



Carb Heat

Hot Air and Flying Rumours

EAA 245 NEWSLETTER Vol 40 No. 02

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Lars in his Steen Skybolt ↘

February 2010 Meeting

Bush Theatre National Aviation Museum

Thursday February 18th at 8:00 PM

Steen Skybolt by Lars Eif



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<http://eaa245.dhs.org/>

President's Message



Ah yes – winter. For the last two or three years we have taken apart the well lines at our hanger and insulated them, as well as run heating cords to ensure that the water line will not freeze, but every year around this time our water system still fails as it has again this winter. Various members tinker with the system and sometimes get it working, but please be warned that there may not be water pressure next time you are there.

This minor inconvenience does not stop many of our members from using the workshop and hanger, and there has been plenty of activity.

If you want to use the facilities bring your own water.

January Meeting

At our January meeting Jeff Langford of Transport Canada in Buttonville talked to us about the regulations pertaining to homebuilts after the first 25

hours are flown off and the initial restrictions are removed.

Jeff's talk qualified as a recency seminar so those who attended received a Transport Canada sticker to keep in their logbook for the next two years. A total of 62 stickers were handed out.

After the presentation I finally was able to present Henri Monin his plaque for the first flight in his Murphy Rebel in 2008. Congratulations Henri!

Donation made to Trust Fund for Grant and Mitchell Phillips

EAA Chapter 245 has made a donation to the trust fund for Grant and Mitchell Phillips after the tragic accident that took Andy's life. Our condolences were presented to the family at the memorial service.

Internet Access at CYRP

The computer at our CYRP hanger once again has internet connectivity, this time more stable than the last. We have moved the computer from the upstairs lounge to the heated workshop area to keep the fan, disk and power supply happy on cold starts.

Upcoming Meetings

Our next regular meeting will be held at 8:00PM on Thursday, February 18th in the Bush Theatre at the Canadian Aviation Museum.



Lars Eif will tell us all about the construction and testing of his Steen Skybolt, completed in June of 2009.

18 Feb 2010	Steen Skybolt, by Lars Eif
18 Mar 2010	Rough River, by Phil Johnson
15 Apr 2010	TBA

Hoping you can attend the February meeting, and as always-

Blue Skies,
Martin

EXHAUST – from the Carb Heat Archives

Does anybody have information on EAA 245’s activities prior to 1976 – especially about the formation of the chapter and the early organization? Please let me know and I’ll add it to our archives. Wayne Griese

30 YEARS AGO - February 1980

Volunteers were wanted to help demonstrate EAA Chapter 245’s enthusiasm and commitment to aviation during Ottawa’s Annual Sportsman

Show in February 1980. Glen Brunton volunteered to show his Taylor Monoplane and Dan Cybulski agreed to display his Skybolt. Eric Taada,

coordinator for the display, needed people to help set up the display, man the booth, coordinate shifts etc. Were you at the show?

20 YEARS AGO – February 1990

Early in February, 1990, chapter members had a chance to visit Gary Palmer’s workshop and admire his Lancair’s plumbing, engine

installation, retract mechanism and trim system, ask lots of questions and even try out the seats. Also in Carb Heat you could learn how to tie a Seine

Knot. (How do YOU say Seine?). You could buy a Piel Emeraude for only \$12,000 or a Zenith CH200 for \$12,900 from the classifieds.

Old Carb Heat Newsletters Wanted

Fill in the blanks for EAA Chapter 245 Archives

Year\Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
'71												
'72												
'73												
'74												
'75												
'76												
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'79												
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'82												
'83												
'84												

Note: Scanned copies of 25 years of Carb Heat, from 1984 to 2008, are on the Chapter’s computer for you to view or copy. If you can provide a copy of the missing issues(white) contact Wayne Griese. Thanks for your support. *Wayne can be contacted via email at wayner at igs dot net. Or by phone at 613-256-5439*

Aviation Humour from AVwebFlash Volume 16, Number 2a

Carb Heat
SHORT FINAL

With Super Bowl XLIV about to kick off as we prepare this week's AVweb stories, we can't resist the temptation to delve into our mailbag and serve up a "Short Final" that's been holding for over a year:

It was a Friday afternoon in November when we were departing OSU airport in the company King Air for our home base in Grand Rapids. The huge college rivalry between OSU and U of M was to be played tomorrow. Since the OSU fans can be quite literally fanatical

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about their team, my co-pilot and I were pretty quiet all day about our allegiance to the Michigan football squad.

