September - October 2008

RECREATIONAL FLYER

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The Voice of Canadian Amateur Aircraft Builders $6.95

Becoming Rosie: Building an Award-Winning RV

RAA
RECREATIONAL AIRCRAFT ASSOCIATION
RÉSEAU AÉRONEFS AMATEUR CANADA

from the president's desk

Gary Wolf

LONDON AIRSPACE GRAB

Nav Canada certainly has a strange way of dealing with the GA public. RAA and other stakeholders had just spent two years in meetings with Nav Canada to redraw the Southern Ontario airspace. We painted the entire southern section of the province from Windsor to the Quebec border, and the meetings went well into the summer of 2008. No sooner had we put all of this to bed than Nav Canada decided to change London airspace from Class D to Class C. The reason being given was that there had in the past four months been a doubling of movements at London because of the training of foreign students. The CADORS certainly show that there has been a huge increase in planes taking off from taxiways, planes landing on the wrong runway, planes going the wrong way on the downwind, and many other infractions that can be attributed to a lack of language comprehension and poor airmanship.

For some unexplained reason Nav Canada's Marcel Pinon feels that changing the airspace to require Mode C transponders will correct these airmanship and language comprehension issues. Mr. Pinon admits that he is not a pilot and that he is apprehensive about flying in small aircraft, but for some reason he has been given responsibility for all airports from Ontario to Newfoundland. He made it clear that he wants the economic benefits that come from intensive flight training. RAA organized a meeting of the Nav Canada reps with London area pilots. The pilots in the room were much more concerned with safety issues than with economic issues, but Mr. Pinon intends to deal with safety by pushing much of GA out of the London airspace. Pilots flying outside of a control zone are not the concern of Nav Canada. Problem solved.

RAA Treasurer Wayne Hadath has penned an open letter to Nav Canada, and it has been countersigned by our Board members. You may read this letter in this issue.

NEW LICENSE FORMAT

Brenda Frame of Transport Canada has generously provided us with the latest information on the new format license. Private license holders may begin in January to apply, and these licenses must be converted before the end of 2009. Details and the form are in this issue of the Rec Flyer. Rec and Ultralight Permit holders will have their permits converted after 2009, so you folks can wait a year before dealing with this.

SALMON ARM SAFETY MEETING

John McDermott of Salmon Arm BC recently held a safety seminar at his airport to encourage UL pilots to take steps to improve flight safety. The impetus for this was that within a short period of time this past summer there were three fatal crashes in Ultralights in the area. Transport Canada supplied two inspectors for this meeting and the room was filled with pilots from as far as Kamloops and Kelowna. John McDermott and his fellow pilots are to be commended for taking positive action to maintain safety in this often-overlooked sector of aviation.

51% CHANGES IN THE US

By now it should be no secret that Transport a year ago began reinterpreting the meaning of 51% as it applies to formerly certified aircraft that are being rebuilt under Amateur Built regulations. RAA provided guidance on these revisions and Transport has largely agreed with our proposals, but final approval has been stalled for over six months. About that time the US began their own reinterpretation of 51% and their window for input from the public closed at the end of September. It has not been stated officially but it certainly looks as if Transport will be waiting until the FAA makes public their decision on 51%. It would be embarrassing for Transport to have published their decisions, later to find that they might have to backtrack so that our Amateur Builts would still be able to

continued on page 35

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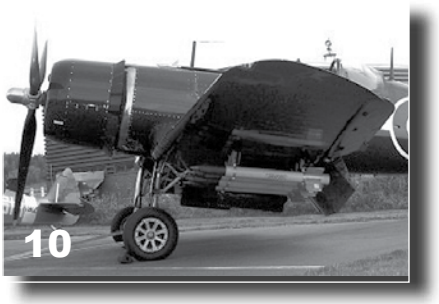
features



On the Cover: Chris and Joan Cox' award winning ride, Rosie. Photo by Shona Hirota

Shona Hirota

When I first started flying Rockets, ten years ago, the recommended propeller was a Hartzell two blade. It was called a "paddle blade" as the blades got larger the farther out from the hub that you went.

By Tom Martin

Prop / Talk

The blades for this propeller were from a Cherokee Six and the hub from a Beech Duchess. This propeller caused a thumping in the airframe at lower, cruise, power settings. I though at the time that it was just the nature of the airplane. It was quite noticeable in really calm air, or worse yet, when new passengers noted that the six cylinder engine was not as smooth as they had anticipated.A few people started to look for alternatives and Mark Fredrick, from Team Rocket, had Hartzell recommend a three blade prop for the airplane. They picked a propeller that has the same new blended airfoil blades as the faster Moony aircraft, the Lancair IV, and other similar airplanes. This prop is quite smooth, is faster than the old two blade, but it weighs in at 22 pounds more than its predecessor. Although it works well, it does make the plane more nose heavy and tends to give the elevators a stiffer feeling. The F1 Rocket has the main wheels mounted further forward than the Harmon Rocket II so while it is possible to use this prop on a F1 it is a bit scary with the already tail light HRII.

MT propellers from Germany offered another alternative in a wood/composite three blade propeller. These props are very smooth and weigh in the same as a metal two blade. The light weight wood blades allow the engine to spool up very fast and the initial acceleration really gets your attention. MT propellers very quickly became the choice for Rockets and many of them are flying. The first time I flew a Rocket with the three blade Hartzell I knew that I wanted three blades. The extra weight of that prop was just too much for my Harmon Rocket so when the MT prop started to get good reviews I just had to have one. After installation, difference in operation was amazing and I could not have been happier, with one exception. The new prop was four knots slower. This was the trade off, speed for smoothness. I have flown a number of these and for the first two years had one installed one on my current EVO 1 F1 Rocket. The EVO is the designation for a tapered wing. Most Rockets have a clipped, beefed up, RV4 style wing.

This is the airplane that I have been racing with. The engine on this aircraft has ten to one pistons and one electronic ignition. I always had a feeling that at higher power settings I was just not working the engine.

One of the benefits of racing is the people that you meet. John Huft has the undisputed fastest RV8 out there. He is approaching Rocket speeds with his four cylinder Lycoming. Over the years he has made many modifications to the airframe, engine and propeller. We had a nice discussion about propellers after last year's Rocket 100 race and he suggested I read a book by Jack Norris called "Propellers". This book is a difficult read, not due to the technical aspects but from writing style of the author. However the main point of the book is that many of our props are designed all wrong. A propeller is a spinning wing and like a wing it has the same limitations as a wing. Wing tip vortices are also a problem for props and to limit these vortices smaller tips are better, just as tapered wings have reduced vortices vs. constant chord wings. Also Mr. Norris advocates more of a tear drop shaped prop blade. This moves "work" inboard which helps to reduce the amount of power it takes to turn the prop. Another designer, Paul Lipps, has been working along the same lines and has made some amazing improvements on one of the Reno racers with his new

blades. They feature smaller tips and wider blades about a third of the way in from the tip. John Huft had tried three different propellers and ended up with one of the new blended airfoil designs offered by Hartzell. Looking at the blades you can clearly see that they have smaller tips and the blades are wider about a third of the way in from the tip. This could not just be a coincidence and it certainly appears that Hartzell has been watching what has been going on at Reno.

My project for last winter was to try and get another

One of the benefits of racing is the people that you meet

prop on my airplane. Last year I had tried numerous minor modifications to my airplane and nothing seemed to make a difference to the top speed. I was convinced that the MT prop was just not working at high power settings. It felt like I driving a car with a four speed transmission that needed a fifth gear.

Initially, early last fall, I contacted Hartzell but they were not really interested in working with me. I tried another company that was marketing the newer designs, Whirl Wind Propellers, and I was encouraged with their progress. They had already done some work on a prop for the Lycoming 540 engine. This is a smaller company and we just could not get together in the time frame that I was looking for. A friend of mine from Ohio did get one of their props on his new Rocket. He should be flying shortly and I am very interested in how it will perform.

Another Rocket owner from Ohio, Paul Siegel, was also looking to change his MT prop. He had not done well in the Air Venture cup race last year and also thought some of the blame had to be the prop. Apparently he knew someone at Hartzell and was able to get them interested in working on a new Rocket prop. Hartzell had spent a lot of time developing new blades for the RV10. As the 10 has the same engine as our Rockets they mounted those blades on a new two blade hub designed to fit our Rocket cowlings. Paul received his prop in late spring and was ecstatic about the performance. I immediately ordered one.

I did this with considerable trepidation; although

higher speeds were my goal for racing, I really did not want to loose the smooth operation of the silky MT wood prop. The reality is that I might be able to do two or three races a year and I did not want to have to put up with vibrations for the rest of the flying season.

By this time I was entered in the AirVenture cup race for 2008 and Hartzell pushed my propeller through the factory for a July10th delivery. Wayne and I flew down to Piqua Ohio, to the Hartzell Service Centre, as he wanted to get his propeller balanced at the factory while mine was being installed. Wayne Hadath, who has a standard wing Rocket, has flown with me in the previous three races. He has a stock engine, a very clean airframe and a Hartzell three bladed propeller. Our two airplanes were almost exactly the same speed. On the way to the service centre we did two side by side tests, one at 3000 feet and another at 8000 feet. At three thousand feet of altitude, he was probably a knot faster. At 8000 feet my ship was at least two knots faster. Typically tapered wings are more efficient at altitude and this seemed to be the case for my airplane as well. We arrived for our 9am appointment and by noon hour I had a new prop, and both airplanes had been dynamically balanced. The staff at the Hartzell centre are very professional and courteous. We were given a tour of the facility by the manager, Gordon Hays, and there is no doubt that they are firmly committed to the quality of their work.

I am confident that this new prop has given me an 8 knot improvement at wide open power settings

After installing the new propeller Wayne and I flew side by side on the way home and there was clearly a difference in top end speed. I am confident that this new prop has given me an 8 knot improvement at wide open power settings. It is also interesting to note that at our normal Rocket cruise powers settings, 22 squared, there does not seem to be much if any difference between the new Hartzell two blade and the old MT three blade.

The really good news is that this new blended airfoil two blade propeller is just as smooth as my old MT. Hartzell has responded to competition and has done an impressive job static balancing their propellers. They have a new balance machine at the service centre that is highly accurate and they feel it is the best in the world. Certainly my new propeller is worlds ahead of my old two blade Hartzell in both performance and lack of vibration. The only downside to the change is that I have lost the engine braking that a three blade prop gives you in the landing pattern. My first landing with the new prop was a bit exciting as I was much farther down the runway than I was used to! I now have to manage my speeds in the circuit a bit better than I did with the three blade MT, and this is probably a good thing. Some of you may be wondering where I get enough money to be able to purchase new propellers. The good news is that with inflation I have always been able to sell my old props for what I paid for them. It fact, due to the change in dollars between the Euro and the US dollar the last couple of years I had a few bucks more in my pocket after the swap from my old MT to the new Hartzell!

There are always pros and cons to any modification:

-The Hartzell two blade is just as smooth as the MT wood three blade.
-The Hartzell is quite a bit less money than the MT
-The Hartzell is a North American product and can be easily serviced at any prop shop
-The MT provides more rapid acceleration and provides great "braking" action
-In the event of a nose over the MT has the potential for less engine damage
-The is subjective, but the three blade MT is more attractive on a Rocket.

Bottom line: the Hartzell is FASTER!

The next article in this series will have to do with the testing I did with my new prop and how it performed in the 2008 Air Venture Cup Race.

Hint: it did *quite* well!

A few years ago we attended an airshow, and my then five-year-old son felt the need to answer nature's call. Disappearing into one of the ubiquitous portable toilets featured at such events, he emerged a minute later explaining he'd even remembered to wash his hands: it was, he announced, nice that they had even had a sink "just his size", and in response to our horrified looks reminded us he'd even used soap - that nice, round, smelly bar that had been left in the bottom of the "sink". Of course, it wasn't a sink.

LH10 Ellipse

by Bill Tee

The cover of March – April Recreational Flyer magazine featured the sleek LH10 Ellipse aircraft, what may be referred to as a jumbo sized BD5.

