



# Carb Heat

## May 2013

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Next Meeting: Thursday May 16 at 7:30 PM  
Bush Theatre  
Canadian Aviation and Space Museum

Presentation:  
*Sun'n'Fun review*  
by Victor Thompson

## Editor's Comments



This month as usual, Cary Beazley presents the President's Message. This month, it is complemented by

a collection of pictures from the events described. Wayne Griese brings us a historical look at Carb Heat.

Alfio Ferrara continues his Gadget Corner, with an article on fuel problems. He also offers a reminder to those who have not yet paid their dues for 2013 and a new paying method.

There are increasingly more listings for flyout possibilities. And check

the For Sale section where there are great opportunities listed.

We need more stories and information to pass on to our readers. If you go to fly-ins, take notes, pictures and write a short article so others find out what they missed.

*Yvon Mayo*

## President's Message by Cary Beazley



We seemed to have skipped spring right into summer this year.

As per usual, our schedule is filling quickly.

### **EAA Chapter 245 meeting Carleton Aeromech tour Apr 18th - 6:30pm**

The Carleton Aeromech Society hosted a tour of their facilities last month and it was well attended with over 30 attendees for an off-site meeting.

The timing was a bit unfortunate as a lot of the students were still writing exams – I personally don't miss that part of student life.

<http://www1.carleton.ca/mae/>

As expected, mustering the members was fun without precise GPS coordinates ;)

We started at the Mackenzie Engineering Building (ME3124) for a meet, greet and intro. This was followed by a hike across Campus to the Minto Center for the first item and back to Mackenzie for the next two:

- Carleton Engineering and Ottawa Aviation Services Diamond Katana Simulator;
- Pratt and Whitney Canada, High Speed Wind Tunnel for some; and,
- 4th year UAV and CUSP sphere simulator project.

Then back to room 3124 of the Mackenzie Engineering Building for a quick EAA chapter meeting.

Talking to some of the host presenters, they had not seen some of the labs either and joined the tour to see the 4<sup>th</sup> year UAV and CUSP projects lab.

Nice lab, CNC hot wire foam cutter, fire pit, some nice coupon structural test equipment, helibits and various projects strewn about.

I want thank Kyle again for organizing and hosting the tour.

I also wanted to thank the Carleton Mechanical and Aerospace Society for hosting as well and all the volunteers for staying late to do the presentations:

Kyle, James, Lucas, Prof. Rob Langlois, Suzanne, Curtis, Chris,



Cary and Kyle addressing the Chapter

Photo Credit: Yvon Mayo



Diamond Katana Simulator

Photo Credit: Yvon Mayo



Photo Credit Yvon Mayo

Mitch and Jacob. Forgive me if I've missed someone.

I hope we didn't disrupt anyone's exam schedule.

I would also like to wish Kyle and James luck in the next glider competition. Perhaps we will even see them on flugtag day hurling themselves and a contraption off a ramp?

I have extended an open invitation to Carleton Aeromech students and faculty to drop by our meetings or the Carp airport EAA clubhouse for our informal Sunday coffee gatherings and say hi.



Photo Credit Cary Beasley



Photo Credit Cary Beasley



High Speed Wind Tunnel

Photo Credit: Yvon Mayo

## Renfrew Builder Visit Sat Apr 27th

I want to thank Grantley Este and Victor Thompson for organizing the latest Renfrew Builders visit.

We had a relaxed start with a hardy brunch at the Renfrew Santa Fe restaurant.

For this tour, we paid a visit to Jack Faught's hangar. We had fun checking out his almost complete Murphy Moose, his really well-equipped shop and a quick look at the strip behind. He has a nice M-14P installation ready to go with a creative cowl and a turbo-Subaru 6-cyl project in the corner. A lot of questions were also directed at the very nice design, construction and insulation of the hangar itself.

And for all of you diabetics that did not attend – good thing - his wife literally put together a table of tasty treats, pies, deserts, coffee and other refreshments.

For those that survived, we moved on to Reg Leblanc's to see the (3+) coot projects he is working on. One is very close to flight, another is largely done structurally and he

has spare parts for more still if you are looking for a coot or coot parts.

