitude.

A forum at 2007 OSH said that anything above 8,000' was getting pretty marginal without oxygen. Well, they want to sell oxygen equipment but there IS some truth to that.

Funny aside: at the forum they told of a pilot with a new big airplane and oxygen for two passengers. His wife *refused* to wear a mask. When he got up high, she was reading and fell asleep.

At the destination, when she awoke, he told her that she had gone to sleep. She replied that she had *NOT* gone to sleep...

So the next time out, again she went to sleep. He put the bird on autopilot and took ALL of her clothes off. When they came down, he said "You went to sleep again". She said "NO, I DID NOT....OH!"

YOUNG EAGLES SCHEDULE

Thank you for your support on the August 4th Young Eagles event We had a huge turn out of pilots such that I was able to team up each Young Eagle with just one pilot.

Very successful event. At this point in time, the chapter is all caught up with flying the kids.

Eric Helms

GERRY BECK, P-51 PILOT AND BUILDER, WHAT A LOSS. RIP

Provided by Terry, N977JT

Here is another story they could add to the tribute

as told to me by my good friends Tom and Laural Lippet. Laural is a writer and editor at large for Pilot GetAways magazine and Tom is her photographer. Laural has also written a couple books about Flying and women in aviation and for past several years has been a guest speaker at the Oshkosh during the convention.

A few years ago while returning home to Truckee from Oshkosh in their C170B they had taken a northerly route because they had made arrangements to do an article on a Fly-In resort called Madden's located in middle Minnesota (they have a seaplane certification course right on the grounds/waters).

After a few days "on the job" at Madden's, they checked weather and headed west hoping to put a few hundred miles behind them before sundown. As they crossed into North Dakota just north of the South Dakota border they looked ahead and saw an unplanned ominous line of T-storms beginning to stack up from north to south. Having been in this same position a few years early over Nebraska (they had their C140 destroyed by hail while tied down outside) they hit the "Nearest" button on the GPS and Wahpeton, ND popped up just a few miles to the northeast and off they headed.

Now Wahpeton, North Dakota, is very much like any out of the way Midwestern airport, a few hangars here and there and as they landed it was just beginning to rain; they just wanted to get their plane tied down securely before all hell broke loose. As they taxied to what looked like a tie down area they spotted a guy running toward them in the rain waving his arms in a "follow me" manner, which they did without hesitation. He quickly directed them to a very large hangar and pushed the doors wide open where they then pushed the plane inside and out of the rain and possible hail.

This had all happened in just a few moments and it was time to make introductions and catch their breath. As they closed the hanger doors a down-pour of rain had just begun and they turned to look into this very large hangar/building. Lo and behold, all around them were P-51 Mustangs... well, at least five of them in various stages of completion. The man introduced himself as Gerry Beck and gave them a brief tour of his facility. It

turns out he and a partner bought everything they could from North American to make original P-51's. On another wall were stacks of Allison (possibly Merlins? ye ed) engines, still in the crates. Gerry or "Beck" as most called him that knew him, told them about how he was in the business of building and or restoring old warbirds and from what they could see he was doing a mighty fine job of it.

Since it was getting late in the day and not wanting to be too much of an imposition they asked if they could call a cab to take them into town so they could find a room and a meal. Beck told them they could just borrow one of his cars and then went a step further. Beck called his wife and asked if anything was planned he didn't know about and within a wink of an eye he made plans to have Tom and Laural as guests for the evening, not at his place in Wahpeton, but at their lake home over in Minnesota about 30 miles away.

That evening they listened to the receding thunderstorms while dining on grilled steaks out on the deck overlooking the lake. Of course they talked airplanes and aviation all evening long before retiring. The next morning they were back at the airport getting ready to say good bye when out of the blue a P-51 comes roaring past in a high speed pass, pulls up, drops the gear and lands, pulling up in front of Beck's hangar. It was a friend of Beck's who had come over to have some work done on his plane.

Yesterday was the first time I'd seen Tom and Laural since they left for Oshkosh a few weeks ago and we spoke of the loss. Just so sad to loose another wonderful individual.

(ed's note:) A local friend of Gerry Beck is Stu Eberhard. Gerry rebuilt Stu's P-51, *Merlin's Magic*, after it was literally broken in half by an exploding oxygen tank. During the rebuild process. Gerry called or e-mailed Stu every day to keep him up to date on the progress for the day and, if necessary, to get Stu's inputs on things to be done or how he wanted them done. Stu says that he's never experienced such wonderful service.

