EAA Mount Rainier Chapter 326 Newsletter

Thun Field - April 2004 64

Meeting Notice

Tuesday, April 13th, 7 PM
CAP Building, Thun Field

Program: Vision Airplane Project. Bruce Finney

Refreshments: Paul Good

Adjournment: TBA

From the Secretary

March 9, 2004

The meeting was called to order by Kevin Behrent.

Today's guest was Ralph Corbin who came to talk about the ME262 project at Paine Field.

Louis Gallego brought the refreshments this time.

Thanks again to all that helped with the NW Aviation Conference, Especially Mike & Smitty who did a great job with the kids!

Visitors:

- Dave Ferris – A & P student
- Joe Zinno – First American to fly a man-powered airplane (1976). Getting back into flying after a long break.
- George Deitering – New to flying and checking things out
- Mike & Arleen Dougherty – RV7
- Dave Parsons – RV7
- Bob Wallach – RV7
- Randy Tonkin

The Chapter & other donors have provided the funds for a plaque on the memorial wall at Oshkosh for **Bob Palica**. The Service will be Sunday August 1, 2004 at 11am at Oshkosh, plan on attending if you make it out to Oshkosh this summer.

There will be a chapter group tour of the NSI Subaru factory at the Arlington Airport. It's the first Saturday in April, meet at 9am at the factory. Kevin has a sign-up sheet.

Ralph presented some great history on the ME262 projects. They are building five of them up at Paine Field. All of the parts are hand crafted based upon a single original plane that was borrowed from the US Navy. The first plane has flown twice thus far, but suffered a landing incident and has spent the last year being rebuilt. It's almost ready for its third flight this spring. For those that don't know, the ME262 is a German twin engine jet fighter from WWII.

Andy

Sandpaper

I just recently tried a new flavor of paper from Norton called "3X High Performance." I bought it from Home Depot and paid at least twice as much as el cheapo paper. But I gotta say that it works wonders. It really works as advertised and doesn't load or clog up. Clap it and it's clear. It's almost too good 'cause it's hard to tell when it's appropriate to toss it. From now on I'm going to overpay for the easier time. Too bad I learned this at the end of the project….

Dan Checkoway

Chrome Cylinders

Chrome cylinders got a bad reputation for a couple of reasons:

First, they were easy to glaze due to the heat they could generate at the rings and cylinder wall. Big thing with a chrome engine was you had to be real careful with heat build up to prevent the glazing thing, both on the ground and on the initial flights. That is where all the no ground running stuff about overhauled cylinders comes from. Chrome was way more susceptible to glazing than steel or nitrided cylinders because they were capable of generating way more heat at the rings. If you were real careful with ground runs and flight profiles, you would be okay but if you were a little sloppy it was very unforgiving.

Second, even with good ring seating you could still have a channel chrome cylinder that would use more oil than the next due to the density of all the cracks in the surface. When they chromed a cylinder it would come out smooth like a regular chrome plated object. This wouldn't work because there was no way to keep it lubricated as chrome isn't very oil wetable. So, to fix that issue, right at the end of the chroming process they would reverse the current flow through the chroming tank and this would cause all of the cracks that you see in the surface of a

chrome cylinder. The density and depth of these cracks is what is refereed to the porosity of the chrome. How the reverse current flow effected each cylinder was difficult to control and thus the porosity tolerance was pretty big. If you had a cylinder with very high porosity you had a real lot of cracks that got filled up with oil each time the piston went up and down and that oil was burned each time the cylinder fired. So if you had high porosity you used more oil than if you had low porosity even with rings that were seated. Due to the difficulty in controlling the porosity, during the plating process, the focus was on making lubrication available to the surface not on whether it would use more oil.

My guess is most of the "my chrome engine wouldn't break in no matter what we did" stories are because of porosity issues and not ring seating issues. Porosity is also the reason that many chrome engines consume more oil than their steel or nitrided counter parts.

Mahlon Russell

Q & A

Q: Can you tell me what the term "convergence zone" means?

A: Our answer comes from AOPA's weather provider, Meteorlogix.

"Convergence" is a term that represents an area where winds are meeting or converging. In the area of converging air flow, the air is forced to rise. If enough moisture is present, this leads to clouds and precipitation.

Convergence is common along frontal boundaries where wind shifts take place. Winds from differing directions meet along the front and the air flow is forced upwards along the frontal zone. This type of convergence is known as "directional convergence."

Another area where convergence is common is along coastlines. Wind flowing over open water blows faster than wind over land because friction slows the wind over the land surface. A 30-mph wind over the water might be reduced to 20 mph as it moves over land. Right along the coastline, there is a tendency for a convergence zone to form. Convergence caused by slowing of wind speeds is known as "speed convergence."

AOPA

Young Eagles

Dear EAA Chapter Newsletter Editor,

As you may have read, the Young Eagles program is pleased to announce our new Chairman Mr. Harrison Ford. I am hoping you can find space in your next newsletter to feature this information.

Mr. Ford has been an EAA member since 1996, an active pilot and a Young Eagles Flight Leader with over 90 Young Eagles to his credit and that of EAA Chapter 1049. He has a passion for aviation and sharing it with others, especially young people. We are looking forward to working with him as Young Eagles continues to launch the dreams of young people worldwide.

An interview with Mr. Ford will also appear in the May issue of *Sport Aviation* magazine.

In addition, we are also pleased to let you know that Gen. Chuck Yeager will assume the new post of Chairman Emeritus. We are grateful to the General for his support, leadership and guidance through the years as we strived to reach our initial goal of flying 1 million Young Eagles. The General will continue to be actively involved in the program, especially through his activities at EAA AirVenture Oshkosh.