Kits for the construction of this composite tandem two seater powered by a 100 HP Rotax 912ULS pusher engine have now been priced by the UK agent Aerosport Limited, and priced it is.

Since, I assume, because of the designers LH Aviation being based near Paris in France is quoted in Euros. A Euro is now valued about 1 Loonies [3/4 of a Toonie]. Simple conversion math indicates quite an expensive amateur built aircraft [you figure it out].

The price quoted by Aerosport Limited for the basic kit of this bird with a 26.7 foot span 50 Square foot wing is E52,173. A Rotax 912 ULS engine with extension shaft will run you another E24,865.

The matching four bladed ground adjustable prop comes in at E1,446. The analog instrument package for the front cockpit lists at E5,794 with the rear cockpit set going for a measly E2,390. If you want a glass cockpit for the front it will run you only E11,900 with another E3,635 to similarly equip the rear.

If you want luxuries a cabin heater will cost you E625 and a rear cockpit air vent another E329.

As pretty as this bird may be, I feel that it is not intended for the mass market, especially in North America, without a significant price adjustment - downward.

At the previously quoted gross weight of 1080 lbs. the aircraft comes just into our high performance category. To keep it down to 20.4 Lbs. / sq. ft the gross will be limited to only1020 lbs.

The main selling feature of this aircraft is economy of operation. 100 knots is said to burn only 7 litres per hour with twice that speed using only 18 litres per hour. That is economical but is it worth the price with essentially no baggage space ? That is something that only you can decide. Like an unknown chap was quoted as saying some years ago "if you want economy you have to pay for it". I can't see Dick VanGrunsven having any sleepless nights over this project!

More information on the Ellipse is available at www.aerosportuk.com

New Pilot License Format from Transport Canada

If you are flying on a Private License you will be required to make application for the new format license between January 1 and Dec 31 2009. The Rec Permit and Ultralight Permits will be handled sometime in 2010. According to the Hamilton TC office there is no charge for the new format license.
The application form may be downloaded from the TC website, or you may call your local TC office to have a copy mailed out. You will need a passport photo, and someone who has known you for at least two years must also sign your application. http://www.tc.gc.ca/civilaviation/general/personnel/apps.htm is the link to the location on the Transport Canada website.

AIRCRAFT SPRUCE CANADA RELOCATES TO BRANTFORD MUNICIPAL AIRPORT

BRANTFORD, CANADA - Aircraft Spruce Canada will be opening the doors of their newly relocated warehouse on Monday, October 6th at 150 Aviation Avenue on Brantford Municipal Airport. This new 10,000 square foot facility will serve as both a fully stocked distribution warehouse as well as a will call store for their Canadian customers.

The Brantford Municipal Airport location will be ideal for both drive-in and fly-in customers. Aircraft builders and owners in Canada will have full access to products sold by Aircraft Spruce in the United States at competitive prices and shipping rates. Shipping options include UPS, Fed-Ex, or the postal service. Aircraft Spruce Canada is preparing to maintain a warehouse fully stocked with their extensive supply of certified and homebuilt aircraft supplies.

"Canadian aircraft builders, owners and pilots have been a big part of our business for years," said Aircraft Spruce President Jim Irwin. "We are pleased to open a facility in a great location such as Brantford. We can ship orders to customers anywhere in Canada at efficient shipping rates and substantially reduced delivery times. Customers in the Greater Toronto Area can visit our store for the building materials, avionics, headsets, pilot supplies and all other aviation products they need."

Aircraft Spruce's complete product line is available at www.aircraftspruce.com as well as through the company's free 750 page catalog. For more information, please contact Aircraft Spruce Canada at 1-877-795-2278 or 519-759-5017.

Fisher Flying Products Moves to Canada

After more than 20 years in the aviation business, Gene Hanson and Darlene Jackson-Hanson have retired and sold Fisher Flying Products. The new owner, Paul Riedlinger plans to continue the tradition of supplying top quality kits, support and customer service to new and existing customers.

Currently, full-size plans and replacement parts for the company's fifteen designs will continue to be offered. In the near future, the plan is to restart production on a number of aircraft in the Fisher product line, starting with the Dakota Hawk and the R-80 Tiger Moth.

Their new Address is:
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10-8707 Dufferin Street,
Suite #143Vaughan, Ontario L4J 0A6
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website: www.fisherflying.com
email: ffp@fisherflying.com

Aeroshell announces New Oil Product

Aeroshell has unveiled an oil especially designed for light sport and very light/ultralight aircraft 4 stroke engines. It is particularly suited for use in Rotax engines with gearbox and overlaod clutches (i.e., the 912 and 914 series engines) and features advanced anti-corrosion and antiwear additives. It can be used with both unleaded fuels and Avgas 100 LL. It is a multigrade oil designed to be used in any climate.

For more information, check out http://www.shell.com/static/aviation-en/downloads/aeroshell/AeroShellSportPlus4_updated.pdf.

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The Collector

WE ARE NUMBER TWO as we join the circuit at the Gatineau, Que., airport and we check for traffic and spot the plane ahead - it has eliptical wings and the unmistakeable profile of - yes it is - it's a Spitfire. Then we see another famous fighter from the same era, a Hawker Hurricane, pulling up quickly into a climbing turn at the other end of the runway. Beautiful!

By Don Dutton

And for a guy who was a just a young 'teen when Spitfires and Hurricanes were on the front lines in the Battle of Britain and in the headlines daily, being in the same circuit between these two planes is a memory I will always carry. As the saying goes, I feel like a kid turned loose in a candy store. But that was just the begining. I am with another Oshawa RAA member, Dave Douglas, in Lee Barker's Antonov AN2, a 1,000 hp biplane that had just been restored at Oshawa. We had left Oshawa at dawn to attend the air show involving Michael Potter's collection of distinguished planes, all beautifully restored and each with their own history. As we touch down ground crews are rushing about getting ready for the show. A red biplane was in the aircraft parking area -- a rare 1930's Staggerwing Beechcraft. We're directed to a parking spot beside it and over there on the ramp is another Hurricane and a 2nd Spitfire, both in their wartime couflage. At the end of the line is a gull-winged Corsair, most famous for its role with the U.S. Navy as they regained contol of the Pacific Ocean during World War II It is an impressive big blue plane with what looks like an

oversized radial engine and carrying clusters of missiles (unarmed, I was told) under each wing. As we're early we are able to wander among the planes, talking to some of the airshow pilots including Rick Volker who flew in the second Spitfire from the Russell Aviation Group based at Niagara Falls, ON. The sun glistening off polished aluminum turns my attention to a North American Mustang fighter parked beside Potter's hangar. This versatile plane had many roles towards the end of WW II including extra long range enabling them to provide cover for bombers deep into enemy territory. Just inside the hangar was a fabric covered deHavilland Fox Moth, a biplane with a passenger cabin and open cockpit, which I was told was King Edward's plane during the 1930's. Somehow it reminded me of a royal carriage with wings but without the horses. There are several other planes inside,

Opposite: Mike Potter's Sabrejet. Top: One of two Hurricanes that attended the event, one of two Spitfires and a Corsair; Middle, P-51. Right bottom: Harvard. Mike's collection also includes a Fox Moth and a Lysander undergoing restoration.

Mike Potter with an Antonov AN-2 and a beautiful Beech Staggerwing.

in various stages of restoration, including a Lysander. These planes played an important part in the success of the allied invasion of Europe when, prior to the troops landing on the French beaches they made frequent night flights to remote farm fields behind enemy lines to drop off and pick up agents with vital information for the invasion. I saw them often in their Canadian role, towing drogues for target practice for future air gunners just off shore over Lake Erie. A tug brings out another plane well-known across Canada, a Harvard which was the two seat advanced trainer for future fighter pilots before they 'soloed' in Spitfires and other planes This one Potter bought from Hannu Halminen of Oshawa who had restored it in the 1990's. Potter's latest addition to his collection is to be introduced this beautiful fall day - a gleaming Sabre Jet which is slowly towed out by the ramp tug. Behind it comes a cart loaded with cleaning equipment and a attractive young woman who said her job is "just to polish the planes." I'm sure there is much more to see when these planes take to the air but we have to leave as Lee has a prior commitment. They are closing the field at 2 p.m. for the show. I'm told Potter has two shows a year and here's one guy who is already planning on a early start for the next one.

Pilot: "Approach, Federated 303's with at 8000' for vectors ILS, full stop.
Approach: "Unable Federated 303. The ILS is out of service."
Pilot: "We'll take the VOR then."
Approach: "Sir, the VOR's in alarm right now. Standby."
Pilot: "OK, guess it'll have to be the ADF then."
Approach: "303, unable the ADF right now for traffic saturation."
Pilot: "OK, approach. State my intentions."

GLASS COCKPIT

by Bill Tee

Modern day jet airliners have them. Larger propeller driven planes have them. Even factory built light planes now have them. Almost everyone has or wants a glass cockpit in their new [and sometimes old] aircraft, whether factory built or home built.

I am no doubt giving away my high degree of seniority but I still prefer the steam type gauges where you read the position of the needle rather than the number displayed.

Jet airliners and larger prop aircraft have the advantage of a quite large area of instrument panel that permits them to have large easy-to-read information on large glass display tubes. In any case if the aircraft is IFR rated it requires 'steam' gauges for back-up for vital readings such as air speed, altitude, heading and attitude etc. No analog backup gauges are required for VFR only although it might be a good idea anyway depending on how good you are at handling instrument failure in flight.

With a panel of old fashion indicators of speed, height, direction and so on, if you lose one gauge you probably still have enough instruments left to navigate safely to a successful landing. With glass only, a failure of this one package will leave you without anything to go by except the legally required mandatory magnetic standby compass. Regardless of whatever other direction indicator you have on your panel, you MUST have one of these along with a suitably mounted completed correction card.

In any case if you have a glass panel, all legally required instruments [airspeed indicator, altimeter, engine RPM indicator, engine temperature, engine oil pressure {if applicable}] and fuel gauge[s] must be visible at all times without any scrolling or other action on behalf of the pilot. For night flight add a direction indicator independent of the standby compass. If your aircraft sports an in flight variable pitch propeller a manifold pressure gauge is also a legal requirement.

One builder installed a Grand Rapids engine monitoring system that included air speed and altitude as well as engine information. The problem was that he could not see the whole lot at one time. He ended up installing separate steam gauges for speed and height.

Whatever system that you install make sure that all required intruments are visible at all times, even in direct sun light. Make sure as well that the graphics on the screen are large enough for you to read at a glance. A situation may exist when all the time you have time for is a glance. You should not have to study the screen in order to decipher all the data that you require. This is most important as you gain increasing seniority and slip into the bifocal and slower-to-focus era of your life.

In any case fly safely and have fun!

Female, Flying, & Fifty


Joan and Instructor Trevor Perry

I FIRST LEARNED HOW TO FLY in 1975 at the age of 17. Enrolled in the Royal Canadian Air Cadet Gliding Scholarship program I acquired a glider's license, where learning was fun and easy with no real pressure and it was free. With marriage, mortgage and kids under my belt, learning is still fun but not so easy. And the pressure, most of that comes from within as there is a need to prove to myself that this old dog can learn new tricks. My husband and I recently built and are flying a Van's RV7, kit plane. Yes another airport flea as a lot of people call them. The way I see it is we'll beat them to Chilliwack for pie most days. And a trip to Reno is just under 4 hours including custom clearance; you've just got to like that. Known as "Rosie the Riveter" at Delta Heritage Airpark I bucked or riveted my way through most of the airplane. Building the plane stirred the desire to fly again, so here I am 33 years later at the age of 50 learning how to fly. Freedom 55 is just around the corner but it will be more like Freedom 95 before I retire, having to pay for my own flying lessons which are not so free!

