



## NEWSLETTER

# Carb Heat

Hot Air and Flying Rumours

Vol 31 No. 7

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## July - August 2001

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Event Calendar

Kursefox (Part 2) by Russell Holmes

### Classifieds:

### Next Meeting:

**Saturday, July 14, 2001 10:00AM**  
**EAA Chapter 245 Hanger, Carp Airport**

Our feature presentation will be  
**A Tour of the First Air Workshop**

**Note: This months edition was also prepared by Russell Holmes so stop blaming Charles!**

President:	Gary Palmer	596-2172	gpalmer@nortelnetworks.com
Vice President:	Russell Holmes	820-8572	Russell.Holmes@city.ottawa.on.ca
Ops , Publishing, Tools:	Dick Moore	836-5554	rjmoore@uottawa.ca
Membership:	Wayne Griese	256-5439	wayner@igs.net
Secretary:	Curtis Hillier	831-6352	hillier@mosaid.com
Treasurer:	George Elliott	592-8327	gelliott@igs.net
Editor:	Charles Gregoire	828-7493	cbgregoire@sympatico.ca
Webmaster:	Martin Poettcker	271 6113	poettcker@home.com
EAA 245 Website:	<a href="http://eaa245.dhs.org/">http://eaa245.dhs.org/</a>		

**President's Page by Gary Palmer**

The countdown to Oshkosh has started, and another contingent of EAA members are gathering maps, preparing checklists, and nervously watching the value of the loonie. On that last front at least, the most recent news has been encouraging, even if the high tech employment scene has been decidedly hostile. Amongst the members planning to fly down are three intrepid amphibious **CH-701** pilots, **Ray Jones**, **Andy De Pippo**, and **Carl Bertrand**. They must be inspired by the adventures reported by Irving Slone in the Pietenpol. While the Oshkosh procedures video at first tends to be a little intimidating, further study finds our three comrades looking forward to the adventure. I know these guys are going to have a great time.

For those that do make it to Oshkosh, we try to convene at the homebuilder's centre around 4:00 PM and head out to supper together. Our favourite haunt is the Black Hawk Commons cafeteria at the University of Wisconsin; all you can eat for \$9.00, and yes that does include dessert. The only problem is you just might fail to lose any weight, despite the many miles walked each day. Another must do is the International Visitors party which is an evening of Bratwurst & Beer at the nature centre. Check in at the International tent early to register and get tickets for this event. Equally worth attending is the Homebuilders dinner, also at the Nature Centre and a bargain at \$5.00 if I recall correctly.

The **99's Poker run**, which was postponed earlier in the month, went well on its rescheduled June 24<sup>th</sup> date.

**July 1<sup>st</sup> Canada Day**

Sunday July 1<sup>st</sup> saw our usual static display of aircraft and an indoor display at the National Aviation Museum. The weather this year kept most aircraft safely at home, but **Dale and Cathy Lamport** in their RV-6A braved the rain to join in the festivities. Joining Curtis Hillier, and Martin Poettcker were **Alan Rushforth**, and **Bill Murray**, two of our newer members; thanks very much guys for a great job! Those who missed the event also missed Michael Potter's beautiful Beech Stagger Wing, and fly bys of his Spitfire MK IX in Photo Reconnaissance blue livery.

**August 11<sup>th</sup>/12<sup>th</sup> Carp EAA 245 Fly-in breakfast –Time to volunteer as Stan's Understudy**

Saturday August 11<sup>th</sup> will be the preparation morning, and Sunday August 12<sup>th</sup> the big event. Be sure to mark your calendar and sign up early to help out. **Stan Acres** is still looking for an **understudy** so he can have a well-earned rest next year. I strongly encourage you to please consider stepping forward and take on the role of Grande Chef. Stan has a smooth machine and process that is very easy to pick up, so don't be shy, give Stan or any member of the Executive a call to volunteer.

**August 11<sup>th</sup> RV-6 project visit and barbeque following Breakfast set-up.**

Following the Saturday August 11<sup>th</sup> breakfast set-up, **Russ Robinson** has kindly offered to host another chapter visit to see his RV-6 project that is on the last 90%, having passed the first 90% milestone. This is scheduled to reward those volunteers that show up in the morning to help in the set-up for Sunday.

**Looking for volunteer as Newsletter Editor**

Another reminder that **Charles Gregoire** has indicated that he wishes to pass the newsletter editor's reigns on to new blood after doing an exemplary job the past four years. This is one of the most important roles on the Executive, so we are advertising early to allow an understudy to step forward well before the October elections. Contact Charles or any member of the executive to volunteer.

