

EAA Mount Rainier Chapter 326 Newsletter

Thun Field - October 2006

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Meeting Notice

Tuesday, October 10th, 7 PM
CAP Building, Thun Field

Program: Richard Siers will give a presentation on the Barracuda. <http://www.siersflight.com/>

Refreshments: Chris Smith

The positions to be filled are on the cover of this newsletter. Only the first four require voting by the membership, but all are necessary and all are open. Note that technical counselors and flight advisors require EAA HQ qualification and appointment.

A new position of "Custodian" is needed to keep track of Chapter property, i.e. tables, chairs, library, and miscellaneous stuff that is rather randomly distributed at present.

From the Secretary

Sept 12, 2006
EAA326 chapter meeting

Gordy called the meeting to order. The program tonight was the video history of Van Nuys airport "One Six Right".

Visitors:
Kim Fitzsimons
Ed & Elise Hoyt – NWEAA grand champion Piper Pacer
Marleen & Mat Jackmond

Norman gave a treasurer report : \$3759.52 total

Refreshments were provided by Lance

Earl Gruer had his first flight of his RV9A last month. Smitty did the final tech inspection on it, and Charlie did the final certification, with Jim Triggs doing the first flight.

A big thanks to Smitty & Toni for hosting the burger burn in August at their hanger.

Tom Brown has hanger space open at Thun for a small plane (RV sized) Contact him if you are interested. 253-847-2507.

Andy Karmy

Annual Membership Dues for 2007

Dues collection for 2007 begins now. The EAA deadline for Chapter renewal is December 15th and Gordy has to submit our new roster with the renewal paperwork. So, **\$15 please**. Do your best to pay up this month. Makes checks payable to EAA Chapter 326. An envelope is included with this newsletter. It is addressed to our Treasurer, Paul Yarbrough. Those who don't get the hard copy newsletter should mail their dues to Paul.

We are not authorized to collect dues from anyone that is not an EAA member. Chapter liability insurance is one of the factors in that. So we need your **EAA number and expiration date**. All chapters are required to forward their rosters to EAA with that info.

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First Flight Robert Barra RV-8A N325RB

My goal was to have the plane inspected and flying before the Puyallup Fair because I knew time would be a precious commodity once it started (this was my 10th year working the Fair making Scones. I need the money for av-gas) Well, that didn't happen. But not on my account. I sent all the paperwork in at the end of August, and was told the FAA inspector had it the first week of September. After waiting many more days to hear from the inspector on when he could make it out, I finally called him. Only to find out that he had no idea what I was talking about! ARGH!! I have honestly had only positive experiences so far with the FAA and getting paperwork pushed back and forth. Until this. Stupid Seattle MIDO (Manufacturing and Inspection ... blah blah, whatever. The local FAA office). Anyway, Charlie Cotton (FAA inspector) took over and got the ball rolling. He scheduled me and Joe Andre to both have our inspections at the same time so he could save a trip. So on September 20th, Charlie came out, gave a very professional inspection and went over the rules and regulations very thoroughly with me. After about an

Chapter Nominations

The two-year term of Chapter leaders is coming to a close at the end of the year. We will be seeking / confirming nominations at this meeting and then voting at the November meeting.

Feel free to nominate yourself or anyone else. Make sure the person you nominate is a willing volunteer for the job.

hour, my baby was certified (and legal) to fly! I wanted as few people to know as possible, just so I wouldn't get overwhelmed with questions and inquiries, so I told everybody I was taking the day off to get ready for the inspection rather than the real thing. Just knowing that there was no longer any official doubt that it was an airplane and not some strategically placed aluminum and steel pieces, what a load off my shoulders. Little did I know how much more excitement was on its way.

But first came about 1000 screws that had to be put back into place. When the inspector comes out to do his thing, every panel, every screw, everything removable needs to be off the plane so he can inspect behind it. Talk about a pain in the a.... That alone took two days (remember, I was working the fair and my regular job. I was out there until 3 am Thursday night/Friday morning just screwing panels back on the plane) to reassemble.

