
RECREATIONAL
FLYER
Gary Walsh's
Kitfox
RAA
RECREATIONAL AIRCRAFT ASSOCIATION
RÉSEAU AÉRONEFS AMATEUR CANADA

from the president's desk

Gary Wolf

Basic UL Class E Wars: the Continuing Saga

For many years Transport Canada's Arlo Speer was the Chief of RecAv and he has been vociferous in promoting his interpretation of CAR 602.29 which deals with Ultralights and airspace. Arlo reads this document as a prohibition against a Basic UL entering Class E airspace, which until recently was only a minor inconvenience to owners of Bula aircraft. Personally I have never been able to take the same meaning from this reg and neither were Transport's previous UL specialist and many other TC personnel, so I have used Class E the same whether I have been flying VFR in a certified, and A-B, an Advanced UL or a Basic UL. In Ontario a handful of airports have a ring of Class E with a floor of 700 ft AGL and there is a patchwork of other Class E, but otherwise there has been little with which to be concerned. I have even tried to get Enforcement to lay a charge against me but they replied that because 603.78 had already been through CARAC they would not win if I chose to go to Tribunal with the charge, and no Enforcement officer or his boss would risk the embarrassment of losing at a Tribunal.

Recognising that the wording of 602.29 was convoluted and confusing, in year 2000 Transport passed through CARAC a clarification of 602.29, the aforementioned CAR 603.78. This new reg was written in plain English and it clearly states that a Basic UL is allowed into Class E airspace. The only problem is that the document has been languishing in some lawyer's inbox for the past nine years and no one at Transport has seen the need to give that lawyer a push. Some TC personnel do not read 602.29 the same way that Arlo does, so that can be excused. Others just place all UL's at the bottom of their personal to-do list. Arlo in 2006 moved on to handle Registration, and the new Chief of RecAv Bob Bancroft has not yet made it clear how he reads 602.29, nor has he seen the need to move 603.78 ahead.

Few at Transport are concerned about the privileges of individual UL pilots but flight training is a motherhood issue

On October 22 2009 Ontario airspace became blanketed with Class E, replacing much that had formerly been Class G. What this means is that RAA has now been able to force the issue with Transport. Few at Transport are concerned about the privileges of individual UL pilots but flight training is a motherhood issue. The floor of the new Class E is 2500 ASL in the lower part of the province and 3500 ASL north of Hwy 89. Some at Transport even missed that these new floors are ASL, and not AGL as the current E700 rings are. They allowed the new airspace thinking that there was still 2500 or 3500 ft of Class G under the new Class E. In fact there is less than 2000 ft and in some areas barely 1000 ft. UL flight training units are required to teach and test upper air work and they need the same safe altitudes as any Cessna does. At my airport the conventional schools all fly to 3500 ft AGL (4500 ASL) before allowing the students to do a stall. In case the stall becomes a spin there must be enough altitude for recovery, this in a Cessna or other certified plane with known stall and spin characteristics.

In the past, if a UL school's people read 602.29 as a prohibition against flight in Class E, they just transited under the E700 and did their upper air work in the Class G at proper altitudes. The UL definition is now 1200 pounds gross and 45 mph stall, and in some cases the schools have even deregistered certified planes and reregistered them as Basic UL's. Upper air work in 1200 pound planes must be done at the same safe altitudes as certified

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features

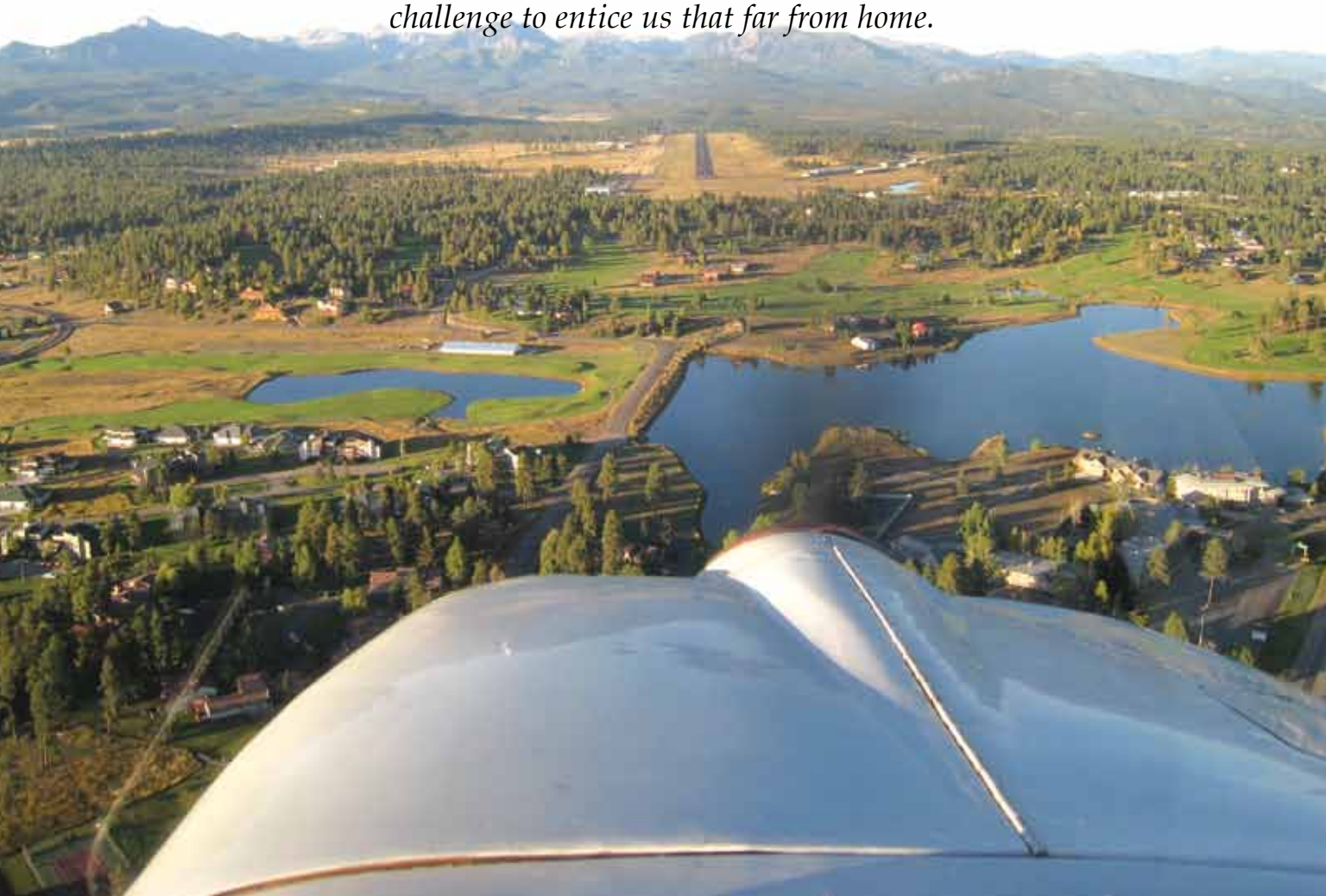
On the Cover: Gary Walsh's amphibious Kitfox. Below: A Nanching lifts off from Chapter 85's Delta Heritage Air Park

George Gregory

MILE HIGH CLUB

High altitude racing in Colorado

On September 26 2009 a Sport Aircraft Racing League, SARL, race was held in Pagosa Springs, Colorado. The area is about 1300nm from where I live in Southern Ontario and the Pagosa airport is 7000 feet higher in altitude than my local St.Thomas airport. Although I have flown over the mountains before I had never landed at an airport that high, much less raced at those elevations. My regular travelling partner, Wayne Hadath in his F1 Rocket, and I decided that this was enough of a challenge to entice us that far from home.



FOR THIS TRIP I had my brother-in-law Jean-Marc Dubois with me to aid in navigation. He is a long-time aviation enthusiast and we managed to get our schedules to match for this adventure. I use a small medical bottle for O2 and it would just be enough for the two of us to get both ways over the mountains and also enough to keep me sharp in the race. My cousin Norman Younie gave me the tip regarding the use of the common medical oxygen bottles, as they are more than adequate for the occasional cross country flight.

Our plan was to leave on Thursday and try to get as far as Central Kansas. We had a couple of weather delays that day but still made it to Dodge City, Kansas. This was an interesting place, complete with a bronze statue of Wyatt Earp. It really is a cow town with a large active rail yard going through town. A few of the side streets are cobbled, which surprised me, as did the number of brick structures. I had visions of a Hollywood version of a Wild West town but it was nonetheless, Dodge City.

The next day we headed for the mountains on a two hour flight, the last portion of which was over the eastern side of the US Rockies. The tallest mountains in the two chains over which we flew were at 14,500 above sea level. Our host in Pagosa, John Huft, had suggested a route through the area that included using the Mosca pass. This would have allowed passage as low as 10,000 feet but we stayed up at 13,500 to minimize turbulence. There were winds of 25 knots at 12,000 feet and we had been warned to be wary of 30 knot winds, and also to stay home if the winds approached 40 knots or above. Even with our supplemental oxygen it would not have been possible to get high enough to have avoided turbulence in those stronger winds. Pagosa Springs is nestled in a beautiful valley within 15 miles of the last mountain range to the north, therefore we had to lose 6,000 feet of sky before landing at Pagosa. This is essentially a retirement area and also a location for a second home for many of the residents. They get 340 days of sunshine a year! The mornings and evenings were rather chilly but when the sun came out it was surprisingly warm. Apparently this is due to the altitude, and also means that the sunburn potential is greater.

We landed, and as soon as I got out of the airplane I could feel the difference in the air quality. It was delightfully crisp and clear, and shockingly low in O2. After walking to the terminal and up one flight of stairs I was out of breath. The locals say that you get used to it but I noticed that everyone seemed to walk slowly and I suspect that you do not get used to it, you just slow down.

The race was on for the next day so Wayne and I headed out again for a quick tour of the course. It was a good thing that we did as there is a bit of winding around mountains involved and I took a bit of a wrong turn during that practice run that would have hurt my time had it been the real race. The first thing we noticed was that our engines were not producing as much power due to the thinner air at altitude. The average altitude of the race would be in the 8000 to 8500 foot range asl. Manifold pressures were in 22.5" range. This also meant that we would have to aggressively lean for both the takeoff and the race.

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As this was a new technique for Wayne and myself we discussed the takeoff mixture setting with John Huft, our host and resident racer. During runup it was suggested that we set power as high as we could hold the plane with brakes and then lean until the engine ran really well, short of peak EGT, and enrich the fuel a bit more for take off. During the race my engine seemed to run well at about 18 gph which is about 150 degrees rich of peak. Any leaner and the engine started to get hotter than I like. Any more fuel and I started to lose power. In other races I have competed in, at lower altitudes, fuel flow settings would be in the 23 to 26 gph range.

The racers are staged to depart from the best guess of fastest to slowest airplane, at 20 second intervals. This minimizes the amount of passing that goes on in the race. I was the seventh plane to take off, with Wayne following me. The three planes in front of me were all Glasair IIIs. These are high speed aircraft with 300hp 550 continental engines and retractable gear. I did not expect to see these guys until after the race.

This race started at the other end of the runway and we were not allowed to turn on course until reaching the other end of the 7000 foot runway. Long runways are the norm in the mountains to help air-

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craft cope with the high density altitudes. Immediately after turning on course a climb to 8500 feet was required to clear terrain, which for me was exactly one minute after leaving the runway. I was still following the Glasair III, race 450, and at 8500 feet it appeared that I was keeping up to him. After clearing the low mountain there was a long reservoir below. The plane in front of me dove down to skim the water hoping to pick up some manifold pressure and thus extra speed. I had been watching my ground speeds and felt that I had a small push and so I elected to stay high until after turn 1. Turn one was interesting as it was an airport that is located on a mesa. The mesa was just large enough for the runway and nothing else. I dropped down 500 feet to cross over the airport at 1000 agl. Meanwhile the Glasair III had climbed from the reservoir up to the runway and made his turn eastbound at 500 agl. We were now in New Mexico and would remain in the state until turn 2. It was at this point that I noticed I was gaining on the plane in front. This surprised me as these planes are known to be faster then mine. However as this leg progressed I eventually passed him to the right, about 1000 feet higher. He had stayed low to the ground while I had stayed high. My plan was to stay as high as I could to avoid turbulence that affects my speed. Had there been a strong headwind I would have dropped lower. This leg of the race had numerous ridges running at 90 degrees to our course. The last ridge was within half a mile of turn II, another small airport, and there was no way to see it until you were right on top of it. Of course we are all using GPS navigation but it is unnerving to be gearing up for a high speed turn before you can actually see the turn point. Before each turn you call out your race number at 5 miles out, 1 mile out and again, at the turn. This is to let other pilots know where you are, it also gives you a bit of an idea how you are doing relative to other racers.

The final leg of the trip has a small mountain right in the way after turn II. In practise the day before I had maintained altitude and deviated to fly around it. On race day I started climbing slowly to 9500 feet before turn II so that I would not have to go around this terrain and thus keep a straight line to the finish line. The finish line was at the Pagosa airport, and after clearing the mountain I was able to set up a long descent to the airport and show some pretty good ground speeds. After flying over the finish line we were instructed to fly a five mile arc around the airport to cool both the airplane and the pilots before joining downwind to land.

The results were handed out about half an hour after the race and I was completely shocked to find that I not only finished first in my class, but that I had a better time, at 220.5 knots, thn all three Glasair IIIs. The first place aircraft overall was a SX300 at 248 knots, then the Polen special at 236 knots and then yours truly. Wayne had a great race and finished close behind the third Glasair. This race was a personal best for him as his time was good and he did not feel he would have changed any part of his performance. I believe that staying higher helped me in the race, and also last winter I had made a number of changes to the plane that also added a few knots. There is something very satisfying about posting a speed that is faster than planes that have

Opposite, top: briefing pilots before the race. Centre, left, Tom, and to the right Wayne wearing his high altitude gear. Well, nobody's going to be looking at it at altitude, right?. Bottom, the legendary Polen Special placed second behind an SX300. Tom finished behind him at 220.5 knots - ahead of three Glasair III's, all with retractable gear.

At altitude Tom's tapered EVO wing yielded better cross country fuel consumption. Below: the legendary Polen Special finished second overall.

retractable gear.

Two hours later we were fuelled up and on our way over the mountains, this time higher at 15,500 MSL. This is where we really noticed the difference between Wayne's constant chord F1 wing and my tapered EVO F1 wing. Normally we set 22 squared burning 11 gph as our cross country power setting. It quickly became apparent that the EVO wing was showing its advantage up high as Wayne was having to go to full power to keep up. After the mountains we dropped to 9500 feet and after three hours we stopped for the night at Freemont Nebraska. I used 30 gallons of fuel and Wayne took an extra 10 gallons! When we fly side by side under 8000 feet we always use the same amount of fuel on long trips. This was a revelation for both of us and was most certainly a factor in my performance in the higher altitude race. The Glasair IIIs also have tapered wings but they most likely are not as efficient as this wing at altitude.

