

EAA Mount Rainier Chapter 326 Newsletter

Thun Field - March 2006

87

Meeting Notice

**Tuesday, March 14th, 7 PM
CAP Building, Thun Field**

Program: Emergency Procedures and Priorities. Jim Triggs

Jim instructed this course in the Air Force, which in its entirety is over forty hours in length. This course is still currently being taught at the USAF Combat Fighter Instructor Course where Jim was on the faculty for three years. He has condensed the entire course and aligned it for a presentation to EAA chapters. He will present a video tape of a F-16 dead stick landing, B-52 multiple emergency recovery and onboard combat tapes of an F-5 recovery after an inverted flat spin in which the student pilot ejects out of the front seat of the aircraft. Many slides taken during actual combat in South East Asia will be presented. The primary objective of this presentation is to give any pilot who may need to develop his own emergency checklists a guideline as how to start, what to include and perhaps most important what not to include in his personal emergency checklists. Every pilot should at the end of this presentation understand the basic outline and philosophy of any emergency checklist he may use or come in contact with from a Cessna 150 to the Boeing 777. This presentation will be a fast moving condensed program taking about one hour followed by a half hour for questions.

Refreshments: Somebody volunteer please.

It's way past time for dues. 123 total members, 39 have not paid for 2006. Get your payment in to Norman at the next meeting, or mail it in soon.

NW Aviation conference - Member signup to work the booth, Ed will be there with his F104 racer, other ideas are needed to fill out the booth.

This months meeting was all about the new Arlington building program. Barb came and gave a nice presentation on the history of the Fly-In and where they are going next. Having just signed a 30yr agreement with the City of Arlington for use of the airport the Fly-In is now looking to expand and build buildings to house Fly-In functions.

They are always looking for new volunteers to join in the fun and help with setup & operations each summer. If you have never done it, come join in this summer.

Northwest Aviation Conference and Trade Show

Thanks to everyone who helped out...especially Smitty who organized our Chapter participation as he always does. And thanks to Charlie Suydam for bringing his Avid Flyer and Cliff Reed for his Kitfox, and all the volunteers manning our booth. Gordy and others demonstrate their sheet metal skills by making a toolbox. We attracted a lot of visitors and did a good job representing the homebuilding side.

Ed Shadle and crew looked spiffy as ever showing off the North American Eagle. That grand machine far outclassed everything else at the show.

From the Secretary

Tuesday, February 14, 2006 - 7:13 PM

Gordy called the meeting to order this month

Treasurer report from Norman. We have money in various accounts. Plenty it seems!

Visitors:

Mike Latta - Fly's a Cessna 180, looking at RV's or Antiques

Kent Johnston - Restoring a 1942 Stearman - with a Continental 220

Dwayne Millspa - RV7 working with Lance

Bruce Hughes - nearing the end of a Long-Ez project. Based at Western airpark.

Van's Mandatory Service Bulletin

<http://www.vansaircraft.com/>

Compliance requires safety wiring nuts on fuel pickup tubing inside both tanks, before the next flight. This applies to the flop tube and the regular pickup.

This seems like a horrible job, but people say it isn't that bad once you make up your mind to do it. Here at Thun Field, Brad Peltola completed the task on his RV-8 in one day without removing the tanks. A bit messy because proseal is involved, but I'm sure he feels better having done it. He said the nuts weren't loose but that the end of the flop tube, the heavy fitting that gravity pulls on, was not real tight.

I've heard of two cases where a loose flare nut fitting caused a problem. There may be more, of course.

First:

I totaled my RV-6 31/2 years ago due to this problem. There was 6.5 gallons left in the tank, not 3.5. I informed Vans about it and never received a reply. There was a short note in the RVator 2-3 years ago addressing this problem. It was done by a contributor, not Van's staff. I prosealed the nuts on my current RV-9.

Don Piermattei

Second: And this is the incident that precipitated the SB It's described here in three emails from the pilot, Ed Anderson.

I had flown for 5 years and one day that flop tube did indeed back off its fitting and I ended up doing a 12 mile glide which fortunately ended up with an uneventful landing on an airport. So even though I have really tighten that son of a gun, I will probably bite the bullet and safety wire according to the bulletin. Once is more than enough.

