



Left Seat: Hot Enough?



Having lived in the Northeast (New Jersey), Mid-Atlantic (Maryland), and west coast (California and Washington state), I can say without any reservation that Tennessee really

knows how to put the simmer in Summer. We just emerged from the hottest June in the past 57 years, and aren't even to the dog days of August yet. This reminds me that every year Mother Nature thins the ranks of pilots by picking off a few stray souls who forgot about Density Altitude and the effects of heat and humidity on aircraft and human performance.

Lots of familiar aircraft, such as Cessna Skyhawks and the lower end Piper Cherokees, don't exactly leap into the sky even with cool temps and moderate loads. They are acutely susceptible to density altitude effects that can mean the difference between a routine flight and moments of sheer terror. I had a talented CFII as a teacher in San Diego who put three friends into a Cherokee 140 and attempted to depart from Lake Arrowhead in the California mountains on a summer afternoon. They didn't clear the trees at the end of the runway and nobody survived. So sad, but a strong reminder that the best and most experienced pilots can misjudge the capabilities of their aircraft in high

density altitude environments. Experimental aircraft have performance envelopes all over the place, from barely enough to loose the surly bonds, to stand-on-your-tail and climb straight up (and yes, Steve, that is a reference to the MX-2!). Tennessee has more rolling hills than mountains, but it sure has its share of short and soft airfields surrounded by obstacles. Stay safe, don't let Mother Nature steam you into an unsafe situation!

In this issue we have a couple of articles that remind me why our Chapter is such a fun and interesting group to learn from. Peter Cassidy tried an experiment of process for last month's meeting, having a group discussion instead of a pre-prepared talk on the subject of what makes sense for survival gear to carry as a pilot. Marty Keller is the proud papa of a newly-minted RV-12, and he offers his experience with the training that is available to qualify one to do maintenance on Light Sport Aircraft. Reading Marty's article reminded me that another thing I need to put on my RV-12 to-do list is to take the repairman's course so I am legal to change the oil in the airplane I built!

July is Oshkosh month, and it looks like there will be a variety of new and interesting aircraft to see there this year, along with lots of the friendly and familiar things that make it such a grand celebration for people who like aircraft and flying. Before the Big Show, we will be having an interesting chapter presentation by Jacky Winters on using flight simulator software to sharpen your pilot proficiency. That will be on Wednesday, July 21 with a light dinner at 6:30 and the program at 7:00. Hope to see you there!

Dan Masys

On the Horizon: Calendar of Events

EAA Chapter 162 meets on Wednesday evenings--generally the third Wednesday--of each month.

Date	Topic	Location
July 21	Using Flight Simulator Software for Pilot Training Jacky Winters	Hangar 444, JWN
July 26 – August 1	EAA AirVenture	Oshkosh, WI
August 18	Stephen Port's Rans S-6 Coyote project	Stephen's Auto Paint & Body shop, 715 Main St. Nashville

For more details see www.eaa162.org.

Sharing Our Knowledge and Wisdom

We are each a treasure trove of knowledge and wisdom—more than we realize and in areas we often don't expect. Our life experience and view of situations are unique and can be valuable to others. We saw this at the June 16, 2010 EAA 162 meeting where we had a good, moderated discussion of post crash survival. None of us were “experts” on the subject, but collectively we knew a lot and there was free sharing of good useful information. Here are some of the things I came away with.

I have a nice compact 406 MHz PLB (Personal Locator Beacon). It's the Fast Find model made by McMurdo. I keep it in the glove box of my aircraft and have a placard on the glove box door saying essentially “PLB Inside” in the hope that passengers will find it in an emergency. The concern with this arrangement is that in a real emergency people are not thinking clearly and could easily miss the fact that it's there or have trouble finding it among the other stuff in the glove box. Someone offered a great suggestion to mount it on either the pilot or copilot seat back where it will always be in plain view and easily reached; like the way we locate fire extinguishers around buildings.

We talked about where to buy survival gear. We need reliable sources that understand our needs, have quality products at a reasonable price. I've been doing most of my shopping online, often paying more for the shipping that the product is worth. It was pointed out we have a great local source in REI. If you go to the backpackers section you'll find all manner of items that are efficient, light weight and low cost. I often shop at REI, but I've never paid any attention to that section of the store because I'm not a backpacker. A couple of things I've added to my REI shopping list are a hand-operated water filtration system to clean up water, and a solar charger to keep my portable GPS and my cell phone operating.

One more example. When my wife and I fly over large bodies of water like the Great Lakes, we carry inflatable life jackets. Canadian air regulations require it and it's good practice. What we don't do is put them on before each crossing as the experts tell us we should. We figure it's too much bother. What this means is that unless we make a smooth landing on the water and the plane floats for a few minutes giving us time to put them on, they are pretty much useless. An alternative suggested would be to carry a couple of swimming pool noodles. They are cheap, light weight, can sit comfortably on top of stuff where they are readily accessible in an emergency. Just grab one and hit the water.

Thanks to all who came and so willingly sharing your thoughts and insights. I benefitted immensely and I trust others did as well.