We spent the evening in Freemont and the next day followed weather all the way home with a nice 20 knot tail wind. The trip outbound took 7.5 hours and coming home was 6.5. Altogether, we covered over 5000 km on our high country adventure.

Points to consider about higher altitude cross country flights :

1. For most of Canada we are only required to use supplemental O2 above 10,000 feet or 12,500 feet over the mountains. For periods of less than one half hour you do not need O2. In the US, pilots must be made of better stuff as their minimum altitude is 12,500 for the whole country. Since using O2 I have found that it helps even down to 8000 feet. Two or three hours at 8000 feet will leave me with a headache and also two or three of my most memorable bad landings have been made after three hours of higher altitude flights without the use of O2.

2. You should take extra water with you when using O2 as it tends to dry your mouth and throat.

3. Although not necessary it is nice to have a Pulse Oximeter with you as this lets you know what your blood oxygen saturation level is. Blood levels of over 91% typically will give you good personal performance. Most O2 systems will give you suggested settings for different altitudes but each individual is different so it is nice to have a number to work towards.

4. As pilots we know that true airspeed increases as we climb. However engine power also decreases. In my plane testing has shown that for each 1000 feet that I climb, at full power, I need 1 knot of tail wind to make it worth the climb.

5. At altitudes above 8000 feet and below 12,000 feet, you are above most small planes and below most large airplanes. It is a nice place to be!

Aurora: "Moncton, TRIALS08, we'll be working VFR at 4,500, loitering over the city of Saint John for about the next 10-15 minutes. We'd like radar flight following."
CZQM: "TRIALS08, roger, you're radar identified. Are you aware the city has bylaws against loitering?"
Aurora: "Ah... roger that"

Savage Aircraft

By Bill Tee / In this day of go-faster aircraft it may be considered unusual to find a new aircraft destined to go low and slow. However there will always be a place for those who just want to emulate the birds and are in no great hurry to get anywhere. Those who just wish to study the scenery. In Europe this class of aircraft is often used as a glider tug.

Such a machine is now imported from Europe, fully assembled, and is called the Savage Classic.

This modern design inspired by the classic Piper J3 Cub was designed in Italy around 1997 by a Mr. Russo along with 3 aeronautical engineers, is manufactured in Czech Republic by Zlin Aviation and is shipped to Italy for final assembly and test flying. It is then shipped knocked down to the 25 distributors who re-assemble them and handle their sales around the world. Quality is to a very high standard. One can even get an optional engine mount pressurized to 5 psi. This weldment comes equipped with a pressure gauge which you can read as part of your daily inspection. If the pressure reading is below 5 psi it indicates that you have a crack in your engine mount advising that some further attention is warranted.

At the first official showing of the Savage at Capri, Italy it won first prize for a 'microlight' built from blueprints. The 1232 lbs. gross weight places this plane within the Canadian rules for advanced ultralights. The standard empty weight of 623 lbs. means that this little beauty has a disposable load of 509 lbs. A maximum fuel load of 68 litres of low lead or mogas [34 on each side in wing mounted tanks] weighing just under 110 lbs. This leaves a weight of approximately 400 lbs. for passengers and baggage, quite good for this class of aircraft. Fuel gauging is done by a direct reading transparent tube in each wing root with a double scale for both level flight attitude and three point attitude for ground reading.

Performance quite outdoes the old J3 with its 75 MPH cruise speed on 65 Horse power. With its modern 100 HP Rotax 912ULS the Savage Classic cruises handily at 105 MPH at a setting of 75% power benefiting from the shorter wing span of

...for those who wish to just have economical fun flying this may well be your bird.

30.5 feet compared with the Cub's 36 foot span. Economy cruise is rated at 95 MPH. The similar to the J3 stall speed in the mid 30's, even with a higher wing loading of 6.5 lbs. / sq. ft., is obtained by the use of very effective flaps. Climb rate at gross is given as 886 fpm with a whopping 1500 fpm solo.

Although appearing to be lightly built its chromoly welded fuselage and tail frame and 6061-T6 alloy folding wing structure provides it with a G rating of +6 –2.9. Covering is with doped 90 gram modern fabric common also to the fuselage and tail units. The folding wing feature permits reduce storage space or allows the craft to be readily towed home between flights if desired.

I was privileged at the Tiger Boys 'do' at Guelph Airpark in the middle of last September to test fly the Savage which was brought in for the event by recently retired Air Canada pilot Alan Dares of Savage Aircraft Sales Canada. This opportunity brought back to me a lot of memories of flying J3's some quite a few years ago. Among the significant differences between the two is the front seat solo and the hydraulic toe brakes of this aircraft. God bless them! (I never did master those horrible heel brakes in my numerous hours on Cubs and Champs...).

As I climbed into the back seat I noted that this aircraft is indeed slightly lower to the ground, despite its 72" wood prop, than I remember the J3. This made it fairly easy to enter through the one piece swing up door and the increased, over the J3, cabin width of 27" was also noted. This door can be left open in flight up to 70 MPH for greater RH side visibility and ventilation. It is also valuable for optional operation on floats when installed.

A touch of the starter switch immediately got the 912 lit up. Soon with the help of our most effective stearable tail wheel we were at the end of Guelph runway 15 and the throttle was opened. We lifted off the ground in about 350 feet at a mere 40 mph. We then climbed steeply out at well over 800 ft per minute at ----- mph with two up. Solo climb rate is given as 1500 fpm

The smoothness and relative quietness of the Rotax engine was noted as well as the great stability of this remarkable aircraft. The one really outstanding feature of this aircraft was the tiny turning

Left: Richard Archambault and a friend at Hawkesbury, Ontario beside Savage Classic C-IZLN, which the Quebec dealer operated on skis last winter, and on Amphibious floats this summer.

radius. I performed several 180 degree no-height-loss steep turns and was amazed at how little air space was used for this maneuver. It seemed to pivot literally about its own axis. What a great plane for mountain flying. I am sure that it would safely do a 180 degree turn in the narrowest blind canyon that you could or should be flying in.

Landing approach is flown at ----mph with full flaps. If 35degrees of flaps are not giving you the angle of decent that you require side slipping with flaps down as well as up is permitted and is quite effective for getting into the smallest of fields that you can imagine.

Advice for modern Cessna drivers before flying this bird. Be prepared to use your feet not only for take-off and landing but in the air as well! This is definitely a rudder airplane as befitting its classic heritage. If you want to avoid the slip ball from scooting out if sight behind the panel one must feed in lots of rudder at the beginning of the turn. Just like a J3! Or a Champ!

A nice touch on this front seat solo bird is the mini instrument panel containing an ASI and altimeter for the back seat pilot. They are good reference gauges but a bit on the low side, near the floor, for ready scanning. However as one gets to know the aircraft they become less important as one flies this class of aircraft mainly by attitude anyway.

Altogether a very pleasant aircraft to fly and from what I have seen of it, it should be economical to own. During the recent Centennial flight across Canada the aircraft performed flawlessly during its 73 hour trip with two up. It falls very nicely within and is licensed within the Canadian advanced ultralight rules permitting it to be flown on the minimum of an ultralight license.

For quick cross country flights perhaps a Mooney, Glasair or the RV series of aircraft is your thing but for those who wish to just have economical fun flying this may well be your bird.

The Savage Classic is eminently suited to short farm strips especially with the optional 'turf' or 'tundra' tires to assist the sturdy J3 style gear in soaking up rough terrain. It is also equally at home on straight floats, amphibious floats or skis.

Basic price for the Savage Classic, ready to fly is C$72,500.00. With the more advanced Savage Cruiser at C$75,000:00 and the Savage Cub [Bushplane], more like a Super Cub, is C$80,000.00 with standard panel and equipment. For more information on these products and/or a demonstration flight contact Alan Dares at alan.dares@gmail.com or Tony Cianfarani at tcianfarani@hotmail.com.

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OCEAN FLYING : A Pilot's Guide, by Louise Sacchi

Reviewed by Frank Ball

Don't be put off by the title of this book – this is an excellent guide for any pilot who is serious about any long-distance flying. But for those with that special interest, it also contains lots of tips on dealing with the special problems of flying over large oceans and, especially, how to handle the problems of "going foreign".

About the Author, Louise Sacchi: A pilot since 1939, she has flown both single-engine and twin-engine aircraft to every continent, in the process building more experience in ocean flying than any other nonairline pilot save one, at the time the book was published in 1980. She holds both Ground and Flight Instructor ratings in the U.S. and has even taught an advanced navigation course to the RAF. She has been awarded many awards and medals during her flying career.

When other ferry-pilot companies refused to hire her, because she was a woman, she formed her own very successful company, with the help and encouragement of Beech Aircraft Corp.

Why am I writing this book review? In my estimation, this is probably the most practical and useful book about long-distance flying, and everything related to it, I have ever read. While it may be a little dated on electronic devices now available, the other messages are timeless and still very-much relevant. Also, I like the way Louise emphasizes using caution and good judgment in everything related to the flight – the condition and experience of the pilot, the aircraft, the weather and the careful preparations and decisions that must be made before the decision is made to go. I will outline some of these briefly in an effort to encourage you to track down and acquire a copy of this 230-page book for your own use and study.

What Experience Should the Pilot Have?

Longer cross-country flights are made as the pilot gains experience and confidence, adding endorsements in night flying, etc. To take on any ocean flying, a minimum of several hundred hours flight time is suggested, coupled to an IFR rating that includes actual time in clouds. (Even for a stay-at-home, some IFR training is added insurance, as one never knows when that "sucker hole" in the cloud will close in and leave one VFR on top. FB). Naturally, the pilot must be in good physical condition, with a clear and positive mental attitude. Be honest with yourself- are you really as good as you think you are? Are you definitely ready now, for that long-distance trip, or should you wait until next year?

The Aircraft

Engines: Louise's preferred minimum is 180 hp with fuel injection, so she confines her comments to this type of engine. Both major manufacturers, Continental and Lycoming make great, reliable engines, but both have some little quirks to watch. On fuel starvation, the Continental, for example, will give a few little coughs to warn you it's time to change tanks, but the Lycoming will just quit completely. Either engine in a single-engine machine will usually perform well, but put two of either one in a twin and the performance changes. Different baffling may be the reason for this. Incidentally, Louise has never had an engine failure in an ocean

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About Storing Wood Aircraft Outside

Jodel D11 Wing Failure / By Rob Prior

On August 2nd, 2009 a Jodel D11 experienced a catastrophic wing failure while approaching the Courtenay Airpark in British Columbia. The aircraft was rendered uncontrollable and crashed shortly afterwards fatally injuring the pilot/ owner who was the sole occupant.

With the assistance of the Transportation Safety Board of Canada and the local Coroner, I was allowed to inspect the aircraft post-crash. Note that this is not an official accident report... The sequence of events outlined below are only my best-guess based on inspecting the wreckage and talking to the TSB, other builders, owners, and pilots of similar aircraft.

First, some background on the aircraft and pilot:

The Jodel D11 is a French-designed two-seat monoplane of wood construction. It is a low-wing aircraft, with the center section of the wing completely flat and only about 5 feet at each wingtip receiving dihedral. The design has been around since 1950, and has been built (with minor modifications) as both a certified aircraft (in France) and an amateur-built aircraft (in France and the rest of the world). There are approximately 90 Jodels of various models listed on the Canadian register as of this writing.

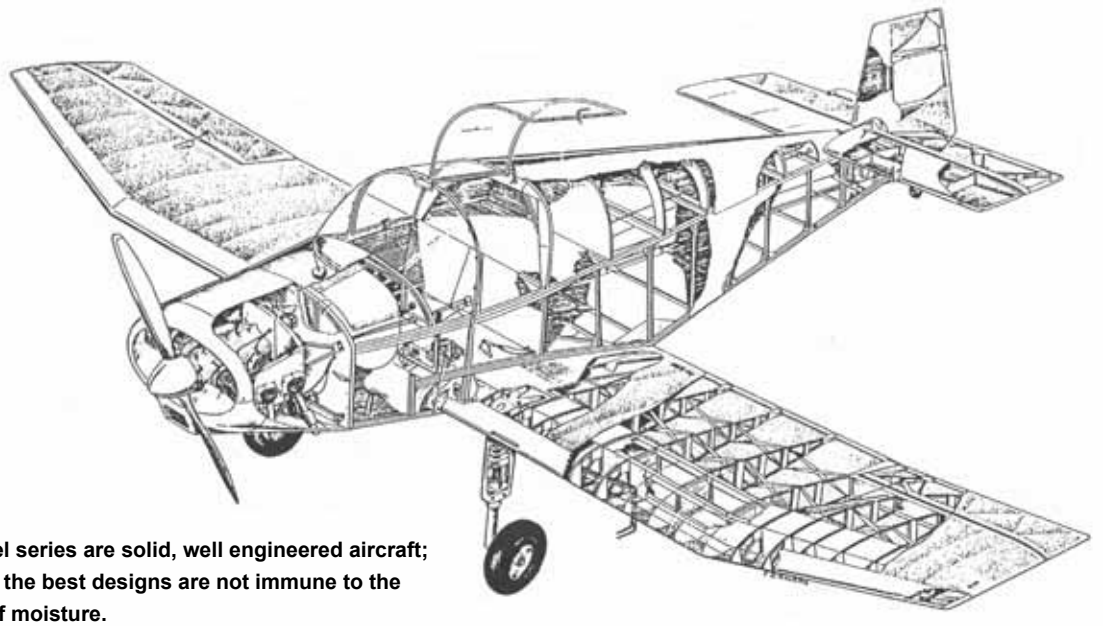
The wing construction of the Jodel (see the cutaway drawing) employs a main box spar to take all flight loads. Each aileron attaches to a stub spar that starts at the bend in the wing and continues out to the wingtip. Each aileron attaches via two hinges, one inboard and one outboard. Each aileron is actuated by a top and bottom control horn which attaches to the aileron at the inboard hinge. Control cables run from each control horn forward to pulleys attached to the rear of the main spar, and from there in to the fuselage and the control sticks. To absorb the compressive load between the pulleys and the aileron hinge, a wooden compression member runs from the inboard aileron hinge forward to the rear of the main spar. The control cables form a continuous loop (control stick to right aileron, right aileron to left aileron, and left aileron to control stick)... as such the loss of any one cable compromises aileron control to both sides of the wing.

This particular Jodel completed construction in 1967. It flew regularly, but it was stored outdoors for most, if not all, of its life. It had a number of owners over the years. It had been restored and painted within the last 5-10 years by the previous owners, but I haven't been able to confirm how much of the structure was inspected, repaired, or even replaced at that time.

