

FEBRUARY 2007



Smokin! Garrett Komm shows off his new smoke system. Also visible is the new "Baggage Bomb" under the fuselage!

Photo by Warren Arnholtz

From The Cockpit

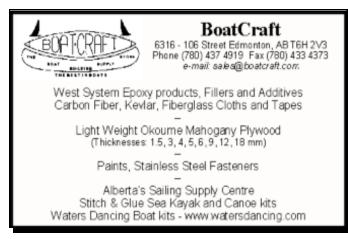
By Garrett Komm

Words Spoken Long Ago

Winter has loosened its grip on the countryside. The bitter cold has gone away for now, and we see the days' long shadows form later as the weeks go by. We are on our way to better days. Plans for the annual Dinner at Fox Hollow are coming along and we look forward to seeing a full house once again. The raffle is arriving shortly. For those who haven't purchased, make sure you buy your tickets at the next meeting. The prizes are an Icom handheld radio, a head set, and the ever popular Makita drill and accessories kit. This is one of our best fundraisers and the odds are pretty good as well. Good luck to you all.

Troy and I put on a talk about our New Brunswick trip to the RAA chapter at the SAIT hangar. What a great building and fantastic display area. If you have a chance to, please find someone to help you to get signed in for a tour. That trip seems to take on a life of its own. The stories get a little longer each time we speak of it. I intend to make it again with or without C-FTJE.

I have found another great read. It is called 'Slipping the Surly Bonds' by Dave English. It has a good variety of quotes that deal with all aspects of aviation. Some of the more fascinating ones come from the pre-flight era, long before the simplest gliders had took to the skies. It includes





quotes from Plato, da Vinci, Bleriot, the Wrights, Lindbergh, Earhart, Yeager, Gann and many others.

One of my favorites is by Ernst K. Gann:' You can always tell when a man has lost his soul to flying. The poor bastard is hopelessly committed to stopping what ever he is doing long enough to look up and make sure the aircraft purring overhead continues on course and does not suddenly fall out of the sky. It is also his bound duty to watch every aircraft within view to take off and land'. I can think of this often in my own back yard where that is the truth 365 days a year. I feel that I have one of the smartest dogs out there since he stops what he is doing and looks as well.

Another auote Charles Lindbergh: 'It was that quality that led me to aviation in the first place it was a love of the air and sky and flying, the lure of adventure, appreciation of beauty. It lay beyond the descriptive words of man-where immortality is touched through danger, where life meets death on equal plane; where man is more than man, and existence both supreme and valueless at the instant.'

I am sure that we can all appreciate the opportunity we have. What a privilege it is for the sense of freedom we enjoy. To decide where we will go and make that endeavor happen at a moments notice.

Wishing you, Tail Winds and no Bumps

Garrett Komm

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Calgary Ultralight Flying Club

COPA Flight 114

Meetings are held on the second Thursday of every month, except July and August, starting 7:00 PM at the Northeast Armoury, 1227 – 38 Avenue NE, Calgary.

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Skywriter

Skywriter is the official newsletter of the Calgary Ultralight Flying Club – COPA Flight 114, published 12 times per year

Editor: Ken Beanlands 403-295-2079 kbeanlan@telus.net

CAVU Dreams

By Ken Beanlands

Well, it's 2007 and time for new resolutions. I have a couple. Of course the old stand-by to loose weight, exercise more and eat healthy is at the top of the list, but here are a couple more:

I promise to start NO NEW PROJECTS this year. Between home renovations and building a cabin plus my various aviation projects, I never find time to finish anything!

I vow that I will finish that blasted Commercial License by June. There are a lot of excuses why I haven't finished (my instructor left, no ground school available, cabin work got in the way, etc.), but basically, I've been procrastinating. This winter, it will be top priority!

I resolve to get the Buttercup going. I've been too busy with other chores to get started on the plane. The parts kit has been sitting in my garage for nearly two years and all I've accomplished is getting the wing rib jig started. The ribs will definitely be finished this winter and I want to see the fuselage on its gear by the end of the year!

