



Carb Heat

October 2012

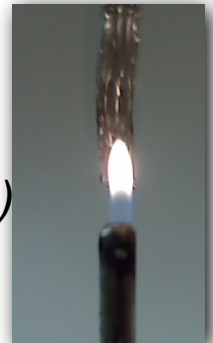
EAA 245 NEWSLETTER Vol 42 No. 9
 Published by EAA Chapter 245 (Ottawa)
 P.O. Box 24149 Hazeldean R.P.O.,
 Kanata, Ontario, Canada, K2M 2C3

Contents

President's Message	Page 2
Chapter Elections	Page 3
Editor's Comments	Pages 3
My Plane	Page 4
Exhaust 30/20 years ago	Page 9
A New Member's Impressions	Page 10
Humour	Page 11 and 15
Thanksgiving Flights	Page 12
Gadget Corner	Page 14
For Sale	Page 16
Fly-Out Possibilities	Page 17

Next Meeting: Thursday October 18 at 7:30 PM
 Bush Theatre
 Canadian Aviation and Space Museum

Presentation:
Flammability
(of stuff we put in our cockpits)
 by Curtis Hillier



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.

President:	Cary Beazley	613-226-4028	cbeazley@innovista.net
Vice President:	Phillip Johnson	613-253-2229	vice.president@eaa245.org
Treasurer:	Curtis Hillier	613-831-6352	echillier@yahoo.ca
Secretary:	Peter Zutrauen	613-831-0348	secretary@eaa245.org
Operations:	Ken Potter	613-259-3242	kjpotter@sympatico.ca
Membership Coordinator:	John Montgomery	613-599-1240	membership@eaa245.org
Webmaster:	Russell Holmes	613-226-8273	billy.bishop@sympatico.ca
Newsletter Editor:	Yvon Mayo	613-830-1935	eaa245@gmail.com or yvonmayo@rogers.com
Technical Information Officer:	Nathan Aligizakis	613-730-1644	nathan.aligizakis@gmail.com
Young Eagles Coordinator:	Alfio Ferrara	613-836-8285	longeron@gmail.com
Chapter Historian:	Wayne Griesse	613-256-5439	wayner@igs.net
Carp Airport Liaison:	Martin Poettcker	613-832-1210	Martin.Poettcker@marpoe.ca
Hangar Group Liaison:	Bill Reed	613-831-8762	Bill@ncf.ca
EAA 245 Website:	http://eaa245.org/	and	http://www.245.eaachapter.org/

President's Message by Cary Beazley



The leaves are a changing colours again – I hope we get a beautiful show to finish off this great summer – fall flying season. Folks are trying to squeeze in the last warm weather fly-ins. And people are dusting off the indoor projects in lieu of inclement winter weather flying – hopefully it will be another mild winter.

SpIOshkosh review

I want to thank Colin McGeachy for doing the Oshkosh review this year. Fewer members attended Oshkosh this year than normal. Well no splosh this year - I heard the one word summary was HOT. Colin kept us guessing trying to identify various aircraft with partial pictures and odd angles of view. Thanks Colin!

Transport Canada Safety Seminar Sept 26 2012

I understand the turnout for the event was quite good - it generally is with folks looking for that magical recency sticker. <http://web.ncf.ca/fn352/flight8/> Thanks to Claude Hurley and Oonagh Elliott of Transport Canada for presenting, COPA Flight 8 and the Aviation Museum for hosting and opening up the event to the rest of the aviation community.

It's always good to get everyone chatting and thinking about some of these issues to keep everyone up to date – rather than write the aviation exam and do the long slow slide into forgetfulness. These things tend to be as much social as educational. This is all good. Too bad I missed it – I haven't seen Oonagh in years. Someone say hi to her for me – I have tried to avoid seeing Oonagh in her former capacity as an enforcement inspector. ☺

Pontiac Airpark

There have been more developments at the Pontiac airpark. Check out the latest news: www.PontiacAirpark.com/News.htm

Lake Placid

John Firth was prepping and packing his PIC-20 motorglider for Lake Placid recently – The 3 local gliding clubs – Rideau Valley Soaring, Gatineau Gliding Club and the Montreal Soaring Council make the pilgrimage each fall looking for elusive wave flights in the early fall. The fall colours make for some spectacular views.. On the Thanksgiving weekend, we spoke to a few of the Rideau Valley Soaring club members by radio from Kars while they were airborne over Placid – unfortunately, the mountain wave wasn't working that day.

I understand they open a VFR window in class A airspace for them as they can get to over 20,000' on a good day. Bring your hat and winter clothes! brrrr

Around the Patch

Phil Johnson's Cozy is still threatening to fly.

Jeff Whaley's Sportsman is getting ready to go again

Hugh Thayer's Murphy is waiting on paperwork to be told it is a plane, almost there...

André Beauchamp's Zenith is sounding good with that engine conversion, don't let the snowmobile sound fool you..

I heard Perry Casson dropped in with his RV-10 again, not that we ever actually see him.

Alfio Ferrera and Shirley Mackey took a quick trip out west – I think we need to pressure them into doing a "Vegas Baby!" presentation – I'm sure they have lots of good pictures.

Bo is getting ready to take his Chinook up for the first time.

The flight line is near full, we may need to install a few new tie down anchors – contact Curtis Hillier if you are interested in helping out.