The owner/pilot was a long-time member of RAA Chapter 85. He had extensive flying experience, and was probably the highest-time pilot on the Druine Turbi owned by the Chapter (coincidentally, the Turbi is also a French-designed two-seat monoplane of wood construction built in 1967). He purchased the Jodel in February of 2009 and spent a few months making small modifications to the cockpit configuration to suit his tastes before the summer flying season started. It's not known exactly how many hours he had on this particular aircraft at the time of the accident, but it is believed to be in the 25-50 hour range based on anecdotal evidence.

The accident

The Jodel came to rest at the edge of a residential area, in a driveway adjacent to one of the



The Jodel series are solid, well engineered aircraft; but even the best designs are not immune to the effects of moisture.

residences. Based on the debris pattern and the damage to the ground at the scene, it appears that the Jodel struck the ground at a high rate of speed and in a nearly vertical (nose down) attitude. It narrowly missed both the residence and a garden shed, but did strike an empty trailer, which was moved forward about 10 feet from the force of the impact. One propeller tip sheared off on impact and was thrown back up through the roof of the adjacent garden shed, landing behind the shed and about 300 feet away. The outer portion of the right wing was found a few blocks away, having departed the aircraft in flight. The Coroner reported that there was a strong fuel smell when they arrived on the scene and that fuel was present on the ground, but it evaporated or soaked into the ground quickly in the warm afternoom heat. There was no post-crash fire.

Both wingtips were identified and compared side-by-side. Unfortunately it wasn't possible to identify any of the parts from the end of the main spar that would mate to the failed wingtip... This portion of the airplane would have been one of the first points to strike the ground, and as such it sustained some of the worst damage. The port wingtip however was mostly intact, including the corresponding sections of the main and rear spars where failure occurred on the starboard wingtip.

The key is to give [moisture] a way to exit the airframe as soon as possible

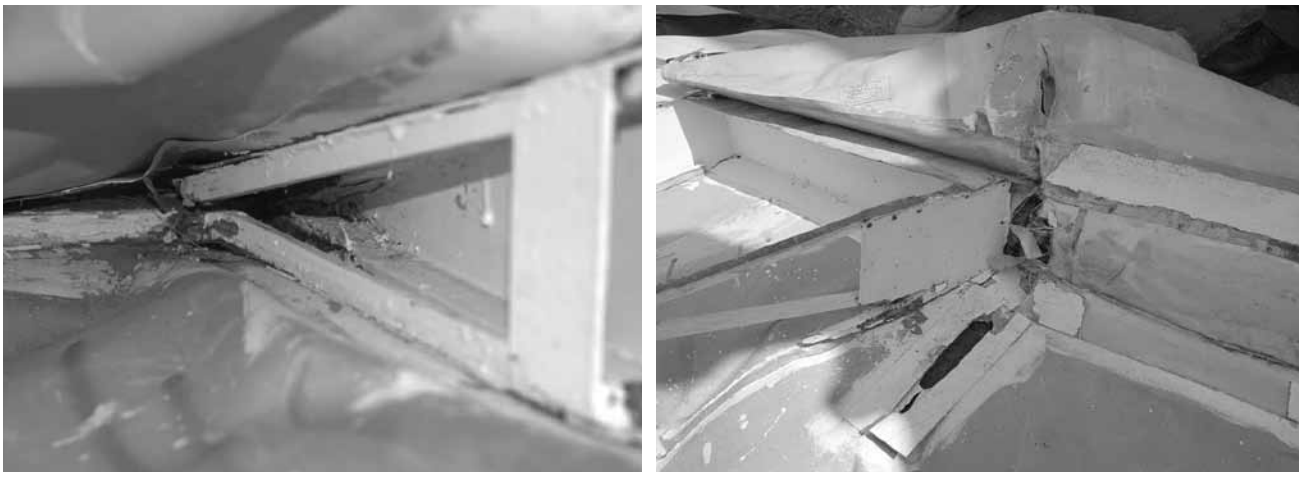
The inboard end of the starboard wingtip showed extensive fraying of the fabric aft of the main spar. The wood immediately adjacent to the inboard hinge point showed signs of water ingress and decay in the wood. The compression member taking the control cable loads was mostly intact except for the holes for the mounting hardware, which showed signs of decay at the aft end and where the attach bolts had pulled out through the ends.

Fabric was cut away from the port wing tip in a few areas to compare the condition to the starboard wing tip. The port tip showed some signs of water ingress and some minor wood decay, but to a lesser extent than the starboard wingtip. Comparing the locations of the drain holes that were present along the trailing edge of the wing showed that while most were located immediately adjacent to the ribs, others were located up to two inches outboard (and "uphill", in the case of the wingtips) of the ribs. This creates multiple cavities from which moisture would have difficulty draining.

The wooden structure in the interior of the wing cavity was painted with an opaque white paint in both wings, and it was necessary to scrape away paint in some locations to see the underlying wood condition. It's not clear what type of glue was used, but in areas without water damage it appeared to be in good condition.

Conclusions

It seems the most likely that the



Above, left: the port wingtip, trailing edge detail. This is the inside of the corner immediately adjacent the inboard end of the left aileron. Some black wood here. Right, the starboard wingtip, looking back towards the rear stub spar. The exact piece where the hinge attached could not be identified, but the wood around it that is present also shows signs of wood rot. Rob Prior Photos.

starboard aileron's inboard hinge was the first point of failure, when the hinge pulled free from the rear spar. Once this point let go, the aileron would try to depart the aircraft, to be restrained only by the control cables and the remaining outboard hinge. It would start to flutter in the wind, with the control cables fraying the fabric. The compression member would lose its rear point of support, and it likely wouldn't take more than a few seconds before some combination of the flutter and flopping control cables would pull the rear wall of the main spar free from the rest of the spar structure. With the main spar integrity compromised, the wingtip would twist up and be free to depart the airframe.

After that, the lack of a continuous control loop with the port aileron would mean loss of roll control, and the asymmetric lift would cause a clockwise roll. Assuming the rest of the wing remained intact, the wing would be about 80% complete, with 50% on one side and about 30% on the other. In level flight, the left wing would be generating about 60% more lift than the remaining right wing, which is a lot more than the remaining aileron could have counteracted even if control authority was maintained.

Recommendations

Any wooden amateur-built aircraft that spends a significant part of its life parked outside should be inspected carefully before every flight for signs of water ingress. At annual inspection time, This should even include testing the wood in critical areas, using the correct tools as recommended in AC43-13. The latest revision of this FAA Circular contains an extensive section on wood structures and inspections thereof, and a link to the FAA website where you can download a free copy is included at the end of this article.

Beyond regular inspections, steps can be taken to minimize the effect of moisture on the wooden structure. Moisture ingress into the wing cavities can never be avoided 100% of the time... The key is to give it a way to exit the airframe as soon as possible, usually via the installation of drains at the lowest possible points in the structure when it is parked. Jodel aircraft in particular have steep dihedral on the outer wing panels, and the "low points" along the trailing edge can create significant pockets to trap water if the drain holes aren't at the lowest possible point. Holes should be checked from time to time to be sure that they are still open and would allow moisture to leak out.

Finally, the wood structure in the wings of this Jodel was sealed with an opaque white paint. This seals the wood but makes it difficult to visually inspect for any warning signs of decay in the underlying wood. A better solution would be to use a clear sealer that protects the wood without obscuring it from view. RAA

Links:
AC43.13-1B (2001)
AC43.13-2B (2008) - updated with a lot of good info on wood structures
both available from the FAA website:
http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/Frameset?OpenPage
or http://www.b4.ca/url/?i=34
Jodel owner's club - Good resource for Jodel info, including the cutaway view included in this article
http://www.jodel.com/

The sixth annual inspection of 713 Squadron, Royal Canadian Air Cadets, Stoney Creek, took place in the James Street North armories. The inspecting officer, centre, Wing Commander G. E. Webb, senior staff training officer, air transport command headquarters, Canadian Forces base, Trenton, is shown talking to one of the cadets.

Air Cadets Make Gift Of Crests

Framed crests of the Stoney Creek 713 Squadron, Royal ... Air Cadets, were ... Creek ... Reeve Leslie Thomas by Flight Lieutenant W. L. McCabe, the squadron's commanding officer, in appreciation of past assistance from the two municipalities. ... section held this year at the James Street Armories in Hamilton. Reviewing officer was Wing-Commander G. W. Webb, senior staff training officer at the Canadian Forces Base, Trenton.

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Then... and Now / By Bill Wojcik

Forty-Two.

Two words that some people would argue has meaning, yet not the standard multiples of five or ten we associate with the more mundane time frame of our lives.

The meaning I have is one most would never guess or want for a reputation around the local hangar chinwag. If you guessed that forty-two is the number of years it took to complete a basic flying permit from start to finish, pat yourself on the back. Let's enter the wayback machine, dial in the turbulent 60's and start from the beginning.

Late 1967 when I was a senior air cadet I was chosen along with another worthy bright-eyed wannabe flyer from a raft of other cadets for a privately funded flight training scholarship. The very tired but history rich airport of Mount Hope (YHM) was earmarked by the administering agency to carry out teaching two lads on the funding for only one. It seems that the fleet of Tri-Champs never really got off the ground as money ran out just as the two of us began our solos. Sadly we were unable to finish with the meager part time jobs we had needed to pay the difference, as the sponsor closed the opportunity door.

Family, mortgage, and the ever-changing financial demands interceded until 1979 when a few dollars to finish were apprpriated in lieu of braces for my undeserving children. Hamilton airport was once more chosen, just minutes away now with radio, ATC services and a much newer and faster toy to play with, namely, a Piper Tomahawk. There followed more dual, more solo, even two flight tests with the examiner. This time the weather intervened with a fast moving winter snowstorm, and delay after delay prevented the earning the Private license. With funds gone, frustrated and crestfallen, this writer could no longer justify the arduous road to becoming a pilot. Years would become decades before another attempt, this time because of the Ultralight Permit that offered much lower training costs.

2009 brought about a taildragger Champ, a slight change from the earlier tricycle version I first flew in 1967. The Brite-Lite 7, an Aeronca Champ that was rebuilt as a Basic Ultralight, with an 85 horse Continental engine would become my chariot to the clouds.

How odd - 42 years later and I am still using a plane from the same period. But now with the taildragger came the horror stories of ground loops, nose over and tail feathers that come around to bite the rump of the unworldly student pilot.

Thanks in part to this Basic Ultralight Champ, and an instructor who made flying such a pleasure (thanks Bruce Leighfield of the Tillsonburg Flying Club), and encouragement from the RAA executive, means a piece of paper in my wallet to fulfill a desire long overdue.

It may be only an UL ticket now, but who knows- another forty-two years may go by quickly enough and I might earn a Recreational Permit. I hope it doesn't take that long - the other occupants of the nursing home may get a tad annoyed.

Sonex picture here. Hope it's a decent size!!

9th Annual Sonex BBQ

The 9th Annual Ontario Sonex BBQ on Saturday, October 17th was actually planned as a Chilli Bash which was most welcome on this cold but beautifully sunny day. This event turned out to be the most successful yet with four Sonexes flying into the Brampton, Ontario airport (CNC3): Chris and Steve McNally (Sonex S/N# 327); Garth Knowles (Sonex S/N# 832); Ken MacLeod (Sonex S/N# 352); J. Davis (Sonex S/N# 325); and Brian Heinmiller's Sonex (S/N# 134) which he brought over from his nearby hanger.

The event was organized by Terry Holek and Brian Heinmiller whose spouses Melanie and Nancy prepared a delicious spread of food including meat and vegetable chili's to accommodate peoples preferences.

Approximately 35 people attended including American builders Craig Ritson and family, Mike and Mrs. Stoddard and Jack Sanders who drove more than 3 hours from the Rochester, NY area to attend. A completed spar of very good quality was brought in which generated a lot of useful story & tip swapping on fabricating this most important assembly. For some attendees, this was the first time they had seen Sonexes up close and flying, and with five available to scrutinize and admire, they supplied a lot of motivation for those still building and those interested in starting a Sonex project. With several of the attendees having Sonexes well on their way to completion, hopefully we will see this event grow even more in the next few years.

A tin was made available for donations. When the event was over and expenses paid, $200 still remained which demonstrated how appreciative everyone was of the event. This was split between the local RAA chapter which officially sponsored the event and a local food bank. And thanks again to all those that helped make this a great day.

Across Canada

RAA Chapters in Action

Oshawa District RAA

A restored Fairchild 24 ex-bush plane sporting a big 185 h.p. radial ingine up front was one of several aircraft that drew pilots and spectators down the aircraft parking lines at Oshawa District RAA's end of summer Barnyard Flyin at HawkeField, It is this kind of plane, long retired from its days flying fishing parties, hunters and loggers into remote areas of Ontario and Manitoba, and the beautifully finished homebuilts and others with equally interesting history that continue to attract crowds to RAA flyins across the country.

The Fairchild owners, Robin and David Hadfield had narrowed their search for a plane down to two and Robin said she had a special affection for the Fairchild with its big Warner engine. It was in good shape, she said, having been stored in a barn for several years and is now painted in the style of planes from 60 years ago -- white with an orange stripe along the side, across the leading edge of the high wing and around the large cowling. If there was a debate over which plane to buy you can tell by the smile on her face as she talked with

Beautifully old warbirds, former bush planes, and several other restorations and homebuilts were among the approximately 70 planes at HawkeField for the Oshawa RAA's windup of the summer flyin season. Ross Ferguson's replica Spitfire and his homebuild sports car (centre-right) attracted much attention.Right, top, Rob O'Brien (left) was the happy winner of the RAA Oshawa District's draw for a ride in a Waco biplane.Right, John Colven does some hands-on stuff with prospective builders.

Air Cadets from 151 Chadburn Squadron, who handled the visitor car parking at the flyin took time out to check out a new Czechoslovakia Savage kit built by Alan Dares (left). He is the Canadian distibutor this Cub-style plane powered by a 100 h.p. Rotax 912S. The cadets are (Left to Right) Cpl. Bryan Weigel, Sgt. TevorSmith, Flt. Sgt. Cameron Kiomall and Flt. Cpl, Mat Travus.

spectators, that she won.

More than 80 planes were on display and there was also a steady flow of people arriving in cars which a squad of Air Cadets from 151 Chadburn Squadron, Oshawa, smoothly handled, parking them along the west side of the field throughout the day. Under the Oshawa RAA's tent chapter members sold memberships, passed out the popular RAA magazines and there was a display of aircraft parts for sale. And from the steady line to the nearby Bowmanville Kinsmen Club dining tent it was obvious that visitors were pleased with the hot and cold drinks and food (Including the free hot buttered corn on the cob supplied by HawkeField owners Hannu and Karen Halminen) as the crowd heading for the nearby picnic tables. Proceed from the dining tent will support the Kinsmen community projects.