As we were taxiing out to the busy runway, we changed over to tower, and the pattern was full of OSU students and their instructors. The frequency was busy. It was my leg, so the co-pilot was on the radio. My voice had not been heard yet.

After my copilot responded to our takeoff clearance, I couldn't help myself and keyed the mike, saying in a deep and serious voice, "Go Blue!"

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We enjoyed a takeoff roll in complete radio silence. All communications stopped dead for about ten seconds!

The shocked silence was broken with the words "Who said that?!"

I knew we had gotten away with it when we were handed off to Columbus departure and didn't have to enter a hold! That ten seconds of silence was almost as good as the beating we gave them in the next day's game!

Doug Downer

via e-mail

Local News

Andy has gone West
by Martin Poettcker

Andy Phillips joined EAA Chapter 245 in September of



2006, and began attending our monthly meetings; soon joining in for the dinner before the meeting, the meeting itself and the stop at the pub after, and added considerable zest to the gatherings. He loved to set up personal rivalries with other members and created a lot of friends in the process.

While he was building his plane, he helped out with chapter activities. He held a demo of his partially completed project in July of 2007, and made a presentation at our October 2008 meeting where he talked about his flight training in an RV-7 and his trips to Vans and to the



Evergreen Aviation Museum. Andy was a captivating presenter, being both comfortable in front of a group, and establishing camaraderie with the audience – although he did tend to pick on individuals he had rivalries going with. He was very dynamic, and I think he won the championship for keeping all of our members

(some of whom are older) awake until the end of the meeting.



He also arranged for our chapter to visit Bob Hanson's hanger for our July 09 meeting, where we had an excellent tour of this facility, and hosted a BBQ at the hanger down the way when the tour was over.

We convinced Andy to help out the chapter as Hanger Operations Co-Manager in October 2008. He kept our equipment in repair, fixed our well when it froze, ran our annual maintenance day and even used his company truck to

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 help us truck out our worn out
 equipment and our stored
 aluminum from our recycling
 program.

In addition to this, he submitted
 several articles for our monthly
 newsletter including some
 pictures from the Red Bull
 competition (Detroit) in June
 2008, his visit to Maurice
 Prud'homme's fly-in in March
 2009 which he entitled "RV-7A
 Lands on River", his
 participation in the Canadian
 100 Year Flight Celebration,

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 and his trip to Downsview in
 May of 2009.



Andy was invited to show his

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RV-7A at the Classic Air Rallye
 at Rockcliffe.



Andy was capable, outgoing,
 fun loving and great to be with.
 We will all miss his presence.

Pictures by Wayne Griese and Bill Reed

Converting Fuel into Horsepower AND How Efficiently Does It Happen?

Suggested by Grantley Este copied from

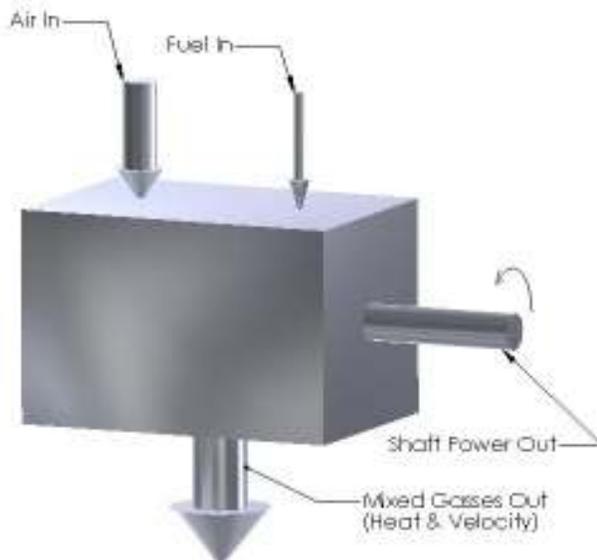
http://www.epi-eng.com/piston_engine_technology/thermal_efficiency.htm