Rather than try to give you a blow-by-blow account, you can *SEE* what the rebuild looked like by just going to Stu's web site:
<<http://merlinsmagicrace22.com/index.html>>

IS YOUR ELT READY FOR THE FUTURE? (Google <Cospas-Sarsat> for the full scoop)

The Cospas-Sarsat Program announced at its 25th Council Session held in London, UK, that it plans to terminate satellite processing of distress signals from 121.5 and 243 MHz emergency beacons on February 1, 2009. Get your 406 MHz transponder now!

EAA GRASSROOTS ACTION REQUIRED NOW! SAY NO TO USER FEES!

"Urgent Action Needed" - Notification to
All EAA Members

On August 7, 2007, EAA sent a mass e-mail to all EAA members (with e-mail addresses on file) enlisting their immediate help in urging U.S. Senators and Representatives to reject user fees for general aviation.

The user fee debates are approaching their climax. When Congressional leaders return from their summer break on September 7, final debate will begin in earnest. Versions of H.R. 2118 and S. 1300 will be addressed by them shortly after September 7, then forwarded to a joint committee to work out differences between the two bills. After the joint committee approves a joint bill, the proposed legislation will go to the White House for the President's signature. This could occur within a two- to four-week period.

EAA is asking you, your friends, your neighbors, and airport partners to **WRITE NOW**.

Inform your elected congressional leaders **you support House Bill 2881 (no user fees) and are strongly opposed to the user fee sections of Senate Bill 1300.** .

Sample letters

http://www.eaa.org/govt/sample_letters.html

Web link to August 7, 2007 mass e-mail -

http://www.eaa.org/govt/070807_userfees.html

Web link to user fee page

www.eaa.org/userfees/

To stay abreast of the user fee issues, we urge all EAA members to sign up for the EAA weekly electronic newsletter: *e-Hotline*. Sign up today - <http://secure.eaa.org/ehotline/subscribe.html>

Questions? govt@eaa.org

ENGINE LIFE FORUM AT SUN-N-FUN

by Terry Schubert, Editor of the Central States N/L

The engine life-related forums were of greatest interest to me. Cylinder break in, aviation oil and oil additives were well presented topics.

When I started flying, I learned that red can Shell **aviation oil** was non-detergent and the white can contained detergent oil. Later, I started hearing of AD oils (Ashless Dispersant). I could never truly articulate the difference, but so what? Everyone knew you didn't add detergent oil to non detergent oil engines, that you always broke cylinders in with mineral oil, that you ran 100 in the summer and 80 in the winter and that was apparently good enough, because the engine didn't blow up. I was shocked to learn there were faults in my 50-year-old oil wisdom!

It seems all non-synthetic oil is mineral oil. The stuff commonly called mineral oil and used for break-in is just mineral oil without any ashless dispersant capability. That omission struck me as dumb. I'd think one would want AD capability in break-in oil so all the foreign particles would leave the engine at drain time, not stay in the case. The oil filter, if so equipped, will take out contamination particles larger than the oil film thickness, so one doesn't recirculate debris through the engine that could hurt anything.

Detergent oils contain metallic salts that form ash deposits in the combustion chamber, which can lead to pre ignition and detonation. We all know that to be a very bad event! All of the aircraft engine oils are required to be NON detergent; there is no such thing as detergent aviation oil! So much for the old wives' tale of remembering that detergent oil causes terrible things to happen in non-detergent oil engines.

The AD, ashless and dispersant, description means there will be no ash after the oil is burned. If there is no ash, then there will be no deposits from the oil to cause pre ignition, etc. The dispersant part means that all impurities will remain held in suspension in the oil and not fall out. That is especially comforting when you drain the dirty oil and the dirt is carried out with the oil instead of just lying in a heap on the bottom of the sump.

During piston ring break-in, one is not to use oil with any anti-wear additive as it will impede the break-in process and increase the chances of glazing the cylinders. AeroShell multi-grade oil (i.e. 15W50) has AD capability and has anti-wear additives. It seems unsuitable for breaking in cylinders. AeroShell straight weight oil (i.e. W80) has AD capability but no anti wear additive so should be OK for break in. The Shell mineral oil has no anti-wear additive so it also is OK for break in even though it has no AD capability either.

Phillips 20W50 is multi-grade oil that has no anti wear additive but has AD and multiple viscosity advantages. It seems to be well suited for cylinder break in and is called for in ECI components. It is OK to mix aviation oils and to even mix oil weights when the normal variety is unavailable. A quart of W80 and a quart of W100 will make two quarts of W90, if there were such a designation. All aviation oil must prove compatibility with each other during their certification process. You can add a can of Phillips to a sump of Shell and expect it to be just fine.

