



Skywriter...



April 2013



Another beautiful winter day for flying. Photo by Stu Simpson.

From the Cockpit

By Norm Vienneau

How safe is flying ultralights and recreational aircraft. I was perusing a magazine recently and came across an article on general aviation safety. It was quoting statistics from various publications and the EAA and made arguments that while general aviation did not share the high safety stats that commercial aviation did, it was better than automobile stats. I did some Internet searches to try to and grab more info on aviation safety and could not find any clear and definitive answers to how safe recreational flying might actually be. There are arguments that the saying "the most dangerous part of the Saturday flight is the car ride to the airport" is simply not true. Statistics are a funny thing and I have heard that the interpretation of statistics can twist the truth.

I don't know if you have heard the most dangerous statement a pilot can make is "I will be there Sunday the 6th at 5 PM". Using recreational aircraft as a means of transportation is where the average Sunday pilot can run into trouble. When the average recreational pilot has a bad case of get-home-itis, all kinds of bad things can happen. This is one of the things that kept running through my mind about the delivery of the Avid. A trip to Brandon in an ultralight is something that is on my bucket list (actually, I want to go to Northwestern Ontario) but trying to do this in a single day means about eight hours in a small

cockpit with three or four one hour stops. A twelve-hour day might not be survivable by this old body. And fatigue is one of the contributing factors to aviation accidents.

My research shows that accidents are usually attributed to many little things compounding to add up to a bad outcome. So let's see, we have a long trip, (fatigue factor) with weather that might be unpredictable (second strike) and a pilot with little cross-country experience (strike three). I was somewhat relieved although disappointed when the purchaser offered to pick-up.

So how safe is ultralight flight.

Ever hear the expression "Ultralights fly just fast enough to almost kill you"

You will find the fatality rates for ultralight flights are much lower than general aviation. While the typical ultralight lands at 35 MPH or so, most general aviation aircraft are well above 60 MPH. Ultralights also slow down much quicker than general aviation planes because weights are far less. Not trying to be one of the guys from Big Bang Theory but $E=MC^2$, so as speed and mass increase the impact also increases exponentially ultralights hit the ground with much less force and incidents tend to be more survivable than in general aviation

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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planes. Of course, depending on the aircraft, some provide better protection to the occupants. (Does this follow that the heavier the occupant the worse the impact?)

The big advantage that ultralight pilots have is, we look at the sky think, "it's a good day to fly". We take to the air, knowing if the weather looks good we are probably not going to fly far enough to fly into bad weather (Please make sure you check your METAR's and TAF's). If the air is bumpy or the wind too much, most just return to the runway and wait for another day.

With general aviation aircraft you may end up flying into a weather system that you should not because of the increased range and speed of the aircraft you are flying.

So with the two leading causes being weather and pilot error it is easy to see that flying the ultralight

can present you with a safe alternative for recreational flying.

The only other thing that should be mentioned is the 2-stroke engine and failure rates.

The 2-Stroke engine can be a reliable means to power an Ultralight aircraft but there are some rules that must be followed. The biggest single thing that can improve 2-Stroke reliability is a good warm up. Don't trust just a CHT or EGT to determine warm up, although those gauges are a necessary place to start.

Remember that the 2-Stroke is made up of many different parts, made of many different materials. The pistons are aluminum, the case is aluminum, but the rings and piston sleeves are steel. These parts warm at different rates and expand and contract at different rates. Allow at least eight minutes of warm up to be sure all parts are ready to go. (I prefer 12 minutes) Even if you have been running the motor for a flight and shut down for five minutes as you landed to talk

to your buddies, it is wise to re-warm for at least five minutes. Some even say that the throttle should be added to keep the motor warm on a long descent. The big thing for 2-Strokes is to make sure it stays warm and within the operating parameters.

There are a number of other things that are important with 2-strokes, from keeping the crankcase seals in good shape, keeping the carb rubbers good, fuel delivery system clean, proper operation of the Bing carbs, needles and jets and the list goes on. But the number one thing that needs to be watched at all times if your motor is running well is the temperatures, and a good warm up time.