Fortunately, things are progressing well in this last area. I've been working on the wing ribs quite a bit and came upon an interesting way to build the jig. I was poking around the Hatz biplane site and came across a short article on building wing ribs by Doug MacBeth. They were using want they had termed the "High-Tech Wing Rib Jig". Hmm... that sounds interesting!

The principle behind the jig is quite simple. T-88 structural epoxy will not stick to "polyethylene, polypropylene, Teflon, or other waxy materials." What does this mean for us builders? Well, if you build the jig using acrylic materials, there should be no need to use wax paper to release your ribs.

There are several variations on how to do this, but

what I chose to do is to cut my jig from 3/4" pine shelf board, the type built up from 3/4" x 3/4" strips and laminate an acrylic



sheet to the working surface.

I laminated the drawing of the wing rib to the top of the board and then carefully cut the profile out using the band saw. The final shape was obtained using a disk sander to smooth the edge down to the line. A rough cut sheet of acrylic was screwed to the jig and trimmed to shape using a Dremel router with a tracing bit.

Before going further, I used the flat jig as a template to cut the plywood doublers needed to build the ribs. These included eight full length doublers to sandwich the four end ribs as well as the small gussets on the rest of the ribs. The Buttercup also has one rib that's smaller than the rest at the wing root. Since the rear half of this rib is the same as the rest, I cut out a 3/4" pine board for this rib as well, using the other jig as a template. Those ribs will need to wait until the fuselage is done.

With these bits done, it was time to finish the rib jig. The cap strips for the Buttercup are $\frac{1}{2}$ " wide, so I cut two $\frac{1}{8}$ " acrylic strips $1-\frac{1}{4}$ " wide and the length of the rib. These were screwed vertically to the $\frac{3}{4}$ " board along the top and bottom edges to hold the cap strips in place.

A piece of 2x4 was screwed to the bottom of the jig so that clamps could be used around the edge of the jig to hold the gussets in place. This eliminates the need to use nails in the wing rib.

Finally, blocks were cut and applied to the jig to hold the various cap strips and truss members in place until the gussets were applied. I used a couple of small blocks cut from the wing spar blanks to insure that the spar openings were the proper size. As with any wing rib jig, the most crucial measurement is the distance from spar center to spar center. I plan to use a completed wing rib to set up the jig for the smaller inboard wing rib to insure that the spar spacing is equal throughout.

Now comes the tedious task of cutting the remaining material to build the ribs – 584 pieces in total! I plan to set up a production line so that when it comes time to build the ribs, I just need to glue and clamp the appropriate parts in the right place. I hope to be able

to turn out one rib per evening. If all goes well, this will put me back on track to finish the ribs this spring!

Aircraft Engine TBO

By Ken Beanlands

There has been a lot of talk around high timed engines and the requirements for operating aircraft engines once they exceed their recommended overhaul interval time or "Time Between Overhaul" (TBO). I decided to take a look through the CAR's and Airworthiness Notices and try to interpret the true requirements.

Engine overhaul intervals can vary greatly for any given model due to a number of factors such as oil change interval, oil used, use of oil filter or screen, calendar time since the last overhaul, environmental conditions (dusty, humidity, air quality, average temperature, etc), frequency of use, how it's operated, etc. Some engines can exceed the manufacturers TBO by 100% and still be OK while others only make it to 50% of the TBO before needing to be rebuilt.

The manufacturer's recommended TBO is based on the number of hours it takes an average engine to wear components beyond their service limits. For most engines, this typically means how long it takes for the bearings or cam lobes to wear out. With proper care and regular use, wear can be minimized in the engines bottom end. Combustion gasses will tend to wear out the top end by TBO no matter how well you care for it. However, a top overhaul is typically far less expensive and time consuming than a full overhaul. In fact, a four cylinder engine can have a complete top end replacement in about a day's worth of labour. If you check the logs of most engines operating beyond their TBO's you will likely find evidence of a top overhaul in its past.

The first document I ran across is the following:

CUFC 2007 Annual Raffle

It's that time again...

Time for the 2007 Annual Raffle!

