



Skywriter...



May 2015



Lunch at Linden with the new newsletter editor He can still fly after a long holiday.

Photo and description by Jim Corner

Monthly Newsletter of the Calgary Recreational & Ultralight Flying Club – COPA Flight 114
Our Mission: To promote safety and camaraderie amongst aviation enthusiasts.

From the Cockpit

By Bashar Hussien

The month of April was one of the greatest flying months I have ever experienced. I thought that the month of March was great because I had 13hrs of flying time, but since I flew 18hrs in the month of April, I was very happy and satisfied. Despite the fact that my work commitments stopped me from attending the Sun n Fun 2015, as I originally planned, I have no complaints. I still hope that I will fly to Oshkosh this summer.

This month I was unable to think about a specific subject for "from the cockpit" column! Unlike the other months, which I had specific and clear idea what From the Cockpit is about a few weeks ahead of publication date.

The reason behind this indecisiveness on the subject was because I was thinking about multi-issues all related to the flying. I see them as pressing issues but was not able to pick one of them. Norm reminded me twice (thanks Norm) about the article, and then I decided to talk about all of the issues. I was thinking about the declining club membership and our discussion about the need for more ultralight instructors. In the last two months, it seems that we have one instructor added to our club membership and for the first time we had three new members in one month which is great news. I am aware of another two members thinking of obtaining their instructor license. I am looking for more advancement in our goal of having more ultralight instructors so we can put more pilots in the sky.

I was also thinking about a workable business model. One that can attract new flying enthusiasts, who don't own an airplane, to come together, buy an ultralight, get their training in the plane and then enjoy the freedom of flying in their own toy. What I mean by business model is not the profit side of the equation, but the legality, administration, maintenance, insurance etc. Last month we kicked off the discussion during the monthly meeting, and I hope that we can keep the discussion going until we come to a viable solution(s) around this important issue.

The most pressing issue that I was not able to dismiss and kept thinking about is the pilot salaries, especially the junior pilots. Junior pilot salary level is low to the level makes it prohibitive to the new pilot to sustain their life without picking second and may be third day/night job to make their ends meet. It is astonishing how the aviation business is taking advantage of pilots love to fly and marginally

dampening their salaries. Junior pilots are in need to accumulate hours so they can apply for big chartered or commercial airlines jobs. With low salary for their first few hundred hours the junior pilots are forced to take other day/night jobs which negatively impact their ability to fly, which eventually places more pressure on their ability to accumulate the required air time. I understand that our club mission is not to resolve junior pilot low salaries, but I am a firm believer that the wellbeing of all the aviation industry components is necessary to the growth and the wellbeing of general aviation.

Finally, after a great winter like the one we had, I see this spring is great as well, though it is a bit windy. I hope we will have a great flying season. Make sure that your airplanes are ready, enjoy your flying and fly safely.



Calgary Recreational and Ultralight Flying Club

COPA Flight 114

Meetings are held on the second Wednesday of every month, except July and August, starting 7:00 PM at the Aerospace Museum, 4629 McCall Way NE Calgary.

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Skywriter

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Notes From the Editor

Greetings from the new editor. So there I was minding my own business, on holidays in Arizona when I got a note from a member letting me know how it was up to me to carry on in the tradition started by Bob Kirkby and continued by Ken Beanlands. Ken had been doing the newsletter for ten years and with a life changing experience fresh in his mind, Ken decided to encourage an Editor change. I thought about it and decided OK. I have some ideas about subtle changes that I would like to make but Ken has done such a great job for the last ten years, I want to keep most of the newsletter as is.

One thing I would like to try is the make the newsletter a member based forum. I want to encourage all to submit photos and quick one line descriptions for the newsletter. I would like to start a new feature called projects and destinations. I am not looking for a complete article, but if you can just take a picture or two with a quick description we can post the same in the newsletter.

Jim Corner took a picture of his KitFox and my Buzzard on the ramp at Linden and this is on the cover of this months Skywriter.

If you fly someplace a photo and a description will help bring colour and interest to the newsletter. Again I am not asking for a complete article but a photo and description will add a lot to your newsletter. This is your chance to communicate with fellow club members. Please help me make this your newsletter.

Norm

Cavalier Engine Swap - Part 3

High Oil Temperatures

Over the course of flying my Cavalier through the few days in March that were available to me, I realized that the Cav had an oil temperature issue. This wasn't a huge surprise, but it was frustrating.