A "combustion engine" is a device
 which converts the chemical energy
 stored in a fuel into heat energy, and
 then converts a portion of that heat
 energy into mechanical work. Any
 combustion engine can be
 effectively visualized using what is
 commonly known as the "Black
 Box" model. (A "Black Box" is a

colloquial name for a conceptual
 entity which has known inputs and
 outputs, and which performs a
 defined function, but whose innards
 and functioning are unknown.)

The following "black box" sketch
 represents a combustion engine.

The sketch is fairly self-explanatory.
 Air and fuel go into the box.
 Something happens inside. Shaft
 power comes out, along with an
 eclectic mixture of waste gasses,
 which contain both heat and
 velocity. (Acoustic energy and other
 small losses have been ignored here
 for the sake of simplicity.)



That model applies equally well to
 piston and turbine engines. In the
 turbine case, there is relatively more
 velocity in the exhaust stream, and
 there might or might not be any
 external shaft power extracted
 (turboshaft vs. turbojet). In both
 turbine and piston engines, the
 output gasses include heated air
 (from heat exchangers and air not
 consumed by combustion) and very
 hot gasses which are the products of
 combustion.

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The exit configuration will define the temperature, pressure and velocity of the exiting stream. In certain applications, the exiting stream is a mixture of both components (cooling and exhaust gasses) and can be used to generate thrust.

The energy source for an engine is the chemical energy stored in the fuel. That energy is released by the oxidization of the fuel (combustion) by an oxidizing medium, which in most cases is the oxygen which makes up about 19% of the air we breathe. Variations on that theme include the use of oxidizing additives (Nitrous Oxide, for example) and high-energy fuels which contain a substantial supply of oxidizer in their makeup (Nitromethane, for example).

For this explanation, assume we are discussing a piston engine operating on gasoline for fuel. (This analysis works for Gasoline, Methanol, Diesel fuel, Jet fuel, Whale Oil, Whatever. Each fuel has it's own weight and energy content.)

Gasoline, according to P&W Aircraft data sheets, has a specific gravity of 0.71, and therefore a weight of about 5.92 pounds per gallon, and releases approximately 19,000 BTU of energy per pound of fuel burned.

What is a BTU? A "British Thermal Unit" is defined as the heat energy required to raise the temperature of one pound of pure water by one degree F, and is equivalent to 779 foot-pounds. By arithmetic, it can be shown that one horsepower (550 ft-lbs per second) is the equivalent of

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42.4 BTU's per minute or 2542.4 BTU's per hour.

How is that useful? Here is an example. We have tested a reasonably good piston engine which converts approximately 24 gallons of gasoline per hour (142 pounds of fuel per hour) into 300 measured horsepower.

So how much of the total fuel energy does this engine convert into horsepower? If you burn 24 gallons of gasoline (142 pounds) over the course of one hour, you release 2,699,520 BTU's of energy (19,000 x 142). If you divide the 2,699,520 BTU's by 2542.4 (the number of BTU's-per-hour in one HP), you discover, to your surprise, that it is 1062 HP. But the engine is only making 300 HP. Where is all the rest of that energy going?

It is a known fact that a piston engine does a rather inefficient job of converting fuel energy into power. The rule of thumb approximation is that nearly 1/3 of the fuel energy goes out the exhaust pipe as lost heat, approximately 1/3 of the fuel energy is lost to the cooling system (coolant, oil and surrounding airflow), leaving roughly 1/3 of the energy (best case) available for power output. Some of that power is lost to making the pistons go up and down, driving accessories (oil pump, coolant pump, alternator, vacuum pump, hydraulic pump, etc.), losses from pumping air through the engine, thrashing the oil in the crankcase, and friction in various forms.

