January - February 2010

RECREATIONAL FLYER

Recreational Aircraft Association Canada www.raa.ca
The Voice of Canadian Amateur Aircraft Builders $6.95

Elevated:

Angus Watt's CH-750

RAA
RECREATIONAL AIRCRAFT ASSOCIATION
RÉSEAU AÉRONEFS AMATEUR CANADA

from the president's desk

Gary Wolf

CHAPTER STATUS REPORTS AND MEMBERSHIP LISTS

RAA's blanket chapter policy covers your chapter events for $5 million premises liability and all that is necessary is for your chapter to maintain status with RAA Canada. This has been simple - just send in an annual statement of five specific members who qualify the chapter for RAA status. These are: President, Treasurer, Secretary, and two other named members. At minimum these five must maintain RAA National membership. If the chapter has any members who are not RAA national members, the chapter must collect and send in $15 per year for these chapter members. Unfortunately there have been occurrences of chapters that have grossly understated their membership numbers, and this places the burden of paying the policy premium onto the chapters that tell the truth.

At the 2009 AGM the membership passed a motion to rectify this situation. Every chapter must now send in an annual membership list that is up to date and accurate at the end of each March. This is now an additional requirement to maintain chapter status. If a chapter decides to send in a fraudulent document and they have a claim against the policy, it would not be difficult for the insurer to determine whether the chapter did in fact have status with RAA Canada.

Please send in your status reports and membership lists by email to garywolf@rogers.com. To aid in sorting, in the subject line please type "RAA status report".

CHAPTER LISTINGS

Does your chapter listing in the Rec Flyer need to be revised because you have changed contact person / location / date of meetings? If so, please send new text to gregdesign@telus.net .

BushCaddy has never had a structural failure, nor has there ever been a fatality in one of their planes.

4 MONTHS TO RELEASE FROM RESTRICTIONS - A NEW RECORD?

We have become accustomed to lethargy from the inspectors at the Hamilton Transport Canada office but they appear to have set a new record. A member dropped his paperwork off on October 8th with Wayne Juniper and Bill Hayes, asking to have his new plane released from the 25 mile restrictions. He followed up with weekly phone calls to Hayes and Juniper but he never received a reply from either. In December their secretary told him that Hamilton does not do that paperwork and he would have to deal with 4900 Yonge. A call to 4900 revealed that the Hamilton secretary had been misinformed and Hamilton does have that responsibility. One of the senior people at 4900 Yonge offered to see if he could expedite matters but he explained that with Christmas approaching nothing would happen until the middle of January. Finally on February 9th the release from restrictions arrived, signed by none other than Wayne Juniper.

By comparison, in this issue a member has built and flown the hours off his new CH 750 kit, starting mid-October and making his first flight in January. It is ridiculous that someone can build a plane in less time than it takes Wayne Juniper to get around to the 20 minute task of inspecting that the paperwork is in order and signing his name. Unfortunately the TC policy is that builders now have to deal with their local office, so members in the Hamilton area are stuck with this abysmal level of service. It almost makes sense to buy a house in a different area and use that address for all Transport paperwork.

BUSHCADDY UNFAIRLY MALIGNED BY TSB

The whole story is in the issue but the important matter is that an anonymous TSB author wrote a report that blamed BushCaddy for several structural failures that resulted in fatalities. Unfortunately the TSB author did

continued on page 34

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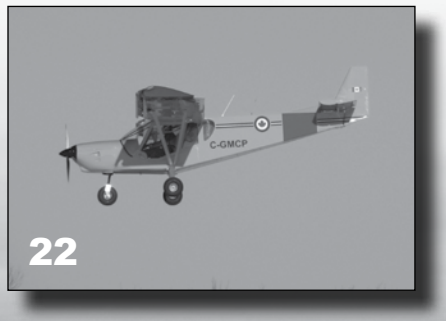
features



On the Cover: Angus Watt's CH-750 on short final. Gary Wolf photo. Below: The Canadian Museum of Flight's Waco.

George Gregory

It's Going To Be BIG

The first article presented a general overview of the Fairchild 51 itself, its heritage and reasons for building it. This article will involve some construction notes, supplier sources and some details on the trials and tribulations of "doing it yourself".

It's a large plane...the fuselage is 29' long *without* the engine installed. A serious amount of 4130 tubing would be needed it and I bought most of mine from Charlie Vogelsong in Dillsburg, PA. Nicely enough he's located just off Highway 81 on the way down to Sun 'n' Fun so that was easy enough. Large tubes in some parts too. The rear spar carry through is 2" diameter .065" wall. They liked to sell full lengths only but will help out if you do some serious grovelling.

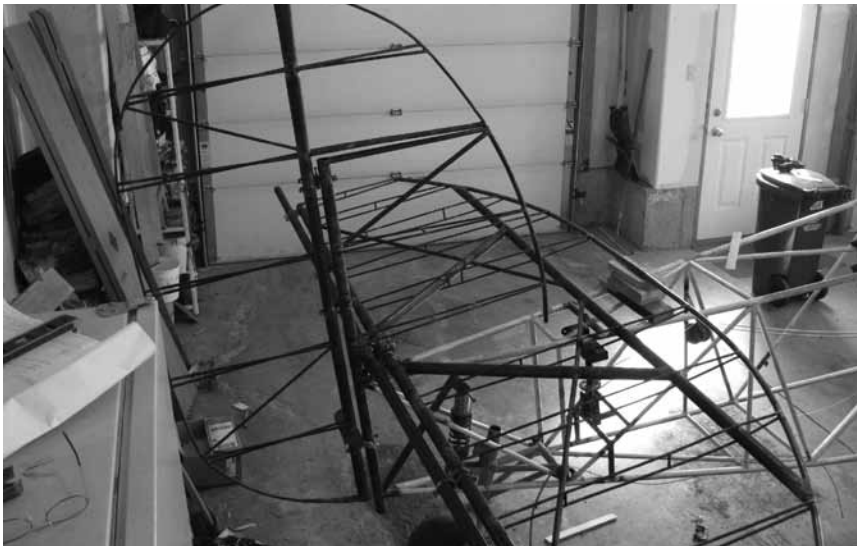
You may note that the engine mount is integral to the fuselage front. The rest of the fuselage is pretty typical of any high wing rag and tube plane with the exception of the wing folding bits and pieces. The lift struts converge and join the fuselage directly under and in vertical plane with the rear spar attach part, allowing the top and bottom parts to swivel at the rear after the front carry through/front wing spar joint is released by a large tapered pin. The pin simply slides out via a lever and is spring loaded in position when in the flying position. Further, a number four Yale padlock prevents that lever from inadvertent withdrawal. It's the spring that really does the job though and it is said that the padlock was more or less to inspire confidence in the passengers. I think they'll make me feel good too. It's the last thing to check on preflight. Two men can unfold the wings in two minutes with no control linkages or fuel lines to reattach. Wing folding reduces the wingspan from 44 feet to less than 13 and was a valuable feature back in the days when hangar space was scarce. The fuselage/lift strut attach method is very interesting. Basically, the two lift struts converge and attach to a universal joint. The universal is then bolted to a bracket which allows