First Prize: ICOM Radio

Second Prize: Lightspeed Headset Third Prize: Makita Cordless Drill

Ticket cost: \$10.00

Draw will be done at the February 8th meeting.

Please see Dave Procyshen for tickets at the meeting or contact him at (403) 257-8064, dprocyshen@shaw.ca

Airworthiness Notice - B041, Edition 4 - 31 March 2005 Piston Engine On-Condition Maintenance Program Requirements

Which states:

"The purpose of this notice is to provide guidance in the development of on-condition piston engine maintenance programs. Air Operators and Flight Training Unit Operators may incorporate such programs in their aircraft maintenance schedules as an alternative to the manufacturer's recommended "hard time" programs."

"Flight Training Units" are fairly obvious, however, "Air Operator" is not. So, I went to CAR 101.01 for the following definitions:

"air operator" - means the holder of an air operator certificate;

"air operator certificate" - means a certificate issued under Part VII that authorizes the holder of the certificate to operate a commercial air service

OK, so the Airworthiness Notice that defines the oncondition program is very specific to certain classes of commercially operated aircraft. However, it does not specifically <u>exclude</u> privately operated aircraft from having to adhere to a "hard-time program".

COPA's "Aviation Guide" section was my next stop. The guide on Certified Aircraft made reference to CAR 625 Appendix C. Looking up that reference, the following is stated:

"6. Engines

All piston and turbine engines installed in aeroplanes and helicopters operated pursuant to CAR 406, in large aircraft operated pursuant to CAR 604, and in aircraft operated pursuant to Part VII, shall be overhauled at the intervals recommended by the engine manufacturer, or in accordance with an alternative hard time interval or an engine on-condition maintenance program approved in accordance with Appendix D.

Information Note:

No hard time, including calendar time, between overhauls need be observed in the case of small aircraft reciprocating engines in non-commercial private operation."

So, my interpretation to this is that a piston engine installed on a non-commercial aircraft can be operated beyond the manufacturer's TBO with no change in maintenance or reporting procedures. From a policy point of view, the TBO is ignored.

These are the current regulations, but I believe that there was a time when privately operated aircraft were required to go on an on-condition program once the

TBO was exceeded. Unfortunately, I could not find any evidence of this within the current CARS (some of the CAR's include the previous versions of the regulation, but not in this case)

Although you can legally ignore the TBO once it's reached, it may not be a good idea to do so. If the plane is based in a dry area (like Alberta), has been well maintained, has an oil filter, is flown over 100 hour per year) and the last overhaul was less than 10 years ago, then it's probably a good candidate for continued operation. If the last overhaul was in the 70's and it's been flown 5 hour per year and based in Florida, it's probably a very good idea to start budgeting for an overhaul in the near future.

The original engine that came with my Cessna 150 had 2200 hours when it was removed. However, it had been overhauled in 1991 and operated at a flight school for the first 10 years and 1800 hours. It had been topped around 1850 hours and, except for a worn thrust bearing, it showed little signs of wear. However, I was still much more comfortable when the new engine was hung on the nose! The engine gave an additional 400 trouble-free hours beyond TBO, but it was certainly the right time to so the swap.

I hope this helps clear up the "on-condition" issue with certified aircraft. →

COPA, Skymark Technologies Offer Free Electronic Logbook

By COPA News

COPA, in partnership with Toronto-based Skymark Technologies is pleased to offer all COPA members a free COPA Flight Log. This new COPA membership benefit is an electronic pilot log book software application that will run on your personal computer. The COPA Flight Log is designed for all pilots ranging from students to ATPL and will help simplify your flight recording.

It has many useful features including: quick and easy data entry, currency checking for both VFR and IFR pilots, history reports, customizable logbook printouts, pilot training record (PTR) for students, an airport directory, sun rise and sun set calculator, easy record back-ups and automatic tallying of flight times. The COPA Flight Log is available as a free download for any COPA member from the COPA website. To get the logbook go to the "members only section" and click on COPA Flight Log.