So in closing "How safe are ultralights" I think a large part of the equation is the pilot and his habits. There are many that are so eager to fly that there is little thought about safety, there are some that just have bad piloting skills, and there are those that fly in conditions that are beyond their abilities, but overall I believe Ultralights give us a freedom to fly, at a reduced cost, in safe and reliable aircraft.

So in closing let's check our habits and go over the plane once more. Maybe have someone else do your pre-flight for a fresh set of eyes. Build a new checklist and use it. As much as I enjoy the media attention I don't want to have to explain to media why we have had three accidents in a short time again this summer.

Guest speaker this month is our man Stu Simpson giving tips on video production for aircraft. The month of May will see us review the self-study program so we can attach to the logbooks and June's meeting will feature an evening Barbeque to kick off the summer.

My wife Judy is quite artistic and a member of the Lettering Arts Guild. I have attached a painting that



Judy did for my Birthday and it shows a combo of my favorite style plane (early Sopwith type with the raked tail) with C-IJJ lettering.

Till next time... Good Lies and Smooth Skies. →

CAVU Dreams

By Ken Bearlands

Unfortunately, this month has not been stellar for flying. Poor weather and muddy field have left many of us ground bound. Fortunately, the end is in sight if you can believe the long range weather forecasts.

Having had the advantage of reading Norm's column before the rest of the membership, I thought it might be worthwhile commenting on it from a general aviation pilot's point of view.

Norm made a couple of comments illustrating how ultralights may be safer than general aviation type aircraft, but it's interesting to note that the definition of "ultralight" has changed over the past few decades. Years ago, the ultralight field was dominated by Lazairs, Weedhoppers and other light aircraft at or around that magical 254 lbs empty weight. An Avid Flyer would have been seen as a "general aviation" aircraft due to its weight, speed and registration. Today, with aircraft like the 180 mph KR-2 and 140 mph Sonerais being registered as ultralights, while J-3 Cubs and Aeronca Champs fall into the general aviation category, the waters become quite muddy.

A couple of years ago I flew a Flight Design CTSW ultralight and wrote a comparison article to the Cessna 150 I owned at the time. In every respect, the CTSW outperformed the 150 except for stall speed, which was the same. In fact, many of the general aviation aircraft in the current fleet can meet 39 knot/45 mph indicated stall speed requirement of Transport Canada's Ultralight specifications (including both the Christavia MK 1 and Buttercup). In other words, the landing speed difference between modern ultralights and general aviation type aircraft is small to non-existent.

If we go back to a more traditional definition of ultralight, that being a powered aircraft with a light wing loading and slow cruise speed, then other factors need to be considered. True, the speed at which you travel and mass of the aircraft reduces the energy to be dissipated in the event of a crash. However, the lack of structure which creates this low mass also reduces the protection afforded to the occupants.

The light wing loading and slow speeds of these aircraft also introduces other potential issues lessened by faster, heavier general aviation aircraft. For example, that local Sunday afternoon foray around the patch can turn ugly when the winds suddenly pick up to 25 knots, which can happen in a

heartbeat here on the prairies. Two summers ago I got caught in a heavy squall on approach to Carstairs. The winds came up in seconds from a light southerly 5 knot breeze to a howling 45 knot storm, leaving me in an interesting situation. Fortunately, the higher wing loading of the Christavia and the ability to penetrate the approach at about 80 knots made for a safe landing. At no time did I get any further than 25 miles from Carstairs on that flight.

There have also been a number of occasions where we've gone flying only to have the winds come up to 20 kts or better. In a traditional ultralight with a cruise around 60 mph, that 20-25 mph jaunt from the field could turn into an hour long flight home. Given the short endurance of most traditional ultralights, this could easily lead to an off field landing due to low fuel. The general aviation aircraft cruising at 90 kts or better, would only see a delay measured in minutes.

As for the long cross-country flights being dangerous for recreational pilots, this is easily mitigated with proper planning and allowing an appropriate amount of time for the trip. Most general aviation planes are equipped with at least basic IFR instruments and most private pilots have at least 5 to 10 hours of hood time. As a result, they are more capable of handling a situation where they find themselves in weather they shouldn't be in. Many of our club members have made long, multi-day trips with no real safety issues.