Part two of a series by David Stroud RAA Chapter 4928, Ottawa

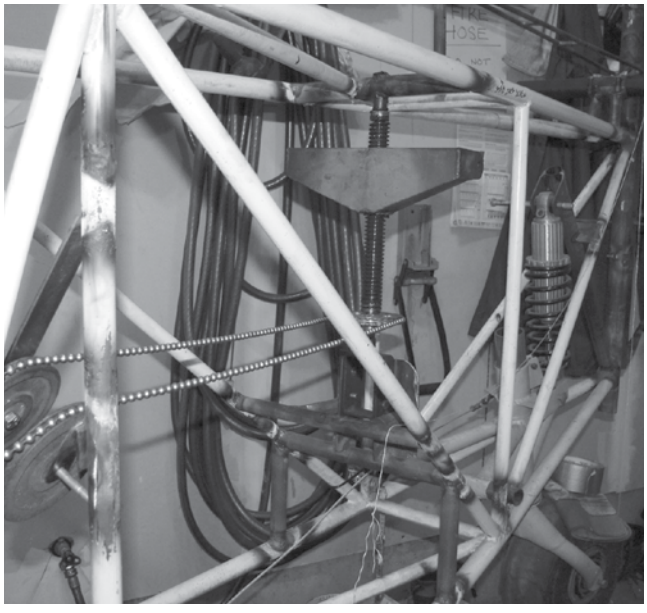
it to swivel aft ninety degrees and that bracket is though bolted to the fuselage via two tie rods which go all the way over to the other side and repeat the process. All is in tension from one side to the other.

Many parts needed to be machined and were way beyond the scope of my abilities. I was very fortunate to have a very good friend and machinist, Ron Kaufert. Sadly, Ron died last May but he did get most of those tough parts done. Often, we'd sit in some joint having a brew and draw up some parts on a napkin. He'd moan and groan a bit, offer some suggestions and have the part ready in a day or so. I don't think he charged me any more than $20 per hour. He made quite a contribution to the project and I won't ever forget that. I sure miss him. There'll be a long list of friends who have contributed to the building process, not the least of which is my late Father, Lt. Commander S.H. Stroud, RCN. I can still remember when my Brother and I complained of having nothing to do, he'd get us a box of nails, a hammer and some wood and we'd be busy for hours.

You can't build every part, so I got to travel a bit buying stuff. One favourite trip was to Norwalk, Ct. to Sikorsky field. A gent by the name of Harry Venek sold me the landing gear from his pile of Vultee BT-13 parts.



Above, the empennage is taking shape; left, the horizontal stabilizer nears completion. It's starting to look like an airplane!



Harry trained pilots in the BT down in Texas in WW2.

I smile when I think about the brake cylinders. I got some good info from a lad restoring Stearmans and he did me right. Stearmans frequently get BT brakes but it's tough to get the correct sized master cylinders volume wise to match the wheel cylinders. You can buy them from a dealer out in Kansas for about $600 each. Or, discover that they are brake cylinders from an old Ford F100 pickup and get new ones on eBay for $65. each !

The gear shocks were another matter and nothing suitable could be found so they got built up from new hydraulic cylinders and die return springs. The 1" diameter chrome shafting got replaced with pieces of sufficient length to accommodate the springs. Much interpolation and head scratching came up with the size and strength of the springs given the gross weight of about 4,000 pounds and planning on perhaps a nasty 3 g landing. The same process got me the right setup for my Christavia 12 years ago so hopefully it'll work here too. The tail wheel assembly had to be scratch built too. I did find a suitable yoke

Two men can unfold the wings in two minutes with no control linkages or fuel lines to reattach

and wheel assembly but the frame had to be built up. The tail wheel will be steerable but can be released to free swivel for ground handling.

I didn't get back to working on the wings like I said I would in the last article but kept working in the garage. The elevator trim system actuator finally got sorted out and we are running a 1/4" bead (ball) chain from front to rear. I got the vertical fin and rudder about 95% done and mounted. The horizontal stabilizer is done and I'm working on the elevators this right now. The Fairchild has a nice method of building empennage hinges. Instead of welding bushing stock directly to the spars, the offset drilled bushings get brazed into a strap like affair. Three sets of three straps make up the rudder hinges. The straps get temporarily bolted to the tube spars (1.5" .035 4130) , hinge pins get put in place and when all is lined up, the straps are tack welded in four places each to the spars. The beauty of this system is the elimination of welding the bushing stock directly to the spars which will warp things like crazy and can involve quite a bit of straightening and reaming to get things lined up again.

I did have some good fortune this summer when a very generous friend down in Pennsylvania, Marlin Horst gave me a surplus, partial fuselage from his Fairchild 71 restoration project. I was able to salvage and restore a genuine control column assembly and some other nice bits and pieces right out of about 1929. The control yoke assembly features some beautiful bronze castings. I managed to MIG weld my centre fuel tank too. It didn't come out too bad and will hold about 135 litres. The wing tanks will hold another 220 litres so endurance should

continued on page 33

Opposite, top, main gear shock strut, and the horizontal stabilizer adjustment via ball chain arrangement. Below, opposite, rudder hinge trial fit. Rather than welding bushing stock onto the spars, straps holding the bushings are temporarily bolted in place and later tack welded to the spars.

Above: rear spar swivel fitting at fuselage carry through member. Note original 1929 aileron actuator. Left, the Lift strut to fuselage attach point.