**Saturday July 14<sup>th</sup> meeting @ Carp Clubhouse 10:00 AM: First Air workshop tour**

Our Saturday July 14<sup>th</sup> meeting will be held at 10:00 AM at Carp and feature a tour of the First Air workshop facilities arranged by Les Staples. This is your chance to see how the professionals do it. First Air have been very helpful to many of the members (They magnafluxed my crankshaft a couple of years ago), and we are very lucky to have them nearby (discounting the Hawker Siddley 540 run ups). See you there.

**Gary**

**Events**

**July 15, Arnprior Ontario:** COPA Flight 33 will be holding their annual fly-in breakfast from 7:30 a.m. until 11:30 a.m. at the Arnprior Airport. Contact Wilf Schwartz at 613-623-7897 or Jonathan Chapman at 613-623-7231 for information.

**July 22, Iroquois, Ontario:** 35<sup>th</sup> annual fly-in breakfast from 7:30 – 11:30 a.m. Special food line-up for pilots and passengers. Floatplane dock near airport. For more information call 613-652-2261.

**July 28, Tomvale, Ontario:** Annual fly-in. All you can eat brunch or diner for \$5. Flour bombing, spot landing, skydivers. Rain date July 29. Contact Kathy at Tel.: 613-479-2625, or e-mail: fly@tomvale.on.ca

**August 12, Carp, Ontario:** Don't forget our own fly-in breakfast, rain or shine from 8-11:30 a.m. at the EAA Chapter 245 hanger/Carp Airport. Aircraft parking available. Contact Stan Acres at Tel.: 613-839-5512.

**August 18, Gatineau, Quebec:** First Zenith owners and builders fly-in breakfast from 8 a.m. to 12 p.m., at the Gatineau Airport. Come exchange with fellow Zenith owners and builders. For more information contact: Jean-Yves Letang at Tel.: 819-561-5297; e-mail: lletang@synapse.net.

**August 19, Alexandria, Ontario:** Annual fly-in breakfast. Unicom 123.2. For more information contact Jerry Adams at Tel.: 613-525-4532.

**August 19, Kars, Ontario:** RAA Chapter fly-in and barbecue at the Kars Airport. For more information contact Dave Stroud at Tel.: 613-727-9304 or e-mail: davestroud@home.com.

**KURSEFOX*****The Ordeal Experienced by Russell Holmes After Purchasing a Completed Kitfox Model III  
(Part 2) by Russell Holmes***

That's right I own a kitfox and the wings fold and you can buy a trailer for it to bring it home from the airport. But that's not what I use it for.....I use it to bring it back to the airport.....after every forced landing!!!!

**Chafing**

During the flights to follow I became quite concerned with the EGT temperatures, which were always too hot (too lean), riding at 1200°F or above when the documentation said it should be 1150°F. By this time I had read a few articles about others experiences with these engines. All emphasized using fresh fuel, waiting until the engine reached 120°F before taking off to avoid cold seizure, changing the plugs every 25 hours and cleaning the carbon out of the rings every 50 hours. Well Bombardier must have had its Legal Department write the maintenance for the engine because it seems like the pre-flight inspection for a Rotax exceeds the annual inspection of other types. Following the recommended pre-flight inspection requires the removal of the cowling. The thorough inspection regime paid off though as it wasn't long before I found that the hose for the coolant had been rubbing against the air cleaner and had nearly chafed through. I replaced the hose and prepared for the Carp Fly-in breakfast.

**Fuel Flow**

August 97 I filled up the Kitfox and flew to Carp. The engine draws fuel from the front tank and during the flight I tried transferring fuel from the wing tanks to the front tank by diving, climbing, rocking, everything I could think of with no success. After landing I was

able to start the fuel flowing by blowing air into the wing tank until a siphon started. During the flight back I became concerned with the fuel consumption as by the time I landed most of the fuel was gone. Kars to Carp and back used up about 12 gallons of fuel, about 7.5 gallons per hour and the EGT read 1200 or more degrees. The spark plugs were black and fouled.



My Kitfox at the EAA 245 fly-in shortly after purchase in 1997

While at the breakfast I met an American pilot with a Rotax 582 which had in-flight adjustable carburetors. He told me something about sending parts to Alaska for the modifications but that was about all I could remember for the next couple of years.

