EAA Mount Rainier Chapter 326 Newsletter

Thun Field – March 2008 111

Meeting Notice

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

Program: American Autogyro Sparrowhawk: Randy Coplen

Refreshments: Paul Yarbrough

From the Secretary

EAA Chapter 326 meeting - February 12, 2008
Jeff called the meeting to order this evening. Tonight's program is by Washington Search and Rescue. Refreshments were provided by Doug MacArthur.

Visitors:

Richard Heasty – Interested in Sport Pilot.
Gene & Deana Endsley – Run the paint shop on the field.
Ken Prusia – Has a 182, interested in RV7 & RV10.
Dan Mulkey – Building a Murphy Moose.
Tony Epperson – Building a KR2.
Peter Markus – RV9 tail kit.

Project reports:

Dave got his RV9A inspected and is ready to fly!
Kevin & Marv are installing the gear mounts on the RV9A
Randy is working on the wing skins for his RV8
Randy C is flying his Subaru RV7A – 75 hours thus far
Lance is cutting the canopy on his RV7 project
Rick G has resumed construction on his RV9 project
Ed is ready to continue test runs of the American Eagle project

NW Aviation Conference is coming up. Kevin & Smitty will bring their projects to the show. We have lots of people signed up to come out and talk with people and meet the public. Thanks for all the help from the volunteers.

Joe has been researching meeting locations for the former Ruby Tuesday's meeting. The plan is to start meeting at the RAM brewery near south hill mall. Last Thursday of the month, watch for the email announcement.

South Hill airport advisory committee is at it again. There are a number of issues being discussed with some good representation by a group from the airport & chapter. It's a constant challenge working with some community members that have strong opposition to continued operation of the airport.

It's time to pay up your membership dues for 2008. At only $15 for the year how can you go wrong? We are going to be purging the list soon, so if you want to continue to get the materials and join in make sure and get your dues paid to Norm.

Marv Scott & Jim Triggs are our flight advisors and are ready and waiting for your call. When you have finished your plane and you are ready to start planning for your flight, give them a call. They can walk you through a bunch of information and help you think through and plan your first flight. They are here to help you and give you the information you need to get ready to fly.

If you have ideas for upcoming programs, please contact Jeff and give him some help. We always need more program speakers and any help is appreciated.

John Siebold (WSDOT Aviation Director) & Tom Peterson (Coordinator of Air SAR)

The primary responsibility is for ELT response and search and rescue. They get the call from the emergency response center or FAA. They coordinate the training and organization of a volunteer group of people to man the search.

The funding for the program comes from the Aviation gas tax. Most of the money comes from turbine aircraft as they use the most gas! This funding supports the overall search and rescue program and future advances in technology and procedures.

WA State Stats for 2007

Aircraft Accidents	54
Fatalities	28
Full SAR Missions	4
Overdue Aircraft	6
ELT false alarms	94
ELT Missions	49
Misc request for air support	178

New technology used today includes Radar data, new mapping technology, and imagery. On the horizon, unmanned aerial systems, ADSB, 406 digital beacons.

Feb 1st 2009, the satellites will stop listening to 121.5 and 243.0 as they move over to digital beacons. The new system will be digital, it's 5 watts instead of ½ watt. They have a serial number to track it to you so they can call you for verification. It works to 30 meter resolution. Currently it costs about $1000 to replace your ELT with a new 406 unit. The change over is not mandatory right now so it's up to you to upgrade.

This year they got a new mobile command post. It's built in a 40ft trailer. This allows for on scene support with computers, communications, map plotting, all able to support the search and rescue missions in the field.

All of the members of the SAR program are provided with Air Crew survival training… a two day program of survival in the wild to help in any rescue situation.

SARDA – Search & Rescue Disaster Assistance includes aerial surveillance, aerial reconnaissance, initial damage assessment, status reporting. This program supports the state using aviation in the event of any natural disasters or other emergency incident.

Multiple groups are involved in SAR. USCG (Coast Guard), WASAR (Search & Rescue), CAP (Civil Air Patrol), CASARA (Canada SAR), WSP (State Patrol). Typical response includes 4 fixed wing aircraft and 1 helicopter.

Volunteering for WSDOT. Recruitment is based on regional need, time commitment, associated expenses, training costs, and volunteer utilization. With all the modern technology the needs have changed significantly. Many fewer people are needed now. Those that are used, are now targeted in specialized areas.

Entry level: complete FEMA IS-700 course and ICS-100 course. Current in first aid CPR, background check, pilot certs, driving records, and then fill out the applications.

Positions: pilots, observers, scanners, operations, planning, logistics, etc. Pilots need 200 hours, 50 hours xc and private with medical for a basic intro type 3 pilot. Primary preferred airplanes are Cessna 180, 182, 185, 206, 208. Must be standard category certified.