Skywriter Contributions

One of the biggest challenges in editing the club newsletter is getting enough material to fill the pages. Every month, it seems like the same handful of authors contribute articles to the Skywriter, but I know there are a lot more interesting stories out there.

If you have a good flying story that you enjoy telling, or you've found an interesting way to do something, please consider sharing. Have you had a particularly good flight, or a nice day of flying, jot it down and send it in. Have you uncovered a safety concern? How about letting the group know! Did you take a picture that just came out just perfect? Heck, we'll throw it on the cover!

If you're worried about your writing skills, I can certainly help edit and polish up the article. My wife Renée is great at proof reading.

Remember, it your newsletter. The more you contribute, the better it gets!

Thanks, Ken Beanlands, Skywriter Editor.

After downloading the program request a serial number from Skymark Technologies. To request a serial number, enter your name and email address in the spaces provided on the download page and click "Submit." A serial number will be emailed to you right away. The program will require you to enter both your name and serial number when you first use the software.

Skymark Technologies also offers an email update alerting service that will let you know about updates and new Skymark products. This service is optional and can be selected on the download page.

The COPA Flight Log was developed by Skymark Technologies especially for COPA members. Please contact Skymark for product support at skymark@skymarktechnologies.com. You can find complete information on all of their products at www.skymarktechnologies.com. >>



A New Plane!

By Brian Vasseur

I've been looking for a new plane for many months. It took me awhile because at first I really didn't know what I was looking for. I had some general criteria: I wanted something that was suited for cross countries, had to be at least amateur built so I could accumulate hours, needed lights and Mode C and had to be cheap... really cheap.

At first I was all over the map. Cessna 150's are plentiful and not too expensive but once they're full of fuel they're not really a 2 person airplane. I also found that the \$20K Cessna 150's aren't such great bargains. Thinking in the \$20K range left me with other options such as Taylorcraft but I also realized that any airplane without electrics wasn't going to be a good cross country airplane.

At this point I thought about partnering with someone. Wilf has been a great partner over the last five years and has only had the airplane when I wanted it...never. I'm not completely sure Wilf remembers where it's parked but it's there if he wants to fly it. I decided that eventually I would partner with someone but for now I wanted the airplane at my discretion in case I ever felt the need to get away.

I kept coming back to the Zenair 601. I've always liked the plane, they're generally not too expensive, and they're fairly common. Unfortunately many of them are registered as AULA's (which I don't want) or weren't conveniently located. This did lead me to the Zenair CH-200/250/300 series which is the big brother to the 601.

After researching these and talking to people who had them for sale I decided to arrange flights to see a couple of them. According to the Transport Canada database there's three of these in Springbank but the addresses on file aren't accurate and I couldn't locate the owners. In the meantime I got a chance to fly Wade Millers C-140. It's a really nice plane with an upgrade to a Continental O-200, new radio, recent refinishing and it was local. It was certainly worthy of serious consideration at the time.

I finally got a nice day to go to Denver after US Thanksgiving and flew a CH-250 there. It was a trike with a Lycoming O-290 and I'd heard good things about it. Construction wise, it was flawless with unusual extras such as flush riveting. Doug, the current owner, had installed new radios, external oil filter and panel lighting. It had the centre stick like the Merlins with the throttles at the side of the panel which go up and down instead of in and out.



Brian's new pride and joy sitting in her old home in Salmon Arm, British Columbia.

A few weeks later I got out to Salmon Arm to see a taildragger Zenair CH-250 there. It has a Lycoming O-320, was well built and after test flying it I found it was quite fast. It's a bit over-propped for our altitude and a grass strip but that's easily remedied. (As it turned out this was something I'd have to take care of sooner rather than later). After thinking about it for a couple days we agreed on a price and I sent a deposit. The owner was able to deliver it on December 17th.

I haven't had a chance to fly it yet other than the orientation flights by the owner but I think I'll be happy with it. It's not a bad looking plane, handles well, and should be a good cross country airplane. It's not as roomy as an RV-9, but at half the price I can be flexible in my expectations.