BUSHCADDY EXONERATED BY TRANSPORT SAFETY BOARD

The 1-2020 Aviation Safety Letter edited by Paul Marquis of Transport Canada ran an article about wing failures on BushCaddy aircraft, authored by an unnamed inspector from the Transport Safety Board. The author definitely had a personal agenda, namely that Transport Canada does not adequately oversee the Amateur Built category, and in his haste to make his case he named Bushcaddy several times as being involved in fatal crashes and structural failures. The problem is that there has never been any fatality in a Bushcaddy, nor has there ever been a structural failure. Besides misnaming the planes as Bushcaddys the author also claimed that Bushcaddys need a thicker spar web. RAA has asked TSB for the author's engineering credentials but to date they have sidestepped answering.

RAA contacted the owner of BushCaddy to find out more and was told that after this article there was a deluge of emails and phone calls at all hours from owners demanding answers about the kits that they had bought from BushCaddy. Everyone assumed that if the TSB had written it and the Aviation Safety Letter had published it, the article must be true. Nothing could have been further from the truth.

RAA also requested and received the original TSB document written in French and saw that it contained the registration marks of every plane named in the article. Paul Marquis had the article translated into English and had the marks deleted from the final copy, and he admitted that he had not checked any of the registrations. It took RAA two minutes with the online Transport Canada database to determine that not one of the planes was in fact a BushCaddy and we immediately brought this to the attention of TSB. TSB then rewrote the offending article, correctly leaving out any reference to BushCaddy. However there was nothing that sounded like an apology for the damage they had done. RAA then pressured Paul Marquis to delete the offending article from the online edition of the Aviation Safety Letter and this was done the next day, but with the statement that he had intended to do this all along. RAA also requested that the empty space be used for a retraction and an apology, and that the next issue of the Aviation Safety Letter also carry these.

The economy has been hard on private aviation and it is a shame that your tax dollars are being used by careless and thoughtless government employees to sink a good Canadian company. At BushCaddy the overhead continues and the employees all want to be paid. Meanwhile these government employees continue to draw their salaries and amass pensionable hours. If you hear anyone disparaging BushCaddy, please take the time to correct them. BushCaddy is a good Canadian manufacturer and they deserve to stay in business.

MEMBER PROJECTS

Larry Kokkonen has nearly completed the wings of his plansbuilt Pegazair, and is here seen checking the action of the retractable slats.

Below: Members of KW-RAA met to help Wayne Hadath install his RV-10 wings in prep for final inspection.

Stretching Aluminum

Gary Wolf

fig.1

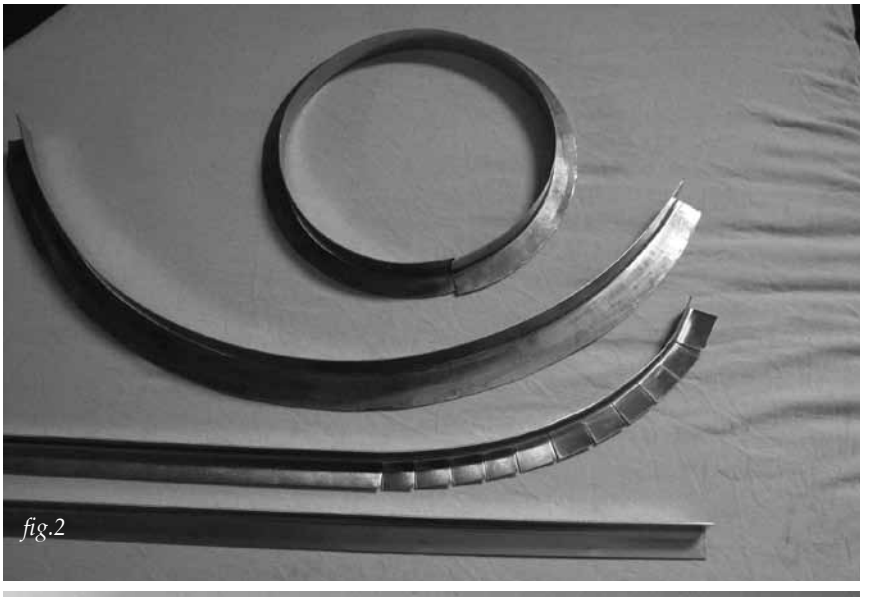


fig.2

fig.3

MANY AIRCRAFT REQUIRE a root fairing made from aluminum angle stock but they tell you to segment the flange to allow the angle to conform to the airfoil shape.

There is a better way...

With a mini English Wheel you can make these aluminum shapes quickly and accurately (fig2).

A trip to Princess will get you some $4.00 1/2" sealed bearings, hardware, and a cheap vice grip (fig 3). I already had a worn out pair so I used it. The spacers are optional if you can't get bearings and bolts that fit each other. These spacers were cut from some tubing. Also get a couple nuts (not shown) to fit the bolts.

Figure 4, opposite page: Find that chapter member who welds and get him to weld the bolt heads to the jaws of the vice grips. Make sure the bolts are parallel to each other. The nuts are then installed to position the bearings the same distance from the jaws.

Then have the member weld the bearings to the bolts, as in figure 5. Sealed bearings were chosen to keep splatter from the bearing races. Use an oilcan after welding to keep from burning the seals, then grind off any extra weld. The mini English Wheel is now complete.

Draw three lines on the aluminum angle to assist in tracking, figure 6. Adjust the vice grip to squeeze the aluminum ever so slightly. Usually people squeeze too tightly and this makes it hard to work. The wheels should roll freely.