He also showed us some weight saving retract mods, his radio control toys and wankel project bits.

A few stragglers made it to the Champlain Flying Club for a quick tour.

I want to thank Grantley for setting up the tour and to Jack, Jack's wife, and Reg for their very hospitable aircraft show and tell. Grant please remind them to drop by our meetings and Chapter if they are in the area.

## Young Eagles Flyday and Canada Day at the CASM

We're looking for additional volunteers for these events again this year.

## Around the Patch

Colin McGeachy dropped by the chapter and took Dwayne price up for a flight in the NanChang recently, I think he liked it?

A number of people gathered and loaded up all the cans into the

trailer – thanks to everyone who helped.

I also want to thank the group for filling in some of the low spots and ruts with gravel – Martin Poettcker, Dwayne Price, Curtis Hillier, Mark Briggs, sorry if I missed anyone.

Ken Potter installed and replumbed a new water pump – thanks Ken.

It sounds like there was a movie shoot at the Carp around Helicopter Transport recently – did anyone get Cameo's?

## EAA 245 Club Stuff

Sunday morning get together continue @10am at the Carp EAA hangar. See you there.

Many Chapter members get together for dinner prior to each EAA 245 meeting at Swiss Chalet (corner of St Laurent Blvd and Montreal Road) @ 5:30PM. Everyone is welcome.

See you out there.

*Cary*



## Renfrew Builder Visit

These pictures were provided by Cary Beasley.



## EXHAUST – from the Carb Heat Archives



**30 YEARS AGO**  
**May 1983**

Unfortunately, we do not have archives for the May 1983 newsletter. If you have a copy, please send it to me for future reference.

**20 YEARS AGO,**  
**May 1993**

“EAA Chapter 245 had another TV exposure recently, this time with the CBC which was first aired on Friday May 21st on channel 8.” reported Chapter President Gary Palmer in Carb Heat. “The star of this production was Lars Eif and his Skybolt project, with a small flying sequence featuring Rod Emmerson in his Teenie Two, and Lars and myself in the Lancair 235. George Elliot did the honours this time as camera ship pilot. After Marty Tate's excellent primer on basic formation flying, Rod took his advice at face value, and planted himself six feet off George's wing tip. I am not sure how comfortable George was, but Rod seemed to enjoy himself immensely. Lars and I were not

quite so brave, mainly because the Lancair was definitely in the slow flight regime at gross weight as we tried to keep up (down?) with the C-172. From my perspective, the most important part of Marty's advice, is fly with a comparable performance aircraft at a comfortable airspeed, properly trimmed; not easily done with the Lancair and a C-172 in the hands of formation novices. A special thanks to those who showed up even though they weren't included in the finished product (Andy Douma, Keith Davidson, and Charles Martel).

[wayner@igs.net](mailto:wayner@igs.net)

*Wayne Griese*

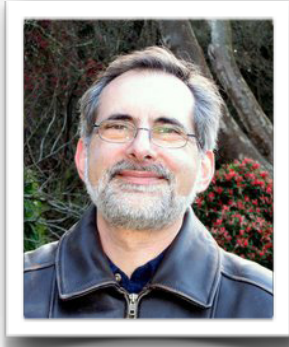
### Upcoming 2013 Chapter Events

01 June	Chapter clean-up and maintenance day at the Carp airport Chapter
15 June	Young Eagles Fly day
01 July	Canada Day at the Canadian Aviation and Space Museum
11 August	Open House Day at the Carp Chapter

### Meeting Schedule

16 May 2013	Subject: Sun'n'Fun review. Victor Thompson CASM Museum - there may be paid parking in the parking lot now.
15 June 2013 10AM	Subject: Aircraft Glass Panel comparisons - presentations with aircraft on site for a show and tell. Presenters will be named later. Location: Carp Chapter Hangar
20 July 2013, 11AM	Helicopter Transport Services Canada 11am Tour down Bravo taxiway followed by a BBQ
August 2013	No meeting
19 September 2013	Makerplane - John Nicol Location Change: back to the museum
17 October 2013	Spl'Oshkosh review