Tom Fudakowski and Tony of Tony's Mile High Grill fame @ the Rockcliffe airport dropped in one nice weekend for a visit. A lot of people dropped by to say hello.

There have been a number of rumours that a portion of the Carp airport has been sold – hopefully this will provide WCD with some funds to move forward – I hope to get an airport status from Martin Poettcker at the October meeting.

EAA 245 Club Stuff

Sunday morning get together continue @10am at the Carp EAA hanger. Hope to see you there.

The pre-meeting dinners have started up again. As usual, 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 at the meeting!

Cary

October Annual General Meeting EAA245 Elections Notice

This year the President, Membership, Webmaster and the Technical Information officer positions are up for re-election after serving their 2 year terms.
 Nathan Aligizakis has resigned from the Technical Information officer position.
 John Montgomery has decided not to run for another term as the Membership officer.
 Russ Holmes has agreed to let his name stand for another term as the Webmaster officer.
 And I, Cary Beazley, have decided to let my name stand for another term as President.
 Nathan and John have both indicated they still are available to provide assistance.
 That leaves the **Membership Coordinator** and **Technical Information Officer** vacated.
 Lars Eif has agreed to officiate the elections again this year.
 If you are interested in running for one of the executive positions up for re-election this year, please contact Lars at: eifl@rogers.com

Meeting Schedule

18 Oct 2012	Annual Elections of the EAA Executive positions Flammability (of the stuff we put in our cockpits) – Curtis Hillier
15 Nov 2012	The Sam ultralight / light sport aircraft – Thierry Zibi of Sam Aircraft www.sam-aircraft.com
December	There is no meeting in December
Jan 17 2013	1909 Bleriot project – Matt Carson

Editor's Comments

This month as usual, Cary Beazley presents the President's Message and Wayne Griese brings us a historical look at Carb Heat.

Jeff Whaley is continuing his series on the build of "My Plane". This series started in January and this is the ninth installment the series.

A new member has joined the Chapter in September and he is telling us his first impressions.

Ken Potter tells us about the flying adventures of the Fleet Canuck on Thanksgiving.

Alfio Ferrara offers technical buying advice in Gadget Corner; he also picked up some humorous signs along his travels and a few are displayed.

Flying season is still with us and there is a lot of flying taking place. however, the organized fly-ins are

almost over; the list is getting shorter and the time intervals longer.

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

My Plane - Flying the Mazda Rotary

(This is part of a series; see 8 previous articles in every Edition from January 2012)

Test Pilot

With only a handful of circuits, 3 years previous in the 2+2, I needed help to get airborne with the new rotary engine install. Again I asked Charlie if he would be interested but this time after being through it more than once, he graciously declined. My next choice was instructor/friend Andrew Boyd with lots of tail-dragger (Maule/Pitts) experience - thankfully Andrew accepted.



Photo 1: Pre-Start, First Flight

First Flight 29-Nov-2008: We met at my Carp hangar and agreed to fly one circuit. I cautioned that the biggest worry would be the cooling systems. Andrew was pleased that the airplane had at least some flight time, so the airframe was not a concern unlike the power plant. Andrew was PIC in the left seat I was FE in the right. His job was to fly the airplane, mine was to watch the gauges and yell ENGINE if anything was wrong. It was a cold day so there was no worry about overheating during taxi and run-up; we took our time going over the

systems before rolling onto runway 28 and asked the guy behind us to delay his takeoff - just in case. The engine responded, screamed its way up to 6300 rpm and within 300 feet we were airborne. It was a calm, cool day and I sat through the smoothest takeoff I can ever remember with my eyes scanning the oil and water temperature gauges. Redline oil temperature for the rotary is 210F (after the cooler) and water temperature redline

(block) is 230F. The oil temperature was barely indicating (100F) but the water temperature was fast

approaching redline.

Sound familiar? After some probing by the PIC, I reluctantly yelled ENGINE as we turned downwind; with reduced power the coolant temperature quickly dropped to 180F before touch-down.

We taxied back to the hangar, shutdown the engine and climbed out to have a look. A quick check inside the cowls showed everything was still in place. Aware of the difficulty keeping the rotary oil temperature in check I was cautiously optimistic about my 100F indication; the 225F water temperature had me really

concerned and the spread between the two was puzzling.

Fly Rotary Feedback

I happily posted the first flight details on the “fly-rotary blog” and waited to see what the responses would be. Good feedback came in short order. The low oil temperature was likely due to placing the sensor in an area of insufficient flow. Without the stock Mazda thermostat installed, the high coolant temperature could be caused by not blocking the circulation path (bypass) between the water pump and engine block. Even with previous experience and some guidance, the devil is in the details – the bypass port was news to me.

Cooling Modifications 1

To plug the coolant system bypass meant removing the water pump and tapping ½ NPT threads into the port so it could be plugged. The thermostat was removed. Improving the oil temperature sense point meant machining an aluminum adaptor to fit in series with the oil cooler return and ported for a temperature probe. With these two relatively simple modifications in place we flew again one week later on 6-Dec-2008. The results were both good and bad. Good news was the water temperature dropped from 225F down to 200F. The bad news is the oil temperature was indicating correctly and also around 200F.