Finally came the oil additive forum concerning multi-grade versus straight weight oil. Relax, no winner will be declared. Topics are rarely that simple. Straight weight oil has a specific viscosity at a particular temperature. When it is cold, it will be very viscous (thick). As the temperature goes up, the viscosity drops and the oil gets thinner. The thinner oil can more easily leak out around bearing clearances and system oil pressure will drop. That is why oil pressure is highest on cold oil take off and then drops back as the oil heats up.

A multi-grade oil starts out as straight weight oil of the low number (i.e. 15W50 oil) has a base stock viscosity of 15 weight oil. It tends to be relatively thin at cold temperatures. It has polymers added to cause the oil to thicken up at higher temperatures.

If one could get a handful of the polymer it would look like small blobs of paste. The material shrinks when it is cold and swells when it is warm. As it swells it takes up more space and makes the oil thicker. That makes the oil less likely to leak out around clearances so the pressure stays higher than with straight weight oil at elevated temperatures. As the oil cools, the polymer shrinks, thus

allowing the oil to have lower viscosity and makes it flow more easily at low temperatures. Multi-grade oils provide more constant viscosity over a wider temperature range than do straight weight oils.

A few general statements about oil follow. The lower the viscosity, the lower the friction will be and the better the fuel economy.

Rapid temperature changes found when departing the field before the engine is warmed up will cause piston skirt scuffing. The effects are cumulative.

Do not use auto oil in air cooled aircraft engines. Ash forming metallic detergents and anti wear chemicals like ZDDP will form deposits leading to pre-ignition and detonation.

Blow-by contaminates the crankcase oil. Dirty oil can be corrosive after only 10 hours of operation regardless of filter action. The water and acid is VERY corrosive. Change the oil every 25 hours or 3 months, whichever comes first.

Typically, at least .1 gallon of fuel per hour and .1 gallon of water per hour goes into the crankcase. The combustion process makes nearly 1.2 gallons of water per hour. It is important to get rid of the water in the oil by maintaining high enough oil temperatures in winter. The fuel blow-by action causes oil to get sticky. That is usually why replacement oil added between changes doesn't last as long as oil after a change. Such deposits in the oil can be reduced by AGGRESSIVE leaning on the ground and below 65% power in flight. Aggressive leaning means the mixture is so lean that rapid throttle movement will cause the engine to stop if not equipped with an acceleration pump.

Pre-oiler systems do little to help prevent rust and wear as cams and lifters require splash lubrication. Use pre heat on cold engines below 40F and appropriate viscosity oil. Pulling an engine through before startup does no good and in fact scrapes oil off the cylinder walls.

BROKEN ANY VALVES LATELY?

from the Canard List:

Tom wrote: "At about 1800 total engine time, since new, the #4 exhaust valve broke, necessitat-

ing a forced landing on a short farm strip, no air-frame damage. The exhaust valve guide was shot, causing the valve to fail. I'm convinced this all happened due to the #4 cyl. running hot."

Nick Ugolini wrote back: "While it is important to keep cylinders running cool (prevents cracking around the exhaust port), I don't believe the hot cylinder was the cause of the failure. The exhaust valve temps are MUCH higher (3 to 4 times more) than the cylinder temps and it is possible the the #4 exhaust valve ran the same or cooler temps than the other valves, depending on mixture distribution, power setting, etc. while the cylinder itself running at a hotter temp.

After having myself had two cylinders fail (#1 and #3) due to broken valves, I contacted Lycoming. The failure WAS due to the valve guide being worn, but it wasn't due to heat, just wear that it experienced.

The way to test for excessive valve guide wear is performing the 'wobble' test (Lycoming SB-388B) which should be done ever 400 hours. This way you will identify the worn cylinder long before it becomes an issue and replace the guide before it causes fatigue in the valve.

I wrote an article for the CSA and "Experimenter" magazine talking about this issue which many mechanic, builders and owner know little about...

Bottom line is: If you haven't performed this 388B test on your plane, you should (in my book ..must..). Get your mechanic to do it, or download the publication from my web site (Downloads area). It is actually very EZ to do. Only take about 2 hr (which I do every annual). After two emergency landings, I feel it important to get the word out."

Nick "The Geek" Ugolini
Charleston, SC
Long EZ N29TM (2180 hours)

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