The difference between the energy content of the fuel consumed and the

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useful power extracted from the engine is known as Thermal Efficiency (TE). So in our 300-HP engine example, the TE is 300 HP / 1062 HP = 28.3 % (which is fairly good by piston engine standards).

The calculation for Thermal Efficiency (TE) is:

$$\text{HP} = \text{TE} \times \text{FUEL FLOW (PPH)} \times 19,000 \text{ (BTU per \#)} / 2542.4 \text{ (BTU per HP per Hour)}$$

which reduces to:

$$\text{HP} = \text{TE} \times \text{FUEL FLOW (PPH)} \times 7.473$$

solving for **THERMAL EFFICIENCY:**
$$\text{TE} = 0.1338 \times \text{HP} / \text{FUEL FLOW (PPH)}$$

solving for **FUEL FLOW:**
$$\text{FUEL FLOW (PPH)} = 0.1338 \times \text{HP} / \text{TE}$$

Equation 1

Going back to our 300 HP example,
$$\text{TE} = 0.1338 \times 300 \text{ HP} / 142 \text{ PPH} = 0.283 \text{ (28.3 \%)}$$

(Note that when using % in a calculation, you must divide the percentage number by 100. That is how 28.3 % becomes 0.283.)

If you prefer gallons per hour, the Thermal Efficiency calculation is:

$$\text{HP} = \text{TE} \times \text{FUEL FLOW (GPH)} \times 5.92 \text{ (\# per gallon)} \times 19,000 / 2542 \text{ (BTU per HP per Hour)}$$

which reduces to:

$$\text{HP} = \text{TE} \times \text{FUEL FLOW (GPH)} \times 44.25$$

solving for **THERMAL EFFICIENCY:**
$$\text{TE} = 0.0226 \times \text{HP} / \text{FUEL FLOW (GPH)}$$

solving for **FUEL FLOW:**
$$\text{FUEL FLOW (GPH)} = 0.0226 \times \text{HP} / \text{TE}$$

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The value of this Thermal Efficiency relationship is that, by assuming a reasonable TE value (27% - 29%), you can estimate the amount of fuel required to produce a given amount of power. (That will lead to an even more valuable equation a bit later.)

Here is an example. Suppose you need to produce 300 HP. What will be the required fuel flow assuming 28.3% TE ?

Simple. $FUEL\ FLOW = 0.1338 \times 300\ HP / 0.283$ (28.3 %), or

$FUEL\ FLOW = 142\ PPH$ or $24\ GPH$.

Brake Specific Fuel Consumption (BSFC)

A more commonly used yardstick for expressing thermal efficiency is known as Brake Specific Fuel Consumption (BSFC). It is simply fuel flow (in pounds-per-hour)

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divided by measured HP, and is expressed in Pounds-per-Hour-per-HP.

$$BSFC = Fuel\ Flow\ (PPH) \div Horsepower$$

or

$$BSFC = 5.92 \times Fuel\ Flow\ (GPH) \div Horsepower$$

Equation 2

This tool is also an important yardstick for comparing the performance of one engine to another and for evaluating the reasonableness of performance claims.

An excellent BSFC for a well-developed, naturally-aspirated, high-performance liquid-cooled engine at 100% power is in the neighbourhood of 0.44 – 0.45. Claims of gasoline engine BSFC values less than 0.42 at max power tend to be suspect. At reduced power settings (in the

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region of 70% and below) BSFC values of 0.38 have been achieved, but they are not commonplace.

The operator manual for a 300 HP Lycoming IO-540-K, L, or M series engine shows a full power fuel flow of 24 GPH which is a BSFC of 0.474 ($24 \times 5.92 \div 300$) and a TE of 28.3% (explained above). Those numbers aren't too bad for an air cooled engine which meets the FAR-required detonation margins. However, the turbocharged TIO-540-V2AD requires a MINIMUM of 39.2 GPH at 350 HP for a BSFC of 0.663 and a TE of 20.4%.

So if someone tells you that they have a piston engine which, at max power, makes 300 HP on 20 GPH of gasoline, you quickly calculate a BSFC of 0.39 and a Thermal Efficiency of 34.4%. You should be highly suspicious of such a claim.