If your flop tube falls off you have approx 3.5 gallons that you cannot use in that tank (Rv-6A). After my flop tube fell off (I initially thought that it had hung up on something), I would fill that tank approx 1/2 full and while flying tried to rock the wings and shake loose the "hung up" flop tube. But, every time the fuel level got down to 3.5 gallons in that tank, the engine would start to sputter. I agree its hard to understand why an individual would not notice that he could not use the last 3.5 gallons and fly depending on it. I guess if you had burnt all the fuel in your good tank and expected to make it to the airport on the flop tube tank - it could catch you if it were the first instance after it had fallen off. While making the flights trying to "unhang" the flop tube, I always took off and landed using the other tank.

I finally bit the bullet and took the tank off, opened it up expecting to find the tube hung up - but, much to my surprise it was not hung up and (I had forgotten) I found that I had installed all the anti-hang fixes that Van suggested. Then I reached in and picked up the flop tube - really puzzled - until it followed my hand out the access hole. Came loose after 160 hours of flight time.

[Did you switch tanks?]

No, I remain a bit embarrassed to say I talked my self out of doing just that. My poor rationale was that I knew I had 3.5 gallons left in that tank and therefore the problem must be something else other than the lack of fuel. Of course, it turns out I DID have 3.5 gallons left - just couldn't use it. Having been talking with another pilot the day before about cases of the slosh compound peeling off and plugging fuel filters, I convinced myself that my fuel filter had plugged and therefore switching tanks would not do any good. Of course, if I had done what every instructor I ever flew with told me to do and switched tanks - it would not have been an event. I tell folks sometimes absolute knowledge is not necessarily a good thing. Had I been less certain about the fuel in that tank (I have a fuel totalizer) then I may have switched.

I am happy to say that the decisions make after that bad one were considerably better.

Ed Anderson
Rv-6A N494BW Rotary Powered
Matthews, NC

More on Tube Flaring

AN tubing fittings should be really 'snug' without acting like a gorilla. Somewhere (I don't remember where!) I saw some recommendations on torque...and they were surprisingly small. Also cracks and deformities in a flare are not acceptable, an understatement, to be sure.

Getting a good flare takes the same practice that good riveting does, and shares some of the same operations. I use a file to 'square off the end' of the tubing, making it flat, and removing most of the 'pinch' caused by the tubing cutter. I use the 'reamer' to further clean up the inside of the tube end. Making sure the cone of the flaring tool is centered in the tube, I turn the handle a little and back it off, much like using a hole tap. Sometimes I use a silicone lubricant, sometimes not. I know it can't hurt!!!

After the flaring tool bottoms out...think snug again take the flaring tool off and inspect the inside of the flare for cracks, the flare being off-center, and any scoring that may be there. If the flare isn't perfect make another piece.

Also, inspect the backside of the flare too, and the grooves left on the tube by the flaring tool. The nipple should slide up to the flare without any dragging. Dress the ridges a little if you need to.

Here's what I find (IMHO) screws up a flare: Cracks are caused by flaring too fast; give the aluminum time to flow a little, and leaving too much tubing sticking out of the tubing holder...along with not properly dressing up the end of the tube. Having the flare cone off center will pretty much guarantee a leak...which folks solve by using a pipe extension on their wrench and over tighten the nut. I've never really seen folks do that, but it's a good (bad) picture!

As for the problem with flop tubes in the tank. IMHO (and you need to remember that!) I can't for the life of me understand how a properly flared tube and properly tightened nut work their way loose. I'm sorry, but from my armchair-quarterback position, I think the nuts weren't properly tightened. I'm not familiar with the flop tube arrangement, so there may be something that I'm missing here. Do a simple test. Put flares on a piece of tubing...say 4" long, and tighten a flare fitting in each end. Hold one end in a vise and put a wrench on the fitting on the other end (not the nut!). Now turn the fitting (twisting the tubing). How much torque did you have to apply to make either fitting slip???. Whatta you mean the tubing failed???. OK. Now put a wrench on the nut (either one will do, but use the nut on the vise end). and tell me how much torque it takes to loosen the nut just a little. A lot? Hmmm. Now, ask yourself just where did all the rotational force come from to loosen a properly tightened nut???. Vibration???. Ya gotta be kidding. Vibration that would loosen

your flare fittings would be unmanageable, and your gyro based instruments would fail rapidly as an indicator.