The first day I flew the new engine the outside air temperature (OAT) was about 5 degrees C and the oil temperature was steady at about 205 degrees F. This was a bit troubling because the O-290's oil never exceeded 200 F except on the warmest days, and even then not by much. Was the high oil temperature the result of a new and tight engine, or was there a more intrinsic heating problem with the Cav's cowling and oil cooler set up?

After landing on the first flight the oil cooler was cold, as were the lines leading to it. It was either an airlock in the system because we hadn't filled the lines or the cooler with oil prior to running the engine, or the cooler was simply blocked.

Ken Vike, my engine over-hauler, said there should be enough ambient pressure from the engine to fill the cooler and force any air through. He also made a good point in saying that the cooler might contain a bunch of gunk from the old engine that I didn't want circulating in the new one. I tried unsuccessfully to find a place here in Calgary that flushes oil coolers. I ultimately decided that the Cav deserved a new oil cooler after more than 30 years, so I ordered one.

After installing the new cooler I flew the Cav on a day with an OAT of 10 degrees C but the oil temperature was now up to 220 degrees F. This wouldn't do.

Time to start the investigation in earnest and solve the mystery of why the oil temps were so high. First things first. I confirmed with a digital thermometer that the gauge was reading correctly. I also confirmed that the engine was pumping oil through the cooler.

But a closer look at how cooling air was getting to the cooler revealed a possible villain.

The Cav has a cowling that slopes downward from the front of the wind screen to the prop. In the top of the cowling is a set of louvers that capture air and direct it into the top of the cooler. But there is a space of about 3/4 of an inch between the cowl and the cooler that allows air to run past the cooler itself. I decided to build a shroud that would attach to the cooler and capture and forcefully direct all the louvered air through the cooler. I also confirmed the cooler is well vented on its bottom side.

Incidentally, the entire cowling exit is a good size, too, so that cooling air over the cylinders also exits well. However, a closer look at the baffle on the front right cylinder showed me I could add a bit more there to ensure proper cylinder cooling and alleviate any hot spots. In fact, my cylinder head temps are only about 300 degrees, again confirmed with a digital thermometer.

I built the oil cooler shroud using scrap aluminum and baffle seal rubber. Here's a photo of it:



I test flew this arrangement on a day with an OAT of 5 degrees C and saw a reduced oil temperature down to about 195 degrees F. That showed promise and that my problem solving was probably headed in the right direction.

Thus encouraged, I decided to continue my efforts to force more cooling air through the oil cooler. The best way to do that would be to build an air scoop that would capture and pressure air directly into the louvers feeding the cooler.

I experimented with a template I fashioned from construction paper and settled on a set of dimensions that would fit. I made the scoop from aluminum and bolted it on using AN wood washers for backing on the bottom side of the cowl. I was quite pleased with the result and think it looks a bit like a hot rod part.

Here is a photo of the scoop fitted in place without any mounting hardware:



I flew the Cav with the scoop installed on a warm spring day with an OAT of 15 degrees C. I was quite happy when the oil stayed steady at 190 degrees F. So far I'd shed about 30 degrees of excess oil temperature. The Sherlock Holmes approach was really starting to pay off.

No investigation of engine cooling would be properly complete without checking the Vernatherm, which is essentially a thermostat in the oil system. My research indicated that oil in the 320 circulates oil through the engine AND through the cooler at temperatures below about 180 to 190 degrees F. When the oil hits 180 to 190, the Vernatherm expands and seals off the port that allows the oil to bypass the cooler. Thus expanded, the Vernatherm sends ALL the engine oil through the cooler. I pulled the Vernatherm plug from the oil filter housing and learned I didn't even have one.

This obviously isn't catastrophic at all, and some engines don't even have a Vernatherm. A quick call to Vike Aeromotive and I had one in hand the next day. I installed it and went flying on a day that varied from 5 degrees to 10 degrees C, but through it all the oil only got up to 180 degrees F for a few minutes. The rest of the time it stayed steady at 170.

This may be a mixed blessing because I'm not sure if the Vernatherm actually operated. My suspicion is that it opened near 180 degrees and because the oil temperature only dropped by about 10 degrees, it wasn't enough for the Vernatherm to return to its cold setting. Thus it stayed expanded and forced the oil exclusively through the cooler. Of course, the cooler now has so much more cooling air being scooped up and rammed

through it to remove the excess heat. All tolled, I've shed an astounding 50 degrees of oil temperature.