Cooling Modifications 2, 3, 4

Though neither cooling situation was ideal, the cool winter weather gave time to experiment with low

risk of engine damage. Oil temperature was the main concern and improving airflow through the oil cooler was the solution – but how to get there? Initial concepts and installations are not easily modified, so the tendency is to “optimize” rather than redo. I began optimizing the oil cooler install by reducing intake air leaks, followed by reshaping the inlet ducts, increasing the cowl outlet area by lowering and extending the bottom cowl and finally by increasing the inlet size, ending up with the results of photo 2. Each step was verified by flight tests; I’ll spare the details, suffice it to say all gave little to no improvement and time had marched on into August 2009.

With the arrival of warmer weather, a simple water manometer was installed to measure pressure-differential across the two cores. The following picture shows the radiator had about 5” of water differential, while the oil cooler had near zero. With poor flight results and now solid measurements it was



Photo 2: Cooling Intakes with Mazda oil Cooler

obvious that it was time to rethink the oil cooler installation. Though the air inlets were in good locations the oil cooler was not. A portion of each end had direct air-in/air-out but a good portion of the center required severe air-in bending and this area’s air-out was too close to the reduction drive mounting plate.

New Oil Cooler Installation

The core of the Mazda oil cooler measured: 20”x4.25”x2.75” or 235 cubic inches. I sourced a new oil cooler with better dimensions (11”x6.25”x2.75”) through Summit Racing to fit between the PSRU and the right side of the cowl.

Though it was a bit smaller, 190 cubic inches, mounted in an optimum location it should equal the performance of the non-pristine original. To my surprise it worked okay but there was no cooling margin to account for the hot summer days ahead. My next surprise and “gift” was a second

cooler showed up via UPS – “thank you very much”, I put it in series with the first, mounted on the left side of the PSRU. This arrangement is shown in Figure 4 and the net result was I no longer had an oil cooling problem. Another surprise was cooling the oil did nothing to help with the water jacket temperature.

Transition Training

Almost one year had passed since first flight, so I had to apply to TC for an extension on the temporary COA; they granted me another year. Up to this point all the flying was done by Andrew who had to travel to CYRP. With the oil temperature now in-check and the water temperature manageable, we decided it was time for me to learn how to fly this bird. Since Andrew was based at CYSH we ferried the homebuilt there to proceed with my tail-dragger transition training. We “arrived in style” with a low and over at 120 mph down runway 24; the folks at the airport that day didn’t know what to think: “it looks like a cub but sounds like an ultra-light on steroids - and it’s loud”.

I don’t remember being scared when trying to fly this thing with the Ford engine but my first flight with the rotary engine was terrifying. The screaming 6300 rpm and more acceleration than I was used to made for some nervous moments. I had been spoiled flying a Tri-Pacer that needed very little rudder input. This thing is very rudder-dependent; on takeoff the best thing to do is stick your left

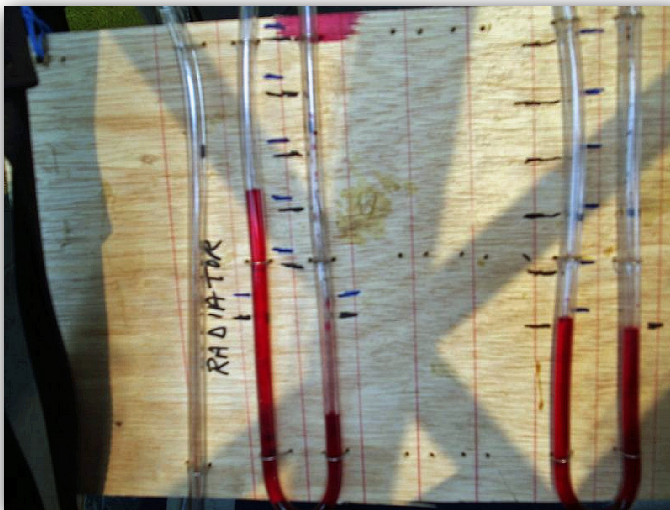


Photo 3: Cooler Performance with Manometer

foot under the seat, it's not needed - until it's time to reduce power, then the left foot had better be ready or the ensuing yaw will alarm you.

Somehow I managed to get my feet coordinated and my nerves under control. The first several landings were interesting to say the least; a lot of rudder-dancing was required to correct unexpected left and right darts across the runway. I

read an article in Sport Aviation saying "you really don't know how to fly until you can handle a tail-dragger" I agree. It's like learning to fly all over again; tricycle geared aircraft simply don't require you to be as precise on landing. We did a lot of dual flights, though most of them were short in duration. Then on 28-Feb-2010, 5.0 hours dual Andrew sent me off solo. My first two landings were the best I've ever made before or since; I flew circuits for an hour, bought more gas and flew another half hour. It was a great day.

Flying-off the Mandatory 25 Hours

Since solving the oil temperature problem there had been no changes to the aircraft, so all flying time was building towards the 25 hour requirement. Some people have told me they find this period dreadfully long; I didn't. Time-building often meant getting up at 5am and driving to CYSH to fly what time I could before work. I had a manageable water jacket temperature up to about 20C, so the early morning hours at 10-15C were ideal plus there was the added benefit of smooth air. I must have driven a few locals crazy circling



Photo 4: 2 Oil Coolers and Inlets

CYSH at 2000' those first 10-15 hours before 8am. The only issue with the airplane during this period was a cracked tail spring mounting bracket from a couple tail-first landings. I welded on a doubler and for good measure flew 10 additional hours before applying for the permanent COA. 40 hours is customary in the USA; with an experimental engine I thought it prudent to follow their example. After almost 2 years, with 53 flights and 37.7 hours flight time the restrictions were lifted. I could fly anywhere I dared and more importantly could experiment again to improve my marginal water temperature problem.