## Gadget Corner by Alfio Ferrara



### Was it the Automotive Winter Fuel?

This month's Gadget Corner topic is pre-empted by an event that happened the evening of Thursday May 2<sup>nd</sup> with our Vans Aircraft RV9A at Carp. During the takeoff roll, just as we were airborne (maybe 10 ft off the runway), the engine started sputtering, and I noticed that the fuel flow was indicating 20 GPH (typically about 12 to 13 GPH at takeoff). I cut the engine power, and we landed but with a little too much energy to dissipate, and thus little weight on the wheels. Braking was ineffective for quite some time until the airspeed bled off enough. You see, one of the great features of the RV9A is its wing profile. It will take off and stay airborne with little power when at low speeds. In this situation, this feature worked against us. We managed to slow down in good time, so no damage to persons or plane, but a change of underwear was in order.

We had just topped up the fuel tanks with 70 liters of 91 octane automotive fuel (from the nearby Shell gas station), the rest of the 80 liters being mostly 100LL. The ambient air temperature was fairly

warm (about 25° C) and we had a longer taxi/run-up time than usual. We made the usual long taxi to taxiway Bravo and did a run-up. After lining up for takeoff on runway 28 (cross wind), I realized I had forgotten my homemade foggles (stay tuned for a future construction article on this item), and taxied back to the hangar to get them. We shut the engine down for a few minutes, and then continued back to the runway via taxiway Alpha. The winds had changed slightly and was now favoring runway 10. As we were rolling out, all seemed normal, except for maybe a slight slow takeoff roll. I thought it was due to my passenger's weight (sorry Mark) as compared to my usual flying with Shirley. Fuel flow was in the red and then the engine sputtering... and the decision to cut the engine power and use the remaining runway for the landing. I always taxi and takeoff from the end of the runway, and not from an intersection. This really paid off this time. A different outcome might have ensued had I not taken the full runway length for the takeoff.

One thing I could have done better is to keep the airplane in a greater stall attitude once the tires were back on the runway so I could induce more drag from the wings. I did not shut down the fuel valve or electrics (that would have been a good idea), however my full focus became flying and slowing the aircraft. My passenger indicated that he new the over run area was smooth. Nevertheless, it was a good thing we stopped with no damage.

We subsequently returned to the run-up area on Bravo and repeated the run-up. The engine was well soaked in heat by now, and we saw fuel pressure of about 1 PSI (it is a carbureted engine and should have been in the 5 to 6 PSI range) with the auxiliary fuel pump off, and about 5 PSI with it back on. The earlier takeoff was performed with auxiliary fuel pump on. Engine sputtering was not observed during this run-up, but we decided to proceed back to the hangar and call it a day. I had already decided that we were going to remove all the fuel from the tanks, and perform an annual inspection of the aircraft.

I attempted to repeat Thursday's conditions on Saturday with long taxis and run-ups, and managed to recreate the 1 PSI fuel pressure indication with the facet pump off. With it on, it went back up to 4 or 5 PSI, but I could hear the (auxiliary) Facet fuel pump cavitating. Otherwise, engine did not falter or sputter during the run-up. Did some fast taxi tests, however I did not risk getting airborne to test the faltering engine symptom.

Back at the hangar, the fuel was retested for traces of water or ethanol, and the results were negative. I performed some rudimentary tests on 100LL and the suspect fuel mixture. I used a syringe and filled it with 1/5 fuel, then connected it to a mercury manometer. The syringe was pulled to create a vacuum containing 4 parts of vapor for 1 part of fuel. A little shake on the syringe allows the pressure to stabilize. The measured results are

19cm of Hg for 91 octane, and over 32cm of Hg for 100LL. The 91 octane fuel mixture boils at a lower vacuum gauge reading than for the 100LL. [This is not Reid Vapor Pressure (RVP) as defined for gasoline. RVP needs the sample to be chilled above freezing point, and the gas chamber heated to 100 deg. F.] But what does this mean? Well, I'm still researching this, but a back of the envelope calculation provides us with a 2 PSI vapor pressure difference between both fuels. I would like to do a comparative test with Irving's 91 octane gasoline as well. If anyone is a chemist and understands this stuff.... please contact me. I'm hoping I can provide more info in a future Gadget Corner column.