As a mature student, that's what we are called nowadays, I was very intimidated to walk into my first ground school class recently. Looking around I see wanna-be pilots, young like I was once. Geez, the instructors too are as young as or younger than my own kids, and when you find out one of them went through the air cadet flying program four years earlier and your husband instructed him during ground school classes, you hope that your husband and other instructors taught him well. You've got to think, 'How can they possibly know enough or have enough experience to teach me anything'. But looking back at my own flying experience with air cadets, it was no different as some of the instructors that summer at camp were only 3 years older than myself and they taught me how to fly then, so I guess these young instructors can teach me a thing or two now. Some flying schools assign an instructor and some let you choose. Choosing my instructor was easy, my biggest problem was how to tell my husband that the kid he kicked out of his ground school class and told to come back next year when he grew up was going to teach me how to fly! I liked the way Trevor instructed and handled himself during ground school and he was not intimidated by who I was related to. I felt comfortable and confident that we could work well together and we do. It's ironic to think that someone that my husband taught ground school to is now teaching me ground school. Although, some days I feel that I need to teach him on how to instruct me. We all learn differently and I, as more of a visual learner, need to do it to learn it. I have a husband who is a very experienced pilot whose passion is flying; you can imagine what it is like. Between quizzes from ground school, from my instructor and then coming home and being grilled by my husband, I seem to suffer from major brain hurt most of the time. Unlike summer camp where you fly twice every day and sometimes three times a day I'm lucky if I fly twice a week, having a full time job, ground school twice a week and other obligations. I have an overflowing plate. I hope not to embarrass both my husband and my instructor and make them proud. Then again I hope that I don't embarrass myself. Should be interesting lessons in store for both my instructor and I. Wish me luck and I will be sure to have my husband issue a NOTAM or TFR when I fly so that you can stay clear of me. Then again you can't miss me on the radio, I'm the one that reads back only half the instructions, gets the call signs wrong and says sorry a lot. Oh and I seem to make up words too, some of them . Not sure where Romember comes from? That's somewhere between Romeo and November, right? Must be the dyslexic in me.

Muk Tuk

By Cresswell Walker

This article first appeared in RAA's Recreation Flyer in March, 1993.

The Fever

A change in personal fortunes resulted in a two-year commitment to work in the Canadian North. My pregnant wife and I were to spend a year in Rankin Inlet on the north shore of Hudson's Bay and a year in Yellowknife in the Northwest Territories.

The very long, dark, cold winter months of the North are everything the rest of the world imagines them to be. And so, after the 33rd consecutive weekend in our apartment listening to the howling winter winds of Rankin Inlet, it was clear to me, that I needed a "project" and what better project than an airplane to wick up all my spare time (and cash!)?

Now, I was (and still am) a novice pilot. At the time I had about 60 hours of glider time and about 55 hours of power time. Clearly it had to be easy to fly. Also, I had about 0 hours of "airplane building time", so it had to be easy to build. I didn't have a shop to build in, so it had to be small enough to build in an apartment, and lastly, I didn't have any money so it had to be cheap. Pretty tall order. I hadn't gotten very far with this plan when I met in Rankin Inlet a fellow exile from Vancouver, who, without either wife or child, was even more desperate for a project than I. Considerably more experienced as both pilot and builder, he was just finishing up the "tail feathers" of a MiniMax. The rest of it was still in shipping crates in his living room, kitchen, bathroom and second bedroom. I could see this was a project to live with! He made a set of plans available to me and I was off.

The MiniMax

On the ground, the MiniMax looks like an adult sized model airplane. Low wings and a traditional tail, give it a "real airplane" look uncommon amongst single seat ultralights. There is no rocket science here, the MiniMax is a "wood and fabric" aircraft, designed around long established wood engineering construction practices, modified for the use of modern epoxies, aircraft plywood and new covering systems. Except perhaps for the Rotax two cycle power plant, this is a low tech airplane. With the canopy on, it resembles some of the control line contest planes some of you may have flown as kids, but it flies much better than my models ever did!

This is a real airplane, capable of climb rates in excess of 1200 feet per minute (w/Rotax 447) and a comfortable cruise of 50 to 60 MPH. Conventional three axis controls to large control surfaces make it very comfortable. Full span flaperons on shoulder mounted wings make for amazing roll rates, and it's relatively short fuselage makes for very responsive pitch and yaw control. Most significantly, pilot positioning very close to the center of gravity makes the MiniMax an aircraft you 'wear' rather than 'sit' in. It is the most fun thing to fly this short time pilot has ever had the pleasure to get into. But more later.

The design of the MiniMax is simplicity itself. New wood construction techniques, using modern epoxy resins and epoxy fillers are combined with traditional wood engineering. Sitka spruce, specialized aircraft plywood and epoxy are easily fashioned into structural members that are strong and precise. For those with an affinity for working with wood, the MiniMax offers many hours of good 'plane' building enjoyment. All fittings are hand made by the builder from aircraft alloys and all fasteners, cables, etc. are aircraft quality.

The plans reflect this dedication to simplicity. Except for a full size rib pattern, the complete plans are contained in twenty-three 17"x11" sheets stapled in a booklet. The plans are very clear, easy to "read" and un-cluttered with instructions. It's all there, but it's up to you to decide what to build when.

The wings are square, with constant cord sections to facilitate construction. Twelve identical truss ribs per side are made of square spruce stringers sandwiched between 1/16" ply gussets. The ribs slide over leading and trailing web spars terminating with spar pins at the root and simple cover plates at the tip. Compression and diagonal bracing gives transverse

rigidity. Leading edge 1/8" nose ribs are 1/16" ply covered and the trailing edge is trimmed off and re-attached with hinges to give full span ailerons/flaps. The fuselage is a simple tapered box girder of spruce stringers and plywood facing and gussets. I added a turtle deck for my own enclosure design and to clean up flow over the fin and stabilizer. Finally the whole business is covered with heat shrink aircraft fabric and painted. Once materials are dimensioned, as supplied in kit form, it can be constructed with a good hack saw and with some simple hand tools

Landing gear is rigid type with solid one piece axle. Wing struts from both leading and trailing spars attach to the axle protrusions beyond each wheel. With a pull of two pins and an axle bolt, and quick release of the aileron cables, the main wings are off.

The uncovered structure, especially the wings, are things of beauty. You'll need an arm chair to sit in to enjoy the fruits of your labours, or perhaps like us, you'll want to hang a wing on your living room wall as a conversation piece and shelf to place greeting cards and knick-knacks on. It is as much fun to build as fly. This "man sized" model is a home-builder's dream.

Getting Ready

Before I could get started on my "project", Christmas intervened and so a holiday to the South (Toronto, that is) was arranged. A move to Yellowknife was also to occur over the festive season, so we left Rankin Inlet behind for the last time. Foolishly, I thought it would be possible to cut some cost corners and assemble the materials to build a MiniMax from scratch (first mistake). I prepared an inventory of materials from the plans and started phoning. Some hunting around southeastern Ontario uncovered a dusty pile of rough sawn sitka spruce in 1 inch thin planks, a source of aircraft plywood and a second hand Rotax 447 (second mistake). Three days in a friend's pipe organ building shop reduced a precious 45 board feet of sitka spruce and 7 sheets of a/c plywood to a pile of sawdust and dimensioned materials.

Yellowknife, thankfully, is on a road. So a truck was bought and a trailer frame welded. The trailer frame was to hold a box large enough to contain and transport the MiniMax home from the North on that fateful date not too far off. With the trailer in tow (I would build the "box" in Yellowknife) and the truck loaded with airplane materials and nonessentials, such as a dishwasher and barbecue, we set off from Simcoe, Ontario for Yellowknife, 3000 miles away across Canada.

The Building

The trick in finding an apartment to build an airplane in is in not telling anybody you are eyeing up the living room for a 16 foot work bench. The apartment needs to be on the ground floor, have a patio door and have deaf, or very forgiving neighbours. Two sheets of plywood, end to end, on 2x6 joists on saw horses made a very adequate work table with a very important straight edge down the work table face. A large tarp covered the living room and kitchen dining furniture, carpet and sometimes the baby during construction. Wall decorations - designer wing hangings and body parts - were by TEAM Engineering, dust by yours truly.

I would be a deserving homicide victim if I failed to mention the patience and endurance of my partner during this time. Can you imagine being held captive in a two bedroom, basement apartment, in Yellowknife, in the winter time, with a baby and a man crazed by his project? And the dust? It is not too much of an exaggeration to say the first words of our darling daughter growing in the midst of this madness were "dirty, dirty, dirty..."

The winter passed and spring arrived in "Bug City". The basic structure was complete and covered, and we were all keen to get the "project" out of the livingroom. So, armed with bug juice that would melt the handle off a plastic power tool, I set to work on the trailer and box in the parking lot. The trailer box was constructed of o" ply and spruce 2x2's bolted to the steel frame of 2x4 rectangular steel pipe. The box is a whistle over 16 feet long, 6 feet high and five feet wide. The wings go on either side wall and the "project" rolls front first on its own wheels up the rear doors (serving as ramps) into the box. The tail feathers fit into wing stubs on both sides of the trailer box.

Now, some of my more direct friends have uncharitably referred to my creation as the world's ugliest trailer. This may be so. However, in the truest sense, beauty is only skin deep. With the trailer I can go anywhere and tie downs and storage are not a problem. Lastly, it is secure against weather and the cursed among us who would wantonly destroy another's property. A trailer is highly recommended.

If any part of this project nearly defeated me, it was the painting. I could not rent paint shop space in town and the cost of paying a professional painter to do the work was prohibitive. So I waited for that fateful day they said I was free to go home, to go South. At last, in Victoria, under a plastic tarp, I finally got to painting. A rented compressor couldn't keep up to the pressure demands of a standard paint gun, and without a respirator, I thought I would die

of asphyxiation and brain damage. A word of advice, get a BIG compressor, large enough to run both a paint gun and a respirator.

But at last, my project was painted and ready for final assembly. A little over a year and a half had passed since I had started. Not bad for an airplane project, by most accounts. Certainly, even without even flying it, I had my money's worth. Lots of building fun. I estimate about 450 hours for the basic airplane, another 250 for the modifications and another 150 hours for the trailer.

The Flying

The prospect of flying the "MukTuk", as I have affectionately come to call the "project" in honour of its Northern origins, kept me awake more than one evening. Reasonably believing more in the original designer's design skill than in my own, I kept very close to the design specifications. My apprehension was more a general anxiety of having made some tragic blunder. (Was it really sitka spruce? It the fabric tight enough?) It was not unlike the fear before one's first solo flight - prepared but aware of the consequences of error.

The first day on the field, was a day for "taxiing" trials. At a local (uncontrolled) airport, with permission of the airport manager, I taxied, first slowly, then more quickly, up and down the taxiways. First with the tail down, then with the tail up. Eventually, the inevitable happened - MukTuk, as airplanes are wont to do - took off. Before I knew it, I was just about 4 feet off a rather narrow taxiway in a slight cross wind, wondering whether to firewall the throttle and fly a proper landing approach, or to wrestle it down. Foolishly, I wrested it down. Thank you, instructor Bob, for your lessons in aggressive footwork in the Canuk. I am also embarrassed to report that during a "downwind" taxi run, I lost control of MukTuk and left the taxiway, but luckily without incident. Tsk, tsk, especially in taxi trails, don't forget this is a tail dragger.

A couple of weeks later, MukTuk, having survived me and the taxi trials, was ready for the "Real Thing". I chose Hope airport, British Columbia, for its two parallel 4000 foot grass strips. Despite its reputation for rough air, it is known to me from glider training and the two grass strips offered a very comfortable landing opportunity.

Early morning saw me on the field with the "world's ugliest trailer". After assembly and a very thorough pre-flight and run-up I taxied into position at the threshold of two seven left. Well. This was it. I had built it, now I had to fly it. No excuse now. I had mentally rehearsed this moment many times before. Stick full back, centre runway, full throttle, tail up, straight down the runway until she lifts herself off, climb out at 40 MPH, watch altitude and plan for a flame out - right? Wrong.