"Show" planes - ones that caught the eyes of chapter members directing ground traffic as they arrived, but not all of the best as the lot was full before ll a.m.- were lined up across the ramp. Included in these was Ross Ferguson's wood and glass-covered 60 per cent replica of a Mk. XIV Spitfire (Griffon) with an aluminium block 8 cyl engine, also his Ferguson Special sports car which he built prior to the Spitfire project. The Canadian Harvard Association, out of Tillsonburg, was represented by Don Patrick who made a lot of friends when he gave cockpit tours to the Air Cadets.

One of Hannu Halminen's warbirds, a deHavilland Tiger Moth World War II basic trainer, his radial engine powered Waco biplane and his newest aquisition, an Aviat Husky on amphibious floats, shared the show plane display with the much more modern homebuilts including Frank Granni's RV6A and Ed McDiarmid"s CH 601 HD. Nearby was a Republic SeaBee powered by a Corvette engine. Probably the newest plane on the field was a Czechoslovakian manufactured Savage demonstrator, flown in by Alan Dares of Keswick and Toronto. It is a modern version of the old favorite J3 Cub, powered by a 100 h.p. Rotax 912 engine. After completing construction of the plane Dares ftook part in cross-Canada tour last summer with a group of flyers.

A flight of four aircraft from the Barrie-Orillia chapter including Ron Seyffer, in his Kitfox and his hanger buddy, Wade Tindale who arrived and was immediately ushered into the Show Planes area. Ron, by the way, is fhe RAA member from Orillia who does such a good job of printing our Recreational Flyer.

Probably the happiest person at the flyin was Rob O'Brien of nearby Pickering who won the draw for a ride in the Halminen Waco.

Don Dutton

London St.Thomas

President Angus reported that the Silver Dart project being built by Ed and Kathy Lubitz has been completed and is flying. Popular opinion is that a tour of the Lubitz Silver Dart project should indeed be arranged.

Abhay and brother Mathew Fernandez were guests along with their father Dominic. Both Abhay and Mathew were very successful in the Air Cadet program, both having earned their Glider licenses, and then applying for, and receiving the training for their their private pilot licenses. They had their Glider licenses by age sixteen, followed by their Private pilot licenses by seventeen. Congratulations to each of them, and a large round of applause from the Chapter membership.

Bill Weir reported some spectacular flying at the Red Bull Air Races in Windsor this summer. Further comments came from Eric Bartlett, Ed Hollestelle, Tom Bestard, and Chris Staines, who also were there for the event.

At 7:55PM the meeting was turned over to Stan McClure. Stan received plans for his Corby Starlet in 2001. The Starlet is an Australian design, and several are flying there. At a 700 pound gross weight, it qualifies as an Ultra-Light in Canada. But what an Ultralight! With an eighty horsepower Jabiru engine, Stan expects a cruise of 135 mph, a VNE of 160 mph, and a stall speed of 38 knots. Stan showed us some spectacular woodworking and TIG welding skills. The

wing spar took 2 years to complete. Stan is thinking perhaps flight within a couple of years now.

An excellent shop tour ended with coffee and treats at around 9:45 PM. Our thanks go to Janet McClure for providing the tasty treats.

Scarborough/Markham

We extend our thanks to Jack Smits for coming to tell us at our June meeting about his Midget Mustang MM1. It should cruise at 175 MPH with 75% power from a Continental O-200A engine. This is a hot little aircraft with an 18'6" span and 18'5" length, gross weight 1060 lbs, 3 blade fixed pitch wood laminate propeller, one piece bubble canopy, with a 300o/second roll rate. This plane is being assembled at Kitplane Builders on Meyerside Drive. Jack has learned from an earlier version that the aircraft is very sensitive in pitch! We thank Jack for giving us all the details, and wish him great success and fun when the plane flies.

Once again, we wish to thank Dave and Ann Austin for hosting our Summer BBQs in July and August at their home on Rouge Hills Drive. This continues to be a wonderful way of keeping in touch during the summer months.

KW-RAA

Composites expert Peter Meszaros (above) addressed the membership of the KW-RAA chapter at their October meeting, and the room was packed. Peter dealt with composite fabrication techniques, stressing that cleanliness and temperature are vital to fabricating safe parts. Vacuum bagging and resin infusion techniques were also discussed, as was the bonding of aluminum fittings to composite fuel tanks. Peter is considering holding a one or two day composites seminar in February, sponsored by RAA Canada. Please contact garywolf@rogers.com if interested.

KW-RAA members Mac and Pat McCulloch have made arrangements for the chapter Christmas party on November 27th at the Elmira Golf Club. Tickets are available from clare@snyder.on.ca.

Chapter 85 (Vancouver)

On September 26 the chapter gathered to pay their respects to fallen member Don Souter. He was active in many aviation and motorsport organizations and had served in the chapter as a director, treasurer and a number of other responsibilities.

At the September meeting a presentation was made by Ed Boon, who spoke on club flying in New Zealand. After the presentation Ed answered many questions about the aircraft seen in the presentation and about flying conditions there.

The October meeting saw the election of a new executive, as well as a presentation by Don Richardson on the virtues of aerobatic training.

Ottawa/Rideau

Mike did a great presentation at our last monthly meeting of his Epic flight from Ottawa to Baddeck, Nova Scotia and back celebrating our first 100 years of flight.

The First Annual Pot Luck was held in the chapter's clubhouse on October 3.

Top: The ladies getting the food line setup...where are the guys hiding ? Well actually most of us were outside planning construction of the front deck for next year. In the background of this photo near the front window is Mike Prescott. Above: Hanging around after the meal. In the background you can see a beautiful set of kitchen cupboards and some book shelves etc salvaged from a local High School demo and installed by long time member Tom Bennett.

Wanted: One Dream Airplane.

I have done many interesting trips. I have flown to Temagami, up to Killarney, out to Long Point, all kinds of places. These were planned adventures, often in company of a couple of other airplanes, which spanned a couple of days or at least a full day. For me, I think the real benefit of owning a Kitfox is demonstrated when I do not have a lot of time, but still want to go flying and have fun, so this article will document what I do on a typical day where I have to shoehorn my flying into a day jam-packed with domestic and work activities.

Gary Walsh's

Kitfo

First a little history:

The Kitfox is the brainchild of Dean Wilson back in the early 1980's. It may be called the Denny Kitfox, but Wilson did all of the engineering and called it the Avid Flyer. Denny later made a copy called the Kitfox and excelled on the sales and marketing front. There have been many iterations, with the best being the Kitfox IV, also called the Classic.

I purchased this Kitfox IV back in 2002 from a friend who had been flying it for a couple of years from our local airport in Brantford Ontario. At the time, I did not really have a clear definition of what I wanted. The emotion that drove me to part with my hard-earned money was lust. Sitting there on its amphibious gear, with that round cowl, it looked cool. I was becoming bored with my Cessna 150 Aerobat, which I had owned and flown for 14 years. This airplane offered the promise of budget bush flying. It just screamed adventure. I had to arrange financing, sell the Aerobat, and then buy the Kitfox. Chances of it all coming together were slim...but the stars lined up and it happened.

Now that I have had time to reflect, the KF truly has become my dream airplane, and I am able to articulate what that means:

· Must be amphibious capable (retractable gear that actually retracts...do not want wheels hanging out in slipstream)
· two person
· room for baggage (camping gear)
· Must be able to convert from floats to wheels or skis easily (tail dragger mandatory...in a couple of hours)
· Cross country capable...at least 100 mph cruise with 500 mile range on floats
· Decent rate of climb (1000 '/min)
· STOL capable...off the water in less than 10 sec solo, 15 sec dual ... on wheels able to land off airport
· Ability to store it in a garage to avoid hangar costs (folding wings)
· easily trailerable without taking it apart (folding wings)
· Ability to fly it with the doors open (that whole Cub experience)
· Economical to operate (ie 4 gal/hr fuel burn...car gas preferred)
· Want to be able to do my own maintenance/inspections (homebuilt)
· able to do simple aerobatics (loops and rolls...on wheels of course)
· Reasonable Engine TBO (none of this 300 hr stuff)
· It needs to be quiet. A float pitched prop breaking the sound barrier is not going to impress the locals.
· Needs to be attractive looking (prefer C-185 type configuration...something that looks like a floatflane)
· Affordable to purchase. No more than a mini van at most.

So…Back to the topic of flying when you do not have a lot of time. I am a computer geek by trade. Here is a blog entry from my site documenting a typical flight scenario, Sunday Sept 27 to be exact.

Today was a typical summer of 2009 sort of Sunday: grey with rain. I headed to the hangar early in the morning and did some general maintenance, something my wife refers to as "airplane fondling". The rain stopped by 11 am but the ceiling was about 10'. I was starting to wear the paint off cleaning it so I headed off and was home again by noon. Ceiling had gone up a bit...maybe 300'. I figured I would do some yard work, maybe some accounting for the company year end. Yuk!

By 2 pm the sun was out, the ceiling way up there. By 2:30 I was squirming. I asked my good wife when supper was. She said 5:30, and we were going over to the neighbors so Don't Be Late. Hmm... 20 min to the airport...10 min to preflight… 10 Minutes to find someplace cool...20 min back home. Tons of time. There are lots of places for a Kitfox, even in heavily populated SW Ontario. I asked my son Corey if he would come along and take a few photos. Corey is into flying, but it is usually on a BMX bike. Anything you do not pedal or jump is usually not high on his scale of interests. I was a bit surprised he agreed to join me.

As always, when I fly with a passenger I take a good look under the hood. Popping the cowl takes

Dan Denny is often given credit for the success of the Kitfox. Perhaps that is true from a sales and marketing point of view, but the design belongs to the founder of the Avid Flyer, Dean Wilson. The Avid Flyer was designed back in the early 1980's. Although perhaps not the first, Wilson was one of the first to offer amateur builders a complete kit, rather than a collection of wood, tubing and cloth. He also employed folding wings, so you could keep the airplane in your garage, and simply tow it behind your car to an available strip.

Originally he set out to design an Ultralight, but ended up with something that fell between and Ultralight and a Cub in size. I have heard that Denny was an employee of Wilson's who left to start his own company, with much of the design for the Kitfox in his back pocket. Other sources indicate that he was a customer who purchased two Avids and had a handshake non-compete with Wilson. Whatever the case, Denny took the concept and ran with it. Wilson tried to sue, but it was ruled at the time that there was nothing wrong with creating a copy of another design.

The rivalry has its humour. When Denny demonstrated folding wings in his first video, the Avid Offices where in the background. Wilson made a video himself showing the trailering capability of the Avid, and only Denny would recognize it was his own home in the background. In an odd way this funny relationship worked. Wilson did the design work and Denny did the sales and marketing. They just happened to be in different companies. Eventually Wilson ended up selling his company and moved on to a wide variety of other designs and aviation-related projects.

Here is a good article about Dean Wilson on the Avid site:

http://www.avidflyeraircraft.com/assets/a_model/Dean%20Wilson.pdf

Right: Corey is let off on the swim platform. Centre and bottom: With Plexiglas doors and top, visibility is simply awesome. High or low, with the doors open, it approaches something similar to a hang glider.
Opposite: the Rotax 912 sits neatly in the radial-style cowling, giving a nice bush-plane feel.

less than two minutes thanks to all the Camlock fasteners. This exposes not only the engine, but the instrument panel, rudder pedals, brakes, etc.

My Kitfox is a 1993 model IV. It tips the scales at 775 lbs empty, 1200 LB gross weight...on amphibs. Power is provided by a 100 HP Rotax 912S. Water cooled heads, air cooled cylinders. Dual ignition. The prop is a 3 blade IVO Medium, ground adjustable. Note the dual carbs. Follow the procedure to balance them, and it runs so smooth it feels like a turbine. No Toto, this is not Wichita.

Being an amphib, the utility still amazes me. You can fold the wings making it easy to store, even in a one car garage. Want to go somewhere and take the plane and the family? Put it on a trailer. The garage is fine, but I would miss the social aspect, so I keep the KF in a hangar at the Brantford airport. The floats are composite; and the gear is operated by pulleys and a Johnson bar. Brantford recently repaved their runways, so the landing and takeoff part of the flight are super smooth. She can land on grass, but I save that for when I have the floats off and the tundra tires on. Those amphib nose wheels are pretty small, and locating gopher holes at high speed is not my idea of a good time.

For this flight, I had in mind a little lake I had found just off the 401 near Woodstock. The flight from Brantford is short, about 10 minutes. This time of year the owner is back in Toronto, so there is nobody around. Part of the reason the trip is so short is the performance. Even on floats, the cruise is above 100 MPH. Not an RV, but still you can go places.

It's no rocket ship, but who cares?

For years I had driven this particular stretch of the 401 near Drumbo, just West of Kitchener, dozens of times. I had no idea there was a nice clear spring fed lake hidden in the trees just to the south until one day when I was on a return flight from London. That is the beauty of an airplane; you get to see things others never do. I drove in one day, and talked to the owners. They were fine if I dropped in now and then.

The wind was 90 degrees to where it should have been. I usually come in over the stream to the North, leaving tons of room. With a 15 knot wind we had to land across the short part of the lake. No problem really. With any kind of wind and the full span flaperons hanging down we can get in and out of what many would consider a puddle. We came in low over the weeds, dragging the floats through the reeds to take advantage of as much water as possible.

I dropped Corey off at the swim platform tied down in the middle of the lake. I threw him the camera and told him to be creative. Amazing what a 15 year old can do with a camera, an airplane, and a plastic goose.

The next 15 minutes I did some takeoffs and landings, a couple of flybys. Corey snapped a few photos... a couple that turned out pretty good.

I finally landed and nosed up to the swim platform.

Above: gliding over the dream house on final. Right, Corey was let off on the swim dock with instructions to get creative with the camera while Gary did a few fly-bys. it's amazing what a 13 year old can do with a little artistic license and a plastic swan.

Corey jumped on board, stood on the floats, and we drifted downwind with the engine off until we bumped against the sand at the far side of the lake.

The flight home was even shorter than the ride up, thanks to a good tailwind. Groundspeed registered 120 MPH. In what felt like only a few minutes we were lining up for final. Every time we fly I brief the passenger about the importance of the gear lever. Landing with the gear up on land is never a good thing, and gear down on water is even worse. We glide over my dream house on final. I cannot count how many times I have come in with the doors open, and trade a smile and wave to the people that own the house.

A few minutes later C-GOOT is in the hangar with the doors closed, and we are headed home. We even had some time to spare, so we stopped at the skate park in Paris, where Core logged some PIC time on his bike.

We even had some time to spare, so we stopped at the skate park in Paris, where Core logged some PIC time on his bike.