By way of performance changes, here's what I'm seeing in my Cavalier. The IAS has increased by a minimum of 10 knots to 120 knots, which works out to just shy of 150 mph TAS. Climb is at about 1500 fpm. Fuel burn is about 7 gallons per hour running hard at 2550 rpm or more, due largely to the electronic ignition.

As spring creeps it's way into the Calgary area the days will get warmer. That's when I'll see if the cooling arrangement works as I hope it will. But at this point, I'm pretty sure that the oil cooling mystery has been solved. I also want to eventually add a couple more inches of pitch to the prop, but that will mean a different prop all together because my current one is pitched as high as it can be.

With the oil temperature mystery solved, and longer days ahead I can now focus more tightly on breaking in the engine and enjoying the reliability and longevity the new O-320 will provide for my Cavalier. There are a lot of airborne adventures out there waiting for us.

FOR SALE

Lycoming O-320-D3G, 160 hp engine, 0 SMOH, Certified engine overhauled in 2001 by Signature engines. All accessories except magnetos and alternator. Dynafocal mounts, includes exhaust system. \$12,000 OBO. please contact Ken Beanlands at (403)295-2079 or kbeanlan@telus.net (03/15)



2005 Challenger II, AULA, 220 TTSN, Rotax 503, DCDI. Full instrument panel incl. vert. compass, ball, ASI, AI, VSI, tach, EGT, CHT, fuel, voltage, GPS, radio, intercom. Throttle quadrant. Custom seats. 15 USG fuel tank. Heater. Always hangared. \$25,000. For more information, contact Ken Taylor at 403-863-2157 or ktaylor2157@gmail.com (02/15)

1960 CESSNA 150 FOR SALE. 7780 TTSN Approx 1260 SMOH Running excellent. Low oil consumption. Nav / Com. Intercom. ELT. Transponder. New ignition wiring harness. All new engine hoses. 2010 full strip and new paint. All new glass. All new exterior plastic. Seats and interior in good condition. Oleo and Shimmy Dampener O/H'd. Hangared and Flown. Great toy or time builder. Hanger space may be available at Carstairs GCB2. Contact Alex Fox \$25,400.00 403-337-0126 (06/13)

EA81 Aircraft Engine For Sale. 100 HP. 2.2 to 1 belt redrive by Reductions. Leburg electronic ignition. I have a second Leburg ignition so it can be dualled. Ran with Aeroconversions Aerocarb. Manuals for everything. Stratus Stainless steel muffler and exhaust. Custom rad with AN-20 fittings and braided stainless hoses. Engine mount fits a Kitfox IV. Very low hours. Please Contact Tim Vader at vadert@shaw.ca or 403 620-3848

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Indoor Hangar Space available to be shared at Springbank Airport – complete with heat, electrical and water - Bathroom, Kitchen, Wifi, Alarm system and digital video recording. Email: emailabellamario@gmail.com or call at Mario [403-354-8967](tel:403-354-8967) for more details

FLYING EVENTS

May 9th, Medicine Hat, AB (YXH) – COPA Flight 171 is hosting a Fly-in Breakfast will be held at the hangar from 8 am until 11am. Contact Russel Koch at 403-502-5082.

May 10th, Sundre, AB (CFN7) – Sundre Flying Club COPA Flight 146 Annual Mothers Day Breakfast served from 8AM till noon at the Sundre Airport N51 48 29 W114 40 51. For more information, contact Bruce Goodwin at 403-638-3215 or kitfox4@cciwireless.ca.

May 17th, Westlock Airport (CES4) – St. Albert Flying Club Fun Fly and BBQ, COPA Flight 61. Rain date Monday, May 18th. Pilot briefing 9AM in terminal building. For information: email: stabfc@gmail.com. Join us for a fun flying event and BBQ.

May 30th, Estevan, SK (CYEN) – COPA Flight 3, the Estevan Flying Club (EFC) and the President of the Saskatchewan Flying Farmers (SFF) are hosting a Fly-In Brunch 10:00 to 13:00. This is to celebrate 60 years of SFF as well as the EFC and COPA Flight 3 Annual Fly-In. For more information, please contact Doug Reetz at 306-421-1421 or email c2000@sasktel.net.

May 24th, Barrhead, AB (CEP3) – Barrhead Johnson Airport Annual Fly / Drive-In Breakfast. Served from 0800 until 1100. All you can eat \$8. Children 8yrs. and under free. Com 123.2, AWAAS 122.55, Runway 07/25, Asphalt 3500x 100', great aircraft parking asphalt / grass. Fuel 100LL available /cash or cheque only. Golf course adjacent to runway. For more information or T times in advance, please call 780-674-3053.