Full throttle, (holy smokes, this thing accelerates!) start forward pressure on stick to lift tail, LIFTOFF, already!? In less than three seconds I was off, in probably less than a 100 foot ground roll. I didn't even get the tail off the ground and I was climbing out at thirty degrees. Airspeed 40 MPH, temperature okay, wings still on, might as well sit back, enjoy the ride. Before I passed over the far runway threshold I was at 1200 feet AGL. It seemed seconds later, I was at 3000 feet AGL. I felt secure in a borrowed glider parachute so as I throttled down into cruise attitude and messed around a bit. 4300 RPM delivered 60 MPH and the controls felt like I was flying at a maximum maneuvering speed. I was flying with the cockpit configuration, so for the first time ever, I had the pleasure of open air flight. Stuck out my left arm, and MukTuk started a left turn (that's interesting!). Slowed to 45 MPH and controls still very positive.

My first landing followed a power on approach. Dead easy. Chop power, round out, hold off, and "plop", I was down to stay. I practiced the rest of the day doing circuits to 500 feet and power off landings. Flaps with side slip is a very effective way to get down if you are high on a short field, but if you are dead sticking, dump the flaps (watch the airspeed) well before round out and end up flying it on hard. As the designer says, flap landings require power on to give sufficient round out authority.

This is fun flying! I passed the flying summer without event, until the "music stopped" at 2000 feet AGL, over the Town of Hope one beautiful August morning. I made it back to the airport with 200 to 300 feet to spare on a straight approach. A broken ring seized the engine and now the engine is toast. Lesson learned - never fly out of range of a place you're happy to land in and never buy a used 2 cycle engine.

Epilogue

Few things in life are as worthwhile as a "project". While working oneself into a state of exhaustion while juggling "project", work, family and other interests, a project gives the average working man's mundane life meaning and accomplishment.

TEAM engineering in Bradyville, Tennessee, design and sell the Mini Max kit. (*Editor's note: Minimax is now handled by JDT Mini-MAX LLC.)* This is a great project for the builder of overgrown model airplane kits or for the first time home builder of "real" airplanes. I understand TEAM have a two place machine under development. Check it out.

I made only a couple of embellishments to the original design. I have built the cockpit to afford either open flying behind an oversized windscreen or enclosed flying inside a canopy enclosure. The designer offers a similar kit add on. I added toe brakes by leading the brake cables to some hinged pads atop some "beefed up" rudder peddles. A trim tab was added to the elevator and the pull cord for the engine start is run between the rudder pedals into the cockpit. Instruments are an altimeter, airspeed, tachometer, CHT, EGT, compass and engine hour meter.

My next project is to build floats for "MukTuk". In this regard, I wish to thank those that responded to my request in "The Recreation Flyer" for information on wooden float designs. Your assistance was much appreciated, but I am still looking for a design that uses epoxy and aircraft plywood. I'll keep you posted.

To those of you out there at the 500 plus hour mark on your project, I can only offer you my encouragement (and sympathies). For those of you yet to begin your project, I can only ask, "what the heck are you waiting for?" RAA

Editor's note: Minimax is now handled by JDT Mini-MAX LLC. For more information:

http://www.jdtmini-max.com/home2c.html

For More information on Muk Tuk floats, check out:

http://www.ultralightfloats.com/index.htm

ACA1147: "Moncton, Air Canada 1147, can you get the winds from 167 above us?"
CZQM: "As soon as I get a chance, I will."
(some time passes with continuous radio chatter)
ACA1147: "Moncton, 1147, what are his winds up there?"
CZQM: "Standby for that, please"
(more radio chatter)
ACA1147: "Moncton, can you ask company 167 for his winds?"
CZQM: "Ok, 1147 and 167, I have a little too much to do for that sort of thing right now. I'll leave it up to you guys to go over to company frequency and pass winds."

ATC: "N123YZ, say altitude."
N123YZ: "ALTITUDE!"
ATC: "N123YZ, say airspeed."
N123YZ: "AIRSPEED!"
ATC: "N123YZ, say cancel IFR."
N123YZ: "Eight thousand feet, one hundred fifty knots indicated."

Classifieds On The Internet:
http://www.ocis.net/tvsac/buyandsell.html -more ads from our Kamloops chapter
http://www.lyncrest.org/sfcclassifieds.html -more ads from our Winnipeg chapter

Lyncrest Flight Centre: Dream to Reality

Top, L to R: Tom Stoyka, Gilbert Bourrier (on top), Adrian Meilleur (just below Gilbert). Looking on in center with red hard hat is Jill Oakes. Breaking Ground, L to R: Keith Olsen, Jill Oakes, George Inman, Tom Stoyka, Jim Goold. Kneeling is Ken Podaima.

In 1998 Vic Neudorf began discussions to build a new flight centre at Lyncrest Airport on the outskirts of Winnipeg, to replace the cinder block building we'd used since the early 1950's when Donald Paterson of Paterson Grain Company built the airport. The Springfield Flying Club, a non-profit corporation (1978), purchased the property in 1996, thanks to the vision of 16 committed pilots! Today our membership has grown to over 80 pilots with over 40 new hangars. We welcome over 2000 people per year to our free RAA educational workshops, COPA fly-outs and Air Rally, 99s Poker Derby, Women in Aviation local flight BBQ, Lyncrest Flying Club aviation-focused social events, EAA Young Eagle events, and to discuss aviation issues with the members who have decades of experience working with aircraft. The new, 2000 square feet flight centre is designed to meet the needs of these visitors. It includes a modern kitchen, two wheel chair accessible washrooms, large meeting room and state-of-the-art heating system.

Funding

Several years ago we began soliciting funds from federal, provincial, municipal, corporate, and private individuals. By September, 2008, we received funding from several provincial sources and had raised about $30,000 from club members, many donating $500 or $1000, and many non-members including 'regulars' Al and Elma Hein and Doug Render, wrote cheques totalling thousands of dollars! In addition, tens of thousands of dollars worth of donated materials, labour and expertise is being provided by journeymen and tradesmen.

The Province of Manitoba, Community Places and Community Services Grants, along with corporate sponsors, including Able Crane, Penner Doors, McDiarmid Lumber Supply Weathershield Windows, Fine Touch Paints Ltd, Patene Drywall and Insulation, and Win-Roc Drywall are sincerely thanked for providing discounted or complimentary material or equipment essential to the completion of this recreational aviation-focused community centre.

Volunteer Professionals

Adrian Meilleur flies a LA912S. Adrian is a journeyman HVAC and owner of AirStream Heating and Airconditioning. With his son Justin he designed, manufactured and installed the entire heating and venting system. The ducting system is a work of art! Adrian's three decades of experience in the building industry was an invaluable resource.

Gil Bourrier has nearly finished his AcroSport II and flies an Aeronca Champ. Gil owns GB Projects Ltd, has over thirty years of experience in the building industry, and volunteered as construction team leader, pulling together information from the other experienced builders, double checking on all the numbers, and keeping us all moving forward in unison.

Flying the "DREAMFLYER" Flight Simulator

Early in this 21st century, we are definitely entering a new era of virtual living. Powerful microcomputers, Nintendo, X Box, Play Station, and the internet are platforms that allow us to experience anything - 'almost'. I say "almost" because while you are fighting an intergalactic war or flying a WWI bi-plane (to name a few fantasies), you are still sitting in the warmth and safety of your home. In fact, you are probably sitting on a comfortable stationary chair or sofa. Moreover, you are really only playing the game in two dimensions.

On December 6th members of our club invaded

continued on page 36

Dale Chevalier flies a RANS S14; he negotiated a donation of excavators and other heavy-duty equipment from Darco Enterprises, and volunteered his time and expertise as operator. Many of us watched with awe as Dale dug around underground cables and manoeuvred the huge excavator bucket around the concrete foundation.

Gary Smith flies a C172 and owns Standard Electrical, he is donating his time as a journeyman electrician.

Ross Robinson flies a twin engine B26 and a Harvard; as owner of B.A. Robinson Plumbing and Electrical, he provided almost all the plumbing material and electrical materials!

Steven Smart is building an RV7 and shared his expertise as a practising Professional Engineer by designing the entire electrical system for the new building, which enabled us to work more efficiently with Gary Smith and to access additional funds.

Karl Preiss flies a Zenith 250 and Jungle Bunny 02 and shared his thirty plus years of experience building upscale homes for his company Parkwood Homes.

Vic Neudorf flew an RV6 he built and shared his decades of experience as a General Contractor working on large projects.

Wally Birch flies a Tripacer and shared his skills as a Civil Engineer Technician developing draft plans for discussion.

Don Stefanchuk flies a RANS S12 and owns Pinchin Environmental. He is donating his expertise with project management and environmental science to during the demolition of the old building.

Burt Barkman flies an Ercoupe 415D and has designed and manufactured holding tanks for a variety of purposes; he provided our sump pit and holding tank.

Jim Goold flies a Piper PA12 and volunteered to make hot lunches for all of us who were working outside in weather that got steadily colder as we progressed.

Don Enns, is working on a C180 and has extensive experience working on Piper Cubs; we know him as one of the best in fabric work in our area. As a retired journeyman plumber, installed the plumbing entirely as a donation.

Perry Chromiec is the North America distributor for the LA912S and is the highest time light aircraft pilot on the field. He volunteered throughout the entire project, bringing valuable problem solving skills that contributed to the smooth completion of the building.

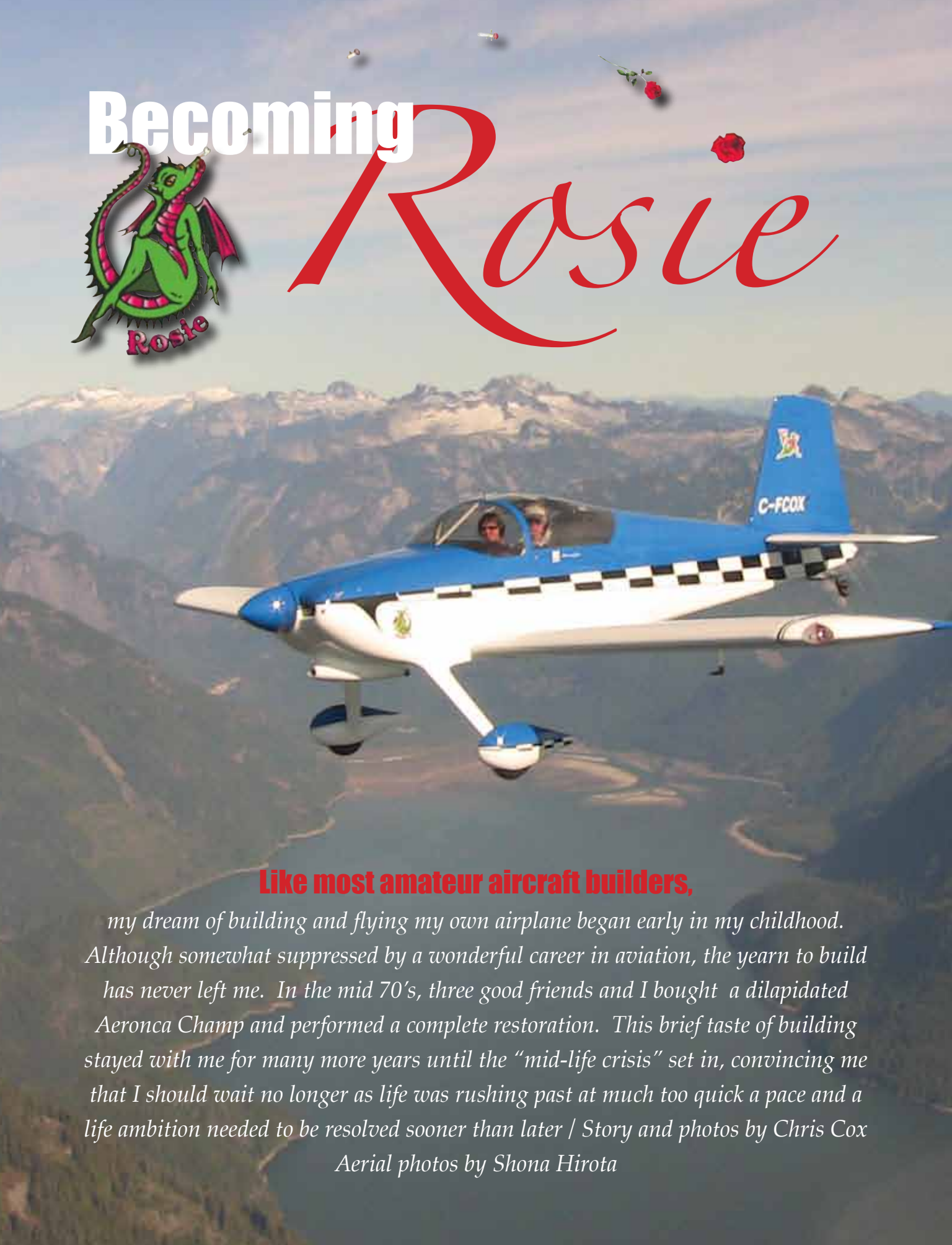
Dani Pokornik, who flies a Zenith 250, shared his architectural and building experience, along with George Inman who took time away from finishing his RV8 to help out every day.