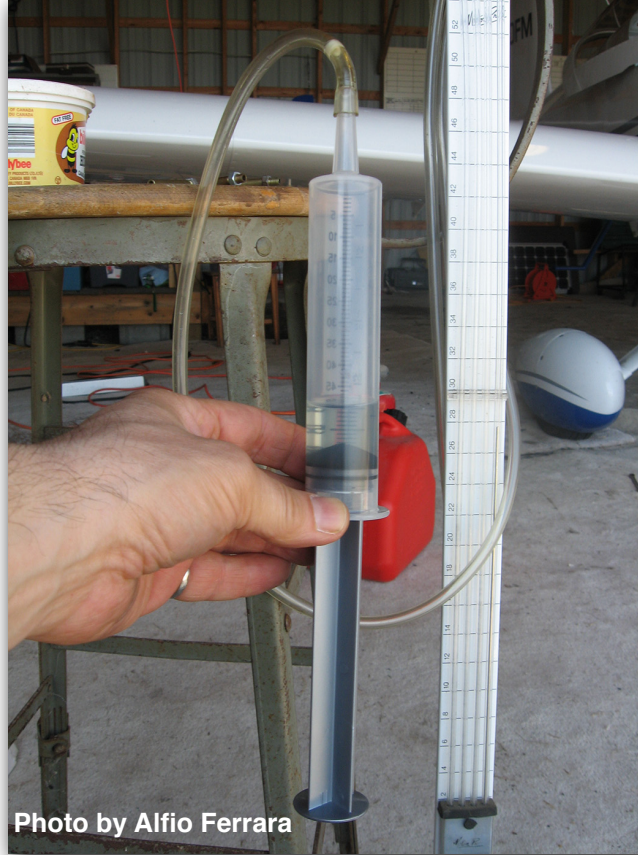


Photo by Alfio Ferrara

I have been flying for well over 200 hours (out of a total of close to 500 hours on our airplane) with mix of 100LL and 91 octane gas from either Irving or Shell gas stations with good results. Last spring though, we did not fly since I was doing a panel upgrade and performing an annual until mid-June, so we never really encountered the issue of winter fuel on a hot day in spring.

Another indication that winter fuel formulation is at play is that I was told by another EAA245 member that the Shell station is having a "sale" on the 91 octane fuel by providing additional Air Miles Points. This would indicate that they are trying to move the winter fuel so they can more quickly transition to the summer formulation. I have found information detailing that lower

I strongly suspect that winter gas formulation is still being sold at the Shell in Carp, however there may be other issues at play here, such as the possibility of a loose fuel line on the suction side, or a partial fuel blockage. I will report back if I find an anomaly in the aircraft fuel system.

The fact that our fuel flow sensor indicated high fuel flows indicates that some air bubble or vapor was passing through the sensor vanes.

As already mentioned above, we have re-purposed all our fuel from both tanks, and we are now performing an early annual on the plane.

Another EAA member, Dwayne Price, had some issue when using the fuel (bought from the same Shell gas station) in his RV6A about a year ago. See his comments in the box: "Dwayne's Experience"

RVP gasoline is mandated to be sold from June 1<sup>st</sup> until September 15<sup>th</sup> in the US. The RVP of gasoline allowed to be sold varies by region, so I don't know yet what the specification is for Ottawa; more research is required.

**Dwayne's Experience**

*On March 18th 2012, during a takeoff run, I experienced a loss in power causing me to abort my take off.*