Cooling the Water Temperature

The original installation had 3 walls of the plenum built into the bottom cowl with the top section sealed by a slip-in sheet of aluminum. Next attempt to improving the water temperature was to make a one piece fiberglass plenum that sealed directly to the radiator and slipped into a mating intake scoop in the bottom cowl. I researched ducting on the internet and found an article which concluded the best shape is the "Streamlined Diffuser", it has a

defined profile, resembling a trumpet. I copied the profile into my plenum; the end result was about 5C improvement.

Theoretical models for my climb speed (80 mph) and cooling capacity (605 cu in) steered me towards increasing the intake from 40 sq in to 60 - this didn't help. I then reduced the inlet size back down to 45 sq in and moved the opening further forward to get away from the bottom cowl's boundary layer -

this didn't help but it didn't hurt either. Last cut of the intake moved it to within a few inches of the prop and squeezed the air mass closer to the center of the core before wedging it to the outer edges but again no improvement. I tried running straight water as it is supposed to cool 30% better than 50/50 water/glycol - no measureable difference. The last experiment was with a flow restrictor; there are two theories :

1) The restrictor slows the speed of the coolant through the system, giving more time within the radiator for cooling - the folly with this theory is there is also more time spent within the engine so there is no net benefit.

2) The restrictor unloads the water pump (similar to blocking the outflow of a computer fan) which reduces cavitation, i.e., the pump works more efficiently. An aluminum plate with a 0.75" hole was placed over the water pump outlet; the improvement was small, maybe 1-2 degrees C; it definitely didn't make things worse, so it is still there.

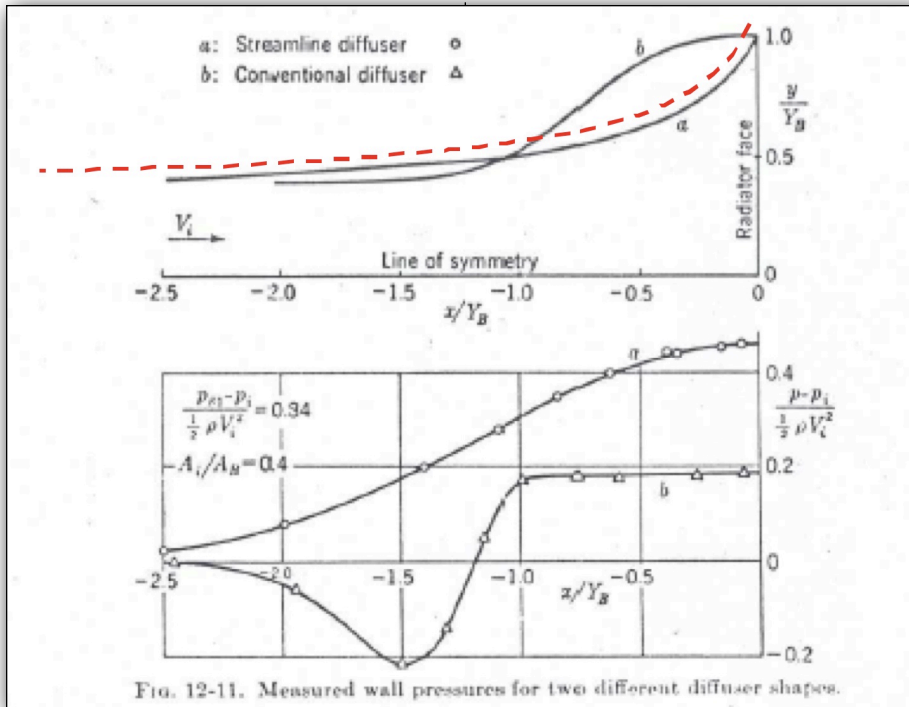


FIG. 12-11. Measured wall pressures for two different diffuser shapes.

Figure 1: Streamlined and Conventional Diffuser Profiles

Trouble in Paradise

I was just starting to really enjoy flying the airplane, mixed with trying to optimize my cooling situation when serious problems cropped up. There had been a nagging oil leak, nothing too serious but every second flight required wiping a bit of oil off the rear end housing and mount. Trying to short-cut to the solution, I tightened up the tension bolts by feel, as there was no room for a torque wrench. A few hours of flying later and still leaking oil, I checked the tension bolts again and to my horror, one was broken. These bolts are about 12" long with a 4" threaded portion at one end; the bolt broke at the threads were it entered the end-housing. With a couple left-handed drill bits, a few easy-outs, a lot of effort and help from Cary, the bolt was extracted and replaced without tearing down the engine or removing it from the mount. Unfortunately after a couple more short flights the water jacket pressure became erratic and there was some glycol on the sub-

mount. At this point I removed the exhaust to inspect the combustion chambers and found glycol inside the rear one. On top of that, one apex seal was stuck in and wouldn't spring back out. No escaping it, the engine had to be torn apart.