About 70 other volunteers contributed to the team effort whenever they had time. People of all strength, skill level, and age were assigned jobs; every job was an important component of the project – from running for extra supplies, site clean up, carrying wall sections, finding good deals for materials, to providing a second opinion.

The building committee, including Tom Stoyka, Ken Podaima and Jill Oakes worked tirelessly on managing the project.

At the time of submitting this story, the walls are framed in. About 20 pilots will be here Thanksgiving to raise the walls into position! We hope to see you fly in one day. Check out www.lyncrest.org for more info on the programs we offer in the Lyncrest Flight Centre and Happy Flying!

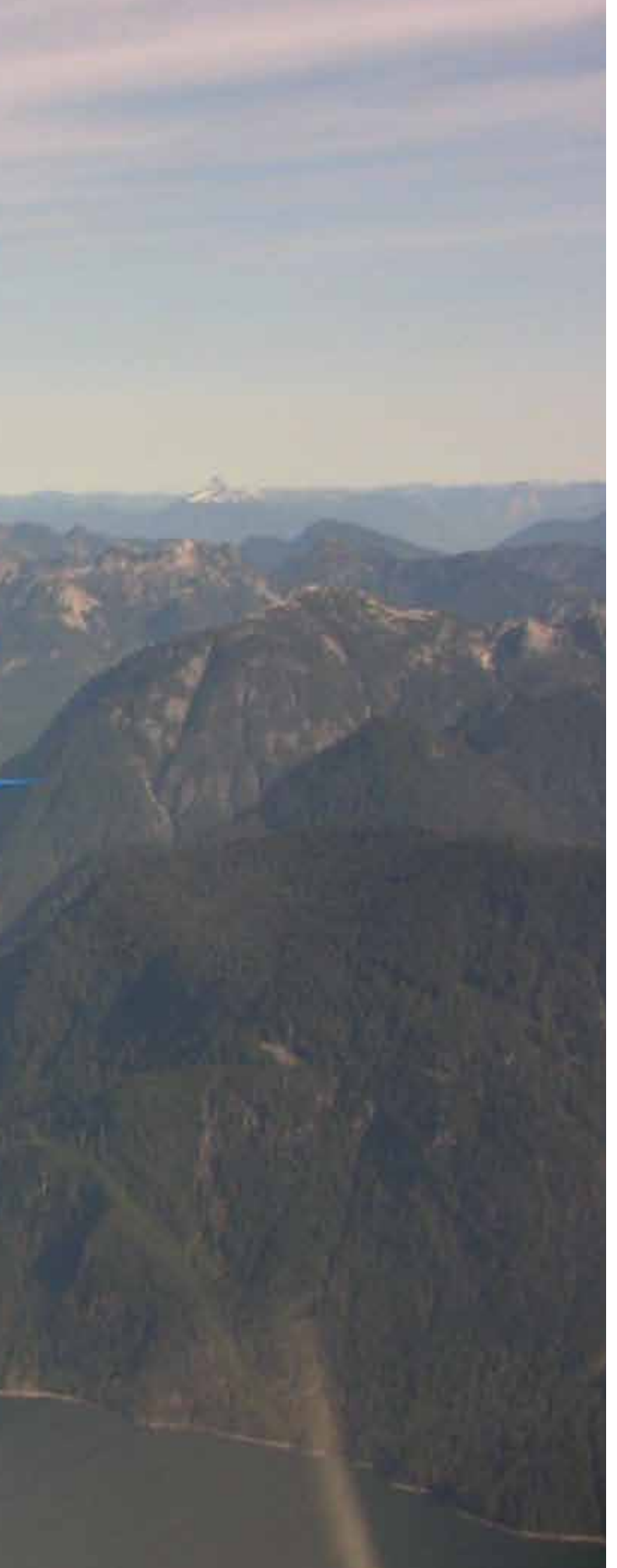
Becoming Rosie



Like most amateur aircraft builders,

my dream of building and flying my own airplane began early in my childhood. Although somewhat suppressed by a wonderful career in aviation, the yearn to build has never left me. In the mid 70's, three good friends and I bought a dilapidated Aeronca Champ and performed a complete restoration. This brief taste of building stayed with me for many more years until the "mid-life crisis" set in, convincing me that I should wait no longer as life was rushing past at much too quick a pace and a life ambition needed to be resolved sooner than later / Story and photos by Chris Cox

Aerial photos by Shona Hirota



Tony Swain

UNLESS ONE HAS BEEN IN A COMA for the past 30 years, there is not much I can tell you about Richard VanGrunsven and Van's Aircraft. My first exposure was in 1991 when my doctor and good friend, Bob Baldock (who also just happened to own, and still does, the Champ I helped rebuild in the 70's, aka Thumper), invited my wife Joan and I to his home to show us the RV-6 he was building in his basement. The wing and tail section were finished, and the fuselage was well underway. I was pretty much hooked at this point, but a young family and a new job did not promote a project of such magnitude at that point in time.

Fast forward to 2003 with the kids now adults, the job well in hand and a mid-life crisis of epic proportion, Joan and I agreed it was time to start building. The question was not whether we would be building an RV, but which RV. Joan and I plan to do a lot of traveling, so a side by side seat RV seemed more appropriate than a tandem where it seemed to us that the passenger is more a prisoner in the back seat with little to no input in regard to enroute participation. This narrowed the decision to either the RV-7 or the RV-9, but my desire to perform the odd loop and roll quickly disqualified the RV-9, making the RV-7 the obvious choice.

The next two decisions that needed to be made was where the third wheel should be located, nose or tail, and whether the canopy would slide back or tip up. The nose vs. tail wheel decision was simple as we both agreed the tail wheel model's were far more sleeker and sexier than the nose wheel. The canopy

Top Left: Rosie features a Grand Rapids EFIS with IFR overlay, GPS and engine monitor. Garmin supplies GPS, VOR and ILS. Left, the happy couple driving one of several bazillion rivets; above, Chris works on the fairings. The factory ones were deemed not pretty enough.

decision was a little tougher, but the slider won out over the tip up as it appeared to us to be more robust when open, especially in windy conditions, and the sheer cool factor of being able to taxi by with one arm propped up on the fuselage sill.

The tail kit was ordered in September 2003, and we drove down to the Aurora, Oregon, factory to pick it up and collect on our promised ($80,000.00) free ride. Our demo pilot was very impressed with Joan as he mentioned to me that most wives who accompanied their husbands to the factory generally stood off to one corner with their arms crossed, a frown on their faces whilst wondering what harebrained scheme the husband was hatching this time. Seems Joan was a little more excited than I was.

I'm not going to get into the whole building process as the kits are simply amazing. With computer cut parts and pre-punched holes, one only need to cleco the various parts together, drill the holes to the correct size, de-burr the edges, dimple where required and then rivet the structure together. No need for jigs, because if the holes line up, it has to be straight. It was during the build that Joan, whose middle name happens to be Rose, was christened "Rosie the Riveter". Joan has also carried the monicker "Dragon Lady" for many years, explaining both the name and "Rosie the Dragon" found on the nose and tail of the airplane.

Like most builders, we incorporated a few innovations of our own, such as the hinged baggage bulkhead which swings forwards revealing a hidden shelf inside the turtle-deck section to accommodate model airplane parts when we travel to various modeling events around the country. Another personal feature was the wing to fuselage fairings we molded. The Van's fairings were simply straight aluminum strips that butt up to the fuselage with a rubber strip. I doubt the new fairings add any speed, but I think they look pretty nice. The side and rear canopy shirts are also an area of personal pride.

The sticker says it all.

Coming up with an attractive paint scheme was a bit of an ordeal... It literally took me 4 years of one draft after another, right up to the point we were ready to paint

Getting the these parts to accurately follow the shape of the fuselage side wall and turtle-deck can be one of the most frustrating areas of construction, however with a few tips from fellow builder Terry Elgood, not only did I get a very accurate contour, but I was able to do so utilizing one piece of aluminum sheet rather than two.

For power, the Lycoming 0-360 was selected for its proven reliability. A call to Bart and Sue at Aerosport Power in Kamloops, B.C. put us in the queue for a Lycoming case and crankshaft, ECI cylinders and pistons, P-Mag electronic ignition, light weight starter, internally regulated alternator and a standby B & C alternator mounted on the unused vacuum pump pad. Because we wanted an Electronic Flight Information System (EFIS) instrument panel with Instrument Flight Rules (IFR) capability and a two axis auto-pilot, the decision to downgrade to a fixed pitch propellor was made to help defray some of the added panel costs. As it turns out, the Sensenich propellor is more than capable of launching Rosie in very short order, climb well in excess of 1000 feet per minute and cruise at 200 miles per hour. Not having the addition of a constant speed propellor, governor and added weight of same now seems a very sound decision.

About the panel: we selected the Grand Rapids Technologies EFIS and engine monitoring system based on its superb primary flight display with IFR overlay, GPS with terrain mapping, and engine monitor. Other units available either did not have these features, or if they did, were well over twice the cost. The centre radio stack consists of the bullet proof Garmin 430 (communications, GPS, VOR and ILS), an ICOM A200 for secondary communications, Garmin 327 transponder and Garmin 340 audio panel all combine to make a formidable communication and navigation package. To steer Rosie when Joan and I would prefer to just sit back and enjoy the ride, a Trio 2-axis auto-pilot was installed. Many might argue the installation of an auto-pilot in an RV stating that the airplane is such a delight to fly, that an auto-pilot is totally unnecessary, and to a degree, they would be correct, but when flying long distances, the auto-pilot is a huge asset, not to mention the enhanced safety benefit it offers. To keep us comfy while sitting in Rosie for two or three hours while enjoying the view outside (auto-pilot engaged, naturally), we had a good friend upholster a pair of leather seats.

Coming up with an attractive paint scheme was a bit of an ordeal. My only absolutes were that it had to be blue along with some checkerboard incorporated into design. Joan's only absolutes were that it did not have blue in it anywhere and under no circumstance could it have checkerboards! It literally took me 4 years of one draft after another, right up to the point we were ready to paint, before I came up with a design that Joan hesitated for a moment and said, "not bad". I knew I had her right then and there. A few more modifications, and we had a design and colour scheme we both liked. Based on a bit of car painting experience years back when flying for a living didn't always yield sufficient spending money, we opted to dust off the old spray gun and see if I could remember how to lay on a coat of paint. We used RM paint products throughout, starting with a self etching epoxy primer for good adhesion to the aluminum. This was followed immediately by two coats of a high build primer to help cover up any small imperfections and more importantly fill the little craters that often show up around the rivets in the finish coat. I even went so far as to brush a little

Linda Todd

Top: Rosie's first landing;
Centre: The resulting "RV Grin" as an exultant Chris slides back the canopy on that auspicious day;
Bottom, The radar track from Rosie's inaugural flight.

primer around rivets that appeared as though the cratering might be visible later on. The colour coats were a single stage urethane colour coat rather than the base coat/clear coat so often used these days. The base coat/colour coat system offers a beautiful sheen and some added protection, but it is also heavier and not quite as easy to repair when the inevitable chip occurs.