So anyway, I knew back in August that I would be making my own first flight after having taken some transition training with Mike Seager down in Oregon. He's the go-to guy for Van's training. Awesome instructor and I learned a lot.

By Saturday morning, I was feeling pretty confident that everything was ready to go. So I started her up and taxied over to the pumps to get more go-juice. First problem: flooded the engine. Damnit. Sat there with my 5-point harness on, cranking the engine over right in front of the restaurant, with nothing happening. "Umm, can everybody stop looking at me please? I'm already nervous enough as it is." Got it cleared and started again. Listening to the radio chatter indicated that the other planes were using 16 as the active runway. That is until I taxi my plane down to run-up area. Now planes start calling out 34 as the active instead. What the? Well, at least this gives me a chance to try some high-speed taxi tests to confirm the breaks and airspeed indicator are working. Got the speed up to 50 mph twice and the plane tracked straight as an arrow down the runway-centerline. Made my way to the new run-up area to do my preflight stuff.

Now picture this: here I am sitting in a plane, yes a plane, that I built in a garage for 2 years, and in a hangar for 6 months after that. This plane has never flown before. Granted it is a proven design Who knows what it's going to do? Top thing on my mind was engine failure on takeoff; talk about a quick way to ruin your day. I finally said screw it, lets see what this thing can do. Called out my intentions over the unicom, making sure everybody knew this was a maiden flight, and started my way to the runway with my friend Harry following in his Harmon Rocket (think of an RV on steroids) as a chase plane, just in case something happens up there; like a wheel falling off.

Ok if you're still reading this, you must be somewhat interested, I hope. Well obviously since I'm writing this, the people betting against and who have bought life insurance on me, you lose. The plane flies awesomely! Take off is unbelievable with the constant speed prop, IO-360, and all the other goodies that boost the power up. I've been flying rented Cessna 172's and Beechcraft Skippers for the past 4 years. A good analogy would be riding an old school Datsun and then jumping into a 350Z. Climb out is about 1700fpm, cruise is 170mph, and aileron rolls are a blast! Ok I didn't do any aileron rolls on the first few flights, but since then, yeah. I mean, these first 40 hours are all about flight testing, right? And the speeds will only increase after the

engine is broken in and I get around to putting the wheel, leg, and intersection fairings on.

Ok, jumped ahead of myself there for a second. First flight was pretty darn uneventful. Climbed up to 3500 feet and got a feel for the plane. Rudder, check. Ailerons, check. Elevator, duh, you climbed and leveled out, dummy. Temperatures in the green, check. Fuel and oil pressure, check. Sweet, everything is looking good. I just circled over the airport for about 20 - 30 minutes and enjoyed myself. One last thing to do, land. Now this part I felt really comfortable with. It was a calm morning, great visibility, and I had already had the necessary training. Suffice it to say, it was pretty much a textbook landing. After I got down on the ground, we took apart the cowling to look for any anomalies or leaks. None were found so what to do then? Go fly again! Got a bit braver on the second flight and did some steep turns and some slow flight. The plane handles beautifully! Even writing this right now, I can't wait to get back out there and fly it some more.

So far, I've got 5.8 hours on the plane, landed at a few other airports (including the one I learned at, Spanaway Airport), found that the oil door pops open at 210mph (Working on a permanent fix, but until then, duct tape is a good alternative. If they don't find you handsome, at least they'll find you handy), and have explored some of the more exciting corners of the performance envelope that this plane offers. The only downside the plane has, is the fuel cost. But that's a small price compared to everything else.

I'm probably forgetting something here. Hopefully you don't hate me after having read this long story.. If you do, I'll give you a ride after I get my 40 hours in (regulations by the FAA. 40 hours solo before I can take passengers) and you'll see why the grin on my face hasn't left in 4 days. If you see a small silver plane in the air, wave.