MICHIGAN TEEN FIRST TO USE EAA YOUNG EAGLES SPORTY'S ONLINE COURSE TO PASS PILOT WRITTEN TEST

EAA AVIATION CENTER, OSHKOSH, Wis. — (February 9, 2010) — Sixteen-year-old Tyler Whitney, of Fenwick, Michigan, probably never looked at himself as an aviation pioneer. He is one, however, as he became the first EAA Young Eagle to pass his FAA Private Pilot written test through the Sporty's Online Pilot Training Course now offered free to all Young Eagles.

The opportunity was announced last April by EAA and Sporty's Pilot Shop of Batavia, Ohio, one of the world's leading pilot and aviation suppliers. Through this partnership,

young people who receive an inspirational and educational introduction to personal flight via the EAA Young Eagles Program will also receive from Sporty's the tools they'll need to take the next steps in pursuing their interest in aviation.

Upon completion of a flight with a Young Eagles volunteer pilot - often the youth's first time aboard a general aviation aircraft - the youth will receive a logbook for recording this and subsequent aviation experiences. The Young Eagle receives an access code to the Sporty's Online Complete Pilot

Training Course. Both the logbook and the flight training course are free of charge to Young Eagles.

"EAA and Sporty's made this program possible so the excitement of flight that comes from a Young Eagles flight doesn't stop there," said Brian O'Lena, EAA's youth programs manager. "We appreciate Sporty's commitment to opening the door to more young people to participate in aviation and discover opportunities and accomplishments for their own lives."

Neither of Whitney's parents have aviation background, but after

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Whitney took his Young Eagles flight in June 2008 with pilot Robert Allers of Greenville, Mich. (EAA #857229), he wanted to explore flight training. The Sporty's Online Pilot Training Course allowed Whitney to work toward his goal at no additional cost.

"After my Young Eagles flight I knew I had to fly. It's what I want to do," Whitney said. "Thank you for all that EAA is doing...I appreciate it a lot."

After about 35 hours of flight training with instructor Jeff Ostrander (EAA #866844), Whitney's next goal is to earn his Private Pilot Certificate on his 17th birthday – the earliest date he could take his flight test.

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"We know Tyler will be only the first of many, many young people who have the opportunity to discover and explore the world of flight through the Young Eagles program and the support Sporty's has provided for aviation future," O'Lena said. "There are more 'next step' programs coming for Young Eagles that will make the experience more than simply an initial airplane ride."

EAA's Young Eagles program was founded in 1992 and has provided more than 1.5 million free demonstration flights to young people around the world, through the efforts of 43,000 volunteer pilots and 50,000 ground volunteers. More

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information is available at www.youngeagles.org.

EAA embodies the spirit of aviation through the world's most engaged community of aviation enthusiasts. EAA's 160,000 members and 1,000 local chapters enjoy the fun and camaraderie of sharing their passion for flying, building and restoring recreational aircraft. For more information on EAA and its programs, call 800-JOIN-EAA (800-564-6322) or go to www.eaa.org. For continual news updates, connect with <http://twitter.com/EAAupdate>.

EAA EDITOR'S NOTE: Photo of Tyler Whitney is available at http://www.eaa.org/news/2010/images/tyler_whitney_hi.jpg

Mark your Calendars:

Some items have been copied from the COPA Flight and the EAA website

FEBRUARY

February 13, Westport, ON (CRL2): Rideau Lakes Flying Club, Ski Fly in with Chili and a bun from 10:00 a.m. till 2:00 p.m. Transport from the Aerodrome / downtown available. Located at N44 40.012, W076 23.799 using 123.2 for communication. Subject to runway conditions. For more information please contact # 613-359-9951.

February 13, South River, ON: South River / Sundridge Airport is hosting 2 back to back weekend Fly-in from 9:00 a.m. – 15:00 each day. Open Sunday as well. Fresh baked goods and hot and cold drinks available. 3300' hard packed runway plus 3300' virgin snow. LL 100 and auto fuel available. Radio 122.8. For more information please contact Don Roberts at 705-387-1863 or email dtrenterprises@gmail.com.