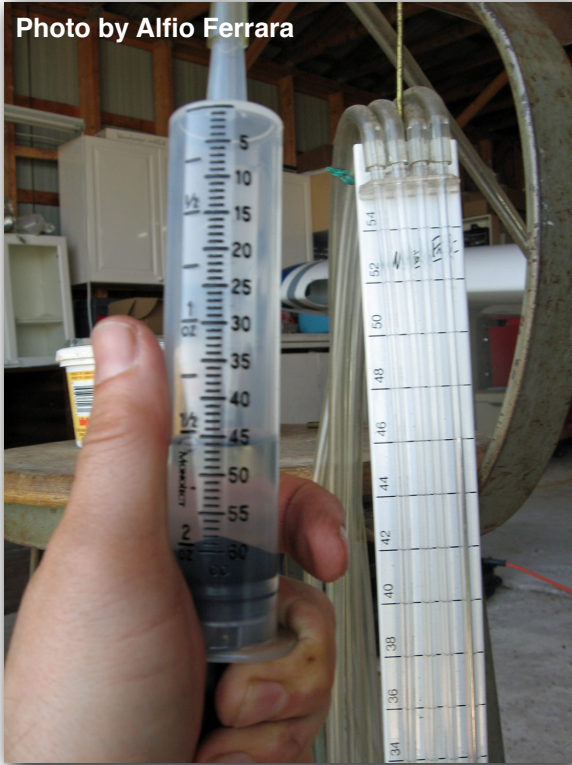
*I drained all of the Shell fuel from the left tank and replaced it with Supreme from Irving. With Shell V-Power in the right tank and Irving Supreme in the left tank, I was able to complete 8 full power run-ups, 4 using Shell and 4 using Irving.*

*The engine experienced a loss of power on all 4 full-power run ups using the Shell fuel. The engine did not falter once using Irving Supreme.*

*I drained all remaining Shell fuel from my aircraft and put it in our car.*

*Dwayne W. Price*





Some light reading:  
<http://eprinc.org/2009/06/a-primer-on-gasoline-blending/>

[http://www.marathonpetroleum.com/brand/Products/RFG\\_and\\_RVP\\_Summer\\_Regulatory\\_Requirements/Summer\\_2012\\_Reid\\_Vapor\\_Pressure\\_RVP\\_Regulatory\\_Requirements/](http://www.marathonpetroleum.com/brand/Products/RFG_and_RVP_Summer_Regulatory_Requirements/Summer_2012_Reid_Vapor_Pressure_RVP_Regulatory_Requirements/)

While I suspect high vapor pressure winter fuel is the culprit here, I am not discounting the possibility that other issues may be at play, such as partial fuel blockage (filter, excess debris, blocked vents etc), thermal issues, or loose fuel fittings on the suction side. I am counting on our annual inspection to reveal such discrepancies, if they exist.

Until next time ...

*Alfio*

### Young Eagles Event – June 16, 2013 (around noon)

Our Young Eagles event is happening on June 16, right after the chapter meeting. Please pass the word around to see if friends or family might want their kids from 7 to 17 to participate. There is a pre-registration required and flights will be based on order of pre-registration. Just have them send me an email to Alfio at [longeron@gmail.com](mailto:longeron@gmail.com).

We are still looking for additional volunteers; ground traffic, registration desk, security, pilots etc. Send me an email to the above address for more information.

### EAA245 Chapter Dues

Are you a paid up EAA245 member for the year 2013? Please don't forget to remit your membership dues, if you have not already done so. You can contact us by email or regular mail. For regular mail, you can use the form on the last page of Carb Heat.

Note that we can now accept credit card payments (with a small premium of a buck or two to cover processing costs). Just send an email to:

[eaa245membership@gmail.com](mailto:eaa245membership@gmail.com)

and we will send you an invoice for online payment. It's that easy.

## Fly-Out Possibilities

Most Items Taken from the COPA Website

### **May 25, Westport, ON (CRL2):**

Ontario COPA Flight 56 / Rideau Lakes Flying Club Breakfast Fly/Splash-In. Breakfast of ham, eggs and baked beans from 8:00 a.m. until 1:00 p.m. Transport from the Aerodrome/Waterfront/downtown available. Co-ordinates N44 40.012, W076 23.799, using 123.2 for communication. For more information, please contact Bill at [greenwj@rideau.net](mailto:greenwj@rideau.net)

### **May 26, Stirling, ON (CPJ5):**

COPA Flight 53 Fly- In Breakfast from 9:00 a.m. until 11:00 a.m. For more information, please contact Christine Kilgore at 613-395-1714 or [christinekilgore1@gmail.com](mailto:christinekilgore1@gmail.com)

