



# Skywriter



Monthly newsletter of the Calgary Ultralight Flying Club - COPA Flight 114

## JANUARY 2007



*Al Botting flies the Vag, a wonderful throwback to a different era. See Stu Simpson's story "This Gift of Time".  
Photo by Stu Simpson*

# From The Cockpit

By Garrett Komm

Now what are you Makin'?

Well the shopping malls are not as crowded as they once were. Another week long festival has come and gone, with the vow that we won't eat that much for a while. I have been trying to get my new old welder to work as it will have to go to the shop in the middle of January. I bought it for a really good price but you get what you pay for. I spent more on wiring and breakers than for the whole machine.

I have had two projects that were recently completed. I made a cargo pod for the Korsair and I was able to make it in the shape of an under fuselage type 500lb bomb. It has a hinge on it for storing stuff inside. I used timed out 10lb propane bottle. Took the top and bottom off of it and extended the middle. I had hard points on the frame that I attached it to. It looks a bit cartoonish,... just the way I like it.

The other project was a smoke system. After reading what a number of other pilots had done I used some of the best ideas to make my own. I tested it earlier and was happy to report that I did not set the plane on

fire. It uses an electric fuel pump and a line that runs to the tail pipe. I made my own connections, (The welder that my wife bought me for Christmas four years ago is still paying off.). Once the fuel is delivered to the tail pipe it is heated enough to boil but not ignite the diesel and oil mix. I tried it on the ground and the whole plane was covered and smelt like an eighteen wheeler.

At lower RPM and on the ground the air flow and heat aren't enough and it goes everywhere 360 degrees around the plane. In the air and at cruise power it works like an air show act. If I fly slower than that, I am looking for the sudsy brush. On a gallon of mix I have about four minutes of smoke. At that rate my cost per hour just went up. Thanks to Elmer for the first batch of videos.

I am looking forward to the next project the GK2. I will be able to start it in the new year... more fiddling and more welding. Just the way I like it.

Wishing you,

Tail Winds and No Bumps  
→

## Skywriter

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

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# CAVU Dreams

By Ken Beanlands

Merry Christmas everyone and a Happy New Year! I hope everyone had a great holiday season and that Santa was kind! Did anyone get a new set of plans... or even a new kit for Christmas?

Santa Renée brought me a new digital camera, a Panasonic Lumix TZ1. I love my old camera (Lumix FZ 20) but it's a bit too bulky for using in the plane. Most of the small point-and-shoot are the perfect size to shoot and fly with, but they have a very limited zoom capability (3-5x optical). The TZ1 is slightly larger than the average compact camera, but it has a 10X optical zoom with an image stabilizer, a 2.5" screen and an aerial photography mode! It also has a very nice video mode that even allows widescreen filming and zooming while filming. The only thing left is a bean bag mount so I can set up the camera on the dash and film hands-free fore or aft. This thing is perfect!

December has been a great month for flying with very mild weather through the Christmas season. We had a wonderful Saturday morning fly-out on December 9<sup>th</sup> to Tipitinas. Glenn Bishell had arranged with the Tipitina management to be open on Saturday and cater an event for us. We had a great turn out with about 13 aircraft and about 25 folks showing up. Tipitinas prepared a great homemade breakfast for us and everyone left full and contented. Almost everyone met back at Bishell's place for a bit of hanger flying and to watch Ralph perform a spectacular "missed approach" in the RV-7A.

Work is slowly progressing on the Buttercup. Things

*Pat Cuningham, Stu Simpson and Al Botting meet for a pre-flight briefing after a feed at Tipitina's*



*Al's Christavia and Mike's Aeronca at Tipitinas*

got a little delayed with some surprise home renovations. It's a long story that involves my little white GMC truck getting destroyed, which led me to meeting a dry-waller... Anyway, I've almost completed the wing rib jig and have started cutting bits for their construction.

Things on the Cessna 150 front are also progressing well. I believe I've found a buyer, but one of the conditions is that I deliver the plane... to Ottawa! This is not something I look forward to in the middle of a Canadian winter! Although the aircraft has been extremely reliable, I'm worried about finding facilities to de-ice the flight surfaces and pre-heat the engine.

Speaking of engines, I've had a chance to do a little more research on the engine for the Buttercup. I've been planning on rebuilding and installing the O-200 we removed from the Cessna 150 last year. So far, I've been really impressed with the little engine and I couldn't help but think how well an O-200 would work on an ultralight.

Lets face it, most folks choose to use a 2-stroke to avoid the high purchase costs of the available 4-stroke engines. For those interested in 4-strokes, there are only a few options. First, there are the certified 4-strokes. These include the Lycomings, Continentals, Franklins. These engines are old technology but very reliable engines with a fairly low operational cost. They do tend to be heavier than most of the other options, but not excessively so.