May 30th, St. Paul, AB (CEW3) – Come join us for our Annual Fly-In (or Drive-In) Breakfast from 08:00 to 11:00 at St. Paul Airport N53°59.62' W111°22.68. For more information, contact Tyler at 780-808-7094.

June 6th, Drayton Valley, AB (CER3) – COPA Flight 186 Fly-In Breakfast. For more information, please contact Guy Christie at 780-542-1073 or gcpegasus@gmail.com.

June 13th, Vegreville, AB (CEV3) – COPA Flight 191 Annual Fly-in Breakfast from 8:00 a.m. until noon. Everyone welcome! Fuel and oil available. Rain date Sunday, June 14th. For more information please contact Ed Lesfrud at lefrud@telusplanet.net.

June 18th – 20th, Winnipeg, MB – COPA Annual General Meeting. As the annual meetings have shifted away from a grand convention style, a host of activities are planned in connection with the COPA business session. Participants will be able to take part in a progressive fly-out dinner.

Tours are being arranged to visit Nav Canada's Area Control Centre, CYAV Tower, Canadian Propeller, AeroRecip, the Western Canada Aviation Museum, the Museum for Human Rights and the Polar Bear Exhibit at the Winnipeg Zoo.

So mark your calendars for June 2015, arrive June 18, take in some tours and come to the "Meet and Greet" Barbecue on June 19, participate in the COPA business, have a great lunch and continue to tour or fly to different airports on Saturday afternoon. <http://www.copawinnipeg2015.ca/> for further information.

June 21st, Morinville, AB (CMN6) – Join COPA Flight 61 Mike's Father's Day Fly-In breakfast 8:00 a.m. to 11:00 a.m. Mike and Rose Poworoznik's farm strip (CMN6). For information: email: stabfc@gmail.com.

July 9th – 11th, Arlington, WA – Arlington's annual Fly-In. For more information, please see <http://www.arlingtonflyin.org/>.



Clearwater strip at the base of the Rockies a great destination for a morning flight.

July 19th, Vulcan, AB (CFX6) – The Vulcan Flying Club and Lions Club invite you to our 40th Annual Fly-In Pancake Breakfast -- flying, driving, walking breakfast available 0800-1100. Vulcan Airport N50 23 53 W113 16 56.

July 20th – 26th, Oshkosh, WI (KOSH) – EAA Airventure 2015. EAA's annual convention. Contact Bashar if you wish to join a group flight Oshkosh.

August 9th, Westlock, AB (CES4) – COPA Flight 139 (Westlock Flying Club) will be hosting our Annual Fly-In / Drive-In Breakfast from 07:00 - 11:00. Come and join us! Admission is \$8 per person, or \$20 for a family of 4. For more information, please visit our web site at westlockflyingclub.com, or contact Dan at dan@syz.com or 780-961-2213.

August 15th, Claresholm, AB (CEJ4) – Fly-In Breakfast 8Am to 11AM at Claresholm Industrial Airport. Contact Murray Frame 403-625-3782, Jim Pedersen 403-625-3651 or email frameaviation@hotmail.com for more information

September 27th, High River, AB (CEN4) – Please join COPA Flight 81 for breakfast, also take in the Balloon Festival and River City Classic Car Club Show and Shine. Co-ordinates Latitude (N) 50 32 01 Longitude (W) 113 50 34. For more information, please email Jim Bleaney at j-sbleaney@shaw.ca. →



Shot of the clear sky off Stu's Wing near Fernie. Recent trip to Castlegar

Still working on getting all the formatting the way I want it.

Please send your photos and comments of where you have flown or any projects you have on the go.

Thanks.

Norm



Brian Byl and CF MLB in front of the Circuit Cafe

Recently got to fly to Red Deer with Brian Byl in his 195. This is an amazing airplane that transports you back in time. The shakey Jake as Brian calls it delivers fantastic power but seems like it is just idling along. Truly an experience.



Wade Miller with a plane he claims is one of the most fun planes he has flown in a long time.

Wade Miller recently purchased a KitFox Model IV. He says it is one of the most fun airplanes he has flown in a long time. He took out the measuring tape and figures he gets airborne in about 186 feet. He has ordered some larger tires and is looking forward to some back country type flying. The fox is set for quick takeoffs so cruise is only about 100mph. Great performance from a 100hp 912 Rotax.