Rosie's first flight took place at Delta Heritage Airpark on a cool March morning, with Bryan Carr flying shotgun in his Harmon Rocket whilst carrying Joan in the back seat for video purposes. I was a little startled by how quickly Rosie leapt into the air and the amount of right rudder it required to keep the ball centred in climb out, but her pedigree handling characteristics were immediately evident in the superb aileron and elevator response. Following 30 minutes of high power cruising and two stalls overhead the Boundary Bay Airport with my own personal air traffic controller watching over me (thanks Linda!), it was time to head back to Delta for the first landing. With a small crowd of well wishers on hand, Rosie plunked down picture perfect for all to witness. Several small snags needed to be tended to during the 25 hour fly-off, such as a faulty VOR/ILS antenna connector, auto-pilot set-up issues and ignition irregularities, but overall, Rosie has performed magnificently.

Joan and I had deliberately *not* attended the world's largest amateur built Fly-In at Oshkosh, Wisconsin, as we really wanted to fly our own airplane there for our first time. So with an entourage of five other RV's, a Glasair to rush ahead of the RV's and keep tabs on weather (thanks Shona), and a Mazda Miata (Hammy had radio problems and decided to drive), we launched for Oshkosh in July. It was somewhere over Minnesota that the epiphany occurred. It was a beautiful sunny afternoon, level at 7500', cruising comfortably at 210 mph ground speed, with auto-pilot engaged and some of our favorite tunes playing on the Ipod, that we had to look about and realize that all this was taking place in an airplane we had built in our single bay garage at home. Unbelievable!

Even more unbelievable was our return trip home with an highly coveted "Outstanding Workmanship" award tucked away safely in the baggage compartment. I have a theory that the judges were afraid they might meet the real dragon lady rather than the one painted on the nose if some form of recognition were not bestowed on Rosie! All is fair in love, war and airplane beauty contests, I suppose.

I probably should throw out the typical accolades to all those who contributed to Rosie's birth, not the least of whom being Joan, but the list would be much too long and I would end up forgetting someone. One thing I should mention is the incredibly tight RV community we have here in the Vancouver area. Everyone was magnificent in their encouragement and offering of really good ideas. Rosie never would have turned out so well without these peoples' help. For all of you who did contribute, you know who you are, please take a bow.

It is September now, and Rosie has just delivered both Joan and I from a wonderful trip to Reno, Nevada for the Air Races and a side trip to the San Francisco bay area. Flying time to Reno was a mere four hours, less than an hour to the bay area and another four hours home. As I said earlier, unbelievable! RAA

Yet another award at a local fly-in. Below, the judges at Oshkosh give Rosie a thorough going over.

An Open Letter to Nav Canada

by Wayne Hadath

I HAVE ATTENDED TWO FORMAL PRESENTATIONS by Nav Canada personnel Marcel Pinon and Donald O'Rourke regarding the large increase in traffic at the London CYXU airport. Nav Canada indicated its desire to meet with stakeholders to discuss the problems that this increased traffic is causing and what could be done. The presentations were very simple and consisted of showing that there is an increase in movements and these movements are the result of flying school exploiting the current business opportunity of training foreign pilots. This increase in movements at the airport burdens Air Traffic Controllers and fills the communication frequency, which is complicated because of the Commercial and IFR traffic. Mr. Pinon maintains that the volume of traffic cannot be adequately handled with the current class of airspace and he must therefore institute Class C/Mode C airspace at CYXU. Pinon and O'Rourke state unequivocally that there is no solution to the current problem of increased movements other than instituting Class C/Mode C airspace.

I have concerns and I have voiced these concerns to the presenters and to other Nav Canada personnel but I feel I must voice them to you.

The first concern: I was led to believe that this would be a consultation process but it is obvious it is not. The above solution is to be imposed as soon as October 15th of 2008.

The second concern: I do not believe the above solution will solve the problem. I have been told by Nav Canada personnel that the change to Class C/Mode C will not allow for any more aircraft in the circuit and that they have no intention of trying to train more pilots at CYXU. The current movements are at present being handled by the CYXU Controllers. If the solution cannot provide for more training movements then why is it being imposed?

The third concern: by instituting Class C/Mode C they are preventing any aircraft owner who is not able to willing to install a Mode C transponder from flying within 5 miles of CYXU. Nav Canada has no idea how many aircraft this impacts. These aircraft

owners will pay the highest price for the solution to a problem which they played no role in creating.

My fourth concern: If Nav Canada does not work with these training schools to find a viable solution they will move, and when they move we will all be stuck with the cost and inconvenience of Class C/Mode C airspace at CYXU.

My fifth concern: the flight schools could move to another towered airport and Nav Canada would see fit that the only solution is to impose Class C/Mode C at that airport. If Canada is successful with training foreign students does that mean that we may have Class C/Mode C at all airports?

My sixth concern: If we make training at controlled airports too onerous, then these schools will move to uncontrolled airspace where there are other issues.

My seventh concern: What if this boom in training foreign students is a short lived phenomenon?

My eighth concern: Pinon and O'Rourke say that the 5 mile Control Zone at CYXU will be sufficient for Class C/Mode C, but 7 miles may be necessary. There are numerous private strips that will be negatively affected by this.

The training of foreign pilots is a boon to Canadian flight schools and the increased traffic indeed comes with its challenges. Class C/Mode C cannot be the only solution and it does not appear to be a good solution at all. Any and all suggestions for solutions were met by Nav Canada personnel by "We are unable to do that."

The above problem is also exacerbated by another issue that comes with the training of foreign students and that is language proficiency. Nav Canada says it has no mandate here. I have brought this problem to the attention of Transport Canada and their response was that they were unaware of the severity of the language problems around the CYXU area and that they would address.

There is no doubt that we have a situation arising from the increase in pilot training taking place because of foreign students. This situation should be looked at and solutions developed. A knee jerk reaction is not what is required here.

It seems clear that by instituting the Class C/Mode C solution, more problems are created than are solved.

If the training of foreign pilots is a business which brings strong economic value to Canada and its communities and airports, it behooves us to solve the current problems we are finding at London. Imagine the student pilot who is away from home and familiar surroundings and support systems in a totally different culture trying to learn a complicated task and additionally burdened with English as a second language. Let us also throw in a busy controlled airport with busy controllers and a variety of traffic. This is not very likely to be the tolerant and understanding environment best suited for the learning of flying an aircraft and developing good airmanship skills.

Why not look at this as an opportunity for Canada to develop the infrastructure to best train these foreign pilots?

Why not look at this as an opportunity for Canada to develop the infrastructure to best train these foreign pilots? Perhaps we should be looking at solutions where the world will be looking to Canada to train its pilots. RAA

Wayne Hadath, RAA Treasurer

Countersigned by Tom Martin, Chris Gardiner, David King, Ed Butler, and Gary Wolf

Details

CHANGES THAT CAN INVALIDATE YOUR SPECIAL C of A

By Gary Wolf / RAA 7379

MANY OWNERS OF AMATEUR BUILT aircraft are under the misimpression that they may make any changes they wish to their plane. After all, it is not a certified plane, so why not? Well, if you read cars 549.23 you will see that some changes may invalidate your Special C of A, and can result in your plane being grounded.

The Amateur Built plane does not have any design standard but it does have a construction standard, and it was in a specific configuration when it was inspected and given its Special C of A. Only this configuration is the one that Transport has agreed may be legally flown. If you wish to make changes that substantially affect the plane, Transport must be notified and for some changes they have the option or responsibility to inspect.

The most common changes that can invalidate the Special C of A are a change to a different series of engine, or the installation of floats. The last line of 549.23 refers to a change to the control surfaces of aerobatic aircraft, the topic of this article.

Member Ed Johancsik built a Wittman Tailwind in 1990 and flew it to Oshkosh many times to meet with Steve Wittman. At one point Steve told Ed that the aileron counterbalance weights were superfluous because the aileron bellcranks actually provided enough counterbalance. Ed kept this in mind for eighteen years, and this past summer decided to try the plane with the counterbalance weights removed. He sent a note to the Hamilton office of Transport Canada to explain the change he had made. Although 549.23 does refer to the control surfaces of aerobatic planes, and a Tailwind is not aerobatic, Ed fell afoul of an inspector at that Transport office. He shortly received a stern letter quoting the "structural integrity, geometry, performance" sentence of 549.23.

Having little experience in dealing with Transport

Details, Schmetails

Here's what the official word is:

549.23 Design Changes and Repairs

[Design changes and repairs affecting structural integrity, geometry, performance (e.g. change of c.g. limits) and maximum permissible take-off mass will require an inspection by a DOT representative,and may invalidate the Special Certificate of Airworthiness for amateur-built aircraft. Following a design change or repair:]

(a) A new Weight and Balance Report and Climb Test Report may be required,

[(b) Changes or repairs shall be annotated in the Aircraft Technical Records, including the Journey Log book; and]

[(c)] The Minister may request a new Special C of A application or inspections.

[Information Note:

[(a) Changes which will invalidate the Special C of A for amateur-built aircraft, and require a new Weight and Balance Report and Climb Test include:

[(1) A change in the type or model of the engine. This does not include engine changes within the same series.

[(2) A change resulting in a mass (weight) exceeding the maximum permissible stated on the special C of A for amateur-built aircraft.

[(3) An initial change in landing gear from wheels/ skis to floats or floats to wheels/skis.

[(b) A change from wheels to skis or skis to wheels will only require an amendment to the Weight and Balance report.

[(c) Changes which will require an inspection by a DOT representative include:

[(1) Any change or major repair affecting structural integrity; and

[(2) For aerobatic aeroplanes, changes to control surfaces.]

(Change 549-1 (93-06-30))

(Amendment 549-2 (96-04-01))

Canada, Ed contacted me to help him thread his way through the regulation so that he could return his plane to service. Now 549.23 is not meant to prevent owners from changing their cowlings and ducting, fairings, wheelpants, and other non structural items, and an aileron is not mentioned except if the plane is aerobatic. It appeared that the TC inspector was enforcing his own interpretation of 549.23. Recall that Ed had already sent a letter outlining the change and further he had already performed a flight test at Vne and there had been no flutter. It appeared that Wittman had been correct and that Ed had already complied with the regulation. Unfortunately the Hamilton inspector and his supervisor did not see it this way, and to prove them wrong would have taken the rest of the flying season. Ed and I decided that the most expedient way to get his Tailwind flying would be to reinstall the counterbalance weights, do a static balance, and record this in his logbook.

We began by removing the ailerons and overfilling the weight receptacles with molten lead. The ailerons with their bellcranks attached were then placed on V-blocks on their own bearings, and the lead was filed until the ailerons balanced. The original drawings did not call out a procedure for testing so we called the Hamilton office for some direction. None was forthcoming so we called Ottawa for the information. 100% balance seemed to be the consensus there, so we interspersed sessions of filing and sanding with giving the aileron trailing edge a push to see if it had any tendency to come to rest above or below horizontal. We photographed the whole procedure for both ailerons, then greased the bearings and reinstalled the ailerons on the plane. The bellcranks were reinstalled and safety wired, and we performed an independent control check, which is verification by another pilot that the controls were correct for installation and operation. On a Tailwind it is impossible mix up the aileron pushrods, but on a plane with control cables it might be possible to reverse the controls. The independent control check is meant to prevent this, although even on certified aircraft there have been occasions when planes have gone for their test flight with controls reversed. We checked ours to be sure that left stick meant left aileron up, and vice versa.

Once the physical work was complete, the paperwork began. Ed wrote in his logbook a brief description of the removal and balancing of the ailerons, quoting the number of the drawing in his original plans set. He included that the work met the requirements of CARS STD 571.03 and 571.10 and that he was releasing the plane for service subject to verification by a flight test. The independent control check

Counterbalance lead was filed and sanded.