I've learned a lot through the process, and I found it a lot harder than I expected to find the right plane. I had set my price expectations too low based on ads I had seen. Once I got close-up pictures of potential planes or saw them firsthand I realized that I wouldn't be happy with a plane that looked tired or was going to need TLC to be reliable. After a few months I accepted that \$30K was a more realistic target for something that had everything I was looking for.

I tend to over analyze things and I was constantly looking for what was the best value for the dollar. Eventually I changed my thinking to finding the plane that I might want, and accepting that this was the price for that airplane. Unlike cars or Cessna 150's, where there's a lot of them to compare and get a reasonable price, homebuilts don't always follow the same commodity pricing.

If I was going to do this again I'd have more realistic expectations. I spent too long looking for that



Brian's New CH-250 makes it's way from Salmon Arm to its new home in Chestemere.

fantastic deal and missed some good opportunities. I'd stay away from US airplanes unless it's a one of a kind or an exceptional deal. I'd also look close to home as it is difficult to arrange to see a plane on a day that's a good flying day and everyone can be away from work.

One final comment is insurance. I knew that with only 230 hours and no recent taildragger time that there would be some limits or additional requirements for me to get insurance on this airplane before I bought it. I decided to go ahead, knowing that I was buying this airplane and would be putting several hundred hours on it, and that this was really a short term problem that I only had to take care of once.

Based on some references I chose Park Aviation as a broker to find me a good package, however they came back with nothing. Not even any suggestions, just uninsurable. After a few more e-mails, including one to the brokerage owner, the only thing they offered was that obtaining 20 hours of taildragger time might help. A broker makes 20-25% on the policy so there was some incentive for them to try a little harder.

My next action was to submit an online form with Marsh to see what they might come up with. Almost

CUFC 2007 Annual Dues

Please remember to pay your 2007 Dues at the next meeting. If you don't plan on attending, please send your \$25.00 dues to:

Ken Taylor 90 Mt Douglas Villas SE Calgary, AB T2Z 3R5 immediately I got a follow-up phone call to clarify a few items and got a quote in less than 24 hours. The price was much better than I expected (around \$1500) and the only requirement was 10 hours with an instructor which I had planned to do anyway.

It's going to be a treat to go somewhere at more than 65 mph, and have fewer reasons to be stuck at an airport inside an aluminum tube when I'm not able to drive.

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CUFC Annual Dinner and Silent Auction SOLD OUT!

Mark your calendars for the CUFC Annual Dinner and Silent Auction.

Location: Fox Hollow Golf Course
Date: February 24, 2007.
Time: Cocktails 5:00-6:00 PM.

Dinner 6:00-7:30 PM

Live auction starts at 9:30 PM
Meal: Alberta Beef Buffet with salads
Cost: \$25.00 each (\$50.00 per couple)

60 tickets available

Contact: Dave Procyshen for tickets home

(403) 257-8064 or dprocyshen@shaw.ca

Please remember to bring an item for the Silent Auction

<u>April 17 – 23, Lakeland, FL</u> – Sun 'n Fun Fly-in! This is the first of the national fly-in's. For complete details, please see http://www.sun-n-fun.org/

<u>July 11 – 15, Arlington, WA</u> – Arlington Northwest EAA Fly-In and Sport Aviation Convention. This makes a great 3-4 day, long weekend camping trip for Calgarians. For complete details and to book your camp spots on-line, see http://www.nweaa.org/

<u>July 23 – 27, Oshkosh, WI</u> – AirVenture 2007! Need I say more? If you are interested in participating in a convoy flight to Oshkosh this summer, please contact Ken Beanlands <u>kbeanlan@telus.net</u>. For complete details, please see: http://www.airventure.org/

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RX 550 Beaver TTE 140 hrs Rotax oil-injected 582 with 3 blade Powerfin ground adjustable prop. Complete with wing tanks. All skins U.V. clear coated as well as wing upgrade. Full panel with GPS, custom cargo bags, and several extras. Dual helmet/headset with intercom and PTT also available. Always hangared. A very reliable airplane! \$12,500 Contact Darrell Booth email: dbooth1@shaw.ca or 938-3379 (02/07)