Engine Rebuild at 50 Hours

By no means is rebuilding an engine after 50 flight hours a good thing; however, even with a Lycoming the first 200 hours after a rebuild is the most critical: read some of Mike Busch's articles in Sport Aviation. The rotary is a pretty good engine but has its quirks; unfortunately all the problems with mine have been due to operator-error or the "learning-curve" if you like. There is a learning curve to get your installation cooling properly and another for how to manage the engine and its systems. The challenge is to keep you, your engine and airframe intact during the practical experimentation. Tightening those tension bolts to un-measured torque caused one to

break and thus the necessity to rebuild.

With more help from Cary the engine was torn apart and inspected. Inside there was one broken corner seal and one apex seal spring-set was flattened, everything else was still in good shape. Due to one broken tension bolt all were replaced with the latest generation style, i.e., thicker/stronger; apparently Mazda must have experienced problems in automotive use as well. Due to one broken corner seal all were replaced with a set of solid corner seals. Due to one flattened spring set all the RWS apex springs were replaced with OEM Mazda. The cause of the oil leak was wear to the rear oil seal from painting the rear counter weight contact surface.

We decided to make three modifications during this rebuild. First was to go with high compression rotors; (9.7:1 Vs 9.4:1) they are lighter and offer a 3% HP gain. The second was to move the PSRU oil-return port to the foot of the rear rotor housing. Last but not least was to move the oil-out port from the front aluminum cover to the front cast-iron housing; moving this port played an indirect role in my accident on 23-June-2012 – more about that in the next article. The original overhaul cost me about \$1200; this rebuild was \$300 thanks mainly to Cary's bin of surplus parts.

Back in the Air

It took two months to complete the modifications and overhaul. Curious about the potential HP increase with new higher compression rotors, I left the fuel-map alone to get a direct comparison. If there was any extra HP it was not measureable but low

power operation at idle and during descents was smoother. The engine was running great but it still had marginal cooling, more work had to be done. On top of that was my self-imposed limit of 100 trouble-free hours; considering a long trip such as Oshkosh was a long way off. It was time to put hours on the engine while considering solutions to the marginal cooling situation. After accumulating 15 more flight hours the right fuel tank started to leak.

Fuel and Exhaust System Modifications

Getting the fuel tank out, repaired and reinstalled took a long time. First it was difficult to access, second my welder of choice closed up shop and third because welder #2 didn't fix the leak properly on first attempt. The devil makes work for idle hands; with all this down-time I had to do something.

There was one last change I could make to optimize my cooling: the exhaust collector ran above and then bent down behind the radiator. With 20" of core and a 2.5" exhaust pipe, approximately 12% of radiator outlet air was being restricted. Rerouting the exhaust meant running it directly under my main fuel line and gascolator – not a good idea. There wasn't enough time to redo the exhaust before completing the tank repairs but there was time to reroute the fuel lines away from the proposed exhaust routing.

The main fuel outlet was moved from the lower left side of the firewall to the right; the gascolator was replaced with a fuel manifold and drain. This did not align well with the two EFI pumps so they were moved from a horizontal mid-firewall position to be mounted vertically above the relocated fuel outlet and manifold. To keep all

pressurized fuel in the engine compartment, the EFI fuel-return was rerouted; the original plumbing through the firewall back into the cabin-mounted header tank was replaced with a 1 liter canister in series with the fuel manifold. All good ideas for all the right reasons but again the devil is in the details. What looked like it should work did not and it cost me dearly. I had an engine failure and subsequently nose-over in a cornfield with extensive damage to the airplane but fortunately none to myself.



Jeff Whaley
EAA 313043

Timeline

1st flight 29-Nov-2008.
2nd flight 6-Dec-2008 – moved inlet forward and sealed plenum.
3rd, 31-Jan-2009, 4th, 14-Feb-2009, 5th, Apr 23-2009, 6th, Apr 29-2009.
7th, 15 Jul-2009, 8th, 1-Aug-2009.
Aug-Sep 13, 2009 – Installed first Fluidyne oil cooler.
9th, 22-Sep-2009, - Installed second Fluidyne oil cooler.
10th: 18-Oct-2009; 11th: 19-Oct-2009 ... COA Extension.
Oct 29, 2009: First dual instruction.
Nov 21, 2009: Ferry flight to CYSH.
Feb 28, 2010: Last Dual instruction ... First solo.
Jun 12, 2010: Broken Tail Spring Bracket.
Sep 09, 2010: New COA.
Jan 28, 2011: Broken Tension Bolt, New Rear Oil Seal.
Mar 20 – May 20, 2011: Overhaul, New Rotors, etc.
Jun 14, 2011: First flight after overhaul.
Apr 08 – Jun 21, 2012: Repair R Fuel tank & redo fuel pumps/lines.
Jun 23, 2012: Accident.

EXHAUST – from the Carb Heat Archives



The following was taken from Carb Heat.

30 YEARS AGO October 1982

John Richards of the Aviation Safety Bureau was the speaker at the October meeting of 1982. Mr. Richards, a recipient of the Laura Tabor-Barber award for contribution to international aviation safety, described the role of the newly founded Canadian Aviation Safety Board in improving the investigation of accidents.