It's also worth noting that when flying on one of these longer cross country trips, the options actually increase. If the weather is bad along your intended track, you can reroute around the poor weather and continue on safely. We had to do this on our return trip from Oshkosh in 2008. The weather ahead was deteriorating, but with a good weather briefing we knew that the weather south of our track was supposed to be better. Sure enough, a reroute of about 30 miles with Gerry MacDonald scouting ahead in the 182 found us a clear path around the front. At the end of the day, the re-route cost us only about 15-20 minutes of extra flying.

To be honest, there are a lot of light, general aviation aircraft flown quite successfully and safely by private pilots for transportation purposes. Bob Kirkby regularly flies to the southern States to visit family in his Chreokee 235. Both Ralph Inkster and Troy Branch have used their RV aircraft for family vacations. In addition to countless short haul trips, I've had my Christavia to Oshkosh four times and out to the west coast once, and even flew our Cessna 180 floatplane from Newfoundland to Oshkosh once. Of all these trips, the only real issue that I experienced was a broken exhaust stack on the Christavia and a blown cylinder on the C-180. Both of these were managed and landings were safely made.

So, in my humble opinion, I firmly believe that the most dangerous part of flying is the trip to the airport!

To me one of my favorite aspects of recreational flying is the freedom to make these epic trips. In fact, it was this very fact that led me to the choice of my second plane, the Buttercup.

Even before I finished Chrissy, I had decided to build a second plane. When I first started the Christavia, I was single, living in Newfoundland and had unlimited access to the Cessna 180. The Christavia was to be an inexpensive option when Dad or I wanted to do a bit of solo float flying. However, marriage and a move to Calgary changed my flying arrangement. Although I love flying the Christavia, the tandem seating doesn't really lend itself to flying with a friend. Sure, it can be done, but side-by-side is much better for passenger flights. Also, since float flying in Alberta is essentially out with a lack of water and our high elevations, my interest turned to longer cross country flights.

Yup... I do fit in a Buttercup!



This set the early criteria for my second plane. Lately, my wife has gotten into the HGTV network. Unfortunately, this will likely mean more projects on my Honey-Do list, but more appropriate to this article have been the "House-Hunting" shows. They always start with the realtor talking to the customers about their wish list. As the potential homeowners see more and more properties and realize that the "perfect house" does not exist, the wish list whittles down to what is really important. The same process occurs when shopping for the ideal airplane. Initially, everything is on the list and you end up with a plane that flies at 200 mph, seats 6, has folding wings, available in a \$10,000 quick-build kit, burns 4 gph, stalls at 20 mph, can land on a sand bar and can be used to sleep in on those overnight trips.

For me, my requirements came down to a plane

capable of cruising at least 125 kts, can climb at 1000 fpm or better at gross weight (safety margin for mountain flights), capable of flying off the grass strips I frequent, powered by a Lycoming 320 or 360 class engine and have 3 hours endurance plus reserves. Comfortable side-by-side seating and a useful load capable of carrying full fuel, Renee and I and about 80 lbs of baggage were also a must. Finally, it had to be a homebuilt that I could build in our two car garage.

I narrowed down my choice to the Murphy Rebel, Barrows Bearhawk and RV-9. My wife nixed the RV-9 as she is really uncomfortable with the bubble canopy which left the high wing planes. Around this time, I started reading about Earl Luce's Buttercup. With a 500 lb useful and 100 hp O-200, I initially dismissed it. However, every other aspect of the plane intrigued me. At Oshkosh one year, I noticed that the original Buttercup, built by Steve Wittman had a published gross weight of 1500 lbs, a full 180 more than Earl's reproduction. It also became apparent that it could be easily modified to widen the fuselage 4" making it the same 44" width as the other planes on my list. The limited climb performance that the O-200 could provide concerned me. Finally, I decided to call Earl Luce and get his opinion as to how well the plane might fit my needs.

The first thing I wanted to know was whether I could mount an O-320 on the nose. I really like this engine and consider it one of the most reliable piston engines on the market. When Earl reverse engineered the Wittman Buttercup, he used the same fuselage tubes found in the structure of the later Tailwind. These routinely fly with O-320's and O-360's. The

battery would have to be moved from the firewall to the tail, but it should work OK.