First Flight

Dave Vermeersch flew his RV-9A on Feb 16th with Harry Nelson as chase. Dave said it took a few approaches before he was happy with the glide path angle, but everything went well including the landing.

New carbureted O-320 from Van's.
Stock magnetos.
Sensenich fixed pitch prop.
Trutrak Pictorial Pilot wing leveler.
Dynon D10 engine monitor.
Falcon Gauge electric attitude gyro.
2-axis electric trim.
ICOM A-200 Com.
Garmin 327 transponder.
AVMAP EKP IV GPS/Map.
Angle-of-Attack.

Dave began building in March 2003, almost five years ago. He is a 126 hour private pilot. He got an RV checkout from Mike Seager and flew with Andy Karmy in Andy's RV-9A just prior to his first flight, same day.

Dave said he got a lot of help from Harry Nelson…every day after moving to the airport. Andy helped with panel electrical wiring. Charlie Cotton did the FAA inspection.

Congratulations Dave.

ELT

Something to think about.

You have a forced landing or crash somewhere.

1. Is your wingman is orbiting overhead?
2. Were you in radar coverage and receiving flight following?
3. Did you file a flight plan or tell somebody where you were going?
4. Did you even turn your transponder on?

Assuming none of the above, will your $200 ELT transmitting on 121.5 get you rescued? Maybe, but not very quickly. And we have to assume it is functioning like it's supposed to and the antenna didn't snap off and you're not upside down transmitting to China.

Satellites: The satellite network that detects ELT beacon signals consists of both polar-orbiting and geostationary satellites: seven polar-orbiting and three geostationary. Let's focus on their limitations.

First, there's the time factor. Even though a one of the geostationary satellites can detect an ELT signal immediately, it takes the polar orbiting satellites to provide location. This can take several hours. But with the new 406-Mhz ELTs, at least your identification is known immediately, and for models that include GPS…no delay.

Second, because of the wide frequency tolerances of 121.5-MHz ELTs they are only able to narrow the location of the signal down to a broad search area. This area can range in size from 12 to 29 miles on each side. The size of the box is huge, especially when the new-generation 406-MHz ELTs (with more power and tighter transmitter frequency controls) cut that search area to a box that's one to three miles per side. Then there are the 406-MHz ELTs that interface with aircraft-borne GPS equipment or that have their own internal GPS receiver and are able to transmit a GPS location. These ELTs narrow the search area to a football field-size box.

Third, is it a false alarm? Unfortunately almost all of these signals are false alarms. I have read that the average number of false alarms generated by 121.5-MHz ELTs in 2003 was 531 per month or 18 per day. Only 4 percent of the signals were transmitted by airplanes actually in distress.

Airliners: According to Terry O'Brien, "Yes, we are required to monitor "Guard" at all times unless we need the #2 radio for operational necessity. It is supposed to be monitored for intercept reasons, but it is often used when contact is lost due to incorrect frequencies, or just to relay for someone in oceanic airspace when an aircraft or controlling agency is unable to hear. In domestic airspace we often hear ELT's going off. As far as I know it is always reported unless the controller tells us it has already been reported."

FAA: Not much help from a crash site, but who monitors 121.5?
Seattle Center – No.
Seattle Approach – Yes.

Flight Service Stations – Yes.
Civilian Towers – No.
Military Towers – Yes.

Unless AOPA gets their way (unlikely), the satellites will stop listening to 121.5 in February next year, so unless you have a 405 Mhz ELT you will be SOL as far as help from satellites. We here in the USA won't be obliged to convert but that is a big question in Canada. Canada Air Transport intends to make it mandatory. Their pilots are protesting so it remains to be seen what actually happens. And even if 405 Mhz does become mandatory for them, will it be applied to us when visiting? I intend to fly there occasionally so I'll be watching how this shakes out.

I can understand why Canada, or any country, would like to mandate 405 Mhz. Canada seems to take search and rescue more seriously than we do, maybe because they have more remote areas. I could be wrong about that but here is my observation: in Canada you are required to file a flight plan and once filed, it is opened automatically. Here in the U.S. you don't have to file, but if you do it will not be opened unless you call to open it…otherwise the flight plan just expires and they assume you didn't takeoff. Just the opposite in Canada. Imagine the cost to the government (taxpayer) of searching hundreds of square miles when it could be cut to just a few.