Mr. Richards discussed the impact of the “microlight” movement on the more conventional homebuilt aircraft enthusiast. John also

described some of the recent aircraft accidents in Canada. Most accidents occur not from non-compliance with regulations, but from one fatal mistake he reported.

On Sunday, 24 October 1982, “The Pietenpol” flew officially for the first time! In the hands of Stan Kereliuk, NRC/NAE experimental test pilot, the flight appeared to be perfect for a flight lasting about 40 minutes. The only problem was a pitch out of trim which was remedied by an adjustment to the horizontal tailplane.

20 YEARS AGO October 1992

In October of 1992 we learned that information on the Young Eagles program was steadily trickling in from Oshkosh - the latest letter dealt with insurance coverage.

EAA already had a Chapter Ride Orientation Program which encouraged EAA chapters to organize special events offering airplane rides to the public. AVEMCO covered each

participating pilot with liability insurance and the same coverage was being made available under the Young Eagles Program, but the application form has to specify the latter program.

John Richards’ Zenith CH-300 C-FKOC had its maiden flight on Sunday October 4th 1992, with Stan Kereliuk at the controls. John also got 30 minutes of dual with Stan. Remember that day John?

Andy Douma also reported in Carb Heat that his Davis DA2B C-GYLS received its flight permit on Tuesday September 29th and he flew one circuit on Friday, October 2nd. Andy reported that after the first flight it was found necessary to alter the trim controls. “The Warp Drive carbon composite propeller seems to work very well” he said.

wayner@igs.net. Thanks.

Wayne Griese

How C-IEBJ came to lay its stakes at CYRP

By Bo Turpin

My first inkling that Carp would be a good place to tie down my, soon to be acquired, ultralight came whilst attending the open house this summer. I arrived with my partner, Josee, and was immediately impressed with the relaxed atmosphere and friendliness of the attendees and volunteers.

My second inkling, the one that 'sealed the deal' for me, came after communicating with John Montgomery, who filled me in on the advantages of EAA membership. I am now a full member BTW. John introduced me to Curtis Hillier, who was kind enough to give me the Chapter intro tour – thanks Curtis. As a side note, I stopped by one morning prior to meeting Curtis and came across Mark Briggs, who graciously put down his wrench and gave me the un-official Coles notes on the airfield its history, current politics and pros/cons of membership (we never did get to the 'cons' part) – thanks Mark.

At this point I should introduce myself, my name is Bo Turpin. I used to own a Merlin Sport GT ultralight 10 years ago, which I hangared at the Carleton Place field in Black's corners. Now after life's little interruption, I am ready to rekindle my love with floating around and burning gas. After this lengthy hiatus my U/L permit has expired and I will be redoing my ground school and dual hours to qualify once again for my permit. More than a few friends, and a



couple of chapter members, stated 'that sucks' regarding the retraining, to which I provide the standard answer "it's better to be down here wishing you were up there, than up there wishing you were down here". That statement seems to settle the matter.

For you techies, C-IEBJ is a Chinook Plus 2 Advanced ultralight which was assembled by the seller in kit form as purchased from ASAP (Aircraft Sales and Parts) of Vernon BC. In case you were curious, over 700 of these kits have been sold worldwide and Chinooks

are the most prolific Canadian ultralight to my knowledge (I'm sure I'll get a bunch of emails and phone calls correcting me but keep in mind that the Challenger kits are made in the US).

The motor is an HKS four-stroke, designed by Honda, which produces 60 HP and is both air and oil cooled.

Fuel consumption rates as stated by the manufacturer are 2-2.5 GPH. Real world stats fall around 2.5-3 GPH. With 2 strut-mounted tanks (standard kit) and 2 in-wing tanks (optional) there is a

total of 23 gallons of fuel, or 7 hours at 3GPH with a healthy



reserve. I don't think my bladder will last as long...

The acquisition of C-IEBJ came on Sept 1st in Markdale ON, just south of Owen Sound. Claude Roy, of Challenger fame, was the fairy pilot and is my flight instructor. Claude departed Markdale for Edenvale, where we met for breakfast on the morning of Sept 1st. After filling our bellies and the tanks, Claude left Edenvale for Peterborough, then after a brief stop continued on to CYRP, after again emptying and filling the tanks (bladder and fuel respectively). Great restaurant at Edenvale btw

As Claude is unavailable in September for flight training, an interesting story in and of itself, I intend to spend this time conducting inspections and maintenance as it helps with



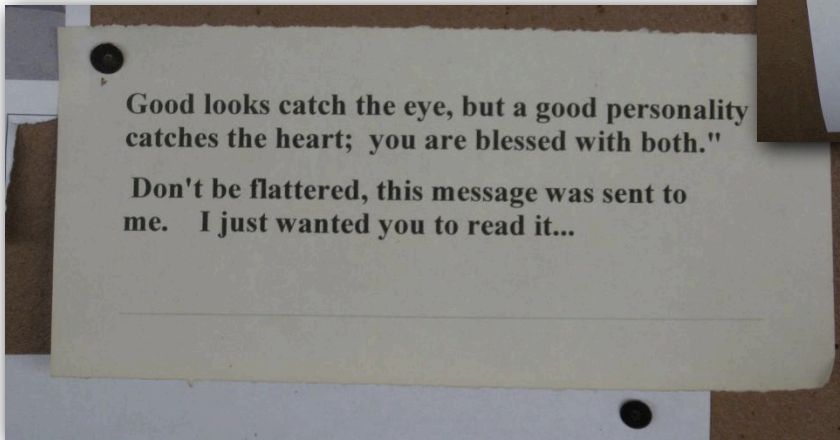
pumping up my confidence in the machine. Speaking of maintenance, I would like to thank the various chapter members who have offered their assistance/ expertise and answered my various questions. I would be remiss if I didn't single out Bill Reed for all his help, thanks Bill you're 'the man'!