1968 Cessna 150 H. 5200 TTSN, 150 SMOH (2004 engine), prop O/H in 2006, Sky-Tec "push-button" starter, oil filter kit, Challenger K&N filter kit. New avionics upgrade including: King KX-125 with glideslope, Garmin GTX-320A Transponder with Mode C encoder and PSE PMA6000M-C audio panel/intercom. STOL features include flap gap seals and VG's. Numerous interior upgrades. Sold with fresh annual. Asking \$35,000. Contact Ken Beanlands (403)295-2079 or kbeanlan@telus.net (10/06)

Beaver RX 550, 422 hr TTAF, 90 hr since total rebuild. 100hp Subaru, 3 blade warp drive prop, Mono 2000 amphib floats with electric retract, all surfaces in Cenconite with Polytone, extra wing tanks, carb heat, radio intercom, GPS, full gauges. Will consider interesting trade for single seat UL. Always hangered in Kaslo B.C. \$14,000.00. Contact: Russ White - umm48611@telus.net (09/06)

1987 Challenger II, 447 Rotax rebuilt, new fabric on fuselage, new upholstery, new wheel pants, panel, 157-TTSN, very clean airplane, can be seen at Glen Bishell's airstrip. \$13000. Ken Johnson - 546-2586 (06/06)

ASTROTECH Aircraft Chronograph Digital Clock and stop watch, panel mount in 2 ½ " round hole, Model LC-2...\$25.00 (06/06)

<u>DAVTRON Aircraft Outside Temperature Gauge</u> (reads in celcius), digital incandescent readout, panel mount, full face size is 1 3/8"h x 2 7/8"w and window is 1 3/8w x ¾"h, Model M301c...\$25.00. Calvin Thorne, cell (403) 860-7582 or home (403)932-4325, email cbthorne@telus.net (06/06)

INSURANCE REMINDER

COPA/Marsh Silver Wings Insurance plans expire on December 31!

Also, remember that the COPA insurance plan requires a valid COPA National membership.

Notice: Classified ads are free to CUFC members. Contact Ken Beanlands by e-mail to place or renew your ad (see masthead). Ads will be dropped after 6 months unless renewed.

1947 Aeronca Super Chief 11BC - 1610 TTSN, C85-8F, 910 SMOH, 110 SPOH. Looks and flies beautifully. Cruise at 95 mph. Stall at 38 mph. Comes complete with hand held radio with external antenna and intercom. Buy today, fly tomorrow, and for about the same price as a kit. \$31,500. Call Mike Sweere for more details. 337-4860(h), 809-9353(c) or mmsweere@xplornet.com (05/06)

Oak and Glass Sales Counter, Has two sliding front glass doors with lock, two large glass panels on the top and a glass panel on each of the sides, interior has two levels of adjustable glass shelving & interior lamp strips. \$325.00 Calvin Thorne, cell (403) 860-7582 or home (403) 932-4325, email cbthorne@telus.net, photos of unit are available by email. (04/06)

1998 Challenger II - Professionally built, only 170hrs on LES maintained & chromed exhaust recently installed. Beautiful paint, custom seats, ICom3, always hangared, \$27,000. Call Trey @ 698-4820 or email for photos - trey.petty@gmail.com (02/06)

Rotax 503-with gearbox 80 hrs since OH dual carb, point ignition, manual start c/w muffler, spinner. \$1200.00. Contact: Barry Wood (403)935-4609 or barryleewood@hotmail.com (11/05)

89 single Seat Chinook; 447 rotax 348 TTSN 76 SOH. new wings and tail. John 239-0289 (11/05)

<u>Volvo aluminum block V6 DOHC,</u> supposedly rebuilt. Offers or \$250 delivered. Doug Fortune pentam@shaw.ca 284-3945 (11/05)

TEAM Tandem AirBike - pre-welded fuselage, c/w full set of plans and manuals for Single Place including welding plans and stress analysis, and partial plans for Tandem. \$2000.00 obo. Dave Goldsmith, Calgary, (403) 289-9310 (09/05)