I looked through all the service bulletins the factory sent me and didn't find any bulletins mentioning the fuel flow problem. I called the tech support guy and he said he came after the Model III and wasn't familiar with the airplane. I noticed in the construction manual that the fuel lines went under the door instead of over as was done in my plane, so I purchased some tubing and re-routed it as per the manual. Upon test flying the fuel still wouldn't flow. How could all of these Kitfoxes be built and I was the only one with this problem? I even installed clear flexible tubing to see if air bubbles were the cause with no success. I then got the idea to install outboard motor primer bulbs and manually start the fuel flow. This finally solved the problem. Shortly after, while glancing through the service bulletins I noticed a note at the bottom of one page, which started to address the problem but the page ended and there were no more pages. I called the factory and sure enough there were more pages which addressed the problem. They sent the missing pages which recommended routing the fuel line over the door, as was originally done and drilling a hole in the neck of the filler tube for the fuel to empty into. The factory suggested I stick with my primer bulb solution instead which I have done.

### Torque Wrenches

My first annual inspection and torque for the bolts holding the propeller must be checked so I pulled out my \$12 torque wrench and start tightening. Gee the nuts aren't getting tighter....and I haven't reached the required torque? **BANG!!!** Sixty dollars later I have a new set of nuts and bolts for the propeller and for a bit more I acquired a quality torque wrench. The landfill now has another torque wrench ..... and that's all I have to say about that!!!

### The Trailer

It was time for me to leave the hanger at Kars and I couldn't find another so I considered getting a tow bar and taking it home. The Kitfox video states "for short trips you can hook right on and tow it home for storage in your own garage..." How short is short? As it turns out when using just a towbar a maximum distance of 10 miles at no more than 25 miles per hour is recommended. So I ordered the Kitfox trailer, assembled it and took it home. Guess what? I don't know what they drive in Idaho but my car fits in my garage and my garage turns out to be about 1.5 feet too short for the Kitfox. So I kept it in the back yard with a tarp over it that winter, ice storm and all.

The plane survived the ice storm on the trailer OK but in the spring I noticed the oil reservoir for the rotary valve was empty and inspection traced the problem to a tiny pinhole in an oil line caused by a sharp burr on a bolt that the line was able to rub against.



Heading home after a day of flying

One time while unloading the plane I accidentally lowered the wheel ramps without the plane being anchored to the trailer. As soon as the ramp hit the ground the airplane started rolling off. I grabbed a wheel to stop it and the resultant torque turned the airplane and the tailwheel came off the track and fell towards the ground. Before hitting the ground a longeron hit the trailer, bending it slightly. I spent a couple of months straightening the longeron and acquiring poly fibre products and know-how so I could repair and refinish the fabric.

### Oil Seal, Piston Rings and Thermostats

Since acquiring the aircraft the oil seal for the propeller shaft was leaking a bit of oil with every flight. High EGT temperatures continued to be a problem and I wanted to check the timing as was suggested. By this time I had erected a Dome Shelter in my back yard and in March 1999 I removed the engine and took it to a Rotax repairman located at St. Lazar airport. He fixed the seal, checked the timing which was OK but found that the Piston Rings were full of carbon. He said I would have had an engine stoppage after 10 more hours. To my surprise he also told me that there was no thermostat in my engine...apparently that's the way Rotax sells them. No wonder it would take ten minutes to warm up the engine! He stressed that after the thermostat opens for the first time the temperature will drop then recover. Don't take off until after it peaks for the second time. Now the engine warms up in a reasonable few minutes but 6 minutes is the recommended minimum.

### Dome Shelter and the Mystery Holes

It wasn't long before one of my neighbours who lets her black cat Simon spend his day stocking game in my back yard despite the bylaw, became upset with my airplane shelter and complained to the by-law people. In Nepean fabric shelters are not allowed. I'll save you the details but suffice it to say that having a hanger in my back yard or moving it to my cottage didn't look to be in the cards and I wasn't going to leave my fabric covered, non waterproof Kitfox sitting outside, so I concluded I needed an Aluminum airplane and would put the works up for sale. After one month I received no enquiries and changed my mind and pulled the listing.

Nepean heard enough complaints from my neighbour that the Shelter came down and it wasn't long after that I noticed three tiny holes all in a row in my wing... not in just one spot but in five spots. I had 15 holes in my wing but why!!!!. Judging by the pattern Simon had somehow jumped onto the wing to have a look and his claws had penetrated the fabric. Five patches later the plane was ready to fly again.



### In-Flight Adjustable Carburetors

Since hearing about in-flight adjustable carburetors at the Carp fly-in I had been checking ads for the modification in all sorts of publications without success. Then by chance while calling a reference regarding puddlejumper floats for Kitfoxes the person knew something about this product and gave me the name of the company, which was Arctic Sparrow. The next day using the internet I found the company and ultimately ended up getting this alteration done for \$200 US. The system allows you to adjust while flying the high speed jets but not the middle or low speed jets. The year before I had also installed leaner low speed jets to try and smooth out the rough idle.