Earl suggested adding a new compression tube to each wing and an additional set of drag/anti-drag wires. He also suggested replacing the drooping, leading edge flap with a conventional solid leading edge. These modifications would allow for a higher Vne of about 160 kts IAS. He was also quite comfortable approving a gross weight of 1600 lbs typically seen on the Tailwinds. His 1320 gross weight was set so that the airplane would meet the new LSA regulations approved in the US.

Of course, this left only one requirement not met... the 3+ hour reserve endurance. The nose mounted tank, even with the wider fuselage, would only give me 24 gallons; a mere three hours assuming an average burn of 8 GPH leaving no reserves. A few quick calculations showed that a second tank could be constructed to sit above the cargo area behind the seats and rear wing spar and hold 12 gallons. Weight and balance calculations show that this arrangement would work quite well and give a 36 gallon capacity, or 4.5 hours without reserves.

Earl Luce's Buttercup is depicted above and Steve Wittman's original is seen below.



The new business has been taking up a lot of time lately, but after a four month hiatus, I'm finally back and making some progress. The seat frames have been completed and I'm back working on the control system. I'm actually hoping that being self-employed will give me more time to finish the Buttercup and once again... BE FASTER THAN STU! 😊

Hope to see you all at the meeting on Wednesday evening and I look forward to getting some new articles from the membership! ➔

FOR SALE

FLYING EVENTS

Subaru EA81 Aircraft Engine For Sale. 100 HP. 2.2 to 1 belt re-drive 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

Murphy Yukon Project For Sale: all major construction completed, finishing to be done firewall forward and instruments. Some fairing work and riveting of floor for completion. Wings and fuselage were Quick build in jigs at Murphy in Chilliwack. Kit was \$47k and Quick Build \$21k. Priced to sell at a significant discount, as motivated to sell soon. Contact rhuzzey@telus.net.



Aircraft Rivet Set \$1200 For Sale, Large selection of solid rivets and CherryMax rivets left over from an AMO closure. Includes 10 very nice 8-bin portable/stacking parts bins. Total value based on current on-line prices is over \$2000. See complete list of sizes and quantities at www.skywalker.ca/rivets/list.pdf. Contact Bob Kirkby 403-512-9158.

KR2 For Sale: NOT AN OLD FARTS AIRPLANE! Air frame TT 30 hours. Engine Continental A 65/75 TSMOH 970, No Electrics, No Electronics \$15,000.00 OBO. Glen Clarke 403-279-1036 clarkekg@telus.net (11/11)→

WEEKLY Lethbridge, AB – The Lethbridge Sport Flyers (COPA Flight 24) would like to invite you to our weekly Saturday morning breakfast, 7:30 am, held at Smitty's Pancake House, 2053 Magrath Dr. S. in Lethbridge, Alberta. To contact us please call our club President, Brian Wilson 403-345-6603 or send us an email at Lethbridge-Sport-Flyers@telus.net.

MONTHLY First Thursday of every month High River Airport (CEN4), AB – EAA Chapter 1410 Monthly Meeting at the Dueck Hangar the 18:30hrs to 21:00hrs. Come by and visit! Please contact Paul evenings at 403-271-5330 or eaahighriver@shaw.ca or visit www.eaahighriver.org for more details.

April 20th, Edmonton, AB – COPA Flight 176, Rust Remover to qualify for the Two-year Recurrency requirement. Registration/coffee and muffins 08:00 – 09:30 held at the Alberta Aviation Museum, 11410 Kingsway Ave NW. Speakers 09:30 – 15:00. Lunch will be provided. \$30 advance, \$40 at the door. See our website for registration information www.copaedmonton.ca or please contact Janis @ treasurer@copaedmonton.ca

May 5th, Red Deer, AB – Red Deer Flying Club/COPA Flight 92 Pancake Annual Fly-In/Drive-In Breakfast from 8:00 a.m. until Noon. Details on www.reddeerflyingclub.org or contact Bert at 403-350-5511.