Aerosport Power IO-360-M1B (horizontal induction)

9.2:1 compression ratio

Airflow Performance FM-200 fuel injection

Skytec lightweight starter

B&C 40 amp alternator

Slick magneto for bottom

Lightspeed Ignition II

Hartzell constant speed prop

Jihostroj Governor

Electric Trim & Flaps

Dynon EFIS D-100 w/AOA

Advanced Flight Systems AF-2500

Garmin 196

SL-40 Comm

GMA-340 Audio Panel

GTX-327 Transponder

Rear seat throttle, Rear seat map light

MP3 player music input

Front and rear auxiliary power plugs

Robert

Tweaking the Injectors

The objective is to get the EGT on each cylinder to peak at the same time, i.e. the same fuel flow. This should allow leaning further and still having smooth engine operation. Operating lean of peak (LOP) will have the engine running more economically, more miles per gallon, and cooler, if you don't mind giving up a few knots.

Here is the data I collected at 11,500 feet. I started at some arbitrary fuel flow rich of peak and copied the egt's and cht's for each cylinder. Then I reduced fuel flow by 0.2 gph and copied again, and again, and again.... Note that #2 peaked first and #3 peaked last. That means #2 is leaner and #3 is richer..

MP	19.8						
RPM	2310						
IAS	148						
P Alt	11,500						
OAT	40						
Ign Adv	36.3						
GPH	8.6	8.4	8.2	8.0	7.8	7.6	7.4
EGT 1	1215	1231	1241	1244	1229	1211	1193
EGT 2	1238	1241	1229	1216	1192	1180	1167
EGT 3	1193	1206	1217	1224	1234	1238	1228
EGT 4	1213	1225	1235	1241	1242	1238	1222
CHT 1	302	302	302	301	295	287	278
CHT 2	294	290	287	283	274	263	256
CHT 3	304	306	307	306	306	304	300
CHT 4	294	295	294	293	291	288	283
Max EGT	1238	1241	1241	1244	1242	1238	1228
Delta EGT	45	35	24	28	50	58	61
Max CHT	304	306	307	306	306	304	300
Delta CHT	10	16	20	23	32	41	44
Hottest	3	3	3	3	3	3	3
Coldest	2&4	2	2	2	2	2	2

I also collected data at 7500, 8500, 9500, 10,500 and 12,500. While the temps and spreads are different at each altitude, the overall trend is the same...# 2 always peaks first and #3 always peaks last. So now the game is to experiment with different nozzle sizes. All cylinders now have 0.028 nozzles. I will put a 0.0285 in #2 and 0.0275 in #3 and check the results. Don at Airflow Performance said not to try to correlate those numbers with actual diameters. They flow bench the nozzles to determine the size rather than measure.

On these tests I didn't 3-way gps for true airspeed but from earlier tests I know that it is a little over 200 mph. At any altitude above 7500' I cruise with wide open throttle and 2300 RPM. I lean until about 8.5 gph and then carefully lean further watching indicated airspeed. When the IAS begins to drop I stop leaning. I will accept a loss of about 4 knots. Nothing scientific in that, just the way it feels.

The objective is not to save money although who wouldn't like that. The main interest for me is increased range. Whether you use it or not is up to you, but having the option can be very comforting sometimes.

RV-4 N474JB

Engine

Aero Sport Power IO-360-B1B

9.2:1 compression ratio

Airflow Performance fuel injection

Slick mag w impulse coupler for bottom plugs

Light Speed Plasma III ignition for top

Propeller

Whirl Wind 200RV

McCauley hub

Carbon fiber composite blades (2)

Constant Speed

Jihostroj governor

Fuel Tanks: 53 gal total.

Arlington Camping

Arlington 2007 is a long ways off but campground reservations are not. In recent years we have been scattered around the field because we made reservations too late. We need to discuss what we want to do at this meeting and then make reservations accordingly. If somebody has a map of the campground, please bring it.

Calendar

October 6-8 East Wenatchee, 4th Annual Wings & Wheels Festival at Pangborn Memorial Airport.

October 26-29, Copperstate Fly-In, Casa Grande, AZ (KCGZ)

"It is generally inadvisable to eject directly over the area you just bombed."
U.S. Air Force Manual

"When the pin is pulled, Mr. Grenade is not our friend."
U.S. Marine Corps

end

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