### **June 2, Smiths Falls, ON**

**(CYSH):** COPA Flight 100, Annual Fly-in Breakfast. Fly in, drive in, rain or shine. Co-ordinates for this event are N44 54 03 W77 00 38. For more information, please call 613-283-1148 or visit our website at <http://www.smithsfallsflyingclub.com/>

**June 9, Cobden, ON:** COPA Flight 124, Champlain Flying Club host their annual Fly-In Breakfast from 07:00 until 11:00. CPF4 in the Supp. For more information, please contact Larry Buchanan at [lbuchan@nrtco.net](mailto:lbuchan@nrtco.net) or 613 638-2792.

### **June 9, St-Lazare, QC (CST3):**

Traditional St-Lazare Fly-In Breakfast from 7:30 a.m. until 11:30 a.m. Organized by the St-Lazare Flyin club - Copa Flight 43. For more information, please call 514-212-0038 or 514-694-2129.

### **June 15, Lindsay, ON (CNF4):**

COPA Flight 101. Annual "Kawartha Klassics" Aircraft and Vintage Car Show. Don't miss this incredible opportunity for all Southern Ontario pilots to take in the Annual "Kawartha Klassics" Show at the Kawartha Lakes Municipal Airport. Classic aircraft static displays and hundreds of vintage cars; card lock avgas available and no landing fee. Airport location: 3187 Highway 35. For more information visit the KLMA website at [www.klma.ca](http://www.klma.ca), Flying Club tab.

### **June 16, Cornwall, ON**

**(CYCC):** COPA Flight 59, Annual Father's Day Fly-in Breakfast from 8:00am until noon. Best breakfast in Eastern Ontario. Static displays, Vintage Cars. For more information, please contact Barry Franklin E-mail at [barry.franklin@sympatico.ca](mailto:barry.franklin@sympatico.ca)

### **June 16, Picton, ON (CNT7):**

COPA Flight 53 Annual Father's Day Fly-In Breakfast. This year the Prince Edward Flying Club celebrates 60yrs since it's founding in 1953. The airport owners have been very busy restoring many of the original buildings of the British Commonwealth Air Training Plan at Picton. Always a favorite destination for Eastern Ontario pilots, great breakfast and site tours. The most intact B.C.A.T.P. base in Canada. Co-ordinates airport N43 59 21 W77 08 21, Unicom 123.2. For more information, please contact Terry Clifton 613-476-9083 or [terry.clifton123@gmail.com](mailto:terry.clifton123@gmail.com)

### **June 29-30, Sherbrooke, QC**

**(CYSC):** Les Faucheurs de Marguerites, COPA Flight 37 is proud to invite all COPA members and the aviation community to its annual fly-in. No air show and no aerobatics! Menu: A lot of aircraft of all kinds, fly market, static displays, workshops, (metal, composite, weight & balance), exciting conferences/seminars, homebuilt/ aircraft restoration contest, commercial exhibit, aircraft manufacturers, aircraft clubs, Saturday night special super followed by a dancing party, restaurant on site. A lot of fun! For more information, please contact Real Paquette 819-878-3998 or [lesfaucheurs@hotmail.com](mailto:lesfaucheurs@hotmail.com) or visit our website at [www.lesfaucheurs.com](http://www.lesfaucheurs.com)

## For Sale or Rent

*Place your ads by phone with Yvon Mayo 613-830-1935 or e-mail to [yvonmayo@rogers.com](mailto:yvonmayo@rogers.com) or [ea245@gmail.com](mailto:ea245@gmail.com). The deadline is two weeks before the next meeting. The ads will run for three months. You may request a two-month extension. Please let me know if any of the articles have been sold.*

### FOR SALE

RV9/9A project for sale. Tail and wing kit complete with extras. Tail done with MDRA inspection and sign off. Wing kit - right wing to quickbuild stage, left wing still in clecos. All small parts sorted in labeled bins included. All logs, docs and plans included. Pics avail. \$6,000. email holbrog at gmail.com or phone Greg Holbrook at 613-487-2374.