Aircraft Spruce sells the Artex ME-406 for just under $1000. It does not have a GPS interface. If you are more interested in being rescued than satisfying FAA regs, then you can buy a personal locator beacon (PLB) with built in GPS for $650. These things must be activated by you manually…a crash wont. http://www.aircraftspruce.com/menus/av/elt.html

That brings to mind some other things you should do manually:

1. Fly the airplane.
2. "MAYDAY" on whatever freq you are on, and / or 121.5.
3. Squawk 7700
4. Press the red button on your ELT remote switch.

jb

Nitrogen in Tires

I filled my tires with nitrogen a while back and they don't leak down anymore… not much anyway, what a blessing. At the same time, I replaced my inner tubes with Michelin Airstop tubes, so I'm not sure what to credit for the improvement.

Curt Bryan also put nitrogen in his tires with the same result…very little leak down. But he too botched the experiment by further tightening the valve cores just to make sure they didn't leak.

Consumer Reports did a study on this by inflating 31 pairs of tires of various models to 30 psi. One of each pair had nitrogen, the other air. They were set outside for one year and then rechecked. They found that on average the air filled tires dropped 3.5 psi, while the nitrogen filled tires dropped 2.2 psi; a difference of 1.3 psi. Yes they were careful to measure pressure at the same temperature, etc., etc. I assume they were tubeless tires… not sure how that would make a difference but maybe it would. But even if you have a much greater pressure loss due to actual tire use, landing or braking technique, or whatever; there is only a 4.3 (four point three) percent difference in air vs nitrogen. Hardly even measurable it would seem.
http://blogs.consumerreports.org/cars/2007/10/tires-nitrogen-.html

Airliners and race cars use nitrogen too:

Air is a mixture of gases, not a gas in itself like oxygen or nitrogen; there is no such thing as a molecule of air. Air is 78% Nitrogen, 21% Oxygen, and 1% other stuff such as argon, carbon dioxide, neon, helium, hydrogen, methane and krypton, not to mention a huge list of pollutants and water vapor. The presence of water vapor in the air naturally dilutes or displaces the other air components as its concentration increases. Water vapor expands and contracts with temperature changes at a much greater rate than air. NASCAR teams use nitrogen because it allows them to more accurately predict tire pressure fluctuation. Nitrogen fluctuates with temperature change, but it does so less than when water vapor is present. The FAA requires nitrogen in all commercial aircraft tires to eliminate the potential for water vapor from freezing at high altitudes. Also, nitrogen, unlike oxygen, is not corrosive (no oxidation) and will not support combustion.

If you want to rummage around on the internet you can look into molecular weights, permeability coefficients, Fick's Law of Diffusion, Henry's Law of Solubilities, Graham's Law of Effusion, and other fascinating gobbledygook, to find out that O2 permeates faster through rubber than does N2. So if that is true, and you keep filling your tires with air, and the oxygen keeps leaking out faster than nitrogen, wouldn't you eventually end up with mostly nitrogen anyway?
jb

Record Turnout at the RAM

Even with a few of the regulars missing, we had 34 people show up for dinner at the RAM restaurant. Seating was a bit awkward but next month we will have a dining room of our own. Food was good, service okay, noise deafening. Not sure why it seemed so noisy, hopefully the dinning room will be quieter. Check it out.

New EAA Online Calendar of Events

It's the world's largest aviation calendar! There is now one comprehensive listing of aviation activities that is designed with the pilot in mind: EAA's new online calendar of events - the world's largest - featuring more than 1,000 events from throughout the aviation community. This calendar, open to all aviation EAA chapter meetings, pancake breakfasts and Young Eagles rallies, to local fly-ins, safety seminars and airport open houses. Go to the calendar

end

Chapter 326 Staff

President	**Jeffrey Liebman**	**253-531-6123**	
Vice President	**Robert Barra**	**253-988-2676**	
Secretary	**Andy Karmy**	**253-333-6695**	
Treasurer	**Norman Pauk**	**253-630-6396**	
Newsletter Editor	**John Brick**	**253-846-2617**	**jebrick@comcast.net**
Photographer	**Drew Karmy**	**253-333-6695**	
Webmaster	**Andy Karmy**	**253-333-6695**	

Young Eagles Coordinator	**Lance Newman**	**425-413-1764**
Technical Counselor	**Harold Smith**	**253-752-5480**
Technical Counselor	**Charlie Cotton**	**360-893-6719**
Chapter Flight Advisor	**Terry O'Brien**	**206-244-3619**
Chapter Flight Advisor	**Jim Triggs**	**360-438-1482**
Chapter Flight Advisor	**Marv Scott**	**253-691-5496**
Program Coordinator	**John Brick**	**253-846-2617**
Biographer	**Vacant**	
Property Custodian	**Vacant**	

Chapter 326 Website http://www.eaa326.org

EAA Mount Rainier Chapter 326
C/O John Brick
8304 242nd St. E.
Graham, WA 98338