### First Flight 1999

I wasn't ready for my first flight in 1999 until the fall. Everything worked fine so I took off for just a circuit. On the down wind I was too high so I cut the power and descended....descended....and....descended.....by the time I turned onto final I figured I was a bit too low so I gave it some throttle and at that moment..... the engine quit! Also the propeller stopped turning. I was at about 400 feet, sinking fast and couldn't reach the field. It was at this moment that I recalled the benefits of the fighter approach as explained by an old friend of mine who flew Sabres in the fifties. "Russell, I like to do fighter approaches....with the fighter approach if the engine ever quit you can always make the field!.....What are you going to do Russell if the engine quits while your doing one of those big circuits they teach now?????"

Well I looked for a long enough field to land in but couldn't find one and thought that I'd better do something fast. I recalled the forced landing procedure which works great when your at 4000 feet and have the time but I was at about 400 feet so I held the attitude I wanted and skipped to the engine restart section. I suspected the engine had leaned out so I primed it twice and turned the key, the engine fired up and I changed the throttle setting to full and hoped I could get a good enough burst in to make the field. This had been

the longest ten seconds of my life. I was just above tree top level and fortunately the engine kept going and I landed the plane. Inspection of the engine revealed no dirt in the carburetor or other problems. I concluded that the long power-off deceleration coupled with the leaner idle jet and the increase in throttle (no accelerator pump circuit) leaned out the engine to the point where it just quit.

### Oil Pumps

My next idea to solve the plug fouling problem and misfiring problem was to mix the oil with the gas instead of using the oil pumps which could be over pumping. No change was noticed in the performance and the plugs remained fouled as always.

### Rotary Valve Seals

Around this time I started to notice oil in the fuel bowls during my pre-flight inspection. I flew it a couple of times without any problems but eventually decided to take the engine in to have the rotary valve seals replaced as was being advised by a Rotax Service Bulletin. After a week the repairman gave me a call. Apparently at some point since my last service call the engine had ingested something like a cotter pin which when through the engine damaging the rotary valve, a gear and a piston among other things. Somewhat ironic since after removal I always covered the openings with plastic bags to prevent such an occurrence. After reconstruction he tested the engine for air leaks and concluded it was sealed better than most new engines so the high EGT temps likely were not caused by an air leak and certainly will not be caused in the future by an air leak. He also told me keep the Rpm's at 5800 or more during cruise to avoid developing crankshaft problems. \$1731 dollars later I had my engine back in the airplane.

### EGT Gauge

Around the time of the oil pump test I was talking to a friend who raced skidoos, about the accuracy of the EGT gauge I was using. He described an experience he had in comparing a stock gauge such as mine against a higher quality calibrated unit and had found about a 300°F difference. Well this destroyed my confidence in my gauge once and for all and I decided to return the gauge for calibration. During removal I noted how the unit was wired since I still didn't have a schematic. Back the gauge went to the factory with a request for a schematic and a gauge for use in the winter as they sell two different gauges.

Well my old gauge came back calibrated for winter use with no explanation and no bill along with a schematic. The proper wiring was different than what I had recorded and when I attempted to duplicate the original wiring the gauge wouldn't work. Something had been wrong with the original gauge!!!!!! I purchased a summer gauge and installed it. With this unit in place the engine runs at about 1200°F with the proper factory jet settings and the spark plugs display the proper colour. I'm also getting a couple of hundred more Rpm's out of the engine as well. Problem finally solved !!!!

### Overheating

The Rotax is water cooled and after the reinstallation of the engine the coolant temperature went way past the red line on one flight. I concluded that during the engine reinstallation I had failed to get all of the air out of the engine. To do this you have to elevate the tail to get the air bubbles to travel toward the fill tube. This cured the bulk of the problem but on hot days I felt the engine should be a bit cooler so I lowered the radiator half an inch into the airflow with some effect.

### Gas!!!

On my return trip to Carleton Place from our EAA Fly-in breakfast in 2000 I noticed a strong smell of gas. When I looked toward the gas cap I noticed the windshield was broken but no sign of gas leaking. The windshield wasn't broken moments ago so how did this happen. The smell gradually went away so I continued on my flight and a while later I hit a strong thermal and this time I noticed gas coming out from under the front gas cap onto the windshield. Gas apparently will crystalize lexan and if the lexan is under bending stress it will crack and break. Sanding away some notches along the edge of the filler tube solved the leakage problem.

