

EAA Mount Rainier Chapter 326 Newsletter

Thun Field - May 2004

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Meeting Notice

Tuesday, May 11th, 7 PM
CAP Building, Thun Field

Program: Seattle Avionics – Flight Planning Software.
Robert Hamilton

Refreshments: Bryan, Reiter, Migas

Adjournment: TBA

- KC & Jerry Armstrong – Ultra cruiser ultralight
- Eddie Cukierman – Looking at building an RV

Bruce gave a nice presentation on his Vision project. It's a scratch built composite plane. 2-place side-by-side. Speeds are similar to an RV6 with very low costs due to being a plans only project. There are 3-4 of them flying and they are working on a 4 place. Bruce is planning to build a 4-place model.

Andy

From the Secretary

April 13, 2004

The meeting was called to order by Kevin Behrent.

Today's program was Chapter member Bruce Finney who talked about his Vision project.

Paul & Joan Good brought the refreshments (for the second time this year!)

Due to new plans at the airport office, we have lost our storage building. If you have an idea for a long term solution to the Chapter storage needs call Kevin. We need about 8x10 worth of storage for tables, chairs, young eagles stuff, etc.

Kevin has worked up a new batch of T-shirts, Polo shirts, Jackets, and Hats. If you are interested in ordering some, get in touch with Kevin.

Bob's Oshkosh memorial has been finalized and paid. It will be put in place this summer at Oshkosh during their special service. Any and all that can go and represent the Chapter would be much appreciated on Sunday August 1, 2004 at 11am.

Treasurer report: \$2403 checking, \$2107 savings.

Young Eagles will be June 12th this year, plan for 350 kids! Weather permitting...

We had a great turn out for the NSI factory tour with 21 people going. The report was that it was a very impressive operation with lots of thought put into the engine conversion.

Visitors:

- Charles Suydam – rebuilding an Avid MK4

Arlington Camping

Big change: This year Smitty cannot reserve a block of spaces for our Chapter. You have to go to their website <http://www.nweaa.org/> and make the reservations yourself.

We will try to locate ourselves in camping area B, in rows B and C, numbered 9 thru 18. (BB9 - BB18 and BC9 - BC18). Some of our veteran campers have already reserved sites there. As of this writing, there are eight spaces left. More are available in row D, behind us.

The charges are the same as last year. \$40 for campsite (five nights) and \$30 per person for the flightline pass.

Wet Dog Shake

A few weeks ago someone asked for a way to shut down the engine without that annoying shake rattle & roll. Only one responded with an actual solution. Here it is:

“With the engine at a slightly elevated idle, slowly bring the mixture back until some roughness is detected. Leave it there for a few seconds, then pull to idle cut off. The engine will shut down as if you had turned off the key.”

Donald Mei

I have tried this for the last 15 shutdowns and it works every time. The only difference I have had to make is that I let the engine idle for about 15-30 seconds at this very lean, slightly rough setting. For me 900 rpm works well. After 15-20 seconds, I pull the mixture and what's left of the throttle to cut off position. The engine stops smoothly. Something else too. It starts easier on the next start. I guess the plugs are cleaner.

Louis I Willig
RV-4, N180PF
190HP IO-360, C/S prop

Flying Heritage Collection

Paul Allen has opened an aircraft museum at Arlington. Here is info from their website: <http://www.flyingheritage.com/>

Tours are by appointment only. They are given on Fridays and Saturdays of each week, from 10:00 a.m. to 12:00 noon, and 2:00 p.m. to 4:00 p.m. We welcome groups of 15 or less at a time, ensuring that our guests receive the most personalized and meaningful experience possible. Please note that because space within the hangar is limited and the aircraft are fragile, the Flying Heritage Collection environment is not favorable for young children. Adults are requested to accompany children at all times during tours. No refreshments or snacks are available at the FHC facility.