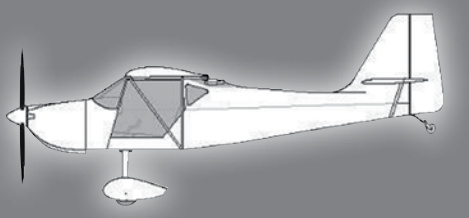
Everyone always gives you the good about their plane, but seldom the not so good. Here are some of the downsides of the KF:

-No feet on the floorboards flying. This is a rudder-required airplane. Read your map for too long and you are going to be chasing the ball around trying to line it up again. You get used to it. Your butt senses when it is not going straight, but as a camera platform or long cross-country mount this is not the ideal airplane.

-Have a battery or electric problem? You will not be hand-propping a the Rotax 912S. Even if you could get the 200 RPM required for the ignition to fire, with a high compression geared engine you would probably walk away minus an arm.

- A couple of times it has been referred to as cute. I hate that. So much for the macho bush pilot image. I am considering airbrushing hair on the lower wing roots.

To see more, or just want more technical info, see www.dlitools.com/kitfox.



Kitfox Classic IV

Specifications and Performance

Specs
Wing Span 32 ft
Wing Area 132 ft²
Cabin Width 39”
Length 18’-5”
Wings Folded Length 21’-6”
Wings Folded Width 7’-10”
Height 5’8” Tail Wheel
Height 8’-0” Tri-Gear
Fuel Capacity 14 Gallons Standard - Additional 13 gallon tank optional
Seats 2 - Side by Side
Baggage Capacity 40 lbs
Flight Load Limits +3.8g / -1.52 Sustained (+150% Safety Factor) Ultimate loads +6g / -3g
Empty Weight 650 lbs
Useful Load 550 lbs
Cargo Area
1200 lbs Gross Weight

Performance
Takeoff Ground Roll 250 ft
Landing Ground Roll 250 ft
Rate of Climb 1200 fpm
Vne 125 mph
Top Speed 117 mph
Cruise 110 mph
Stall Vso 37 mph
Endurance 7.1 hours (with optional tank)
Range @ 3.5 gph = 785 miles (with VFR Reserve)

Pilot: "Approach, Acme Flt 202, with you at 12,000' and 40 DME."
Approach: "Acme 202, cross 30 DME at and maintain 8000'."
Pilot: "Approach, 202's unable that descent rate."
Approach: "What's the matter 202? Don't you have speed brakes?"
Pilot: "Yup. But they're for my mistakes. Not yours."

Louise Sacchi (continued from page 13)

crossing in a single-engine aircraft. She doesn't say so, but I think the main reason for this is the care and thoroughness of her preparations and detailed inspections before she takes off. For example, she will take a plane up above 5,000' to check the ignition for any problems that aren't apparent on the ground. In reduced air density defective magnetos, ignition harness or spark plugs will allow the spark to go places it shouldn't. When she drains the fuel sump and strainers, she drains the fuel not onto the ground but into a clear container so she can see there is no water in it, or worse still, dirt that will always stop a fuel-injected engine in its tracks. She takes each nozzle out of the cylinder, puts a small glass or clear plastic container under each, then turns the boost pump on high with the mixture in full rich. By noting the variation in the amount of fuel in each container she can tell whether one or more cylinders are getting the fuel they should and whether any are clogged at either the nozzle or possibly at the distributor. In her experience, the most prominent in-flight symptom of fuzz in the fuel system is an engine that is running rough at all altitudes and all power settings above idle. The fuel system check includes seeing that the air filter is clean and that there's a clear alternate source of air, in case ice blocks the air filter.

Best Fuel Economy: By this we mean what power setting will get you the furthest distance for the least amount of fuel. Louise kept careful records of all engines over many years and found that all of them delivered best economy with a 58% power setting.

Oil consumption is a critical consideration. An engine in good condition should not burn more than 1 quart in 5 to 6 hours. Louise is of the firm opinion that the most important thing to do with a new engine is to properly seat the piston rings against the cylinder walls. To do this she says:

For the first 25 to 30 hours, run the engine at full power. Push the throttle to the firewall on takeoff and leave it there until ready to descend, but

When just airborne, pull the prop back 25 rpm from the red line and leave it there. Watch the limits on low altitude and high ambient temperatures, however, set out in the owner's manual.

Lean the mixture as you climb so an over-rich mixture doesn't cool the cylinders too much and foul the plugs.

This technique can also be applied to an older engine burning oil. Once, she had to deliver a used Baron with Continental IO-470 engines with 400 hours on them. Each engine was burning 1 quart of oil an hour. With a 10 qt. capacity and a 9-hour flight ahead of her, something had to change. She changed the oil then flew the plane locally at full power and high rpm at 7,000' for 4 hours. On landing, each engine needed only 1½ quarts of oil. She headed for Gander at full power for the next 4 hours. At Gander, each engine needed only 1 quart, so she took off again for Shannon, reaching it 8½ hrs. later. At Shannon, she could only squeeze a pint of oil into each engine!

That is an example of what hap-

Above all, she shows us the most important thing about safe flying is to know yourself and your limitations.

pens when the owner "babies" an engine. Piston rings never seat at low power. They need some tough love.

Oil Coolers: The problem here is that coolers mounted on the front of the engine, behind the prop, are too efficient, providing too much cooling at certain times of the year. Install a baffle in cold weather, to prevent the oil congealing in the cores, but be sure to remove it in the warm weather. Oil will congeal at 20 F and start to flow again at 34 F.

Other Systems

(i) Static System Drain: How often have you checked this system to see that it is clear and dry? If your machine has been tied up outside, there is a fair chance you could have, as Louise once did, a tricky situation at 9,000', over cloud, when she found out she had no altimeter, no vertical speed and no airspeed indicator. On landing, they took cup of water out of the static line – then had to dry out the instruments.

(ii) The Electrical System: There are many things to go wrong here. While the engine will run on the magnetos without an external system, the electrical system is essential for navigation, communications, etc. An ammeter will show current discharges, but Louise also likes to know what the voltage is. She plugs a Lamar Volt Monitor, a simple two-light instrument, into the cigarette lighter. An amber light shows low voltage, serious because radios will not operate properly. A red light shows an overvoltage, which can damage almost everything.

The Magnetic Compass: If your compass is old, take it to an instrument shop where they will check the fluid level, look for signs of fluid leakage and check for pivot wear. The compass card must be able to rotate easily. While it is subject to several errors, it is the most valuable instrument in the aircraft if it is set up and used properly. Your directional gyro is available to help overcome some compass errors, like turning errors, acceleration errors and position errors (the compass only reads accurately when it is moving at a steady pace, in a normal straight and level mode), but the directional gyro itself is subject to the precession problems common to its breed and must be reset periodically. Precession in the directional gyro itself must not be more than 3 degrees per 15 minutes. The compass will also have another large error if you calibrate it in the northern hemisphere, then fly the aircraft down to New Zealand or Australia, where the South Magnetic Pole predominates. Don't forget, too, that in our northern latitudes, the compass card also dips significantly, which again gives it a tendency to stick. Louise gives an easy to follow procedure for swinging your compass and using the compensating screws properly to reduce errors to a minimum, then how to write out your final correction card.

It is one thing to have a good compass but quite another thing to hold a good course by it. The average pilot is lucky if he can hold within 3 degrees of the required heading. There is a big advantage, however, in trying to be as close as possible. In a machine travelling at 240 mph, even after doing your best, you could still be 12 miles off track at the end of an hour.

Weather

Travelling long distances forces one to look at weather from two aspects – the big picture, and the small detailed picture – with one as important as the other. There are certain parts of the world where the pressure pattern is always a low-pressure system. One such low, for example, usually sits over Greenland and Iceland; another sits over The Aleutians and another over the South Pole. High-pressure systems sit over the southern half of Australia and similar places in the 20 to 40 degrees South latitudes producing their consistent and well-known winds, the roaring forties. This pressure-pattern knowledge can be used to advantage when planning that long trip, particularly over water, choosing a route offering a tailwind whenever possible. The low over Iceland isn't completely stationary but sometimes moves south by hundreds of miles. If this situation occurs it can change things to the point that a prospective flight to Europe is now more practical via The Azores than via Iceland.

The enroute weather forecasts are important and Louise explains them in an easy to follow way for this complex subject. Critical items, like types of clouds and heights and precipitation expected, help decide

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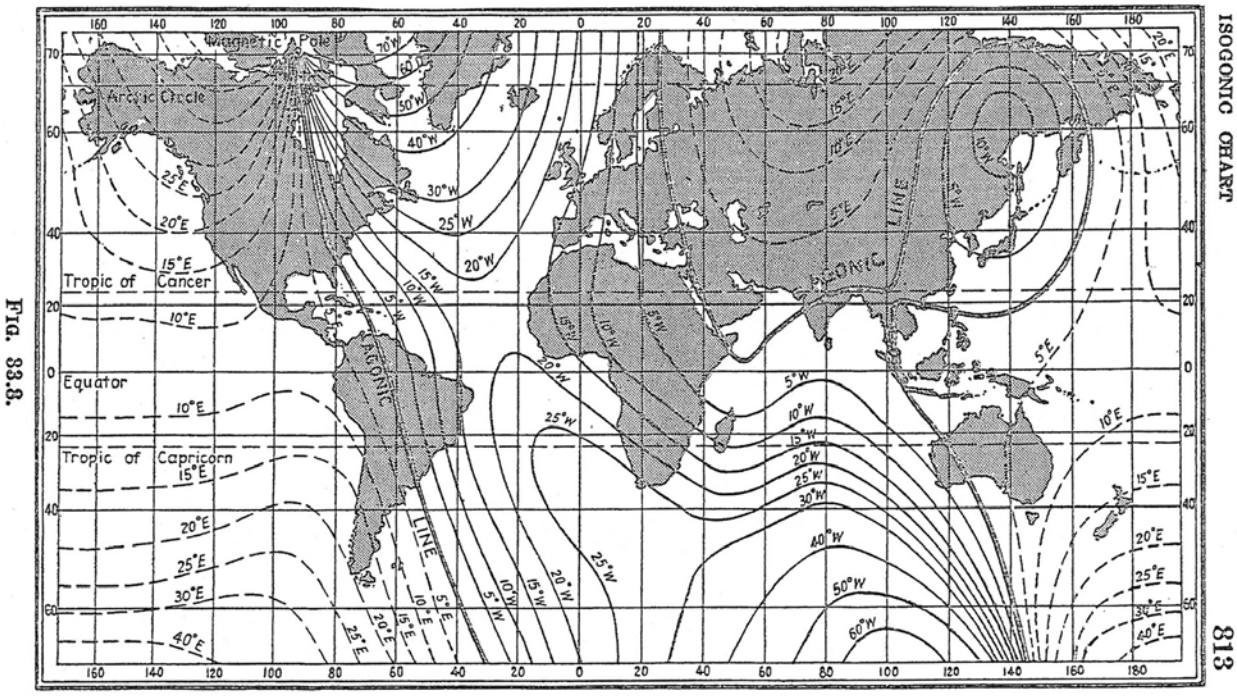
A pilot has engine trouble and lands in a field. As he walks around the plane to check out the problem, he hears a voice behind him say, "You have a clogged fuel line." Looking around, he sees no one, except a cow. Startled out of his wits, he runs across the field to the farmer's house and pounds on the door. When the farmer appears at the door, the out-of-breath pilot stammers that his cow has just talked--and even tried to explain what was wrong with the airplane.

The farmer drawled, "Was it a brown cow?" "Yes." "Did it have a white patch on its forehead?" "Yes, yes, that's the one." "OK, that's Flossie. Don't pay no attention to her. She doesn't know nothin' about aeroplanes."



An Isogonic Chart like this is hjard to find. This is the magnetic world as it was in 1936 (Source: Basic Physics, Vol. 2, Electricity and Magnetism, Martin & Connor)

the route to follow, the altitude to fly, and whether to go at all. Louise recommends always carrying oxygen with you in case weather forces you above 10,000'. Small planes don't have the luxury of being able to climb over the weather, like the large airliners can. Over the ocean it's permissible to fly at any altitude once you're clear of the coast. Useful conversion tables for temperature, air pressures and distances are included for easy reference.

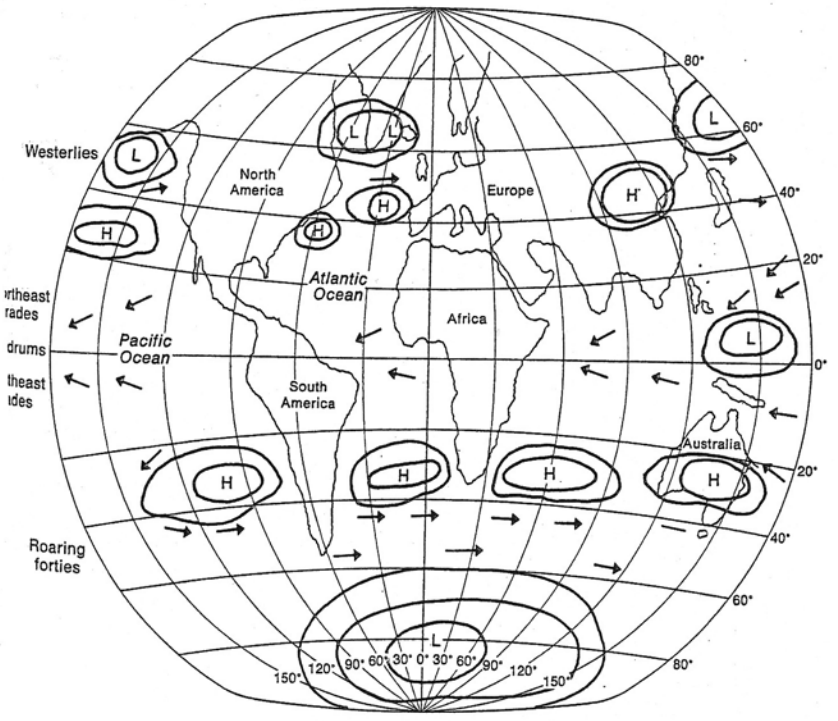
Considerable attention is given to weather patterns in the Canadian Maritimes, including details of the conditions that can cause fog and what to expect under various situations.

Encountering ice enroute in clouds is always a possibility, so ways to deal with it are described. Corrective action must be taken immediately ice formation is noticed. Don't wait. Go up or down to get out of the clouds. Air temperature in unstable turbulent air increases 3 C for every 1,000' of descent, but you may have to go much lower if you encounter isothermal conditions. If one has oxygen, it is sometimes feasible to climb above 10,000', looking for a layer of warmer air in a temperature inversion. The air between cloud layers, however, often offers relief. If that layer of air is colder, any precipitation will be in the form of snow, which will not stick to the ice. If one stays there, the ice will gradually disappear due to slow sublimation. If the air is warmer, the ice will disappear more quickly.

Navigation: The charts commonly used are described in detail. Several of them, variations of Lambert Conformal Conic charts, are useful for navigating over long distances, like crossing a continent, or crossing the North Atlantic. On them, a straight line is a Great Circle Track, crossing each meridian at a different angle. On charts using the Mercator-Projection variations, a rhumb line will cross all meridians at the same angle, so a Great Circle route will be a curved line, (always concave towards the pole. FB).