February 17, Toronto, ON: Transport Canada System Safety Seminar – Interactive Round Table – Part 1. Come and join Transport Canada's Mark Dixon and Michel Treskin as they team up to present an interactive flight scenario where time, weather and equipment issues will keep you on your toes as you work with other aviators in small groups for a mystery flight to parts unknown. Good

discussions will be had and valuable lessons will be learned in this entertaining and informative workgroup exercise. Contact our main number at 416- 952-0175 for information on the seminars or other offerings.

17 février, Toronto, ON: Transports Canada Séminaires mensuels sur la sécurité aérienne – Table ronde interactive – Partie 1. Venez entendre Mark Dixon et Michel Treskin, de Transports Canada. Ils feront équipe pour présenter un scénario de vol interactif et mystérieux vers l'inconnu qui vous fera travailler en petits groupe avec d'autres aviateurs et dont les enjeux liés au temps, à la météo et à l'équipement vous tiendront alertes. Soyez prêts à de bonnes discussions et à tirer des leçons précieuses de cet exercice de groupe informatif et divertissant. Pour plus d'information appelez 416-952-0175.

February 20, Hawkesbury, ON (CPG5): Hawkesbury Flying Club / COPA Flight 131 Ski Fly-in at the East Hawkesbury Airport. Sloppy Joes served by the HFC president. 11:30 to 13:30 Skiplanes only! For more information contact Stephen Farnworth at (h) 613 632-3185 or (c) 613 678-0325 or HawkesburyFlyingClub@gmail.com

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February 20, South River, ON: South River / Sundridge Airport is hosting weekend Fly-in from 9:00 a.m. – 15:00 each day. Open Sunday as well. Fresh baked goods and hot and cold drinks available. 3300' hard packed runway plus 3300' virgin snow. LL 100 and auto fuel available. Radio 122.8. For more information please contact Don Roberts at 705-387-1863 or email dtrenerprises@gmail.com.

February 20, Lake Memphremagog located between Newport, Vermont, United States and Magog, Quebec, Canada. Second International Lake Memphremagog Ski Fly Meet. Canadian and US pilots to meet each other at our common border line on the ice of international Lake Memphremagog. If the weather Saturday Feb 20 is bad, come Sunday the 21st. Plan to arrive between 12 noon and 1 p.m. Everything at your own risk. For our mutual benefit and to avoid trouble, the rules are: CANADIANS LAND ON THE CANADIAN SIDE- BE SURE. -AMERICANS LAND ON THE U.S. SIDE- BE SURE. DO NOT LET ANY PART OF YOUR PLANE OR PERSON ENTER THE OTHER COUNTRY AT ANY TIME IN THE AIR OR ON THE GROUND. Organizer George K. Weller for current information please call 819-876-2528 or visit our website homesteadcourses.com. To be put on emailing list for this event, send an email to gweller@abacom.com

February 20, Orillia, ON (CNJ4): 2nd annual Ski and Wheel plane flyin. Come and have a bowl of chilli with a warm hot chocolate or apple cider by the fire. Hosted by Orillia Lake st John Airport and Orillia Aviation. For more information please contact Mike or Ann at 705-325-6153 or email mike@orilliaaviation.com.

February 20-21, Haliburton-Stanhope, ON (CND4): First Flight Skis/Wheels Fly In. Come help celebrate the Centennial + 1 of Canadian Aviation History. 101 years ago, John McCurdy flew the Silver Dart over Bras D'Or Lake in Nova Scotia. Fly over the frozen lakes of Ontario land on the snow or the paved runway. Enjoy a cup of hot chocolate and some hot chili. Check conditions ahead call John Packer at 705-754-2611. Visit our website for information and current weather stanhopeairport.com or email airport@halhinet.on.ca

February 27, Ottawa River, 5KM NW, Aylmer QC: Mo's fly-in starting at 10:00 a.m. Located on the QC side 1 Mile West of Ottawa VOR. Co-ordinates N 45 26 57 W 75 55 48. Frequency 123.20. Recommended ski landing. A strip for planes on wheels will be arranged weather permitting. Landing is at your own risk. For more information please contact Maurice Prud'Homme at (h) 819-682-5273 or (c) 819-360-0706.