fig.4

fig.5

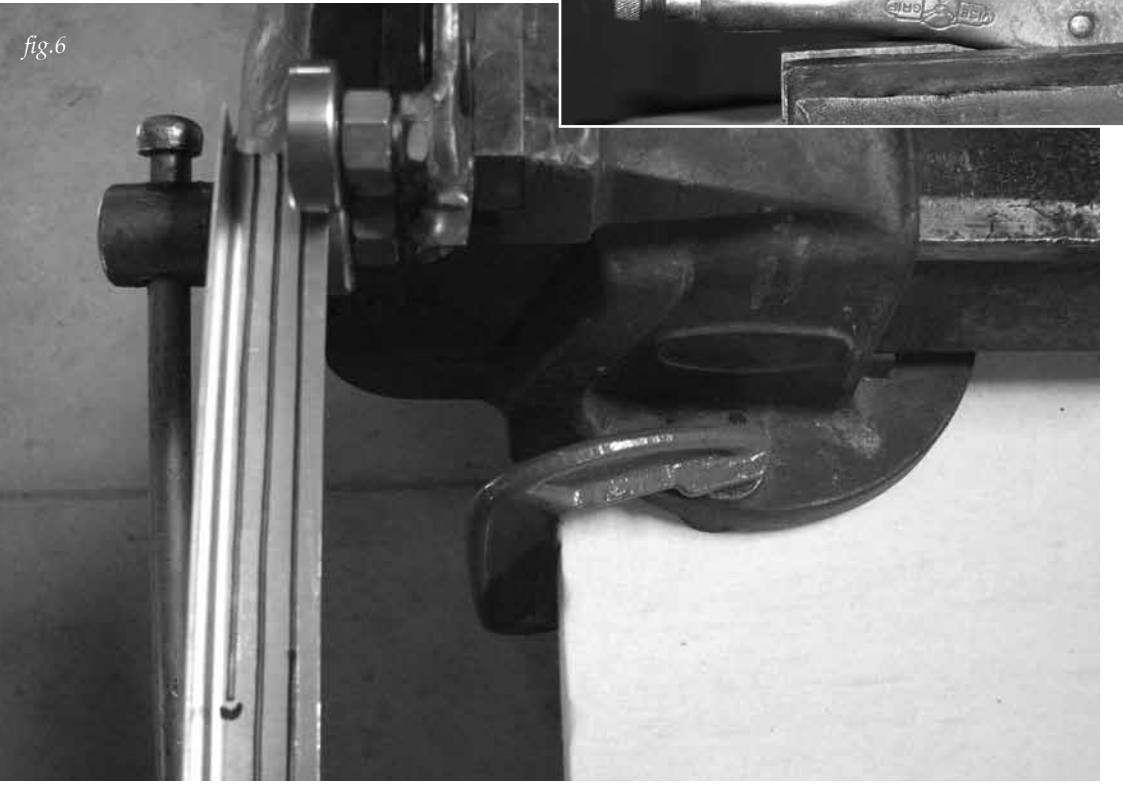


fig.6

The outer line (#1) is rolled first. More stretch is required at the perimeter so give it four passes. Then move to line #2 and give it two passes. Finally move to line #1 and give it one pass. It is important that on line #1 you get the centre of the bearing over the edge of the aluminum stock or it will not stretch.