Dead Reckoning

The traditional wind triangle, plotting on a map the wind velocity against the course and the airspeed to find a deduced track is still the essential method of navigation, even if it is supplemented with radio aids like ADF, VOR, Loran, Doppler, VLF, and others. Remembering wind velocities are given with respect to true North, we apply it to our desired track to find the true heading we must fly. Applying the variation to this (add if it is West) gives the Magnetic Heading and applying the correct compass deviation to this finally gives us the compass heading required. When one is dealing with variations like 34 degrees, it is easy to see the terrible consequences of applying it the wrong way. Breaking the trip into zones, Louise details a simple way to work out and record



Knowledge is power. Knowing the pressure distribution over the oceans is downright helpful when you're planning a long, over-water flight.

the required headings.

Radio Navigation

VOR's (Very high frequency, Omnidirectional Radio Ranges) are restricted to line of sight transmission. Also, at very high altitudes it is possible to receive more than one station transmitting on a certain frequency. VOR's are of minor interest to Louise, for the type of flying she does, but still useful at the flight's start or finish.

(a) Automatic Direction Finder: The ADF is probably, after the magnetic compass, the most useful device in your aircraft. Louise traces the evolution of the ADF from its inception, through the development of an external loop, which shortly became rotatable, to the eventual internal mounting of a device that could be easily rotated to different stations, the True bearings of which could be read on a dial. The exact location of one station allows the pilot to home in on it. The exact location of several stations provides a positive fix of his position. The ADF receives signals in the low and medium frequency bands such as used by commercial stations. Reception over considerable distance is possible. The ADF system is subject to several errors, however. They are: Quadrantal Error (caused by currents induced in the metal structure); Night and Twilight Errors, (dusk and dawn bearings can be 15 to 20 degrees in error as some of the signal bounces off the Heaviside layer in the sky); Precipitation Effect, (the electric currents generated by precipitation and activity in stormclouds cause the ADF needle to wander); Coastal Effect, (if over water and the NDB is on land the signal is distorted by an amount dependant on the angle at which it crosses the coastline after it leaves the beacon).

Homing, or Tracking Inbound with the ADF is different from the VOR as it doesn't tell you if you are off track. If you are supposed to be flying an airway, you will upset Air Traffic Control unless you make an effort to allow for whatever crosswind is effecting your movement. You can get back on track by watching the drift of the needle, then changing course by doubling that angle in the opposite direction, over a similar time period.

(b) Loran: (Long Range Navigation) is a system developed during WW2, originally for ships, but with the introduction of Loran C it soon found its way into aircraft. Loran is a time-differential method of fixing position. The receiver measures the difference in time of arrival, in billionths of a second, of signals from a Master Station and one or more Slave Stations. When a line of position is obtained from one station, then plotted on the chart, the intersection of a similar position line from another station shows where you are. Depending on the strength of the transmitting stations, the receiver range is 800 to 1200 nautical miles.

Louise covers several other types of navigation

and details what is needed if you go above 27,500' and into ICAO territory, which you may find interesting, but not of much use. Celestial navigation, she picks up the first signal from the Santa Maria VOR beacon in The Azores. Above all, she shows us the most important thing about safe flying is to know

This book is not only very educational but is also a fun read. Louise softens up the technical stuff with anecdotes, stories of serious "near misses" and humorous relevant situations involving either herself or her friends.

incidentally has given way to systems like Inertial, Omega, VLF, Doppler, etc. that are Greek to me (no pun intended). Also, with the modern introduction of satellites and the GPS system, the navigation world is in a continual state of flux, trying to catch up.

Louise devotes the last quarter of the book to describing airfields at key parts of the world. Of special interest to us are her comments about Canadian weather and the airports she would often use or overfly in Northern Quebec, The Maritimes or Newfoundland when getting to her jumping-off point for an Atlantic crossing. Her comments on Customs and Landing Fees are probably outdated now, but many of these remote locations are very likely still just as she found them years ago.

Going Foreign: After learning of the difficulties of preparing for any foreign flight, the paper work necessary and the time involved waiting for answers, most of us would give up and push that dream away forever. However, Louise shows us that, if it is really necessary, as it is in her business, it can be made possible with the right attitude plus enough preparation and perseverance.

This book is not only very educational but is also a fun read. Louise softens up the technical stuff with anecdotes, stories of serious "near misses" and humorous relevant situations involving either herself or her friends. It is almost possible to share her joy with her when, for example, after hours of flying yourself and your limitations.

How do I find a copy of this out-of-print book?

If you Google "Used Books" you will be led to hundreds of booksellers around the world who will be happy to help you track a copy down. My 1980 copy was published by McGraw Hill.

www.Abebooks.ca has 8 copies priced $8 to $30

www.alibris.com 20 copies priced $1.99 to $99.

www.usedbooksearch.co.uk gives leads to all major sellers who have 55 copies available.

www.amazon.co.uk shows TAB Books published a soft cover edition in June 1989, 5 copies available for L31.5 each.

Reviewed by Frank D. Ball, RAA 2300,
RAA Flamborough Ont. Chapter.

The attached map of 'Pressure distribution over the oceans' (page 31) is included in Louise's book. By looking at it carefully, you can clearly see why Canadian weather develops the way it does, with that low always sitting over the Aleutian Islands.

The map of the Isogonic Chart of the magnetic world (page 30) is for information and to get you thinking of a reason for the strange magnetic displacement over China, Mongolia and Eastern Siberia. What secret lays buried there, deep within the earth?

It was night over Las Vegas and "Information Hotel" was current on the ATIS. Mooney 33W wasn't too sharp, but he didn't let that stop him from talking to Approach Control.

Approach: "33W, confirm you have 'Hotel.'

33W: "Uhhhmm, we're flying into McCarren International. Uhhhmm, we don't have a hotel room yet."

After that, Approach was laughing too hard to respond. The next several calls went something like this call to United 583 (which didn't make it any easier to stop laughing)...

Approach: "United 583, descend to Flight Level 220."

United 583: "United 583, down to Flight Level 220. We don't have a hotel room, either."

Technical

The Old Rope Trick

During August, on a couple of occasions, I noted a slight shudder in the engine. Both occurrences were following power reductions. A passenger would not have noticed the slight change in the engine, but I did. It reminded me of what had happened to a friend, Terry Jantzi, in his RV6 a few years ago, when he had a stuck valve. In his case the valve stuck fully open for awhile and was alarming. In my case it was just a subtle hint and at that point I really did not know what it could be. Many things came to mind - a drop of water in the fuel, ignition issues, etc.

Last winter I installed an Advanced Flight Systems 3500 complete with engine monitor. This system records engine data so I downloaded the data to a card and checked it out on my computer using X-cell. I looked at the last 12 hours of test data, over 8500 entries, and immediately noted that the #6 EGT was always lower than the other cylinders before the first flight of the day. This clearly pointed to "morning sickness" which is indicative of a stuck valve. However in my case the engine still ran well because the valve was not completely stuck open.

I now knew which cylinder to check, so my mechanic and I went to work. Off came the cowlings and the tappet cover on #6. Both spark plugs were removed and the piston was positioned to the down side of the stroke. A long 3/8" diameter rope about 8 feet long was shoved into the cylinder, leaving a bit hanging out. The prop was then rotated, pushing the piston up against the rope. This kept the valves from opening and reduced the tension on the valve springs. The pin that the tappets rotates on was simply pushed away from the intake valve, allowing that tappet to be removed. My mechanic had a tool that allowed the last bit of tension in the springs to be removed and the "valve keepers" were removed. This allowed the springs to be taken away from the valve. The prop was turned, the rope removed and that allowed the valve to be pushed into the cylinder where it dropped to the bottom. My mechanic had a tool that he mounted into his drill that was inserted into the guide and cleaned away some "dark" areas on the guide. The tool is not really a reamer, just some wires mounted around a spindle. The object was not to remove metal, just to clean the byproducts of combustion from the working surface of the guide.

The stem of the valve was pulled/pushed out the bottom spark plug hole and the dark areas were cleaned using solvent and a scotch brite pad. The valve was then pushed back in the cylinder, and using a curved wire inserted into the top plug hole the valve was carefully raised and directed into the guide. Gently nudging the valve forward with the piston helped to move the valve into place. The rope was now pushed into the cylinder and the whole process was reversed. From start to finish the whole job took less than an hour and a half, including the removal of cowlings.

I would not have been able to diagnose this issue without the Advanced Flight System data and it would likely have continued until the point at which I experienced a fully stuck valve. Before this incident I never looked at startup EGTs but now I have added that to my check list as a noted difference could indicate a potential problem.

Tom Martin

Glareshield Integral Lighting

John Allen (fliier@onebox.com)

I elected to install a fiberglass glareshield in my RV6A. I did this because I wanted the look of a padded glareshield, and because I wanted a removable means of attaching overhead lighting.

To do this I used the existing aluminum skin as a mold for the fiberglass. I installed the skin on the fuselage with clecos (with a couple of low profile screws under the fiberglass layup). I used just 3 or 4 layers of glass to allow for flexibility in the finished product (remember the mold release).

I then trimmed both the fiberglass glareshield and the skin to make the intersection of the two fair neatly into each other. The finished aluminum is no less than 1 inch form the panel in the centre, and of course much wider at the sides to fit the windscreen appropriately.

For lighting I used flexible lighting strips (like light bulbs in vinyl tubing) from JC Whitney. I bent a very thin and lightweight piece of aluminum angle with my shrinker tool to fit the inside curve of the glareshield and used double sided sticky foam to adhere the lights to the inside of the angle.

On top of the glareshield I used vinyl I purchased from an auto upholstery shop over a layer of very thin foam. I also purchased some edge stripping from them which just snaps onto the edge of the glareshield and makes a nice finish. Contact cement was used to glue the vinyl and foam to the glareshield.

(Continues bottom of next page)

Safety

SPECIAL AIRWORTHINESS INFORMATION BULLETIN
Reciprocating Engine Liquid Cooling: Bombardier-Rotax 912 & SAIB: NE-05-84R1 914 Series Engines

Introduction

This Revised Special Airworthiness Information Bulletin (SAIB) alerts you, owners and operators of Bombardier-Rotax (Rotax) 912 A, 912 F, 912 S, and 914 F series reciprocating engines and facilities that maintain and repair these engines, to revised information related to monitoring of cooling system temperatures and the type of liquid coolant to use in these engines. All other information remains the same. These engines are installed on, but not limited to, Aeromot-Industria Mecanicao Metalurgica AMT-200, AMT-200S, and AMT-300; Aquila Technische Entwicklungen GmbH AT01; Diamond Aircraft Industries (Austria and Canada) DA20-A1, HK36 R, HK36 TC, HK36 TS, HK36 TTC, HK36 TTC-ECO, and HK36 TTS; Iniziative Industriali Italiane 650 TC, 650 TCN, 650 TCS, and 650 TCNS; and Stemme GmbH S10-VT aircraft. These engines may also be installed on amateur-built and light-sport aircraft. At this time, this airworthiness concern is not an unsafe condition that would warrant airworthiness directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

Background

The European Aviation Safety Agency (EASA) has advised us of possible loss of coolant and engine overheating on Rotax 912 and 914 series engines. Based on these findings, EASA published AD 2007-0155, dated May 29, 2007, that requires use of a waterless type coolant if the engine coolant exit temperature will exceed 120° centigrade (C). Use of waterless coolant may not apply to all Rotax 912 and 914 series engines because coolant exit temperatures are affected by the aircraft installation and operating conditions. The maximum cylinder head temperature limits approved for these engines remain the same.

If you use a conventional ethylene-glycol/water coolant, and engine coolant exit temperatures exceed 120° C, loss of coolant, engine overheating, knocking, and engine damage can occur, which could result in an in-flight shutdown. You should monitor the coolant exit temperature to prevent engine overheating when using conventional coolant. You can also prevent engine overheating by monitoring cylinder head temperature if an appropriate correlation is established between coolant exit temperature and cylinder head temperature.

Rotax service bulletins SB-912-043 Revision 2, dated November 10, 2006, and SB-914-029 Revision 2, dated November 10, 2006, provide additional information about coolant usage. The applicable Rotax 912 and 914 installation manuals and operator's manuals also provide related information.

Recommendations

We recommend that you comply with the coolant usage information provided in Rotax service bulletins SB-912-043 Revision 2, dated November 10, 2006, and in SB-914-029 Revision 2, dated November 10, 2006, and the applicable Rotax 912 and 914 installation manuals and operator's manuals.

We also recommend that you comply with the coolant usage information and cooling system temperature limits defined by the manufacturer of your aircraft because of installation effects on engine cylinder head and coolant exit temperatures.

For Further Information, contact Richard Woldan, Aerospace Engineer, FAA, Engine Certification Office, 12 New England Executive Park, Burlington, MA 01803; telephone: 781-238-7136; fax: 781-238-7199; e-mail: richard.woldan@faa.gov

For Related Service Information, contact BRP-Rotax GmbH & Co. KG, Welser Strasse 32, A-4623 Gunskirchen, Austria; telephone: (43) 7246-601-0; fax: (43) 7246-601-760; Internet: www.rotax-aircraft-engines.com

(Glareshield continued from p. 33)
The glareshield itself is attached to the airframe with rivnuts.
The system is powered by a 5 amp solid state system from Aeroelectric Connection.
The end result was a very good lighting effect, except for the A/I and the D/G. Both of these instruments have pointers at the very top of the instrument which are shadowed in the overhead lighting. For these two instruments I used Whelen post lights driven from the same power source.
It was an interesting experiment that achieved the desired lighting effect and attractiveness at the expense of additional weight and time.

Nature's Own W&B

W&B also means Wasps and Bugs, and in this case they affected weight and balance. The owner of a plane that had been stored for a couple years was annualling the plane and had a look inside the flying and control surfaces to find that he had many pounds of heavy dirt in his plane. Mud wasps or some other bug had been busy, and they had created dense earth balls that were as stiff as rocks. These critters are small and determined enough to get in through a tiny hole, and one or two grains at a time they added a lot of weight to the plane, not necessarily at the CG. There were several pounds added to the tail of this plane. It is even worse if they put the weight into a control surface. It does not take much weight at the trailing edge of a control surface to affect its resistance to flutter, so check there too. On this plane the fuel tank had been left empty and one of the outlet fittings was also plugged.

How does one inspect without opening up the skins? There are inexpensive micro cameras available that are mounted on the end of a long flexible stalk. Even Harbor freight sells these for about $100, and perhaps your chapter might consider adding one to its tool crib. Harbor Freight item 66550-OVGA has a three foot flexible stalk with a 2.4" colour monitor that has a night vision range of 4 ft, and it all runs on four AA batteries.