Now, before you flame me, just remember that I'm making observations here. I'm not highly trained in tubing, flaring, tightening, just the 25 years of building, owning, maintaining an experimental airplane. It's so easy to forget to tighten a screw, nut, or any other type of fastener, while you're building or repairing or.... Just think of all the fittings in airplanes all over the globe and ask yourself what would happen if there was even a small percentage of fittings that loosen under use. They'd have places already drilled for safety wire, cotter pins, or some other safety method.

OK, now someone else can use the soapbox. All I ask is for y'all to be methodical and safe out there!!!

Linn Walters

IO-360B1B from Aero Sport Power

9.2:1 compression ratio

Airflow Performance Fuel Injection

Lightspeed Plasma III electronic ignition in place of right mag.

Constant speed Whirl Wind prop

[E Ign Adv] Electronic Ignition advance is mainly tied to manifold pressure (MAP). The left mag is fixed at 25 deg.

My airspeed and GPS read in knots but bragging is in mph. True airspeeds were derived from three-leg GPS runs. Ground track and groundspeed for each leg are entered as data in a spreadsheet to get the results. Since I don't have a laptop in the cockpit, I have to wait until I get home to calculate TAS. If you don't have that spreadsheet, I can send it to you.

I did a few "balls to the wall" runs at low altitude and got true airspeed, 222 mph at 18 gph. Scary because 3-way gps runs take time and the air was not smooth. Above VNE in rough air...I couldn't wait to get it over with. Anyway, not bad for a heavy RV-4 bristling with antennae.

jb

AUTOGAS LEGISLATION IN WASHINGTON STATE

Pilot action has turned the tide on Washington State ethanol-in-gasoline legislation. As originally drafted, both Senate and House versions would have required all automobile gasoline sold in the state to be blended with ethanol, making it unsafe and illegal to use in aircraft flying with autogas supplemental type certificates (STCs). AOPA supported local pilots who operate using the autogas STC by contacting bill sponsors and the Washington governor's office. The association explained the problems the bill would cause aircraft owners and gave committee staff examples of alternate legislation. The bill has been amended in the House to require only a small percentage of all gasoline sold in the state to be blended with ethanol. Sources in the Senate report that the Senate will concur with the House amendments and that Gov. Christine Gregoire is likely to sign the bill as amended. Washington is not the only state to look toward this more environmentally friendly blended fuel. AOPA, as it has already done in Montana, Idaho, and Missouri, and has under way in Iowa, will continue to advocate for the availability of motor gas without ethanol for use in aircraft.

Bragging Already

I now have 27 hours on RV-4 N474JB. Until recently, I was in the engine break-in mode and was running full rich at 25 squared or above. I got tired of the 14++ gph fuel burn so I declared the engine broke in and moved on. Here are the numbers at cruise when leaned to peak EGT at 2300 RPM.

<u>Altitude</u>	<u>MAP</u>	<u>E Ign Adv</u>	<u>TAS</u>	<u>Fuel Flow</u>
8000'	22.7"	31.3 deg	210 mph	9.6 gph
9500'	21.6"	32.3 deg	207 mph	8.9 gph
10,500'	20.8"	33.1 deg	206 mph	8.4 gph
12,500'	19.1"	34.6 deg	204 mph	8.1 gph
13,500'	18.9"	34.8 deg	204 mph	8.0 gph

Calendar

April 4-10, Sun'n Fun Fly-In, Lakeland Linder Regional LAL

June 10, Young Eagles Day – Thun Field

June 17, RV Fly-In, Scappoose (SPB)

June 30-July 2, Northwest Formation Clinic, Redmond, KRDM

July 5-9, **Arlington**, 35th Annual Northwest EAA Fly-In

July 22, Concrete (3W5) Fly-In [Date change...formerly May]

July 24-30, EAA AirVenture, Oshkosh (OSH)

August 18-20, McMinnville Annual fly-In. (MMV)

September 2-3, Van's Homecoming. Aurora State (UAO)

"Don't worry about the world coming to an end today. It's already tomorrow in Australia." (Charles Schultz)

End

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