Next would be the non-certified sport aircraft engines. These would include the Rotax 900 series engines (granted, some are certified), the Jabiru, the Rotech radials, and various others. These are generally lighter engines with a reasonable reliability rating. Unfortunately, some of these engines are released before they are ready. This leads to expensive field modifications to continue operating safely. From a cost perspective, they are less expensive than new certified engines but have a similar operating cost.

Finally, there are the automotive conversions. Generally, these hold the promise of inexpensive

power for the budget project. Unfortunately, this category tends to be the least reliable of the 4-stroke engines, and typically end up costing much more than first budgeted.

Fortunately, there is a reasonable option out there, the little four cylinder Continentals, and the O-200 specifically, make a great option. They are relatively light at around 200-225 lbs range (depending on electric options chosen). Also, they are extremely reliable with millions of flight hours behind them and an 1800 hour TBO (easily extended with regular use). Although they cost nearly \$20,000 new, there are less expensive options. The O-200 is one of the cheapest engines to overhaul. Often, you can find overhauled O-200's on Barnstormers or Trade-a-Plane for around \$10,000. Cores generally go for \$2500-\$4000 and you can do your own overhaul for around \$5000-\$6000. Compared to a Lycoming O-235, the parts costs are quite good. New Titan cylinders cost about \$650 USD, versus \$1300 USD for the O-235. Crankshafts are about 1/3 the cost of the Lycomings (\$1500 vs. \$5000).

From an operational standpoint, they are very inexpensive to live with. Fuel burn depends on throttle setting, but even at full throttle, the C-150 usually burns about 5.0-5.5 GPH at our elevation. Although I normally burn 100 LL, the O-200 is quite happy burning Mogas. Many homebuilt projects, even kits, have issues with cooling, both cylinder heads and oil. The low compression ratio of the O-200 not only allows you to burn cheap fuel, but also generates very little heat, making them easy to cowl and cool.

With a \$250 oil filter kit from Wag Aero, oil changes need only be done every 50 hours. Plugs are expensive (about \$160 per set), but with proper maintenance and cleaning, two sets can last the life of the engine.

Although the overhaul interval is 1800 hours, they will generally go well beyond this with proper maintenance and regular use. The engine we pulled off the C-150 had just under 2200 hours. We had assumed that the engine was starting to run rough, but it turned out to be worn rubber bushings between the engine and the mount. They were completely eroded away after 2200 hours and 15 ears of use. The only sign of wear on the engine was the thrust bearing. The end-play of the crankshaft (the distance the crankshaft moves fore and aft) was at limits.

This leads to another advantage of the O-200. Since it powered one of the most prolific aircraft of all time, the Cessna 150, there are lots of parts and spares available. Need an exhaust system, no problem. How about an air box and filter kit, easily available.

Numerous Cessna 150 props are available on the used market at reasonable prices. Unfortunately,

150's utilizes a 69" prop to maintain proper ground clearance. A 71-72" diameter prop will work much better on the typical ultralight with taller gear legs.

There are a lot of sources for this engine. If you have the cash, you can buy one new from Continental (yup, they are still in production) in either the certified version (what you'd find on a Cessna 150) or a new LSA version (with lightweight starter, alternator, oil filter kit, electronic ignition, etc.). I also heard this summer that there is a new IO-200 fuel injected version using similar technology to the IO-240.

If, like most of us, the price of new engine is out of reach, then you can buy an overhauled engine from one of the various overhaul shops. These will range from \$10,000 for an A&P overhaul (overhauled cylinders and accessories) up to \$15,000 for one from a certified shop with new cylinders and accessories.

Finally, there is the builder overhaul. This will run about \$8000-\$12,000 depending on the condition of your core and the accessories you choose. The advantage of this approach is that you can use all new parts and still come in around the \$10,000 mark. The engine itself is relatively simple and easy to overhaul.

As a result of all this, I've decided to do my own overhaul on the core left over from the Cessna 150. Of course, the choice was made easy since I already have the engine, and it's the recommended model for the Buttercup.

Oh well, enough babbling. I hope you and yours have a wonderful new year! →

*The ubiquitous little O-200 engine as removed. This workhorse has just under 2200 hours of abuse hauling 1600 pounds of student piloted Cessna 150 around the sky.*



# The Gift of Time

By Stu Simpson

Time plays a crucial part in nearly everything we do as aviators. Most critically, of course, it tells us when we have to land, because there will come a time when the fuel gauge reads empty and gravity will forcefully remind us of our own mortality. I like the old Transport Canada poster that gravely proclaims "That's time in your tanks".