### Conclusion

In writing this article I've attempted to inform the reader of the many !?/\*&%\$\$\$ problems I encountered with my Kitfox, primarily to help others identify and/or avoid similar problems, especially since the experts I conversed with were not able to identify the gauge problem. Ever since I solved the mystery of the high EGT temperatures I've been able to relax a bit more while flying and have started to enjoy the aircraft. The engine is running fine now and I still plan to keep the aircraft. Over the winter I acquired amphibious lotus floats and hopefully in the months to come I'll be able to tell everyone all about flying a Kitfox off the water, land and snow... All from my late Grandmothers cottage, which I purchased finally in 1998.... and also about my hanger at the cottage ordeal.... but that's another story.

### Classifieds

Place your ads by phone with Charles Gregoire  
@ 828-7493 or e-mail to [cbgregoire@sympatico.ca](mailto:cbgregoire@sympatico.ca)  
Deadline is first of the month. Ads will run for three  
months with a renewal option of two more months.

**For Sale:**

One-Large fish tank, recently manufactured and never  
used. Material is 3/16<sup>th</sup> GP Acrylic Plexiglas that is used in  
bullet-proof operations: therefore you can keep sharks or  
MBA's in the tank. Capacity is about 42 gallons Cdn. Any  
resemblance to a canopy for a Zenith CH300 is strickly  
accidental and no unreasonable offers will be refused.  
For further information, please contact any member of  
Chapter 245 since everyone has worked on the damn  
project.

George (no canopy) Elliott      613-592-8327      05/2001

**For Sale:**

McCauley Propeller 72" 8 bolt (used on O-300) call

Jim Robinson      613 830-4317      05/2001

If anyone would like to borrow a fuselage jig for an RV-6  
or and RV-6A call

Jim Robinson      613-830-4317      05/2001

**Wanted:**

Wood propeller for Lycoming O320 E3D 150 hp for use in  
Thorp T18-Similar performance to RV4-6 (May consider  
metal propeller depending on make and model).

Lionel Robidoux      613-738-1066      04/2001

New T-hangar for Rent

Carp Airport

Call Ken for details at

839-2861

04/2001

**Tim's Parts Bin**

- Federal 1500 Skies, New old stock, no rigging      \$800.00  
- Continental O-300 Parts, Case, Acc. House, Sump, Cam,  
Rods and internals. NO CRANK      \$200.00  
- Continental O-200 Bottom end, Crank and Case  
Assembly, no cylinders or accessories, no logs or data  
plate. \$1500.00

Tim Robinson      613-824-5044      04/2001

**For Sale:**

TKM INC (A.K.A Michel Avionics) MX-300 NAV/COM  
Direct slide in Cessna replacement digital flip\_flop radio

- Comm - 760 Channels 118,000 to 136.975

- Nav - 200 channels 108.00 to 117.95 MHz

- Preselect channel storage capacity - 100

Tan colour faceplate.

MX 300 will directly replace the following units: RT308C,  
RT328A, RT328C, RT328D, RT328T, RT528A, RT528E,  
RT508A.

Check out this website for a review of this radio:

<http://www.avionix.com/rev-tkm.html>

Like new with manual. Asking \$1900.00 Cdn

Call Stuart Banks for details. 613-836-6996

[sbanks@catena.com](mailto:sbanks@catena.com)

04/2001

**For Sale**

Edo 1340 Floats J3 rigging, 1500 Fed skis teflon bottoms,  
Baby Ace 75% complete, radios, Aeronca parts, randolf  
dope, AN mil spec hardware (too much to list), props,  
Rotax 912 parts, Come and see and make an offer, Must  
Sell!!!

Larry Loretto      613-675-2301 or 613-737-2933      06/2001

**Wanted**

Old outboard motors, parts, manuals and memorabilia,  
Mercury, Johnson, Elto, Chrysler and Champion

Russell Holmes      613-820-8572      06/2001

Married to a "99" who talks continuously when you're  
trying to build?

"Get Smart" and buy a "Cone of Silence"

George (agent 86 attempts) Elliott 613-592-8327 06/2001

## Articles Wanted

I am always interested in receiving submissions for this,  
your Newsletter. You may bring articles to the monthly  
meetings, or mail information to the post office box, or  
send me an e-mail attachment at:

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



**EAA Chapter 245 Membership Application**

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**Annual Dues:** January 1st to December 31st. (porated after March31st for new members/subscribers).  
 Associate Member \_\_\_: \$30.00 Newsletter plus Chapter facilities  
 Full Member: \_\_\_: \$55.00 Newsletter, hangar, workshop, tiedowns. (Note: there is a one time \$200 initiation fee when you become a Full Member)  
 Newsletter subscriber \_\_\_: \$30.00 Newsletter  
 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, 300 Eagleson Road, Kanata,  
 Ontario, K2M 2C3

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