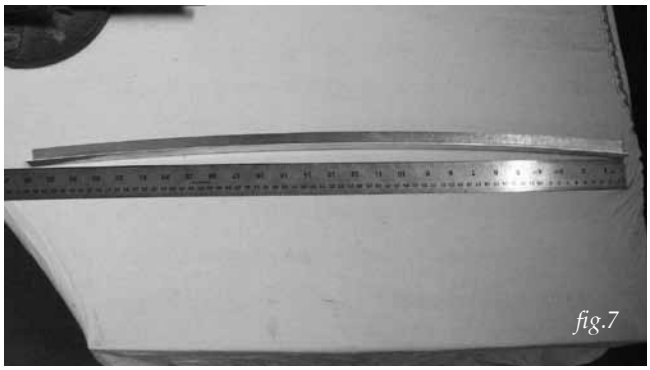


fig.7


fig.8

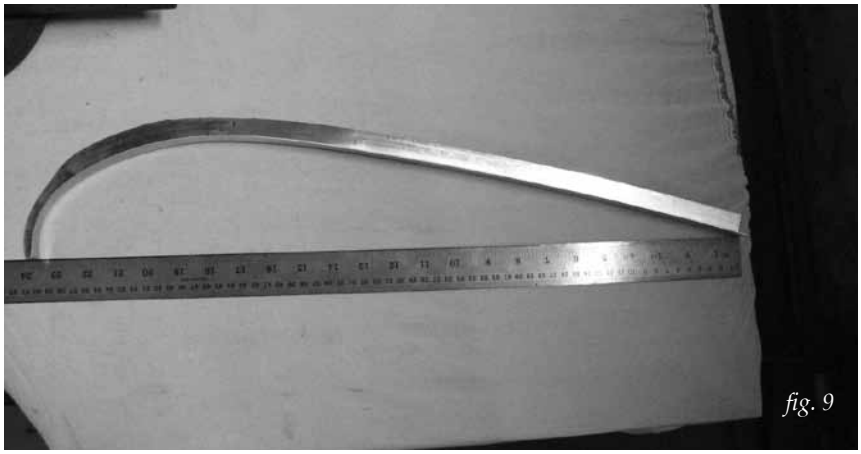


fig. 9

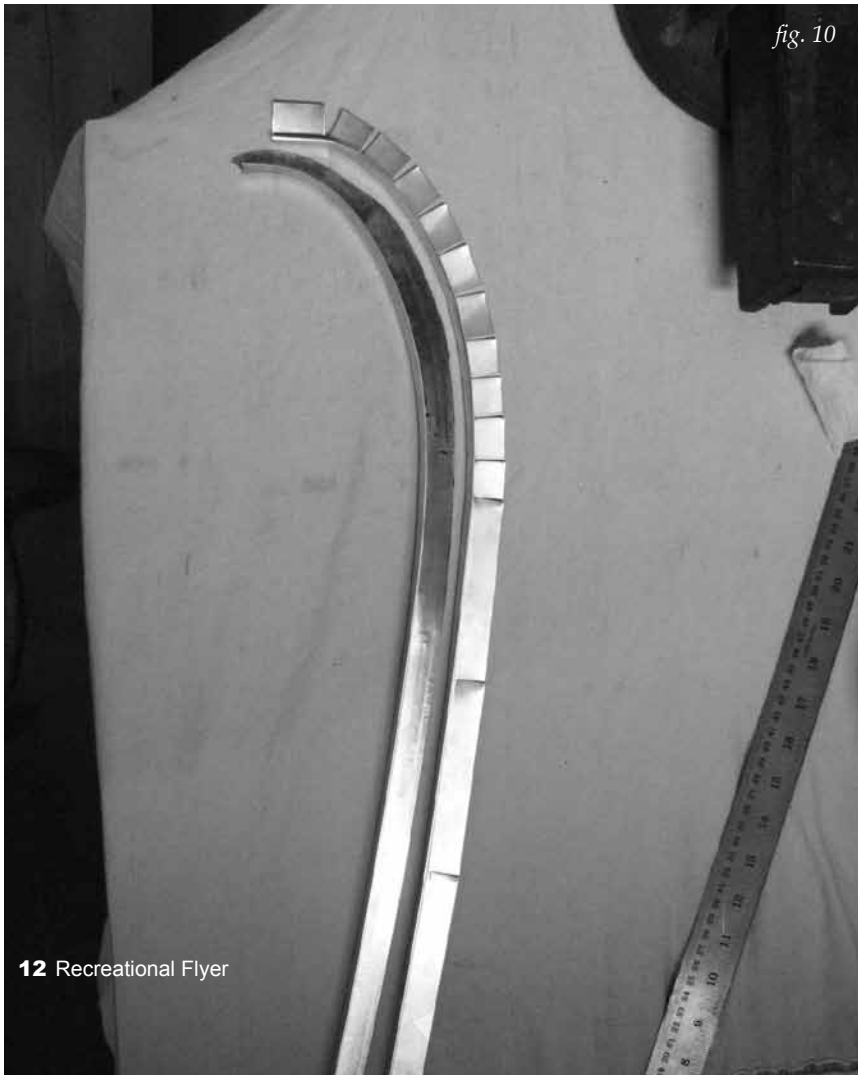


fig. 10

Figure 7: if you roll the material full length it will start to look like this. Extra passes (fig. 8) at the LH side produced more stretch, and an airfoil shape. Figure 9 shows that continued work on the LH side has produced some real stretch and the angle can really be made to wrap around the nose of an airfoil. Note that I trimmed the width of the flange a bit to reduce the amount of working necessary at the tightest radius.
By comparison, here is what the fairing would look like with snipped segments (fig.10).

Building an SE-5

C.R. "Gogi" Goguillot

ONCE UPON A TIME many years ago there were five west coast homebuilders who decided that it might be neat to build something different. Between the five they had already built and were flying a Maranda Hawk, Jodel D-11, Flybaby, Smith Termite and a Druine Turbi. During discussion they found that they all held a fondness for the World War 1 scout aircraft, the SE5a.

Although together they had considerable building experience, some even with a background in the aircraft industry, and others with years of designing and flying model aircraft, none had designed a "real airplane". The solution seemed to be to select a proven design and modify it to resemble an SE5a.

A British design, the Currie Wot, was an all wood biplane that seemed to fit the bill. So, a money order was dispatched for the plans. When in due course the drawings arrived, they were eagerly examined and compared to the required outlines of the SE5a. Alas, the Wot was, in the opinion of the group, complicated and bore virutally no resemblance to the desired aircraft.

The five original enthusiasts had now dwindled to three and the decision was made to build from "scratch". When construction started, the three enthusiasts became two: D.W. Dan McGowan, and

in quick succession the aircraft were featured on the covers of Sport Aviation, Air Progress, and Trade-A-Plane. At the same time, articles appeared in Sport Flying and many other aviation periodicals.

There were very few WW1 replicas flying at that time, so the mail began to bring in requests for plans. The plans at this point consisted of a box of sketches and notes that in some cases made no sense even to the designers.

About this time two things happened. QGM was sold to the Ontario Aviation Historical Society in Brampton, Ontario, and QGL was flown into the Pacific Ocean during an aerobatic sequence (MOT please read as "Unusual attitude test sequence").

The "designers" had a badly man-

There were few, if any original Canadian homebuilt plans on the market at that time and it was decided that the plans had to be professional quality or nothing.

yours truly. Two SE5a's were designed and built in the same shop and "mass productions" of the many parts and fittings required in any biplane allowed rapid progress. During the eighteen month project the "designers" spent many hours with manuals from the EAA and local libraries, solving the many problems involved in structural requirements, undercarriage placement, biplane wing geometry, etc. in order to produce an authentic looking, safe and managable replica aircraft.

In the spring of 1970 two prototypes, CF-QGM and CF-QGL were test flown and found to be "right on" - no design changes were required and the two replica SE5a's flew right off the drawing board.

But during 1970 and 1971 what had started as a project to build WW1 replicas for the private enjoyment of the owners began to get complicated. Both replicas were flown to Oshkosh in 1971 and won "Best all wood biplane". Then

gled aircraft to rebuild and also the need to produce a set of drawings.

Terrific! Rebuild QGL and produce the plans at the same time! Great, but neither of the designers had the foggiest idea of how to make up a proper set of construction drawings; more discussions.

There were few, if any original Canadian homebuilt plans on the market at that time and it was decided that the plans had to be professional quality or nothing.

Fate moves in mysterious ways. A third airplane nut appeared on the scenen, one Tony Swain, a professional aircraft draftsman. Tony became interested, had some time and offered to do the drawings "for a reasonable fee".

As QGL was rebuilt, rough drawings were given to Tony, who produced finished master drawings, returned them for checking, and then each was added to the growing pile.

The original target of fifteen or so

24" by 36" blueprints became thirty prints. Eight months and a few thousand dollars later the SE5a replica drawings were ready for distribution to the hundreds of eagerly awaiting customers.

Alas, the $100.00 price tag for the plans quickly separated the serious builders from the dreamers and the brand new "Replica Plans" company found itself with several thousand dollars worth of drawings and construction booklets with no customers.

Information packs were quickly produced and advertising started in a number of aviation periodicals and interest grew to a point where there are now plans in countries around the world. With the growing number of homebuilt aircraft directories available, plans orders continue to arrive steadily.

CF-QGM still flies in Ontario, QGL is owned by the Canadian Museum of Flight and Transportation in White Rock, B.C. *(now located at Langley Airport - Ed.).* C-GJNX was lost in a fire in Spokane in 1979. Many plans built SE5a's are flying in the U.S., New Zealand, England, and within the next few years they should be appearing in greater numbers as projects are completed. For more information contact: Replica Plans, P.O. Box 346, Yarrow, B.C. V0X 2A0 RAA

Editor's Note: Charles "Gogi" Goguillot passed away several years ago. He was a former president of the national RAA and a significant figure in the west coast amateur aircraft movement. Besides the SE-5, he built the Turbi that Chapter 85 still uses as a club aircraft, a Smith Termite and a Flybaby.