Thanks again for your support of the EAA Young Eagles program,

Steve Buss
Executive Director
EAA Young Eagles

Poker Run

The flying season has arrived. Here is an event we haven't tried yet. Might be worthwhile to check with other chapters to see if we could participate in their poker runs.

The purpose of the Poker Run Event is to provide pilots the opportunity to enjoy a short cross-country flight to several surrounding airports or airparks. During this Poker Run Event at each designated outlying airport, a pilot will pick-up a playing card that will become part of a poker hand. Pilots may fly to as many participating airports or airparks or they may make return flights to the same airport or airpark to pick up as many poker cards as they wish, provided that they do not pick-up more than one card from any airport on any one visit. There may be many airports or airparks involved in a Poker Run Event and pilots may enter the event as often as desired, making multiple trips to obtain additional poker hands. Cards picked up on subsequent trips may not become part of a poker hand from a previous trip. Using the normal higher card rules of poker, pilots with the highest winning hand will be declared the winner of this event.

The Chapter must complete an EAA Chapter Event Notice Form

MyAirplane.com Prepares for Heavy Traffic

Aviation information company MyAirplane.com recently upgraded its hardware to accommodate visits on its website from the large and diverse community of pilots and aviation enthusiasts. Besides offering VFR sectionals, NOAA approach plates, and VFR terminal area charts for free, the website is handy for looking up kit builders by model or manufacturer and searching for aircraft background information using N-numbers, also at no cost. For more information about its services, visit to www.MyAirplane.com.

Ten Things to Know about Learning Electronics

1) Any book about electronics that begins with vacuum tubes; just tip it into the trash or bandsaw out the insides and glue the pages together for a neat Book-Stash. Subscribe to an electronics magazine. Buy Forrest Mims' "Engineer's Notebook at your local Radio Shack (The only book you will need for a long time). --- he's online too.

2) Everything you ever wanted to know is available online. Use the Google miracle. Broadband please!

3) Albert Einstein taught: If you are not interested in something you really can't learn it. Education usually consists of fooling oneself into being interested. This is itself a learned art and usually involves solving some puzzle that you yourself have created.

4) Get to know the names of things. If you are reading something and come across "phase converter", find out what a "phase converter" is. You may never need one, but that's important to know too.

5) You don't have to know everything. Electronics is a huge field and to know microprocessors does not mean you know much about radios. Even knowing about low frequency radios does not mean you know much about high frequencies. It's a huge field.

6) Pick up several multimeters. One of them should measure capacitance. Buy an old Tektronics 465 oscilloscope on eBay for $100. This is the Cessna 172 of 'scopes and you can pass it on to your son, or sell it on eBay to get your money back. http://www.surplussales.com/Manuals/man_tek.html has manuals. Buy a cheap function generator or make one using an Exar XR2206 function-generator IC (a great first project too!).

7) You can't do without a prototype breadboard. It makes prototyping and learning much easier. And a stock of parts in your junk box is required.

8) Get to know Digikey, All-Electronics, and other neat sources of parts. Get their catalogs and page through them often for a good education.

9) Integrated Circuits do almost everything. Get to know them personally. When a circuit has a bunch of transistors and twenty or more parts-know that there is an integrated circuit that does that job better and cheaper.

10) It puzzles beginners why there are SO MANY DARNED part numbers. The reason is that there are so many different characteristics. Take heart! Examples of the characteristics are, package details, voltage withstand, operating temps, volts, amps, wattage, etc. etc. etc. etc. Develop a palette of favorite parts and become familiar with them. Then you can use different stuff when you need to satisfy special parameters.

And for free----My physics professor in electro-magnetic theory said to me, "Take some advice.stay away from antenna design. It's all Black Art and Voo Doo."

Eric M. Jones

Drill Bit Extensions

If somebody understands what Henry is saying here, please advise…this looks useful. jb

I have my duty #40 and #30 split-point drills on 6" brass extension rods, 1/4" dia. and the drill bits are held in place in the bores with Krazy Glue (Super Glue). Never had one skid on me! In fact, I never bought those expensive long "aviation" drills. I put extensions, long and short, on many other drills including short stubbies threaded 1/4-28 so they could be used in my right-angle drive.

The beauty of having the drills on the extensions is that it is easier to "perpendicularize" the drill to the surface being drilled and guide into position. Another thing, when the drill gets dull, I heat the extension end with a propane torch and the drill comes out easily and a new one gets popped in easily with a drop of the glue. Can't do that with aviation drills, unless you are an expert on sharpening split-points!

Henry Hore

Calendar

April 13–19, **Sun'n Fun EAA Fly-In**, Lakeland Linder Regional (LAL)
May 8, Ranger Creek Airstrip, Annual WPA Work Party and Chili Feed; 9:30 a.m. Phone: 425-228-6330
May 15, 16 Concrete (3W5) Fly-In
June 12, RV Fly-In, Langley BC (CYNJ)
June 12, **Young Eagles Day – Thun field**
June 19, RV Fly-In, Scappoose (SPB)
June 18, 19, 20, Olympia,
6th Annual Gathering of Warbirds air show
July 4, Tacoma, Tacoma Freedom Fair Air Show
July 7–11, Arlington,
35th Annual Northwest EAA Fly-In at (AWO).
July 27–August 2, EAA AirVenture, Oshkosh (OSH)
August 28, Port Angeles, Ultimate Airport Day
September 4, 5, Van's Homecoming. Aurora State (UAO)

Bozone (n.): The substance surrounding RV-7, 8, 9 builders that stops bright ideas from penetrating. The bozone layer, unfortunately, shows little sign of breaking down in the near future

End

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