If my experience to date with the membership and facilities of Chapter 245 is at all a reflection of what is to come 'let the good times roll'!

Bo Turpin

Humour picked up by Alfio Ferrara

These two notes were captured at the beautiful Fulton County airport in Indiana...



DPZ Thanksgiving Flights

By Ken Potter

Well our Fleet Canuck CF-DPZ had been down for almost two months with engine problems and annual inspection. Finally, we were ready to fly again the week before Thanksgiving. In order to break in the new cylinder we had to keep the power up for the first 10 hours or so. That means going places and we really don't need any excuse to fly places do we? Friday Bill Reed and I flew over to Smiths Falls, toured Lanark, and then meandered

2200 ft. A glance at the GPS showed that we were doing a blistering 70 mph ground speed with an airspeed of 95. With that type of performance we got to enjoy those fall colours for a full 35 minutes on the way to Westport. By the time we got to Perth the ceiling was closing in again and we



Ken Potter & Bill Reed in DPZ



dodged around clouds until, reaching Westport we were down to 800'. Bill greased DPZ in and we were marshalled to our parking spot by old friends from the local flying community.

After a great lunch with good friends we headed back, this time with a 25 mph gusty tail wind. I expected a challenging crosswind landing but as we turned final for 28, the gods were smiling and instead of a gusty crosswind from the southwest, the wind lined up straight down the runway. To the chirp of all three wheels touching at

back to Carp by way of Pakenham. Saturday October 6th was the Westport fly-in lunch. I awoke to the sound of rain, but by 08:00 it was beginning to clear at my place in Lanark which is only 20 or so miles as the crow flies from Westport. Even though it was still raining in Ottawa, Bill and I headed for the airport.

By the time we rolled DPZ out the ceiling was lifting and we were wheels up by 09:30 enjoying the spectacular fall colours from



Meech Lake! Oh Oh I better turn right

the same time (music to the ears of a taildragger pilot), we were home.

I love flying at this time of year and Thanksgiving Monday I was off again on another leaf tour. After flying over to Rockcliffe to pick up a work colleague, we headed North West over Gatineau Park to enjoy the fall colours at their peak. Skirting the restricted zone surrounding the prime minister's summer residence on Harrington Lake we swung North towards Cantley and then meandered back along the Gatineau River to Rockcliffe. After the last few flights I thought that I was really in the groove, greasing DPZ onto the ground on three wheels. My excess pride caught up to me returning to



DPZ on Approach to Runway 27 in Rockcliffe

Rockcliffe; we were too high and too fast. Bounce, Bounce (and yes I logged both landings). And rats; of course my passenger videoed the whole thing so I can't even make excuses.

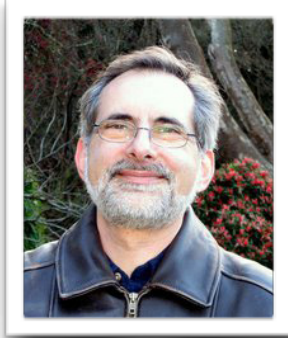


DPZ arriving Rockcliffe Thanksgiving



Bill Reed and Terry Peters took the Wittman Tailwind for a test flight a couple of weeks ago.

Gadget Corner by Alfio Ferrara



Pulse Oximeter

This month I will be introducing a new (to me) gadget... but first I must apologize for not providing part II of the dental camera review. Shirley and I have been on an epic journey across the USA with our RV9A last month, and I have fallen behind in the testing of the camera. Hopefully I will get that story completed for inclusion in next month's column.

This month's gadget is a finger pulse oximeter. This device measures the oxygen saturation in your blood using dual infrared (IR) diodes/sensors that measure the IR transmission through your finger tip (nail). In a few seconds you are presented with a pulse rate and percent oxygen saturation number. When flying, if your oxygen saturation falls below a certain threshold, you are at risk of displaying symptoms of hypoxia: headaches, fatigue, shortness of breath, a feeling of

euphoria and nausea. Transport Canada requires that you use oxygen if flying above 10,000 ft for more than 30 minutes. But the symptoms of hypoxia can appear at lower altitudes depending on an individual's physiology, especially at night where vision acuity may be impaired. While I have not found any reference regarding the effects of night flying and oxygen by Transport Canada, the FAA recommends supplemental oxygen above 5,000 ft when flying at night.