Below: ailerons were balanced until the trailing edges had no tendency to rise or drop after a push. Bottom: ailerons installed and verified, logbook entries made and sent to Transport, results - one happy pilot. On page 31, bellcranks were reattached and the ailerons were set level on their own bearings.

was logged and signed and the notation was made that it met the standards of 571.10. The entries were photographed and these were delivered to the Hamilton Transport Canada office.

Having complied with the requirements of the CARS, it was our belief that the Tailwind could immediately be returned to service. However because the inspectors at the Hamilton office have a history of making up their own interpretations of the regulations, we requested confirmation by email that the requirements had been met in full. We indicated a date by which we wanted confirmation or denial, and the confirmation came within that time.

Ed was beaming as he got into his Tailwind for the test flight to confirm the operation of the ailerons. He climbed to altitude and dove to Vne and found that the ailerons worked perfectly. Upon landing he made the logbook entry that the test had been performed. We photographed this entry and emailed it to Transport. Since that date he has been making up for lost time, heading off to every fly-in that was available before the end of the season.

What did we learn from this? First of all, there are some changes that cannot be made without notification and inspection by Transport Canada. We also learned that even an inspector can misread the regulations, but it is sometimes quicker just to comply rather than to get into a protracted battle over who is right and who is wrong. RAA

Safety

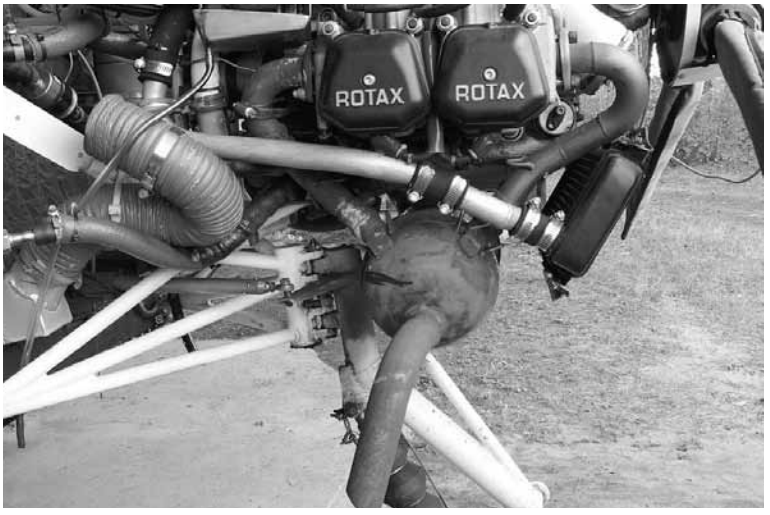
Autumn is Exhaust Inspection Time

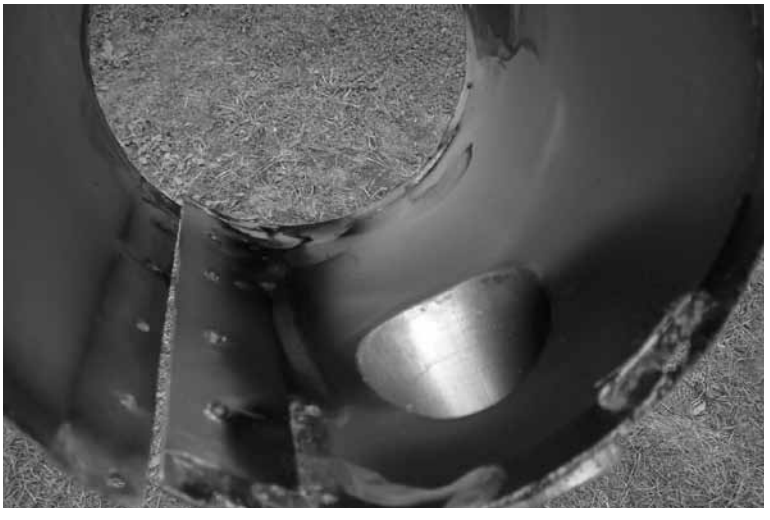
A member has sent in a report that the factory-built exhaust of his Rotax 912-powered Aula Festival failed in flight, causing the pilot to experience nausea and dizziness, with a strong headache that remained for hours afterward. Fortunately he was able to open the vents and get safely on the ground. An inspection revealed that the system was made from a combination of stainless and carbon steel parts, and at 300 hours the carbon steel muffler baffle shattered and partially plugged the exhaust outlet.

This might be a good time to remove your own exhaust system to check for cracks. Use a magnet and a 10X magnifying glass and especially inspect anything made from carbon steel. Pull the heat shroud and check all welds for cracks. Check the bulged section of the port adapter, right under the exhaust flange too as this is a high stress area. Early exhaust systems had port adapters made from .035" material and these are susceptible to cracking, even when made from stainless. Later systems have .050" stainless adapters and these are much stronger. Check them closely. If you must reweld anything, do not use a wire feed welder for this purpose or you will inevitably have another failure soon.

Are the exhaust springs stretched? Do you need new exhaust nuts or studs? Ordering new ones now will mean that you will have them ready for Spring.

Do you really need an exhaust heat muff, with the attendant possibility of carbon monoxide in the cabin? Perhaps taking the heat from the backside of the radiator would be a better idea. RAA





Lycoming Airworthiness Directive

DEPARTMENT OF TRANSPORTATION Federal Aviation Administration
14 CFR Part 39
[Docket No. FAA–2008–0052; Directorate Identifier 2008–NE–01–AD; Amendment 39– 15672; AD 2008–19–05]
RIN 2120–AA64
Airworthiness Directives; Engine Components, Inc. (ECi) Reciprocating Engine Cylinder Assemblies
AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).
ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for Lycoming Engines (formerly Textron Lycoming) models 320, 360, and 540 series, "Parallel Valve" reciprocating engines, with certain Engine Components, Inc. (ECi) cylinder assemblies, part number (P/N) AEL65102 series "Titan", installed. This AD requires initial and repetitive visual inspections and compression tests to detect cracks at the head-to-barrel interface, replacement of cylinder assemblies found cracked, and replacement of certain cylinder assemblies, at new reduced times-in-service. This AD results from reports of 45 failures with head separations of ECi cylinder assemblies. We are issuing this AD to prevent loss of engine power due to cracks at the head-to-barrel interface in the cylinder assemblies and possible engine failure caused by separation of a cylinder head, which could result in loss of control of the aircraft.

DATES: This AD becomes effective October 20, 2008.

ADDRESSES: You can get the service information identified in this AD from Engine Components, Inc., 9503 Middlex, San Antonio, TX 78217; Phone(800) 324–2359; fax (210) 820–8102; http://www.eci2fly.com.
The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12–140, Washington, DC 20590–0001.

FOR FURTHER INFORMATION CONTACT: Peter W. Hakala, Aerospace Engineer, Special Certification Office, FAA, Rotorcraft Directorate, 2601 Meacham Blvd., Fort Worth, TX 76193; e-mail: peter.w.hakala@faa.gov; telephone (817) 222–5145; fax (817) 222–5785.

President's Message *(continued from page 2)*

travel into US airspace.

REMOVAL OF 25 HOUR RESTRICTIONS / ELT CERTIFICATION

At present the builder of an Amateur Built must fly his first 25 hours within a radius of 25 miles from the originating airport. During this period a climb test must be performed, and at the end of this test period the builder may apply to have the restrictions removed. At most TC offices this is merely a verification that the builder has done the required testing and has signed that in his opinion the plane is safe for unrestricted VFR flight. It is on the basis of the builder's signed affirmation that Transport releases the plane from its restrictions This distances Transport from liability and reinforces that the builder is liable for the integrity of his aircraft.

The release from restrictions is usually just a rubber stamp exercise, and the builder can frequently be on his way within half an hour. Unfortunately some inspectors take advantage of the request for release to get a paid day out of the office, with mileage and a per diem as sweeteners. RAA has been in contact with Ottawa to have the procedure changed to become similar to that used by the FAA. We have proposed that at final inspection the plane would automatically receive its unrestricted flight authority. The builder would still be required to perform the same 25 hours of testing within a 25 mile radius, but he would be saved the trip to the Transport office, which can be a considerable distance in some parts of the country. At the end of the 25 hours, the builder would still sign his logbook to affirm that his plane was suitable for release from restrictions.

ELT and TRANSPONDER CALIBRATION

RAA has been involved in discussions with Transport in Ottawa to deal with calibration requirements for ELT's and transponders when new units are installed in an Amateur Built at the time of final inspection. We have had members complain that the Hamilton TC office has been requiring brand new units to be checked at an avionics shop before the plane can be released from its 25 hour restrictions. This makes little sense, since in both cases brand new units come with certification documents from the manufacturer. We have now received a direction from Ottawa that the date of manufacturer certification of an ELT will be acceptable for release of 25 hour restrictions. The transponder issue is still under discussion, and we will let you know as soon as there is a decision. In the mean-

continues next page

Chapter News *(continued from page 20)*

a small manufacturing establishment in Kelowna *to experience the "DREAMFLYER". The brain-child of* George Holloway, a career chemist and magician, this new product introduces a new level of flight simulator fun by adding three-dimensional components and providing the user with a bit more physical feel than most present-day computer flight simulators.

I had a chance to log 10 minutes on this simulator and it was very interesting. Although it wasn't set up for my size and weight, it did give me some good insight into its operation. The user sits in a comfortable seat mounted on a nicely gimballed frame. With no hydraulics or expensive electronic motors involved, the unit responds well to user input from a joystick, throttle and pedals. This enables you to get the sensation of three-dimensional flight when you move the joystick as if you are climbing, descending, and banking. Although there is no sensation of pulling "Gs", or flying "by the seat of your pants", you also don't find that in a simulator that costs hundreds of thousand of dollars either!

Using Microsoft Flight Simulator as the software and a large flat-screen monitor, you can basically see where you are going! The software we used was very limited to the detail in the graphics; however, since you have to supply the computer, monitor and software, you could always buy something better.

On the "DREAMFLYER" I found the controls heavy but the response was similar to playing the game with a common gaming joystick on your lap. From its comfortable seat, I was able to enjoy the roll and pitch response - because you really do roll or pitch up and down. For me, however, I need to feel "Gs" in order to know what is really going on. What I did find the most interesting was doing IFR approaches and that is where this game may excel; practicing your instrument flying in a way that shouldn't be able to kill you! If I was doing IFR flying, I would actually consider this device as a practical tool to safer flying and even as a VFR pilot, simulator time never hurts. But, this is not an airplane and is not actual flying time, just a simulator. Therefore, one shouldn't be mislead into thinking that because you can fly that Pitts Special on this simulator, you can do it without a check-out ride in the real sky.

So how does the "DREAMFLYER" flight simulator stack up to the real thing? It is much more realistic than sitting in a chair with a joystick on your lap looking at a computer monitor. But it does not give the same sensations as flying an actual airplane. It is sort of 'two-point-five' dimensional in its feel and approach. Best of all, if you don't like the way you are flying, you can put the game on pause and go get a coffee. In addition, with two of these, you and a friend could zoom around the virtual skies playing WWI war aces, side by side.

Bottom line: it is just another tool that can help you be a safer flyer. If you find this flight motion simulator appealing, you can get more information about it at: mydreamflyer.com. *By Cameron Bottrill*

time, there is no requirement to have a transponder installed at the time of final inspection, and there is nothing illegal about having the tray and wiring in place.

RAA AND LIGHT SPORT

RAA has been in regular contact with Transport Canada during the past two years to do the final tweaks to the Working Group document that would among other matters bring Light Sport into our regulations. We have dealt with issues of pilot licensing, maintenance, and the use of these aircraft for flight training. Transport Canada has been using our recommendations as reference material during their risk assessment meetings to deal with Light Sport.

At present RAA is organizing a meeting in Ottawa of all stakeholders who took part in the Working Group, so that we may have a look at the final document before it becomes law.

US EPA LEAD STANDARDS

Look for the US EPA to propose tighter standards on lead content in aviation fuels by 2011, when they will attempt to lower total lead content in the air by 90%. This reduction will also affect mines, smelters and incinerators, by far the greatest source of lead in the air. In the past, aviation fuel has dodged the bullet but this time it appears that it is one of the targets.