Peter Cassidy

Light Sport Maintenance 120 Hour Course Review

Following an early retirement from IBM this past May, I took the opportunity to attend the Light Sport Repairman Maintenance course from Rainbow Aviation in Corning, CA. This is the 120 hour course (3 weeks) which is the minimal training needed to perform maintenance and inspections on SLSA (Special Light Sport Aircraft).

The maintenance and inspection requirements for LSAs may be a bit confusing. The light sport rule created two new categories of aircraft with very different maintenance requirements. Experimental Light Sport (ELSA), like the RV-12, are similar to amateur built aircraft and do not have restrictions as to who performs maintenance, repair or even modifications. However, annual inspections must be done by an A&P or a person holding a Light Sport Repairman Certificate with an Inspection Rating (LSRI). A person may obtain an LSRI certificate and maintain and inspect any E-LSA that they own, whether they built it or not, by attending an FAA approved 16 hour course. Unlike the amateur-built repairman certificate, the LSRI is not tied to one specific aircraft, but is good for any ELSA a person owns or purchases in the future.

Special Light Sport (SLSA) are turn-key, factory built aircraft built in accordance with ASTM standards and are required to be maintained by these standards. This includes annual inspections as well as 100 hour inspections if used commercially (instruction, towing, etc.). All SLSA maintenance and inspections must be done by an A&P or a Light Sport Repairman with a Maintenance Rating (LSRM). A person can obtain a LSRM certificate by completing a 120 hour FAA approved course, which is the course I attended. I now have the privilege of maintaining and inspecting any SLSA or ELSA.



The author with his new RV-12

One other key point: all SLSA maintenance must be done in accordance with procedures developed by the aircraft manufacturer. That means if a procedure is not documented in the manufacturer's

maintenance manual, it cannot be performed without a Letter of Authorization (LOA) from the manufacturer. For example, replacing a battery with a different brand other than that specified by the manufacturer, requires an LOA !

Many times the maintenance manuals will refer to other manufacture's manuals, as in the case of the Rotax engines. Rotax states that engine maintenance, even an oil change, cannot be done on an SLSA by anyone – even an A&P – unless they have completed a 2 day Rotax maintenance course. (The Rotax course was included in the LSRM course). So, the maintenance manuals need to be studied carefully.

Back to the course.....3 weeks is not a lot of time to become an experienced aircraft mechanic. However, the instructors, Carol and Brian Carpenter, did a superb job in presenting a lot of material in a short amount of time. The course is limited to 16 people (we had 14) and is split 65/35 in classroom and workshop time. Attendees were from all over the world and US (France, England, Hawaii, etc.), so the group enjoyed a lot of different perspectives. Very few (3 or 4) of us had any plans to do this work for hire – most were there so that they could maintain their own SLSAs.

Two to three days were spent getting an understanding of regulations, the ASTM standards, an overview of what a LSRM can / cannot do, and some basic skills. This included use of manuals, researching Safety Directives and ADs, documentation requirements, and some simple tools review (safeying practices, hardware identification, proper torquing, etc.)

The remainder of the course focused on the annual inspection – what to inspect, what to look for and how to perform basic service and maintenance:

- Weight, balance & loading
- Fabric inspection and repair
- Wheel bearing inspection and repack
- Brake inspection and repair
- Mag and electronic ignitions
- Metal repair
- Prop inspection and repair
- Aircraft rigging – landing wires, flying wires
- Compression checks

Composite structures and repair
 Corrosion cause and prevention
 Fluid lines & fittings
 Electrical inspecting and troubleshooting
 Engine inspecting and troubleshooting
 Servicing of oil & fluids
 R&R of engine components (plugs, carbs, fuel pumps....)
 Carburetor synchronization

After an hour or two in the classroom for each of these topics, we broke into teams for some hands on work. Being a busy aircraft repair shop, there were several airplanes to work on. So, we did compression checks, weight and balance, serviced landing gear and performed a Rotax carb sync on real aircraft. They also have a lot of discarded aircraft parts / pieces that we worked on – tested fabric and repaired fabric tears, repaired prop dings including wood, metal and composite, and repaired holes in an old Cessna fuselage.

And now for my plug...I am now working with Cardinal Aviation and have set up Light Sport

Aviation Services, LLC in Murray, KY. With my RV-12 and Apis glider building experience, the LSRM training and the support of the A&Ps at Cardinal Aviation, we can provide inspections, maintenance and repair for any LSAs, including Pipersport, Flight Design, Tecnam, Jabiru and others.

I was very impressed with the course presentation and the wealth of knowledge that both Brian and Carol Carpenter shared. Carol participated on the ASTM committee which created the LSA category while Brian has been an A&P IA for 25 years. Their combined experience and teaching styles made for a very enjoyable and informative 3 weeks.

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Sightings: Ever have one of those days when your tail is dragging?





Experimental Aircraft Association Chapter 162

MEMBERSHIP APPLICATION

Type (circle one): Reg Member \$30 Senior (65+) \$10.00 Youth \$10.00 Info Correction Only

Date: Name you would like on Badge:

Name: Last First Initial Spouse

Address: Number Street City State Zip

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E-mail:

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EAA National: Membership Number Expiration Date

Occupation: Retired

FAA Ratings:

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