### FOR SALE

The Canuck Group at EAA 245 in Carp has **shares in the 1946 Fleet Canuck** CF-DPZ for sale. The aircraft has 1250 hrs TTSN engine and airframe since being built in 1946 and has always been hangered. Price, \$ 6,800 per 1/5th share. Own a Canadian classic. Please call Ken Potter at 613 259-3242 or email at:

[kjpotter@sympatico.ca](mailto:kjpotter@sympatico.ca)

### FOR SALE

Bilmar 2003 **Amphib floats** 1850 kevlar, fiberglass composite with rigging, electric hydraulic, hatches, rigging, dual water rudders, emergency back up pump.

Must sell, Contact Paul Sicard

Tel: 613-487-2614

Cell: 613-884-9575

[lise.sicard@xplornet.com](mailto:lise.sicard@xplornet.com)

### FOR RENT

Chapter 245 members can **rent a tiedown** near the EAA 245 hangar at Carp Airport. You can rent the tiedowns by the month or for the full year. Call Curtis Hillier 613 831-6352

### FOR SALE

#### **1986 Rutan LONG EZ FOR SALE: \$36,000**

470 Hrs airframe. Engine: Lycoming 0-235 L2C 2430 hrs TT.(with original logs). 5.0 hrs since Top overhaul & other new parts: Impulse Mag , Vacuum pump, Starter & alternator. Avionics: Xpndr Collins TDR-950, Garmin 296 GPS, Kannad 406-AF ELT, ICOM A5 Radio, Flightcom 403mc Intercom.

Hangered at CYRP. Extra prop (Silver Bullet).

Andrew 613-836-3968, cell 613-295 7451

[andrewr@magma.ca](mailto:andrewr@magma.ca) Currently in flying condition.

Last annual Nov 2011. For specs see <http://>

[en.wikipedia.org/wiki/Rutan\\_Long-EZ](http://en.wikipedia.org/wiki/Rutan_Long-EZ)

Experimental Aircraft Association Chapter 245 Ottawa. We are a group of Amateur Aircraft Builders, Owners, and Enthusiasts with a hangar, lounge and workshop facility located@the Carp Airport, just west of Ottawa.

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Hangar Group Liaison:	Bill Reed	613-831-8762	Bill@ncf.ca
EAA 245 Website:	<a href="http://eaa245.org/">http://eaa245.org/</a>	and	<a href="http://www.245.eeachapter.org/">http://www.245.eeachapter.org/</a>



**Experimental Aircraft Association  
Chapter 245**

**Membership Application**

New: \_\_\_ Renewal: \_\_\_  
Date: \_\_\_\_\_

*Make cheque payable to:*  
EAA Chapter 245 (Ottawa)  
P.O. Box 24149  
300 Eagleson Road  
Kanata, Ontario,  
Canada, K2M 2C3

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City/Town: \_\_\_\_\_  
 Prov: \_\_\_\_\_ PC: \_\_\_\_\_  
 Phone: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ H(\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ W  
 Email: \_\_\_\_\_  
 Newsletter Distribution Preference:  
 Email \_\_\_\_\_ or Canada Post \_\_\_\_\_  
 Aircraft & Registration: \_\_\_\_\_

Annual Dues: January 1st to December 31st.  
(prorated after March 31st for new members / subscribers).

**Newsletter Subscriber:** \_\_\_\_\_ \$35.00  
Newsletter only

**Associate Member:** \_\_\_\_\_ \$35.00\*  
Newsletter plus Chapter facilities

**Full Member:** \_\_\_\_\_ **\$70.00\***  
Newsletter, hangar, workshop, tiedowns.  
(Note: there is a one time \$200 initiation fee when you become a Full Member)

Aviation Affiliations:  
 EAA Number \_\_\_\_\_ EXP Date: \_\_\_\_/\_\_\_\_/\_\_\_\_  
 COPA: \_\_\_\_\_ RAA: \_\_\_\_\_ UPAC: \_\_\_\_\_  
 OTHER: \_\_\_\_\_

\*Note Associate and full members must also be members of EAA's parent body in Oshkosh WI, USA