



Winnipeg Area Chapter of RAA Canada

March 2015

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NEWSLETTER: Bob Stewart Box 22 GRP 2 RR#1 Dugald, MB R0E 0K0
Phone: 204 853-7776 Email: stewart@mynetsnet.ca

CALENDAR OF EVENTS

March 26, 2015

Discussion on Electric aircraft **(please note this is one week later than our regularly scheduled meeting)**

April 16, 2015

Still up in the air

May 21, 2015

Still up in the air



Electric Planes [E-Planes]: Future or NOW?

Please join us March 26, Springfield Flight Centre for a presentation and discussion on electric aircraft.

(introductions at 7:00 pm)

Lyncrest Flight Centre

Lyncrest Airport, 57119 Murdock Rd north of Tinker Town

Randy Rauck - Electric Ultralights

Art Breier - E-plane RAA builder

Jim Oke - E-Gliders

Dennis Jacobs - E-Pietenpol

George Bye - CEO Aero Electric

Robert Elms - MB Electric Vehicle Association (MEVA)

<http://www.wired.com/2015/01/electric-airplanes-future-pilot-training/>
Everyone Welcome

Upcoming Events

1. RAA Final Assembly Workshop – Heated Hangar space – \$200 for small aircraft (\$150 for summer months). Contact Ben Toenders (btoenders@shaw.ca). Long-Term and Short-Term Rentals welcome. Space available now.
2. Rent an Igloo for your birthday/retirement party or committee meeting (electric outlet available)- \$70 for a night or day – some nights already booked and only available till it gets too warm]
3. March 21 Gilbert Bourrier Model Building Workshop 9:30 – 3:00, Lyncrest Flight Centre Lyncrest Airport 57119 Murdock Rd. \$20/adult-youth couple. Includes model, all materials, instruction, Theory of Flight demonstration, hot chocolate and hot dog lunch. Register at jill.oakes@umanitoba.ca

Harvey and Nancy McKinnon in Florida

Harvey and Nancy finished their beautiful RV 8 last fall and Harvey flew off the mandatory 25 hours. In January, they left for Venice Florida and arrived there in less than 10 flying hours. Harvey plans to write about his building experience and flight to Florida in our April and May newsletters.



Harvey and Nancy McKinnon arriving at the Sebastian Airport Florida. There are at least 3 airports within 15 minutes Of the Sebastian airport.



Their welcoming committee: John Blackner, Nancy and Harvey, Bob and Darlene Stewart, Tom and Joyce Stoyka Jack Neima took the picture



Inner coastal waterway otherwise known as the Orange River, the Atlantic is just on the other side of the string of islands at the top of the picture

I KNOW NOW WHAT I DIDN'T KNOW THEN by Barry Meek

We've all said it before. "If I only knew then what I know now". Some people would never have bought a Cessna, or a Piper, or a Taylorcraft, or started building an experimental airplane. Some would never have owned a Fiat, or a Yugo. Others would have never married. Or had children.

But life is all about learning, making mistakes, getting wiser, living. Anyone who has never made a mistake, never made anything. The best teacher after all is said and done, is experience. Now I know why my boss was always preaching to check the fuel caps. That's another story. I've learned a thing or two about aviation, and for the most part it's been from experience. Fortunately, I'm still here to talk about it.

Every day I hear student pilots on the radio broadcasting their positions and intentions, and I think to myself how boring it must be to be flying around going nowhere. But in fact, this is the time in those student's lives where they will learn the basics of flying, where they won't be allowed to bury their mistakes and hide them from instructors. Later in their careers, the material they're learning today will begin to fit together and make sense as it's applied to the real world of aviation. They will learn the shortcuts, the items that are important and how to avoid mistakes. Whoever it was that said a pilot's license is a "license to learn" was right.

There's more to being a pilot than flying an airplane, just as there's more to parenting than having children. Think back to your own early flying days. Wouldn't it be nice to have known then the things you know now? Hindsight. Experience. Wisdom. Call it whatever you like, but we all eventually gain from it. I've made bad decisions, said things I wish I hadn't, I've seen airplanes damaged, seen people die, sometimes friends. I've guessed at the remaining fuel on board, about the weather and the length of a runway. And I've even left a fuel cap off.

I would venture to say that everyone has a part of their past they're not proud of. The important thing is to believe in yourself and make the most of those mistakes. Analyze and process them. Learn from them. Many times I've thought that wisdom comes with age. It stands to reason that the older we get, the more time we've had to make more mistakes. Naturally we get a whole lot wiser.

I've never built an airplane. Never owned a Fiat. Never flown a jet. Some things were obviously not a good idea. For me. Somehow I just knew that. For some people, it requires a first-hand experience.

There comes a time in life when you're comfortable with what you know, what you've done, and most important, with who you are. All that could come much sooner but it's only now that I know what I didn't know then.

bcflyer@propilots.net

Keeping Batteries Going



There will be owners who say they have aircraft batteries that are five or more years old and it still cranks just fine. Chances are they live in a warm climate, don't ever worry about having an alternator failure and have some good luck. Some use proper aviation battery chargers, but probably not. Hopefully, these owners don't fly IFR.

Our staff IA just replaced his Concord AGM in his twin and it was over five years old. While it never failed and he rarely flies IFR any more, he knew he was pushing it. To me that is the real decision maker—do you fly IFR? If you fly with an old battery, IFR flying could be risky business. If you have solid partial-panel instrument skills, plus portable nav and comm equipment (and are proficient with them under stress, with a minimal panel backup of just vacuum instruments or less), that could make a difference on how neglectful you can be of battery age.