Oxygen Requirements for Unpressurized Aircraft according to Transport Canada

<http://www.tc.gc.ca/eng/civilaviation/regserv/cars/part6-605-2438.htm>

Persons for Whom Oxygen Supply Must Be Available:

1. All crew members and 10 per cent of passengers and, in any case, no less than one passenger for the entire period of flight exceeding 30 minutes at cabin-pressure-altitudes above 10,000 feet ASL but not exceeding 13,000 feet ASL
2. All persons on board the aircraft during entire period of flight at cabin-pressure-altitudes above 13,000 feet ASL



Before our vacation flight out west over the Rockies, we purchased a small pulse oximeter on www.amazon.com for \$43 shipped, (to Ogdensburg where we pick up our parcels). Our unit is the Santa Medical SM-110. This little device comes complete with lanyard, batteries and case. It has a red LED display which is highly readable in a room setting. There are several brands and models available, however I chose one that seemed to have high

volume sales and good reviews. One down side is that the display does wash out in the sun, presenting a readability issue in our RV9A on bright days (easily resolved by temporarily shading the display). There are other models with OLED displays that might have been more suitable.

We used our oximeter during our flight at high altitudes and across the Rockies. We verify that our supplemental oxygen flow is sufficient to keep us above the critical threshold, that for us seems to be in the low 90 percent range. Some pilots will tell you that they fly above 10,000 ft for long times and feel no effects. The problem with that is that hypoxia does not necessarily give you any warnings.

We're quite happy with our little device that would have cost oodles of dollars just a few years ago, but can now be had for less than an hour's worth of gas money. It provides us with some peace of mind and confirms that we are utilizing the proper amount of oxygen flow, thus minimizing waste and extending oxygen tank range.

There are some issues to be aware of though. One is the potential for a carbon monoxide leak in the cockpit which can induce false oximetry readings. We have equipped our RV9A with a carbon monoxide detector to mitigate this issue.

Disclaimer: if you decide to buy/ use such devices and/or oxygen, please consult appropriate medical and/or other appropriate resources to acquaint yourself with the proper use in an aviation setting.

Some references for further reading:

<http://www.acrox.com/reference%20pages/faq%20text.html>

<http://www.ifr-magazine.com/oxygen-and-hypoxemia.html>

<http://www.avweb.com/news/acromed/181896-1.html>

Alfio

Humour picked up by Alfio Ferrara



Last Saturday Shirley and I flew to Lindsay, Ontario CNF4. Nice little restaurant there, and a humorous sign as you leave the fenced airport.

For Sale or Rent

Place your ads by phone with Yvon Mayo 613-830-1935 or e-mail to yvonmayo@rogers.com or eea245@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

2003 **Amphib floats** 1850 on Murphy Rebel.
Manufacture Bilmar.
Construction: Kelvar, fiberglass composite, electric hydraulic, hatches, rigging, dual water rudders.
Must sell. 20,000.00\$
Contact Paul Sicard
SicardPL@xplornet.com

FOR SALE

Rotax 582 complete with 3:1 C-Box, carbs, and exhaust. 5 hours TT since new which included Rotax break in and taxi test. \$ 3,000 OBO
Call Ken Potter at 613 259 – 3242

FOR SALE

\$3,000 OBO (Price reduced from \$4,000)
Honda CAM100 engine 100 hp engine 150 hrs. complete with instruments and engine mount .
Contact Ron Johnstone 613-745-5431
ronrose@rogers.com

FOR SALE

Tom Smith's 1950 **Piper pacer PA-20**. TTSN 5110 hours. 0-320 975 Hrs SMOH, 406 ELT, two ICOM A200, Aero ski 2000 available. Price: \$25,000.
Contact Rollie @ 613-830-5346 or Charlie @ 613-487-3036.

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 Currently in flying condition.
Last annual Nov 2011. For specs see http://en.wikipedia.org/wiki/Rutan_Long-EZ

Fly-Out Possibilities

All Items Taken from the COPA Website

October 20, Ottawa, ON

(CYRO): It is my pleasure to officially announce that our 2012 Corn Roast and chili cook off has a solid date. We will be holding it on from 1100-1500 (rain date is October 21) with all proceeds going to CHEO from the event. The line-up is as follows; Volunteer chili cook off judging at 1300, RC car demonstration, classic car display, 50/50 draw, prizes for people's choice (best car), live music and much, much more. The event will be held at the Rockcliffe Flying Club, 1495 Rockcliffe Parkway.

Look forward to seeing you all there. For more information please phone 613-746-4425 for dispatch and mark@rfc.ca.

February 1-3, Montebello, QC:

The Canadian Challenger Owners Association invites Challenger owners and fans as well as all aviation enthusiasts to congregate at the Chateau Montebello for the 23rd Annual Challenger Winter Rendezvous. For more information, please contact Bryan Quickmire at bdq@challenger.ca

February 23, Ottawa River,

ON: COPA Flight 169, Mo's 24th 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. Ground frequency 122.75 and air 123.20. Ski landing recommended. A strip for airplanes on wheels will be arranged weather permitting. Landing is at your own risk. See poster. For more information, please contact Maurice Prud'Homme at 819-682-5273. RAIN OR SHINE.



Experimental Aircraft Association Chapter 245

Membership Application

New: ___ Renewal: ___
Date: _____

Name: _____

Address: _____

City/Town: _____

Prov: _____ PC: _____

Phone: (____) _____ - _____ H(____) _____ - _____ W

Email: _____

Newsletter Distribution Preference:

Email ___ or Canada Post ___

Aircraft & Registration: _____

Aviation Affiliations:

EAA Number _____ EXP Date: ___/___/___

COPA: _____ RAA: _____ UPAC: _____

OTHER: _____

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

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