May 11th, North 40 Ranch (CTY4) – Red Deer Flying Club Poker Rally. 7 airstrips have been selected, and pilots must fly to any five to collect a poker chip at each location. Passengers will also collect a chip to play. Airstrips include; Lacombe, Stettler, Red Deer (YQF), Three Hills, Carstairs (Bishell), Sundre, and Olds/North 40 Ranch. Chips will be available by 0900, and all pilots must land at the North 40 Ranch by 1430. Complimentary BBQ: Burgers and refreshments sponsored by the Red Deer Flying Club. The rain date for this event will be Sunday, May 12th. Contact; Darrell Glover (403) 350-8688 cell or email north40ranch@ccewireless.ca

May 19th, Westlock Airport, AB (CES4) – St. Albert Flying Club Poker Run, COPA Flight 61. Rain date Monday, May 20th. There will be a small entry fee. Please note that some of the stops will be on grass strips. A barbeque to follow. Pilot briefing 9:00 a.m. in terminal building. For information, please email stabfc@gmail.com Join us for a fun flying event.

May 26th, Camrose, AB (CEQ3) – COPA Flight 137. "Once a year, for a few hours, Camrose has the busiest airport in Canada." The Camrose Fly-In Breakfast, held annually at the Camrose Municipal Airport is the longest-running and largest Fly-In Breakfast in Western Canada, with over 100 aircraft of all types expected. The event is well-attended by aviators from Alberta and beyond, and by the community at large. For more information, please contact Barry Graham at grahamb@cablenet.net

May 26th, Barrhead, AB (CEP3) – Barrhead Flying Club 4th Annual Fly / Drive in breakfast. Serving 8:00 a.m. until 11:00 a.m. \$7.00 per person, 6 yrs. and under free. Com.123.2. 100'x 3500' Asphalt - plenty of aircraft parking. For more information, please contact Wade Evans at 780-674-0142 or wade.evans1@gmail.com

June 9th, Innisfail, AB (EM4) – Annual Fly-In Breakfast Join us for breakfast 8:00 a.m. to 12 noon. Fuel and oil available. Co-ordinates are N 52 04 43 W 114 01 39, ATF 123.0. For more information, please call 403-227-3584 or 403-391-2497

June 16th, Fairview, AB (CEB5) – COPA Dunvegan Flight 174, Fathers Day Fly-in Breakfast in beautiful peace River Country. Fuel by credit card.....Jet A, Av 100 LL. AME available. WAAS approach 04 & 22. see CAP. Co-ordinates N56 04 53 W118 26 00 1.5 NW town. For more information, please contact Ian Macdonald at ian.macdonald@telus.net or 780-835-2432, 780-834-8162.

June 16th, Morinville, AB (CMN6) – 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. For more information, please email stabfc@gmail.com

June 21st – 23rd, Dawson Creek, BC – COPA Annual Fly-in and AGM. Please visit their website regularly at www.copanational.org for updates.

June 23rd - July 2nd, Dawson Creek, BC – Yukon and Alaska Airtour, after COPA's Annual Fly-In & AGM in Dawson Creek, BC, COPA is in the process of organizing an Airtour to Fly the Alaska Highway! Visit the Gold Rush Town of Atlin, Whitehorse (fly Kluane National Park and see Mt Logan, the highest mountain in Canada at 19,551ft), carry on to historic Dawson City, of the Klondike Gold Rush fame and continue on to Fairbanks Alaska and help them celebrate July 4th with a Salmon Bake. Read more. If you are interested in this tour, please contact Bram Tilroe at btillroe@copanational.org.

July 11th – 13th, Arlington WA – The Arlington Fly-in. For more info se www.nweaa.org.

July 21st, Vulcan, AB (CFX6) – Vulcan Flying Club 37th Annual Fly-in Breakfast, commencing at 0800 - 1100 being held in conjunction with Town's 100th Anniversary celebrations. Fuel, controlled parking. Co-ordinates Lat. N.50 24 17; Long. W.113 17 00. For more information, please contact Norm Kristjansson at 403-485-2791 or cfiwc@telus.net

July 29th – August 4th, Oshkosh, WI (KOSH) – EAA AirVenture... the world's greatest aviation celebration. Tjis year, the CRUFC is planning a group flight to Oshkosh. If interested, please contact Stu Simpson. For more information, see www.eaa.org.

August 11th, Westlock, AB (CES4) – COPA Flight 139, Fly/Drive Annual Fly-In Breakfast from 7:00 a.m. until 11:00 a.m. Airspace closed at 11:15 a.m. for airshow. Wing campers welcome. BBQ night before. For more information please contact George at 780-349-1094 →