To make a reservation with the FHC tour coordinator, please call (360) 435-2172 on Thursdays between the hours of 9:00 a.m. - 4:00 p.m. Tickets must be pre-paid with a credit card (we accept all MasterCard and Visa cards) or debit card, and we require one week's notice to cancel reservations for a refund. You will receive confirmation of your reservation via e-mail or U.S. mail.

Ticket prices

General Admission: \$20.00
Seniors and Veterans: \$16.00

Directions

From the South:

- Take I-5 North to exit 206 (Lakewood/Smokey Point Boulevard)
- Turn right onto WA-531/172nd St NE
- Turn left onto 51st Ave NE
- Proceed forward until you see the set of dark green hangars with beige trim
- Turn right between the dark green hangars
- The building on your left, marked 17622, is the Flying Heritage Collection hangar
- Look for the Flying Heritage Collection sign

The current collection includes:

Flying Aircraft - Current

Supermarine "Spitfire" Mk.Vc
Polikarpov I-16 Type 24
Curtiss JN-4D "Jenny"
North American P-51D "Mustang"
Polikarpov U-2/PO-2
Curtiss P-40C "Tomahawk"
Fiesler Storch Fi 156-C2 "Storch"

Completed Artifacts

Fiesler Fi 103/V-1
Fiesler Fi 103R "Reichenburg"
Mitsubishi A6M5-52 "Zero-Sen" (recovered airframe)

Currently Under Restoration

Messerschmitt Bf 109E-3 "Emil"
Hawker Mk.XIIb "Hurricane"
Mitsubishi A6M3-22 "Zero-Sen" (two-seat field modification)
Focke Wulf FW 190A-5 "Butcherbird"
Republic P-47D "Thunderbolt"
Goodyear FG-1D "Corsair"
North American B-25J "Mitchell"
Boeing B-17E "Flying Fortress"
Messerschmitt Me 262A-1a "Schwalbe"
V-2
Ilyushin IL-2M-3 "Shturmovik"
P-38J "Lightning"

Future Restoration Projects

Casa 2.111D (Heinkel He 111H)
Nakajima Ki-43-1b "Hayabusa"
Grumman F6F-5 "Hellcat"
North American F-86A "Sabre"
Mitsubishi A6M5-52 "Zero-Sen"
Yakovlev Yak-3U
Republic F-105G "Thunderchief"
Vought F-8 "Crusader"
Mikoyan and Gurevich MiG-21 "Mongol"
BAE/Hawker GR-3 "Harrier"
DeHavilland DH98 "Mosquito"
Me 163B "Komet"

Vibrations

Any discussion of crankshaft counterweights uses the term "order" as in 6th order vibrations. The "order" refers to the number of times a torsional vibration occurs per crankshaft revolution. A 5th order counterweight counteracts a vibration that occurs five times per engine revolution with a frequency that is engine rpm. A 6th order counterweight counteracts a vibration that occurs 6 times per revolution, again at a frequency of the rpm. The frequency will change with rpm but the order will always be the same per each revolution of the crankshaft.

Here is a good reference on engine balance and dynamic counterweights.

<http://www.prime-mover.org/engines/GArticles/BALANCE.Lyc>

Mahlon Russell

Superior's New Vantage 360

Superior has long been making parts for certified engines; they came out with an experimental XP-360 a few years back; and now they have an FAA certified engine with their own label.

The Vantage 360 is a 4-cylinder, 361-cubic-inch engine that produces 180 horsepower. It is available carbureted or injected, and bolts up to conical, and Type 1 and 2 Dynafocal mounts. It can be used with fixed-pitch or constant-speed propellers and has

a max RPM of 2700. Both the carbureted and injected engines are certified "out of the box" to burn 91 octane unleaded Mogas, 100 LL Avgas, and the projected 91/98 UL Avgas. The injected engine is approved for installation in Aerobatic aircraft

They still need a production certificate and STC's for installation in certified aircraft. Look for that next year.