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27 février, rivière Outaouais, 5km nord-ouest d'Aylmer QC: RVA - Chez Mo at 10.00 a.m. Côté Québécois, 1 mille à l'ouest du VOR d'Ottawa. 45 26 57 N 75 55 48 O. Fréquence: 123.20. L'atterrissage sur skis est recommandé. Une piste pour avions sur roues sera aménagée si la météo le permet. Atterrissage à vos risques. Pour plus d'information appelez Maurice Prud'Homme (t) 819-682-5273 ou (c) 819-360-0706.

February 27, Midland, ON: COPA Flight 73 Annual Winter Fly-in. New location Midland Huronia Airport. Wheels or skis. Chilli, hot coffee etc. Unicom 122.85. Alternate weather date February 28. For more information please contact President Paul Turner at 705-322-1149.

February 28, Cobden, ON: COPA Fight 124, Champlain Flying Club hosts their annual "SKI Plane Only" winter Fly-in from 10:00 until 14:00. CPF4 in the Supp. Beans, chilli and beverages. For info contact Larry Buchanan, lbuchan@nrtco.net or 613-638-2792.

MARCH

March 6, Kars, ON: RAA chapter 4928 9th annual Ski Fly-In. Kars Rideau Valley Airpark. All Day. Good food and beverages served from 11 a.m. to 3 p.m. For more information please contact Dave Stroud 613-489-2347.

March 13, Pendleton, ON CNF3: Ski ONLY Fly-in, Rain date Sunday March 14 BBQ Lunch at the club house. Where its warm by the fire place! 11:00 Am to 1:30 Pm Radio frequency: 123:30 Contact: Martin Lacasse Home 613-446-1183/Cell 613-203-1699, All ski equipped airplanes, ultra lights, helicopters are welcome, (also Martin's Birthday)

***March 27, St-Hubert, QC:** Expo Aviation Expo hosted by Magnes (formerly PSA Insurance), Leggat's and Aeroteknic and will be held at 10:00 a.m. – 3:00 p.m. at the St-Hubert airport in Aeroteknic's hangar. We are offering free seminars, lunch and mini-trade show. Open to all! For more information please contact Norm at Magnes 888-772-4672 / email: nlamothe@magnesgroup.com or Anna Pangrazzi at Leggat's 905-477-7900 / email: apangrazzi@apexaircraft.com.

***27 mars, Saint-Hubert, QC:** Expo Aviation Expo accueilli par Magnes (L'assurance de PSA), Leggat et Aeroteknic seront tenus 10:00 a.m. – 3:00 p.m. à l'aéroport de Saint-Hubert dans le hangar de Aeroteknic. Nous offrons

gratuits des conférences, déjeuner et mini-commerçons l'exposition. Ouvrez à tous. Pour plus d'information appelez svp Norm à Magnés 888-772-4672 / email:

nlamothe@magnesgroup.com ou Anna Pangrazzi à

Leggat's 905-477-7900 / email:

apangrazzi@apexaircraft.com

APRIL

April 13th to 18th Lakeland, Florida (KLAL) Annual Sun n Fun fly-in Spring Break For Pilots See

<http://www.sun-n-fun.org> for information

JUNE

June 25th to 27th Summerside, PEI (CYSU) Annual COPA fly-in. See <http://www.copanational.org> for details

FOR SALE

Place your ads by phone with Bill Reed 613-831-8762 or e-mail to [bill at ncf dot ca](mailto:bill@ncf.ca)

Deadline is two weeks before the next meeting. 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 Rent

Negotiable

One half of my hangar T2-5 at CYRP, Carp

11/09 Contact Pierre Brunet 613-769-4430

For Sale

RV-6 fiberglass odds and sods for sale

Wing tips, fairings, fuel tanks,

07/09 Call Bill Reed 613-831-8762

For Sale

\$50,000

Murphy REBEL

320 hours, Lycoming O-320, Icom A200, AT150 Transponder, Garmin 196 GPS, Scott tail wheel, David Clark Headsets,