Top: the fake Vickers gun adds ambience. Centre, it's not hard to imagine the Red Baron in your sights; Bottom, the open cockpit lends itself to the best kind of fun flying.

Grinder Explosions

A few weeks ago a member of my chapter brought a copy of the Australian sport aviation magazine, with a letter to the editor from a fellow who had burnt himself severely when grinding some aluminum. Apparently there was a loud explosion and a huge orange flame, resulting in third degree burns to the builder. It appears that the fellow had inadvertently created Thermite by having previously ground some steel. Since on a daily basis, I alternately grind all sorts of materials on my belt grinder, I thought it might be advisable to check this out.

I did a search on Google for "Thermite" and was directed to a couple of papers on the subject, one from an anarchist's handbook, and the other from a science textbook site. They both explained that if finely-divided dry iron oxide is mixed in the correct proportions with aluminum powder, it produces the powerful explosive that is known as Thermite. The aluminum reduces the iron oxide to produce aluminum oxide and free iron, plus a lot of heat as the reaction is exothermic. It releases heat in amounts large enough to melt the iron immediately and to burn through steel hulls of ships and bank vaults, and in this case, the fellow's leg. Before you go out to buy more grinders to segregate your filings, you should know that it takes much more than a spark or flame to set off this reaction. Both references suggested a magnesium flare as being suitable to initiate the reaction, and they were quite specific about the proportions of rust and aluminum. I expect that in this case, the fellow must have previously been grinding magnesium, perhaps from a set of VW engine cases and inadvertently created the right conditions. Still, it gives one pause to think.

Editors note: Another danger exists when you grind aluminum on a bench grinder. The wheels will absorb the aluminum and become quickly saturated. The result is an imbalance and an unstable grinder wheel which can fly apart causing great harm to the operator. DO NOT GIND ALUMINUM WITH A STONE WHEEL!

Service d'inspection Représentant du Ministre-Aviation de Loisir (RM-AL)

Le RM-AL va tenir une session d'information aux Les Ailes Québecoises, Aéroport Jean Lesage, Québec, samedi le15 mai, 2010 de 13:00 à 16 :00 hres.

Toutes les personnes concernées par l'Aviation de Loisir sont invitées.

Sujets discutés

Mandat du RM-AL, Programme d'inspection

Règlementation

Lettre d'intention

Types d'inspection
Portion Majeur, (51%), Avant-Recouvrement, Finale

Demande d'Inspection, Préparation pour inspection, L'inspection
La masse de papier qui mène à l'Autorité de Vol

Maintien de la navigabilité (Carnet de Route, équipement avec calendrier, calibration)

Un buffet froid et des breuvages seront servis.

Si vous désirez des informations additionnelles, contactez moi à pierre-fournier@videotron.ca ou au (514) 645-4355

Controller: "FAR1234 confirm your type of aircraft. Are you an Airbus 330 or 340?"
Pilot: "A340 of course!"
Controller: "Then would you mind switching on the two other engines and give me a 1000 feet per minute, please?"

Transport Canada / Transports Canada

APPLICATION FOR AVIATION DOCUMENT BOOKLET

DEMANDE DE CARNET DE DOCUMENTS D'AVIATION

FOR OFFICIAL TRANSPORT CANADA USE ONLY

Do not attach Photograph

RÉSERVÉ À L'USAGE OFFICIEL DE TRANSPORTS CANADA

N'attachez pas la photo au formulaire de demande

Part A: Personal Information – Partie A : Renseignements personnels

Surname – Nom de famille	Licence/Permit Number Numéro du permis/de la licence
Given Name(s) – Prénom(s)	Date of Birth (yyyy - mm - dd) Date de naissance (aaaa-mm-jj)
Citizenship – Nationalité	Medical Category – Catégorie médicale
Address – Adresse	Last Medical (yyyy - mm - dd) Date du dernier examen médical (aaaa-mm-jj)
Address (Line 2) – Adresse (Ligne 2)	
City – Ville / Postal/Zip Code – Code postal	Gender – Sexe ☐ M ☐ F
Province/Territory/State – Province/Territoire/État	Country – Pays

Home Telephone Number – Numéro de téléphone (maison)	**Declaration** I solemnly declare that the photo enclosed is a true likeness of me and that all of the statements made in this application are true. **Déclaration** J'atteste solennellement l'authenticité de la photo ci-jointe et que toutes les déclarations contenues dans cette demande sont vraies.
Business Telephone Number – Numéro de téléphone (travail)	**Use Black or Blue ink only** **Veuillez utiliser de l'encre noire ou bleue seulement** Void if signature touches border – Demande nulle si la signature touche le cadre. Signature
E-Mail Address – Adresse de courriel	Date (yyyy - mm - dd)– Date (aaaa-mm-jj)

Part B: Verification of Photograph – Partie B : Vérification de la photo

Verified by — Surname – Vérifiée par — Nom	Verified by — Given Name(s) – Vérifiée par — Prénom(s)	
Home Telephone Number – Numéro de téléphone (maison)	Business Telephone Number – Numéro de téléphone (travail)	Occupation / Employer – Profession/Employeur
Address – Adresse	Licence/Delegation/Passport Number – Numéro de licence/de délégation/de passeport	

I have known the applicant personally for at least two years and attest to the applicant's identity. (Supporting document of identity is not required.)
Je connais personnellement le requérant depuis au moins deux ans et j'atteste son identité. (Une pièce d'identité supplémentaire n'est pas nécessaire.) ☐ or

I have **not** known the applicant personally for at least two years. I attest to the applicant's identity based on the supporting document below.
Je **ne** connais **pas** personnellement le requérant depuis au moins deux ans, mais j'atteste son identité en vertu de la pièce d'identité ci-dessous. ☐ ou

Supporting Document – Type de pièce d'identité	Serial Number – Numéro de série
Document Expiry Date (yyyy - mm - dd) – Date d'expiration du document (aaaa-mm-jj)	

Declaration I solemnly declare that the photo enclosed is a true likeness of the applicant and that all of the statements made in this application are true.	Déclaration J'atteste solennellement l'authenticité de la photo ci-jointe et que toutes les déclarations contenues dans la présente demande sont vraies.
Signature	Date (yyyy - mm - dd) – Date (aaaa-mm-jj)

Personal information provided to Transport Canada will be treated in accordance with the Privacy Act of Canada.
Les renseignements personnels transmis à Transports Canada seront traités conformément à la *Loi sur la protection des renseignements personnels* du Canada.