President's Message (continued form page 2)

planes, but these altitudes are no longer available to them.

What this means is that the UL schools must make a choice - do they teach upper air work at 1000 ft? Or do they ignore former Rec Av Chief Arlo Speer's interpretation of 602.29. Personally I go with the latter because there are many at Transport who have gone so far as to tell UL pilots to use Class E the same as any other VFR plane does. In Ontario and Alberta the UL pilots have already been told by TC inspectors to use Class E. However in Ontario there is a small but noisy group of UL pilots who enjoy Arlo's prohibition because it can be used to justify low flying, so the situation requires resolution.

RAA has begun a dialogue with Transport's airspace and flight training people in Ottawa and we have recommended that the easiest way off the horns of their recently created dilemma would be for someone to walk over to the lawyer's office and ask that he find the 603.78 document and send it along for translation and reading in the House. That way they do not even have to deal with the convoluted 602.29 document. If that would take too long they could alternatively write an exemption to 602.29 using the wording of 603.78 and correct their problem within a few weeks, but that might be a bit much to ask. After all, it is just UL flight training that has been stopped in its tracks.

51% New Guidelines

In the past two years there has been a moratorium by the FAA on performing blanket 51% evaluations for manufacturers of A-B aircraft. Following in lock step, Transport Canada has had the same policy and this has certainly been a hardship to Canadian kit manufacturers and their customers. New products have not been allowed a blanket 51% evaluation, so each purchaser of a recently released kit has been forced to pay some $300 for a one-off 51% evaluation. Fortunately in the past month the FAA has issued their new 51% guidelines (the "meat chart") and their new policy is much less onerous than everyone had thought it would be. Comparing the interim meat chart that Transport has been using to the new FAA chart, the Americans can now achieve 51% more easily than we can. It is to be expected that shortly we will have the easier policy too. It certainly makes one wonder what all the fuss was about for the past two years.

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Magazine Mailing: .....Dave Evans
Ultralights: .....Wanted
Web Page .....Nicholas Grose
Insurance Committee ..... Gary Wolf
AirWear.....Dave King

Coming Events

November 10 Brampton Ontario.
Rebel Builders' meeting, hosted by Bob and Anna Patterson, in the RAA-TR clubhouse at NC3. 905-457-5238 bob.patterson@interbiz.ca

November 14, Buttonville/Toronto, ON (CYKZ): Buttonville Flying Club Centennial of flight fly-in. 9:30 a.m. to 3 p.m, located at Hangar 5. Our key note speaker, Mr. Stéphane Guevremont. Lunch will be served. HopeAir is providing a Cake in celebration of the 10th anniversary of the Volunteer Pilot Program. For more information please contact Mark Brooks 416-909-4846 or email markwbrooks@gmail.com.

November 25, 2009, Toronto, ON: Transport Canada System Safety Seminar – Winter Operation Tools. In this packed seminar, Michel Treskin will review and discuss the hazards and risks associated with cold weather operations, giving you the tools to be able to safely enjoy flying this winter. Contact our main number at 416- 952-0175 for information on the seminars or other offerings.

November 27 Chapter Christmas party on November 27th at the Elmira Golf Club. Tickets are available from clare@snyder.on.ca.

28 November, Kingston, ON: 13th Annual Aviation Christmas Dinner to be held at the Italo Canadian Club in Kingston. Cocktails at 5:30 p.m. and dinner at 7 p.m. Our guest speaker this year will be Col (Ret'd) Glen Cook, Navy Test Pilot and author. Contact Lois Tisdale at 613-548-3753 or email loisdave@kingston.net.

January 9-10 Guelph Ontario
The Tiger Boys of Guelph, famous for their restoration of Tiger Moths and other antique aircraft will be hosting a 2 day RAA-sponsored fabric school at their hangar at Guelph Airpark. They will teach the traditional dope and fabric covering method, and students are invited to bring their own control surface or tail section. The school will also supply parts for those without their own. Price has not yet been determined but in the past it has always been reasonable. Class size is limited to the first 12 who respond to garywolf@rogers.com .

Spot Locator

In a past issue RAA warned that some members had been disappointed with the real world performance of the Spot Locators. Last week a member called in to say that he too had found the performance disappointing but his Spot began performing very well when it was fed a set of Energizer Ultimate Lithium batteries. He was careful to point out that they had to be the "Ultimate" variety of Energizer. The performance of his Spot had previously been spotty, sometimes more than half an hour between reports. With the new batteries the reports became five minutes apart. http://www.energizer.com/products/hightech-batteries/lithium/pages/lithium-batteries.aspx

Garmin Recall

RAA Treasurer Wayne Hadath had been having noise problems with his Garmin SL 40 and became aware that there was a recall. Here is the response from Garmin:

"Thank you for providing all of the information regarding your SL40. Your unit does fall into the group of SL40s that are addressed by the service bulletin and the unit should be sent back to us for service. This is covered under the product warranty and takes about two days here at the factory. The issue is that some SL40s can generate spurious noise when transmitting. You can either ship the unit to us yourself, or have your dealer remove the unit and send it in. If you would like to send the unit in yourself, please confirm via return email, making sure to copy us on all of the unit info that is below, and we will issue you an RMA number and complete shipping instructions."

Hummel Ultracruiser Wing Failure

RAA previously reported that a wing had departed from a Hummel Ultracruiser just after takeoff, wrecking the plane but fortunately sparing the pilot. RAA has been investigating this with the cooperation of Wayne Winters and Hummel's representative. What we have found is that all materials were as required by the plans and the quality of workmanship was good. This low wing cantilever metal plane has a carrythrough that has its upper edge cut down for leg clearance, so there is a rigid doubler attached to the carrythrough in the area that has been reduced in height. The crack in the wing spar was immediately outside the fuselage and circumscribed the doubler.

Hummel's rep Terry Hallet has been very forthcoming and helpful in this investigation, and we are exchanging information to get to the bottom of this failure. In the meanwhile, if you know of someone building a Hummel Ultracruiser, please make him aware of the problem. It might be better to work on a different part of the plane until it has been determined what caused the wing failure.

Classified Ads

To submit or delete a classified ad, please send to classified@raa.ca and place "RAA ad" in the subject line.

The Recreational Flyer is pleased to offer you colour advertising within the magazine. Previously limited to the back cover, we have added 4 new colour pages which will be available with limited space for your advertising needs. Our rates for both black and white and colour ads remain very competitive and you reach a captive and qualified audience.

Ads can be emailed to : ***classified@raa.ca***

Deadline for submissions is the first of the month preceding date of issue.
Artwork: Rates apply to camera ready artwork. Digital files are preferred and should be sent as email and in .txt format, PDF, JPEG, MS WORD, Photoshop or other common file types. Advertising is payable prior to printing of magazine unless other arrangements have been made. Payment is in Canadian funds. 10% Discount applies to one year (6 issues) insertion paid in advance. Commercial Classified ad rates 1/8 page minimum.

Advertising Policy
The Recreational Flyer Publisher reserves the right to refuse any or all advertising for any reason stated or unstated.
The Recreational Aircraft Association Canada does not assume responsibility for advertisements, but does exercise care to restrict advertising to responsible, reliable individuals.
Please note: Ads running more than 3 issues must be renewed to guarantee continued display in the magazine.

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Vice President (Programs): David Moore
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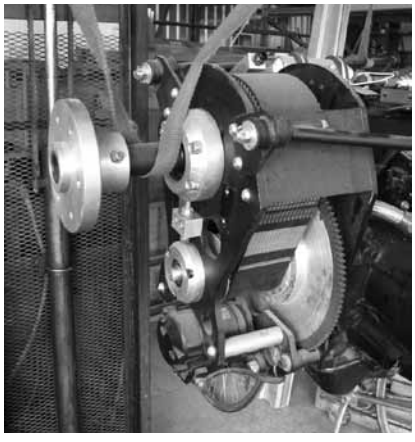
The Recreational Flyer is devoted to the aerospace sciences. The intention of the magazine is to promote education and safety through its members to the general public. Material in the Flyer is contributed by aerospace engineers, designers, builders and restorers of aviation devices and vehicles, used in an amateur capacity, as well as by other interested persons, publications and organizations. Contributions to the Recreational Flyer are voluntary and without remuneration. Opinions expressed in articles and letters do not necessarily reflect those of the Recreational Aircraft Association Canada. Accuracy of the material presented is solely the responsibility of the author or contributor. The Recreational Aircraft Association Canada does not guarantee or endorse any product offered through articles or advertising. The Flyer and its publisher welcomes constructive criticism and reports of inferior merchandise or services offered through advertising in the publication.

For Sale

RAA DONATION FOR SALE: 6 cylinder Continental IO 470 J engine as a core for rebuilding, condition unknown. This engine was in a Debonair that had a wheels up landing. Best offer but be resonable as the proceeds go to RAA. I can email photos to you if required. garywolf@rogers.com Jun09



Brand new Crossflow redrive for Subaru EA 81 with flywheel and starter. RAA is handling the sale of this redrive for the estate of the late Mike Davy. $1200. This is a complete bolt-on unit. Please contact garywolf@rogers.com or call 519-648-3030 Jun09

Zenith CH-250 Project For Sale. Tricycle configuration First inspection done. Ready for rigging. Have 3 in 1 engine gauge, VSI, ALT, Compass, Tack, and air speed gauges. Have a dinafolcal engine mount for 0320 engine, prop, some pneumatic tools. Plus lots of old news letters for the project and pictures of different configurations. $10,000.00 Ph. 604-859-6884, John.

Lycoming O-320 H engine, $6000 certified with logs, and pickled. This engine is near 2000 hours but it recently had new a new case and most internal components replaced. The previous owner bought the plane and immediately repowered it with a new 180 hp for float flying. With not much more than a top overhaul this would be nearly a zero time engine. kinger@bmts.com Dec08

For sale, new RV9A parts; conical engine mount, 3 L/G legs, mounting brackets, nose wheel, fairings. All the parts I didn't use when I converted to tailwheel. Contact Terry Elgood for list at TMB_Elgood@shaw.ca or 604-279-2062 Mar 09

SIDEWINDER: All metal; seats two. Equipped with Lycoming 0-290D (110 hrs STOH), engine log, 3-blade ground adjustable Wrap Drive Prop. Bendix/King KY 97A radio, Icom portable standby radio; intercom, transponder/c. Full cockpit and panel lighting, strobes, L/L, and nav lights. Ready for MDRA final pre-flight inspection. All drawings and building manuals are included. Selling for material cost only ($20,000 cdn.) Call Norm at 519-745-7971 or email at ldservice@rogers.com. Apr09

Project Assistance 15 years of aircraft sheet-metal/fabric/ composite construction/ mechanical. can help your project. Have helped on RV projects.and other home-build aircraft. 1-519-777-7084 ask for Robert April09

FOR SALE: Bushcaddy R120 kit, tail section done, cabin 85% completed. Comes with everything needed to complete the plane. Rotax 912S, Warp Drive 3 blade propellor, instruments, etc. Price:$49,500.00. Rexton N.B. W 506-523-9056, H 506-523-9614 e-mail: ahudson@nbnet.nb.ca Jun09

FOR SALE: Cuby project at precover stage, on gear with controls, seats, engine mount, struts, wood wings. $3500 gpeees@hotmail.com 519-831-5350 Jun09

1969 c-172,2800 TTAF,590 SMOH,original paint,Mk12D with glideslope,Mk12,loran March annual, Transponder with encoder.$60M Ted Strange 1-250-762-4924 ted.strange@gmail.com Aug09

FOR SALE: Zenith Zodiac 601 C-FZOF. Subaru powered, warp drive propeller, A22 ICom portable, flightcom intercom. Flight authority valid to Aug 11/09. 13 hrs total time on airframe. Presently located at St. Catharines airport. Asking $25.000. 905 295 4906 Jun09

RAA DONATION FOR SALE: 6 cylinder Continental IO 470 J engine as a core for rebuilding, condition unknown. This engine was in a Debonair that had a wheels up landing. Best offer but be resonable as the proceeds go to RAA. I can email photos to you if required. garywolf@rogers.com Jun09

FOR SALE: 1969 Stitts Playboy.135hp. Lycoming. Fuselage & tail surfaces covered with ceconite in 2006. Gross 1450 lbs. Net weight 945 lbs. $12,500. Call 1-519-294-6118. E-mail mtlarkin@sympatico.ca. Jun09

McCauley prop from a 150 hp 172, CTM 7553. Removed July 06 for inspection/overhaul. Asking $700 flyadler@golden.net 519-648-3886 Aug09

Falconar "F11A" project, Fuselage complete, wing 90% complete, empenage complete, 1st inspection done, EA 81 Subaru with redrive included. $3000. (905) 649-1376Aug09

Four Subaru EA81s and one EA82. one partly converted. Will not be undersold. FOB my shop. Bill Weir 519-461-0593 Jun09

FOR SALE: ZENITH CH-300 on floats First flight, Sept 1983, total hours 575 (300 on floats since July 1993). Engine O-320-C2A zero timed in 1999 now with 170 hours. panel, no radio. Prop McAuly 1A175/GM8241 new in 1993 Floats, Zenair 1850. Location Lake Muskoka. $45,000 George 705 445 7054 CollingwoodAug09

I have too many RV projects on the go…
1. RV-4 project well on the way with the tail feathers finished, wingspars finished and all ribs drilled, primed and numbered in the box. Flaps and ailerons finished. Fuselage on the jig. All primed. Good workmanship. $9500 OBO . Call for more details or e-mail for pictures. (519) 461-1464 or ed@solaire-canada.com
2. RV-8 project, tail feathers finished, spars done, flaps,ailerons, D-tube and tanks finished. Predrilled ribs and skins. All parts in boxes ready to go. Excellent workmanship. $9500 OBO Call for more details or e-mail for pictures. (519) 461-1464 or ed@solairecanada.com Jun09

FOR SALE: Lycoming engine-Model IO-360-B1B--Last annual 5-8-73 at 646.0 hrs since top O/H--in storage since removal from Beechcraft--C/W Hartzel C/S prop. Dynafocal mount , Exhaust,--Logbook--Located in Edmonton,Ab. $8500 OBO forestind@mmipro.com Cell 780-499-1724 Res: 780-460-7420 Jun09

1969 Stitts Playboy.135hp. Lycoming. Fuselage & tail surfaces covered with ceconite in 2006. Gross 1450 lbs. Net weight 945 lbs. $12,500. Call 1-519-294-6118. E-mail mtlarkin@sympatico.ca. jun09

(1) 1967 C-172, 3155 TT, Cont. 0-300, 1005 SMOH, new windshield, new battery in 2007, new paint in 2005, a working DME, two 720 com. radios, a ELT, current annual

until Nov.09. $41,000. (2) 40' X 30' Calhoun structure hangar at Earlton,CYXR, 5' high steel walls, 10' high doors, fabrene roof, put up in Nov. 2004, will hold a C-172. $12,000. Phone 705-544-8743 or whiteheadbj@msn.com Aug09