Keep in Touch With Your Board of Directors!

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For Sale

Sonex TD project for sale: Precover inspection done, all surfaces now closed, partially polished, Flight and Engine instrumentation included, New Aero-vee engine assembled and mounted. Experienced builder. Everything included to complete. Could be flying this fall $30,000.00 Cdn. (cost of materials) Lost medical. 905 892 9649 or bestofbo@cogeco.ca Aug 08

RV-4 project. Empennage finished. Flaps and ailerons finished. Wing spars finished..(Ribs were drilled and attached with clecoes. Now removed, numbered and boxed) Fuselage on the jig. All parts primed. Good workmanship. Call for details/pictures. Asking $11000.- (519) 461-1464 ed@solairecanada.com Feb08

Pegasair Fuselage,Tackwelded,stainless steel firewall $3000 Subaru EA 81 with gear reduction O time,$2500 Warp Drive 3 blade ground adjustable propellor very good condition $ 600 Heinz Genrich 905 648 0766 tandt@coceco.ca Feb08

Maranda AMF-S14F for sale $20,000. High wing taildragger. Stall 40. Cruise 100. Lycoming O-320. 655TT 225STOH 600 lbs useful load. Flies regularly, but my wife says I have to sell something before I"m allowed to build anything more! Fancy a vacation down south? The airplane and I are both Canadian (C-FXKH), but are currently living in Texas. If you buy it, I"ll reimburse your airfare. Please see http://home.earthlink.net/~daforster/marandasale.htm for more details. Dave 281 992 2713. Feb08

Wanted to purchase good or rebuildable IO 540 for Steen Sky bolt project, also any airframe or parts for the same. OFFICE 1-705-653-4525 or davidcarlaw@prototyperesearch.com Feb08

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.

FOR SALE 1940 PIPER J5 Ground up restoration 2007 and complete conversion to PA12 with the installation of Lycoming 0-290 125HP 35Hrs SMOH.

New stainless firewall and cowlings. New Slick mags. B&C Alternator. Sensenich metal prop New Stainless exhaust system with XM Mufflers. Oil Cooler with cockpit control. New Cleveland wheels and "double puck brakes" New Garmin GTX 320 Mode "C" New ICOM A200 with Flightcom I/C. All new instruments. New Windshield and side windows. Tinted Roof. New "lifetime sealed struts" with 5/8 forks. Dual pulley trim system mounted overhead. Left side window outward opening. New upholstery. Aircraft completely recovered in Ceconite. New pulleys.

Aircraft licensed in the Amateur Built category and can be flown in the USA. Wonderful aircraft to fly, with excellent climb performance. Aircraft is at AK3 (Delta) $45000 OBO Call Bob at 604 220 6385 Jan 08

CAVALIER 102.5; 700 TTAF (airframe rebuilt/97), AERO Sport, O-320-B2B, 75 TTSN (seeing 1500 ft/m), Sensenich metal prop, 1750 lbs gross weight, 622 useful load, VFR instruments + Garmin-Mode C, kept in heated hangar. Flies fantastic! $32,000. moneypit@uniserve.com or 250-558-5551; ask for Cameron. Oct08

Parts for sale: Low hours Colin Walker wooden prop a 7256 off an O-290D ($600); New ROTAX 9" UHS 2 blade spinner ($80). If you are interested, I can be contacted at: moneypit@uniserve.com or 250-558-5551; ask for Cameron. Oct08

Rotax 912 80 hp, 850 hrs TT. Overhauled gearbox with overload clutch. New reduction gearset. Overhauled carbs, new rings, valves and seats ground. $9500 OBO 519-648-2044 Oct08

RV-6 Wing and Tail Kit. Tail is finished and has passed inspection. Wings are ready for closure. Tanks completed, sealed, and installed. Flight controls are finished. This wing kit has the Phlogoston spars and excellent workmanship throughout. Tail $1500. Wings $4000. Both $5000. 519-648-2044 Oct08

PARTS FOR SALE: Low hours Colin Walker wooden prop a 7256 off a O-290D ($600); New RAPCO dry air vacuum pump model # 211CC ($80); New Flightcom model 403mc voice activated intercom ($100); New ICOM IC-A200 VHF Transceiver ($600); New ROTAX 9" UHS 2 blade spinner ($80). moneypit@uniserve.com or 250-558-5551; ask for Cameron. Apr08

FOR SALE McCauley Propeller Model 1A101/DCM6948 fits Continental 0-200. Certified and zero time since overhaul. Also available overhauled Directional gyro and altimeter. Don Bentley 250-764-0880 Apr08

Christavia Mk1, 2 place rag & tube; all major structures & engine mount complete; Subaru auto conversion with NSI reduction drive and dual electronic ignition; graphite 3 blade prop on gear; elevators, ruder and control table complete; wings and ailerons fitted and complete; pull-up and cables not attached; 100 hours of flight time on proven engine; instruments, fabric, tape, cord, hardware enough to finish; cowling complete; (no chemicals for fabric covering); used instruments fitted to panel. Contact Bill Weir. billweir@lom.imag.net Apr08

Rotax 582 firewall forward with motor mount and rad, GSC 3 blade prop, cowling. oil tank, some engine instruments, exhaust. All were removed from a Zenith 701 being repowered by a 912S. Everything to get flying for $3500 OBO. millfly@sympatico.ca 519-822-6693 Apr08

Geo/Suzuki 1300 firewall forward package including dynafocal engine mount and rad, to fit Zenith 701. Includes cowling, starter, alternator, carb, exhaust, GSC prop, and some instruments. Package was replaced by a 912S. $3500 OBO millfly@sympatico.ca; 519-822-6693 Apr08

Zenith 701 project. All formed parts made, spars riveted, jeep landing gear, Matco wheels and brakes, dash and most of the fuselage components, pedals and some welded assemblies, $6500 millfly@sympatico.ca 519-822-6693 Apr08

All parts to convert an RV-6A to RV-6 taildragger configuration. 519-372-1383 kinger@bmts.com Apr08

Compete Zenith 701 kit, only the rudder done, Warp Drive prop, 912UL engine with 245 hrs, logs complete with mount. Includes engine instruments, ELT, transponder mode C, tundra gear, exhaust, oil tank, rads, radio, wing tanks. No cowl or air instruments. $19,000 obo. Call Don 519-372-1383 or email kinger@bmts.com Apr08

HP with Engine Mount, custom 4130 Prop Hub and rolling engine stand to ship.$1750.00 obo. New Colin Walker wooden Prop 6856 with fibreglass L.E. SAE 1 $500.00 G.B. Lewis wooden Prop 7441 metal L.E. very good, no nicks or damage. SAE 1 $500.00 Super Cub 8:00

X 4 wheels, tires, brakes and reservoirs. $500.00 for set. C85 starter and NAS3 carb. $200.00 each, or will trade one for C85 generator. 780- 460- 6841 Aug08

1988 Kelly-D, 420 TT, New 2006 O-235C & prop, 77 Hrs, New brakes, current C of A, GPS, hangared, Only Canadian Kelly-D, $29,000, 204-257-4641 or 204-782-9442, email: marl_h@hotmail.com. Oct 08

Parts For Sale--- Corvair 110 HP with Engine Mount, custom 4130 Prop Hub and rolling engine stand to ship.$1750 obo. New Colin Walker wooden Prop 6856 with fibreglass L.E. SAE 1 $500.00 G.B. Lewis wooden Prop 7441 metal L.E. very good, no nicks or damage. SAE 1 $500.00 . Super Cub 8:00 X 4 wheels, tires, brakes and reservoirs. $500.00 for set. C85 starter and NAS3 carb. $200.00 each, or will trade one for C85 generator. 780- 460- 6841 Oct 08

160 H.P. ZENITH CH300 CGHGY, CAN BE SEEN AT THE TIEDOWN NORTH END OF BRAMPTON (NC3). $22,00.00 OR OFFER. FRANK LANGDON 905.822.0230 Oct 08

O235C LYCOMING ENGINE, Ground crank nitroed new bearings, seals, rings, seats, and guides. Can be seen running PA12 exhaust. metal prop. $4,800 Maxwell Say 519-941-9698 Oct 08

Lost medical. Partially completed (right wing some tail feathers) Murphy Rebel kit $10,000 OBO. Call 250 658 2046 or email breathnach@shaw.ca Oct 08

Christavia IV fuel tank for left wing, per Ron Mason drawing. 14 Imp gals [63 litres] all fittings in place. Peter James 416 282-2186 Oct 08

Avid Catalina amphibian complete kit. factory prewelded powdercoated fuselage and parts,fiberglass hull and all fairings,folding wings constructed and fitted to fuselage,control systems installed,retractable gear fitted, engine mount,hardware packaged and labeled, all Avid construction manuals and newsletters. We moved,no place to build!! Asking $13,500. Call 613-543-0594 Oct 08

For sale due to health -aircraft engines and an Aeronca Champ project. The three engines are zero-timed: two 0-235, one 0-0-290DQ. Some mags might be missing, but the prices will be very low... The project is a Champ awaiting the MOT final approval. For details, contact George ASAP at 250-768-3585. Oct 08

1992 MURPHY RENEGADE Professionally built and maintained. Excellent condition, powered by Rotax 618. $23,000. Still flown by retired Air Force pilot Tony Bellos from his own strip in Knutsford, near Kamloops, BC. 250-374-6591 or tbellos@telus.net Aug08

Aeronca Champ wing hardware [except drag wires], rudder horn, 3 pc tail wheel spring, parking brake handle unit and nose fuel tank all for 7 AC/ Peter James 416 282-2186 Oct 08

Toucan basic ultralight, a rare twin-boom 2-engine Canadian aircraft. Front is a Rotax 377, rear is a Rotax 505. Large disc brakes. Smooth flyer, will cruise at 60mph on rear engine only. $7000 . Call LeRoy at 250-547-6211 Lumby, BC. Oct 08

1943 Luscombe 8C for sale. $15,000. Contact Bruce Prior for details and photos. (604) 437-4219 or email at b.prior@ieee.org. Oct 08

Wanted

WANTED Aeronca Champ. Preferably 85 to 100 hp Continental. Located Ontario or Quebec. Contact <tingle@ionsys.com Feb08

Do you have a 12 ft table taking up valuable space. I need one for my Pegazair project. Toronto area but will travel distance to pick-up. Also need an assortment of clecos. Larry 416 526 2602 or larry@patronproducts.com Feb08

WANTED: Alternator or generator for C90. Must have gear intact. Contact Jeff Deuchar 780-352-4268 or f1rocket@telus.net Aug 08

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.

RAAC has sets of electronic scales that are available to all members for doing the weight and balance calculations on their aircraft. Only $30 for weighing. Contact the RAA office at 1-800-387-1028 to reserve a set.

Jeff Huckle's

Zenith 801

First flight of my Zenith 801 was February 15th at CYKF, piloted by Bob Baldwin (r) and it flew great! The plane climbs well, over 750 fpm, and has a payload of over 900 pounds at gross of 2200. The engine is an O-360 180 hp by Leavens, and the firewall forward and panel were done by Kitplane Builders in Toronto. Can Zac Aviation did final assembly and rigging and it flew hands-off on the first flight. Panel is almost IFR with Grand Rapids EIS, Truetrac autopilot, and SL30 / 40 NavCom and Com. Thanks to Bill Tee of MD-RA for doing the inspections in a timely and professional manner.

This photo is taken the day we left for home field at Didsbury Alberta, flying the northern route through Canada all the way.

Jeff Huckle C-FHUC

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@cmcelectronics.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 kcweston@georgian.net

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@sympatico.ca 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 angus@lweb.net

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.

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

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 Calvin Thorne at 403 932-4325 or email: cbthorne@telus.net

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 7:30 pm RAAC Club Rooms, Airport. Contact Secretary, Boyne Lewis 403-527-9571 handblewis@thehat.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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