Part C: For Official Transport Canada use only – Partie C : Réservé à l'usage officiel de Transports Canada

FTAE Date (yyyy - mm - dd) – FVEA date (aaaa-mm-jj)	Signature
DAPLS Date (yyyy - mm - dd) – SDLPA date (aaaa-mm-jj)	Signature

26-0726 (0811-02)

Canada

APPLICATION GUIDELINES

This application form is to be used to obtain the new Aviation Document Booklet. More information may be found on the Transport Canada *Aviation Document Booklet* Web site (www.tc.gc.ca/civilaviation/general/personnel/changes.htm).

Submit the completed application form and the photograph to your Transport Canada regional licensing office. (http://www.tc.gc.ca/civilaviation/general/personnel/licensing.htm)

Part A -- Personal Information

- The mailing address that is indicated in Part A of this application will be considered as the new valid address for your file. In other words, consider the address in this application as a notification of a change of address, if applicable.

Submission of Photograph

- The photograph provided by the applicant must meet the specifications set out on the Transport Canada *Aviation Document Booklet* Web site (www.tc.gc.ca/civilaviation/general/personnel/changes.htm).
- ONE photograph must be submitted with the application. **Do not attach the photograph to the application form.**
- The photograph must have been taken by a commercial photographer within 12 months of the date shown on the application for the Aviation Document Booklet. The applicant shall bear the cost of the photograph.
- The back of the photograph must include the name and address of the photography studio, and the date that the photo was taken. A verifier must certify the photograph by writing the following on the back of the photograph: "*I certify this to be a true likeness of* ***(applicant's name)***." This statement must be clearly legible. The verifier shall then sign the back of the photograph. Stick-on labels are not accepted.

Part B --Verification of Photograph

The photograph verifier can be one of the following:

- a person who has a delegation of authority issued by the Minister of Transport to perform functions in support of civil aviation;
- a Transport Canada Civil Aviation employee assigned these duties by a manager; or
- a person who is considered to be an eligible guarantor pursuant to Passport Canada. See Passport Canada's Web site for eligible passport guarantors: www.pptc.gc.ca/cdn/section2.aspx?lang=eng.

The verifier must:

- certify the information on the application form by completing and signing the "*Verification of Photograph*" section on the application form.
- write the following on the back of the photograph: "*I certify this to be a true likeness of* ***(applicant's name)***." and sign the back of the photograph. Notarial seals must not be imprinted on the photograph.

If the applicant has not known the verifier for at least two years, the applicant should be prepared to provide the verifier with supporting documents to attest to the applicant's identity. The following are examples of acceptable supporting documents:

- Passport, driver's licence, permanent resident card, or any other Canadian federal or provincial government-issued photograph identification.

Allow 4 to 6 weeks to process.

Please visit the Transport Canada Aviation Document Booklet Web site at www.tc.gc.ca/civilaviation/general/personnel/changes.htm *for forms and up-to-date information.*

INSTRUCTIONS RELATIVES À LA DEMANDE

Le présent formulaire doit être rempli pour obtenir le nouveau carnet de documents d'aviation. Vous trouverez de plus amples renseignements sur le site Web *Carnet de documents d'aviation* de Transports Canada (www.tc.gc.ca/aviationcivile/generale/personnel/changements.htm).

Faire parvenir le formulaire de demande rempli ainsi que la photo d'identité à votre bureau régional de délivrance des licences de Transport Canada (http://www.tc.gc.ca/aviationcivile/generale/personnel/licenses.htm)

Partie A -- Renseignements personnels

- L'adresse postale indiquée à la partie A du présent formulaire sera considérée comme la nouvelle adresse valide pour votre dossier. En d'autres termes, elle doit être considérée comme un avis de changement d'adresse, le cas échéant.

Photo

- La photo fournie par le requérant doit satisfaire aux spécifications qui sont énumérées sur le site Web des *Carnets de documents d'aviation* de Transports Canada (www.tc.gc.ca/aviationcivile/generale/personnel/changements.htm).
- UNE photo doit être envoyée avec la demande. **Ne l'attachez pas au formulaire de demande de quelque façon que ce soit.**
- Un photographe professionnel doit avoir pris la photo du requérant au cours des 12 mois précédant la date indiquée sur le formulaire de demande du carnet de documents d'aviation. Les photos sont aux frais du répondant.
- Le nom et l'adresse du studio de photographie et la date à laquelle la photo a été prise doivent figurer au verso de la photo. De plus, un vérificateur doit certifier l'authenticité de la photo en inscrivant au verso : « J'atteste l'authenticité de cette photo de **(nom du requérant)** » et en signant. Cette déclaration doit être lisible. Des étiquettes autocollantes ne sont pas acceptées.

Partie B -- Vérification de la photo

Le vérificateur de la photo peut être l'une ou l'autre des personnes suivantes :

- Quelqu'un qui détient une délégation de pouvoirs délivrée par le ministre des Transports afin d'exécuter des fonctions visant à appuyer l'aviation civile.
- Un employé de l'Aviation civile de Transports Canada auquel un gestionnaire a assigné ces fonctions.
- Un répondant canadien admissible pour les passeports. Vous pouvez vous procurer la liste des répondants admissibles sur le site Web de Passeport Canada à l'adresse : www.pptc.gc.ca/cdn/section2.aspx?lang=fra.

Le vérificateur doit :

- Authentifier les renseignements inscrits sur le formulaire de demande en remplissant et en signant la partie « Vérification de la photo » du formulaire de demande.
- Inscrire au verso de la photo : « J'atteste l'authenticité de cette photo de (nom du requérant) » et y apposer sa signature. Aucun sceau notarial ne doit être apposé sur les photos.

Si le requérant ne connaît pas le vérificateur depuis au moins deux ans, il doit être prêt à lui fournir des pièces d'identité supplémentaires pour attester son identité. Les documents suivants, entre autres, sont acceptés :

- Passeport, permis de conduire, carte de résidence permanente ou toute autre pièce d'identité avec photo délivrée par un gouvernement canadien, qu'il soit provincial ou fédéral.