FOR SALE _ Zenair 601HD tricycle gear built from plans. Wings and empennage finished. Fuselage 90% done. Electric elevator trim operational. Control cables finished. Hydraulic brakes operational. Fuel tank installed. Radio antenna and cable installed. Logs up to date. Also included; plexi for canopy, radio, extra aluminum sheeting and some tools. Asking $8000. ALSO FOR SALE_ Corvair Monaza 6 cylinder 110 Hp engine. Prop hub, ring gear and starter installed. Needs carburation, ignition, and exhaust. Logs complete. Asking $4000. Both items for $10000. ph; 403-665-2482 Hanna, AB. e-mail; mcdonell@netago.ca Jun09

For Sale: Avid Flyer Mark IV STOL wing. 800 TT, folding wings, 1150 lb gross, 540 lb useful load. Engine liquid cooled 582C 50 SOH. Registered as homebuilt, restored 2005. 720 channel Com, ELT, new 3 blade GSC prop, new wheels, tires and brakes. Cruises at 90 mph, stalls 32, low cost and lotsa fun flying. Skis and some parts included. Asking $16K. Email planes1057@hotmail.com. Phone Tom 780-632-9396 days, Lowell 780-632-2931 evenings. Oct09

For sale/trade: 0290D2, good but scored crank journal, no accessories, dismantled $2000.00. Also, Revmaster mount and electrics $500.00. Bendix dual mag $500.00. Call 519-692-5309 for details. macmaz@mnsi.net Oct09

For Sale: Avid Speedwings new and uncovered, at the ladder stage,with factory made flaperons. $500. Avid stabilizer $100. Avid stab lower braces $75. One jury strut assy $30. As a batch - $575. garywolf@rogers.com 519-648-3030 Oct09

For Sale: Rotax 912F for sale $5700.00. 1490 SMOH Many new parts. From well maintained certified A/C. Contact: Keith Charest , intev@bellnet.ca, 519-240-3064 Oct09

For Sale: McCauley propeller 1A101DCM6948 modified to a GCM6948 that takes a prop extension. Prop is in good condition and removed from Cessna 150 for age. Last major overhaul by Western Propeller Jan 1991 and has about 1090hrs since then. Because of the modification for a prop extension, prop cannot be recertified. Good for your homebuilt powered by a Continental O-200. Price $700 Cdn. Call Don Bentley 250-764-0880 Oct09

For Sale: Pegazair factory made wing rib kit, with ribs and skins for slats. Includes nose rib doublers, rollers, and stalks for moveable slats. Also includes the main spar shear web and caps, plus the full length rear spar. $2600 for all. garywolf@rogers.com 519-648-3030 mornings. Oct09

For Sale: McCauley metal prop removed from 150 hp Lycoming on C-172. No damage but it failed its annual by .005" on the chord width. $700 OBO. 519-648-3886 Oct09

For Sale: Pegazair factory made wing rib kit, with ribs and skins for slats. Includes nose rib doublers, rollers, stop boxes and rubber stops, plus the tubular stalks for moveable slats. Also includes the main spar shear web and caps, plus the full length rear spar. $2200 for all. garywolf@rogers.com 519-648-3030 mornings. Oct09

For Sale: I have an Rv 6A, nose wheel and main gear legs, fairings, gear attachments,motor mount etc would like to sell or trade for complete tail wheel components, if you know of anyone interested please have them contact me at rosymury@aol.com. Oct09

Wanted

Wanted: Geshwender redrive for my Spitfire project. 519-692-5309 macmaz@mnsi.net Oct09

Looking for a port side wing for a 1989 Avid Flyer H.H. STOL. if any one has one they can email me @ wcsorell@northwestel.net or phone Wade Sorell 250-500-3775 Fort Nelson B.C. or is there anyone out there who rebuilds AULA

Ads run for a maximum three issues depending on space available and then must be renewed for continued display. Please direct all classified inquiries and ad cancellations to: classified@raa.ca and place "RAA ad" in the subject line.

One of a pair of SE-5 replicas built by Chapter 85's Dan McGowan and C.R. "Gogi" Goguillot. Langley Fly-In, 2009.

Send us Photos of your completed projects

Share your accomplishment with others - you've earned it!

Please include a brief description of your aircraft and any other details you want to include, and send us a colour print with it. Mail to: Recreational Aircraft Association of Canada 13691 McLaughlin Road, R R 1, Caledon, Ontario L7C 2B2...or email us the information and a high resolution digital picture (jpeg format please) to: raa@zing-net.ca

RAA Chapters and Meetings Across Canada

The following is a list of active RAA Chapters. New members and other interested people are encouraged to contact chapter presidents to confirm meetings as places and times may vary.

ATLANTIC REGION

HAVELOCK NB: Weekly Sunday morning get together year round, all aviation enthusiasts welcome. Havelock Flying Club - 25 mi west of Moncton. Contact Sterling Goddard 506-856-2211 sterling_goddard@hotmail.com

QUEBEC REGION

COTE NORD (BAIE COMEAU): Meeting times to be advised. Contact Pres.Gabriel Chouinard, 418-296-6180.

LES AILES FERMONTOISES (FERMONT): First Sunday 7:30 pm at 24 Iberville, Fermont. Contact Pres. Serge Mihelic, 418-287-3340.

MONTREAL (LONGUEUIL): Chapter 415, Meeting in French second Wednesday at 8 pm, at CEGEP Edouard Montpetit 5555 Place de la Savane, St. Hubert, PQ. President Pierre Fournier, pierre.fournier@cmc-electronics.ca (514) 645-4355

OUATOUAIS/GATINEAU: Every Saturday 9:00 am to noon at the restaurant l9Aileron in the airport terminal. Contact Ms N.C. Kroft, Gatineau Airport, 819-669-0164.

ASSOC DES CONSTRUCTUERS D'AVIONS EXPERIMENTAUX DE QUEBEC (QUEBEC): Third Monday 7:30 pm at Les Ailes Quebecoises, Quebec City Airport. Contact Pres. Ray Fiset, 418-871-3781. rayfiset@qc.aira.com

ASSOC AEROSPORTIVE DE RIMOUSKI: First Saturday at 9:00 am, La Cage aux Sports, Rimouski. Contact Pres. Bruno Albert, 418-735-5324.

ASSOC DES PILOTES ET CONSTRUCTEURS DU SAGUENAY-LAC ST JEAN: Third Wednesday 7:00 pm at Exact Air, St Honore Airport, CYRC. Contact Marc Tremblay, 418-548-3660

SHERBROOKE LES FAUCHEURS de MARGUERITES. Contact Real Paquette 819-878-3998 lesfaucheurs@hotmail.com

ONTARIO

BARRIE/ORILLIA: Fourth Monday 7:30 pm, Lake Simcoe Regional Airport. Contact Treas.Gene Bemus 705-325-7585 gene@encode.com

COBDEN: Third Thursday 8:30 pm at Club House, Cobden Airport. Contact Pres. Clare Strutt, 819-647-5651.

COLLINGWOOD AND DISTRICT; The Collingwood and District RAA, Chapter 4904, meets every first Thursday of every. month, at 7:30 PM except July and August, at the Collingwood Airport or at off-site locations as projects dictate. The January meeting is a club banquet held at a local establishment. For more information contact Pres. Keith Weston at 705-444-1422 or e-mail at ckweston2@sympatico.ca

EXETER: Second Monday 7:30 pm at Summers-Sexsmith Airfield, Winters-Exeter Legion. Contact Pres. Ron Helm, ron.helm@sympatico.ca 519 235-2644

FLAMBOROUGH: Second Thursday 8:00 pm at Flamborough Airpark. Contact Editor Frank Ball

fdnmeball@teksavvy.com 905 822-5371

HAMILTON: Second Friday 8:00 pm Months of Feb, April, June, Aug, Oct, Dec, at Hamilton Airport. Contact Pres. Brian Kenney, 905-336-5190

KENT FLYING MACHINES: First Tuesday 7:30 pm at various locations. Contact President , Jim Easter 519-676-4019 jim.easter@teksavvy.com.

KITCHENER-WATERLOO: Meets the third Monday of each month in the upstairs meeting room of the cadet building at CYKF, except during the summer months when we have fly-ins instead. Please contact Clare Snyder clare@snyder.on.ca

LONDON-ST. THOMAS: First Tuesday 7:30 pm. At the Air Force Association Building, London Airport. Contact President Angus McKenzie 519-652-2734 dahatch@rogers.com

MIDLAND-HURONIA: First Tuesday 7:30 pm Huronia Airport. Contact Tom Massey 705-526-5304, fax 526-5310

NIAGARA REGION: Second Monday 7:30 pm at Niagara District Airport. Contact Pres. Len Petterson swedishcowboy29@aol.com http://home.cogeco.ca/~raaniagara/

OSHAWA DISTRICT: Last Monday at 7:30 pm at Oshawa Airport, 420 Wing RCAF Assoc. Contact President Chris Gardiner 905-668-5703 cgardn628@rogers.com

OWEN SOUND Contact President Roger Foster 519-923-5183 rpfoster@bmts.com

OTTAWA/RIDEAU: Kars, Ont. 1st Tuesday. Contact: Secretary, Bill Reed 613-831-8762 bill@ncf.ca

SAUGEEN: Third Saturday for breakfast at Hanover Airport. Contact: Ed Melanson 519-665-2161 meled@wightman.ca

YQG AMATEUR AVIATION GROUP (WINDSOR): Forth Monday, 7:30 pm Windsor Flying Club, Airport Road, Contact: Kris Browne e_kris_browne@hotmail.com

SCARBOROUGH/MARKHAM: Third Thursday 7:30 pm Buttonville Airport, Buttonville Flying Clubhouse. Contact Bob Stobie 416-497-2808 bstobie@pathcom.com

TORONTO: First Monday 8 pm at Ch 41 Hangar on north end of Brampton Airport Contact: President, Earl Trimble 905-787-8524 northerntailwind@aol.com

TORONTO ROTORCRAFT CLUB: Meets 3rd. Friday except July, August, December and holiday weekends at 7:30 pm Etobicoke Civic Centre, 399 The West Mall (at Burnhamthorpe), Toronto. Contact Jerry Forest, Pres. 416 244-4122 or gyro_jerry@hotmail.com.

WIARTON: Bruce Peninsula Chapter #51 breakfast meetings start at 8:30am on the second Saturday of each month in the Gallery of Early CanadianFlight/Roof Top Cafe at Wiarton-Keppel Airport. As there are sometime changes, contact Brian Reis at 519-534-4090 or earlycanflight@symptico.ca

MANITOBA

BRANDON: Brandon Chapter RAA meets on the second Monday of each month at the Commonwealth Air Training Plan Museum at 7:30 PM except in the months of July and August. Contact Pres. John Robinson 204-728-1240.

WINNIPEG: Winnipeg Area Chapter: Third Thursday, 7:30 pm RAA Hangar, Lyncrest Airport or other location as arranged. Contact President Ben Toenders at 204-895-8779 or email raa@mts.net. No meetings June, July & Aug. RAA Winnipeg info also available at Springfield Flying Center website at http://www.lyncrest.org/sfcraac.html.

SASKATCHEWAN

Chapter 4901 North Saskatchewan. Meetings: Second Tuesday of the month 7:30pm Prairie Partners Aero Club Martensville, Sk. info at www.raa4901.com. Kevin Drinkwater 306-955-1361 lauraprd@shaw.ca

ALBERTA

CALGARY chapter meets every 4th Monday each month with exception of holiday Mondays and July & August. Meetings from 19:00-22:00 are held at the Southern Alberta Institute of Technologies (SAIT) Training Hangar at the Calgary Airport. Join us for builder discussions, site visits, tech. tips, fly out weekends and more. Contact president President Gene Lukan at 403 932-4238

EDMONTON HOMEBUILT AIRCRAFT ASSOC: First Tuesday 7:30 pm EAHS boardroom. Contact President Bill Boyes 780-485-7088

GRANDE PRAIRIE: Third Tuesday, Chandelle Aviation Hangar, contact Jordie Carlson at 780-538-3800 work. or 780-538-3979 evenings. Email: jcarlson@telusplanet.net

MEDICINE HAT: Last Thursday of the month, 7:00PM, RAAC clubrooms, airport. Contact Boyne Lewis at (403) 527-9571or E mail balewis@shaw.ca

BRITISH COLUMBIA

ABBOTSFORD: Third Wednesday 7:30 pm Abbotsford Flying Club, Abbotsford Airport. Contact President, John Vlake 604-820-9088 email javlakeca@yahoo.ca

DUNCAN: Second Tuesday 7 pm members homes (rotating basis). Contact Pres. Howard Rolston, 250-246-3756.

OKANAGAN VALLEY: First Thursday of every month except July and August (no meetings) at the Kelowna Yacht Club. Dinner at 6:00pm, meeting at 7:30pm Contact President, Cameron Bottrill 250-558-5551 moneypit@junction.net

QUESNEL: First Monday/Month 7:00 p.m. at Old Terminal Building, CYQZ Airport. Contact President Jerry Van Halderen 250-249-5151 email: jjwvanhalderen@shaw.ca

SUNCOAST RAA CHAPTER 580: Second Sunday 13:30 pm Sechelt Airport Clubhouse, sometimes members homes. Contact Pres. Gene Hogan, 604-886-7645

CHAPTER 85 RAA (DELTA): First Tuesday 8pm, Delta Heritage Airpark RAA Clubhouse. 4103-104th Street, Delta. Contact President Gerard Van Dijk 604-319-0264, vandijkg@yahoo.ca. Website http://raa85.b4.ca.

VANCOUVER ISLAND AVIATION SOCIETY (VICTORIA): Third Monday 7:30 pm Victoria Flying Club Lounge. Contact Pres. Roger Damico, 250-744-7472.

THOMPSON VALLEY SPORT AIRCRAFT CLUB: Second Thursday of the month 7:30 pm Knutsford Club, contact President - Dick Suttie Phone 250-374-6136 e-mail - richard_suttie@telus.net

ALASKA HIGHWAY: meetings held every third Thursday of every month (except July & August) at the Taylor Fire Hall at 7:30 p.m. For more information call Richard at 782-2421 or Heath at 785-4758.

Chapter executives please advise of changes as they occur. For further information regarding chapter activities contact RAA Canada, 13691 McLaughlin Rd, R R 1, Caledon, ON L7C 2B2 Telephone: 905-838-1357 Fax: 905-838-1359 or call toll free: 1-800-387-1028 email: raa@zing-net.ca www.raa.ca

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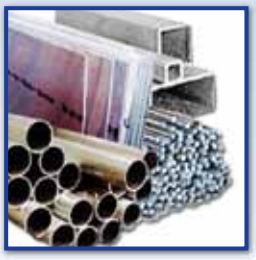
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