11/09 Rollie Acorn 613-830-5346 or email: sacorn@travel-net.com

For Sale

\$3,100

JULY

July 26th to August 1st Oshkosh (KOSH) 2010

Airventure 2010 at Oshkosh, Wi. Annual EAA Airventure event. Largest Aviation event on the North American Continent. See <http://www.eaa.org> for details

AUGUST

August 28th and 29th Gatineau (CYND) 2010 The dates for the Classic Air Rallye at the Canadian Aviation Museum are August 28th and 29th. Contact Michel Côté at either Vintage Wings of Canada or Flightworks or check the Flightworks website <http://www.flightworks.ca>

Lazair 1, steerable tricycle landing gear, Pioneer engines with spare engines, skis and nose cone.

11/09 Contact Michel at 819-685-2194 or email at andre04@sympatico.ca

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.

07/09 call Curtis Hillier 613 831-6352

For Sale

See Below

Two Volkswagen 1600cc "Beetle" engines.

One Completely rebuilt - \$1,000,

One partially rebuilt - \$275

Larger (6-cyl) Continental Oil Cooler (8"x9") - \$50

Lycoming accessory case dual take-off adapter (ie hydraulic and vacuum pump) - \$150

Piston Ring Set for E-185/0-470 Continental series - \$100.00

Continental C-85/0-200 ring set and rocker pins

Lycoming dynafocal engine mount - \$100.

Two shoulder harness inertia reels \$10.00 each

Four seat belts metal to metal like new - \$20.00 each

MIL W83420D 1/8" control cable

Two Scott parking brake valves (new value \$150

U.S.)
 Scott solid rubber tail wheel and yoke
 Lightweight automotive starter and bracket for Lycoming
 Miscellaneous older instruments,
 Misc. wing tip lights
 Lycoming valve cover gaskets
 Misc. inspection panel covers for fabric, metal
 Piper trim wheel and cables - \$15.
 Garmin 96C (colour) GPS used once
 Cessna 140, 100 hrs since major rebuild, many STCs
 01/10 Contact Garry Fancy (613) 836-2829
 cherokee1970@rogers.com

For Sale:	\$8,000 OBO
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Diamante CP605 Project Aircraft.
 This aircraft has commendable workmanship (this comment from Transport Canada at time of documentation for pre-cover inspection March 21, 1988.)

Work to be Done
 1) Purchase Lyc.0320 engine to fit dynafocal mount.
 2) Finish engine cowling (needs 2 layers fiberglass,etc.
 3) Requires 2 wing tanks, for leading edge.
 4) Assembly required.
 5) Final inspection
 6) Fly....Fly.....Fly

Specifications

Top Speed 180/hr	Empty Weight 1150 lbs.
Cruise 150/hr	Gross Weight 1875 lbs.
Stall 51/hr	Seats 3-4
Climb 1100/ft	Span 30.6

Main gear Erecoup
 Nose gear Cessna 150
 Sliding Canopy
 Low Wing - elliptical design
 Seats (Cessna Adjustable)
 Misc. - Assy Bolts, paint, electirc flaps, etc.

For more details contact: ednaredl@hotmail.com
 Phone: Elmer @ 306-374-5340



**EAA Chapter 245
 Membership Application**

NEW: ___ RENEWAL:___ DATE:___/___/___

EAA NUMBER _____

EXP Date: ___/___/___

NAME: _____

ADDRESS: _____

CITY/TOWN: _____

PROV: _____ .PC: _____.

PHONE:(___) ___-____.H (___) ___-____.W

EMAIL: _____

N/L DISTRIBUTION Preference: email ___ post ___.

AIRCRAFT & REGISTRATION:

OTHER AVIATION AFFILIATIONS:

COPA:___ RAA:___ UPAC:_____

OTHER: _____

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)

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

Make cheque payable to:
 EAA Chapter 245 (Ottawa)
 Mail to - P.O. Box 24149, Hazeldean R.P.O., Kanata, Ontario, K2M 2C3