If you remember one thing from this article it's that battery voltage is a meaningless indicator of how long a battery will last when it is the only source of power on the airplane. That's because two-thirds of the plates in the battery could be sulfated over and the battery voltage would look normal after a charge—probably close to 13 volts. The only warning may come if you let the plane sit two to three weeks. It may not start the engine unless it fires one or two turns of the prop, in warm weather.

I was in the "don't replace what still works camp" on batteries 30 years ago, and was at the five-year point when my alternator quit and my five-year-old battery failed five minutes later, while in solid IFR conditions. It had never failed to start the engine (but I had never asked much of it beyond cranking two or three blades). I lived in southern California and flew IFR nearly every flight, often at night. Then it finally happened, and as luck would have it, I was in solid IFR conditions at night over Los Angeles. I immediately started shutting down nonessential equipment, leaving one navcomm for communications and for flying the approach, plus the transponder. (No handheld GPS then, but the handheld radio did have a VOR and I had three small flashlights).

Getting the high current load off a battery when the alternator lets go is extremely important for keeping electric panel instruments alive as long as possible, even for a good battery. Since I'm writing this I obviously made it, but the battery (and the panel electronics it was feeding) went out so fast because the battery was way past its "reliability" date. While I made a partial panel approach with the handheld VOR, the event scared the pants off me. I thought batteries were supposed to last 30 minutes—at a minimum. They often do if you maintain them properly and monitor them with capacity checks, at least after they are a year old.

Part 135 operators have a required schedule of capacity checks to comply with. Today, battery failure is arguably safer and you might get away with pushing your luck if you have a modern portable GPS with a flight instrument display, a handheld transceiver (preferably with an external antenna switch) and you know how to use this portable equipment without the aid of the autopilot, if it draws any power. Hopefully it won't happen at night like it did to me. I had three

pilot/passengers to help with the flashlights. There were four sets of knocking knees on that Wednesday night sojourn.

Real World



Both of our last two Light Plane Maintenance magazine battery tests, as well as on-line surveys conducted by Aviation Consumer magazine of over 500 owners, show that aircraft batteries commonly last two to three years for reliable operation. The reasons for this short life are straightforward, but there are things an owner can do to optimize and lengthen useful battery life.

The first problem with aviation batteries is the marginal size and capacity for the job in order to keep battery weight down. Aviation batteries are much smaller with less capacity than an auto battery, yet it is often starting an engine with twice the displacement, with more oil that's two to three times as thick to churn through.

As a result, an aircraft battery has to discharge substantially more of its capacity to start an aviation engine than the typical automobile engine. It's a given fact that the more deeply you discharge a lead acid starting battery beyond a very minimal starting burst, the shorter its life, all other things being equal.

Next, being a chemical beast, a lead acid battery slowly self-destructs from non-use as it spontaneously self-discharges with the simple passage of time. Frequently it is not fully charged from the typical short flights of today's aircraft users, so it sits between flights in an already partially discharged state. The more time a battery spends partially discharged the faster it becomes permanently damaged and loses capacity.

It commonly takes two hours to recharge a battery during flight with a properly adjusted charging system. Charging system voltage that is either too high or too low will slowly and permanently damage a battery and shorten its useful life.

The third factor is improper care of the battery by the owner. The worst thing is to not use a battery charger when the plane is not flown at least once every few weeks. But the next worse thing is to not use the proper battery charger. That's right, using the wrong charger in some cases can be more harmful than not using a charger at all. How can this be?

First, high charge currents are bad—even the common 10-amp auto charger is too much current for a healthy charge cycle of an aviation battery. Also, any prolonged time (more than overnight) that a battery charging voltage stays above 13.2 (or 26.2) volts (in a trickle charge mode) the battery will slowly dry out. Use a charger designed for aircraft batteries and with a trickle charger under 13.2 (or 26.4) volts, and max of 14.6 (29.2) volts.

So, mandatory or not, you should periodically test the battery per the maker's guidelines, also known as a capacity check.

A version of this article appeared in the December 2013 issue of Light PlaneMaintenance magazine.

**2015 Membership Form
Winnipeg Area Chapter RAA**

Full \$25

Required Information

Name		OFFICE USE ONLY
Mailing Address		Renewal Date
Phone(s)		Chq. Cash Other
E-mail		Initials
Are you an RAA national member? ⁽¹⁾	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you give permission for your information to be made available to other Winnipeg RAA members?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Optional Information

Do you own an aircraft?	<input type="checkbox"/> Yes <input type="checkbox"/> No Make/model: Registration:	Are you a member of other aviation groups?	EAA: <input type="checkbox"/> COPA: <input type="checkbox"/> Others:
Are you building or restoring an aircraft?	<input type="checkbox"/> Yes <input type="checkbox"/> No Make and model of project(s):	What Pilots licences and ratings do you hold?	

RAA Winnipeg contributes \$15 per member towards the insurance program maintained by RAA national. This program provides liability insurance to cover local chapter events.

**Please make cheque payable to: RAA - Winnipeg Chapter
Mailing Address: RAA Winnipeg Chapter c/o Harold Kroecker
217 Niagara St. Winnipeg Mb.
R3N 0V1**

Note: Your membership fee to the RAA - Winnipeg Chapter does not provide membership in National RAAC.