Time is also a way for pilots to keep score, a way of measuring who has the biggest, uh... log book. It often seems he who dies with the most hours wins. Other things being equal, we seem to naturally respect pilots who have a higher number of flying hours. Of course, it's important to remember that anyone with 10,000 hours at some point had 10.

Time is important to our airplanes, too. The number of hours an airplane has under its wings tells a lot about it; things like how the airplane's been flown, and maybe by whom. Alternatively, an airplane's age may also give it a certain value. The date it was built might cause a pilot to stare misty-eyed into the sky and dream of a different, simpler time when Cubs, Vagabonds and Taylorcrafts ruled the lower regions of the sky. Time tells whether I need to change the oil in my airplane's engine. Time tells if a helicopter's rotor blades need replacement. And like it or not, time tells each of us when we're used up, too.

But to me, time is so much more than just a measuring stick. When it comes to airplanes, I think of time as a gift. The more time I get in the sky, the more cherished the gift.

For instance, some guys I know love speed. There are few things that excite them as much as 200 mph. They want to get into the sky, go as fast as they can, and

*For guys like Andy Gustafsson, the journey in the sky is the destination. By Stu Simpson*



get there, all in the shortest possible time. After all, speed is really just a function of time.

I subscribe to a different logic. For me, speed just isn't where it's at. I don't need a lot of speed with my airplane. Fact is, I prefer to go slow. If I go too fast, I get there too soon and I don't get to fly as long. I don't really have any place to go, anyway. I've no family far away that I visit regularly (though I did fly a few hundred miles to see my folks, recently). Nor do I use my airplane for business travel. For me, and most of the guys I fly with, the journey really is the destination. And the destination is always an adventure. Wherever I end up is pretty much where I want to be, as long as I flew there. If I have at least some airspeed I'll be content.

I miss too much if I go fast. I don't get time to see the fields beneath, or the rivers, mountains or clouds. When I fly Merl I get to really see the world. I see where people live, what their towns look like, where they've built roads and water towers and gardens. I see the things I want to see. Going any faster I might not have the time to watch and enjoy all that.

Yup, Merl and I cruise along at about 80 mph, and I do get to fly a little longer. Oh, I know it helps to have a little extra go when the sun's getting weak and the wind's getting strong. But if I went any faster I'd lose time and flying would just be too easy.

I like to truly appreciate each second I'm aloft, to enjoy where I'm at, what I'm doing and the people I'm with. On each flight I look at the world in a new light, looking for things I've never seen before. I take time to enjoy the subtle shades of sunlight bouncing off the Rockies during a winter inversion. I look for the beauty in the planes flying off my wing, to see the sun dazzling off their fabric, or throwing tiny shadows past their rivets. And yes, we really do fly close enough to see all that.

I also use the time to enjoy Merl. I try on each flight to cement in my memory the feel of the controls, the way I pull the stick when we climb. I absorb the gentle bounces and the minute sensations of each flight. I take time to feel what it is to fly, to have Merl at my whim, to sense the tilt of the wings – to really *feel* it - as we bank into a turn. Indeed, I try to get the absolute most out of the time in my tanks.

You see, I know that someday this will all be gone. There'll come a time when I can't fly, when Merl, whose engine dates from before the middle of the last century, will be no more. I know there'll be a day when I look up at a plane in the sky and say "I used to do that". And young people will stare at me and wonder what it was really like to go up in machines that burned 100LL and took thrust from propellers, of all things.



*The author and Merl. Photo by Andy Gustafsson*

Time, in fact, is one of the main reasons I write of flying. It's my feeble attempt to actually capture some time, to harness it and hold it back so that far from now I, or someone else, can read my scribbles, return to this time and know again how it feels to fly - not merely drive - a small, simple airplane around the sky.

And, too, many years from now, the writing will help me remember after they're gone, the men and the airplanes with whom I've flown. It gives me a chance to say now that I'm glad I've known you; glad for all the time I've spent just off your wing; glad that I've shared with you the wind and known what it truly means to fly; that I'm glad for this gift of time.

→

# Flying Events

April 17 – 23, Lakeland, FL – 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/>

July 11 – 15, Arlington, WA – 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/>

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

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## CUFC Annual Dinner and Silent Auction

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 Procysen for tickets home  
(403) 257-8064 or  
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Please remember to bring an item for the Silent Auction

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ASTROTECH Aircraft Chronograph Digital Clock and stop watch, panel mount in 2 1/4 " round hole, Model LC-2...\$25.00 (06/06)

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## 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.*

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)

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