Taperwing Rocket F1 EVO

Team Rocket has a new model, the EVO (evolutionary new wing design). I can't find much up-to-date info, but it has a tapered wing...drag reduction and higher speeds are predicted. Tom Martin published a preliminary report on their website. <http://www.teamrocketaircraft.com/>

The wing was designed by HPAI. More info is available on their web. http://www.international-hpa.com/proj_f1_evo.html

Despite the lack of recent news on performance and testing, Team Rocket has published prices:

QB kit (includes emp kit)....\$37500

Evo kit (w/emp).....\$43900

Evo kit (w/o emp).....\$42300

Doug Rozendaal comments after a flight in the F1 EVO:

So, I had a Real Big "Rocket Grin" when I landed. I am certain the performance will be better because of the aspect ratio. Standard Rockets would not want to dogfight this airplane, because they would get waxed. The airplane should LOVE altitude and benefit greatly from cruising at higher altitudes. This airplane is, with out a doubt, the best looking RV derivative ever!!! And, as true to Mr Dassault, the airplane flies well, not as good as an RV-4, but almost nothing does [underlined by editor]. Having said that, no one would be dissatisfied with its handling, and Mark is still tweaking the control ratios. The real question is, if I were ordering, which would I order? No Question, the EVO

Our former Chapter 326 President, Dave Latham, is almost ready to fly his QB F-1 Rocket. That will be the subject of our June meeting maybe. Obsolete already Dave?

Calendar

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 5, Spokane, Felts Field (SFF), EAA Chapter 79 Fly-In

June 5, Lynden Fly-In, Barbecue and Dutch Parade

June 12, Young Eagles Day – Thun field

June 19, RV Fly-In, Scappoose (SPB)

June 18, 19, 20, Olympia, 6th Annual Gathering of Warbirds

June 26, 27, Bellingham Airfest

July 4, Tacoma, Tacoma Freedom Fair Air Show

July 7–11, Arlington, 35th Annual Northwest EAA Fly-In.

July 17, 18, Port Townsend, EAA Chapter 1026 Annual Fly-In. Camping available

July 23, 24, 25, Pasco, Tri-City Columbia Cup Airshow

July 24, 25, Spokane, 2004 Inland Northwest SkyFest

July 27–August 2, EAA AirVenture, Oshkosh (OSH)

July 31, Forks, 14th Annual Fly-In, Salmon Bake, Car Show & Burnout Contest

August 7, Diamond Point Airport Association presents Airport Day, 10 a.m.-3 p.m.

August 28, Port Angeles, Ultimate Airport Day

September 4, 5, Van's Homecoming. Aurora State (UAO)

Capacitance Fuel Gauge

A capacitance sender is immersed in the fuel, and measures 'capacitance' (an electrical property) between two plates. The capacitance depends on the 'dielectric constant' (DC) of the material between the plates. Air's DC is 1, avgas is about 2.

Basically, the amount of capacitance is proportional to amount of fuel. The capacitance effect of auto fuel varies depending on what's in the fuel, and in what proportions. For example, alcohol has a DC of 25. If you have autogas which is 1/8 alcohol, a capacitance gauge will read about two times as high as for avgas (i.e. if calibrated for avgas, it will read full when the tank is half-full). How large the error is depends on the proportion of alcohol, and the DCs of the other components of the fuel.

They can also be used to detect water in the tank because water's DC is 78; even a little water will give a 'vastly overfull' reading. In fact, in any aircraft, there's no reason why a capacitance-based water-detector couldn't be put into each tank.

Frank van der Hulst

See Jim Weir's Kitplanes article at for details of how a capacitance-type sender works.

<http://www.rst-engr.com/rst/articles/KP89SEP.pdf>

"Imagination is more important than knowledge. It is a miracle that curiosity survives formal education"

Albert Einstein

"Hell, there are no rules here-- we're trying to accomplish something."

Thomas A. Edison

End

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