Comptez quatre à six semaines pour le traitement de la demande.

Vous trouverez des formulaires et des renseignements à jour sur le site Web des Carnet de documents d'aviation *de Transports Canada à l'adresse :* www.tc.gc.ca/aviationcivile/generale/personnel/changements.htm.

Across Canada

RAA Chapters in Action

Saskatchewan

The Saskatchewan Chapter may seem quiet, but we're really not! Our past summer saw weekly Sunday flyin breakfasts at the club hangar in Martensville and a few different flyins to Marcelin, Spiritwood and Unity. There was also a fair crew that made the trek to Oshkosh this year. The weather was 'flight approved' at all but the Marcelin flyin where some rain soaked the ground but none of the spirits!

The fall season started cold but was stretched well into November with mild flying weather...much to everyone's enjoyment! Many people were out for impromptu flights here and there including a group that flew from Saskatoon to Unity for coffee one weekend. Then the winter finally hit and the first winter blizzard of 2010 hit us January 22 - 24th. This meant our plans for our annual post-Christmas joint RAA/COPA Christmas party for the two local clubs was cancelled.

Our last meeting was held in February and it's looking like another great season. We're planning a steak night fundraiser on April 1 to fund our club activities and hangar operations. During the meeting we congratulated Cecil Dawe on the completion of his BushCaddy. His first flight occur in November 2009! Congrats Cecil! He was presented with a plaque honouring the occasion that will now adorn our club walls and maybe give the rest of us some motivation to join the wall of fame. The meeting ended off with a rousing game of Aviation Trivia (this time on Commercial Passenger planes)...for those that think they know their planes...this is a great test! Until next time, safe flying!

SK RAA President Brian Caithcart presenting Cecil Dawe a plaque celebrating the completion of his BushCaddy project. Happy flying Cecil!

Hi! I'm Laura Drinkwater, the RAA SK Director. I'm new to the post so was asked to say a few words about who I am. My interest in aviation began a few years ago when my husband, Kevin, convinced me we should build a Murphy Moose. About the same time, we joined the local RAA chapter and now share responsibility for the club newsletter. The Moose build has been delayed on the way for various projects but we keep busy in other aviation ways to keep the project alive. I am currently working towards my private pilot's license and we try and get up in the air as much as we can with our little family in our Cessna 170B. That's about all for me. See you in the air!

Saskatchewan RAA members and families at the front gates of EAA AirVenture 2009. Glatts, Drinkwaters, Hewletts and Halsalls.

RAA London/St.Thomas

At the January meeting, long time member Jerry Trimble gave a presentation. Jerry is a retired school teacher and aircraft mechanic who had witnessed and repaired a number of failures over his career. He had the foresight to save some of the more unique failed parts and this made for a very interesting evening.

A number of parts were distributed among the members along with a corresponding answer sheet to describe the failures observed. The type of problems ranged from the obvious to the very subtle. Threads that did not advance, a seized tachometer cable, poor weld jobs, good weld jobs, broken tail wheel springs, problems with forged pistons and, silver solder used on oil gear teeth were a few of the problems.

The interesting part was listening to Jerry explain each of the failures and in some cases give a synopsis of the circumstances under which it occurred. Makes one realize the importance of being very diligent when inspecting one's aircraft. Very discreet problems can lead to megadollar repairs, or worse. A poll was not taken afterwards to see which members had scored the highest mark, but Eric Bartlett seemed to hit the nail on the head with most of the answers.

On December 28th our long-time member Ross Whitney celebrated his 80th birthday. On Sunday December 27th an open house was held at the Green Hills Golf Club in Lambeth to mark this occasion. At this event, friends from the aviation community, Lambeth United Church, Armo Tool, the New Horizon Band and others turned out to wish Ross many happy returns. Prior to this celebration, Chris Eaves, (present owner of the Glasair), Cor Wester, (present owner of the Pazmany PL2), and George Whitney arranged to take photographs of the three aircraft that Ross has constructed over the years. The Pazmany first flew in 1978, the Glasair in 1991, and the Glastar in 2001.

At the February meeting, Angus then introduced the first guest speaker; Paul Riedlinger of Fisher Flying Products. A 14 minute video of the company's products was shown outlining the several models of all-wood aircraft manufactured by FFP. Customers can purchase plans only, full airframe kits or partial kits. The company is currently located in Woodbridge but will soon be relocating to a bigger facility in Brampton. Business has been very brisk for FFP and they are currently looking for full or part time woodworkers to help in reducing the backlog of orders. Web address is www.fisherflying.com.

The next speaker was Glen Jones of Parker Plastics whose specialty is custom fabrication of acrylic, lexan, and UMHW parts. Glen described the capabilities of his company and some of the uses that the different materials are best suited for. He described how to cut, sand & glue acrylic and the problems that are encountered when molding it. They have CNC capabilities and are willing to work to customer specs. They are located on Clarke Road in London and can be contacted at parkerplastics@bellnet.ca.

Ottawa - Rideau

Dave Stroud opened the meeting and thanked all those who came. Special thanks to those who brought goodies for the meeting. He further indicated that he would be showing the additional work done on his aircraft after the meeting.

Vic – Education/Event organizer - stated that he would put together an article for the next news letter on the Thorp aircraft which he hopes to get back into the air one of these days. At the same time he challenged all the other members to do something similar, thereby making the news letter more interesting to all. The winter fly-in needs to be put in C.O.P.A. It is to take place the 1st Saturday In March which would be the 6th there was discussion about a conflict with Mo's fly in being the same date but historically his fly-in in the last of February.

Ulrich indicated that the Chapter is in good financial shape. He circulated the monthly statement and made available copies for anyone who wished it. Bill Reed spent 3 of 5 days at the C.A.R.A.C. meetings and gave an interesting account of the possible changes coming up in aviation. Mike O'Leary donated a number of chairs to the chapter clubhouse were delivered to Dave's house by Ron Johnston. Everyone had a chance to see the prog-

Right: RAA Director Ed Perl attended the fabric seminar with son Brahm, a commercial bush pilot. Left, RAA recently sponsored a Fabric Seminar with the Tiger Boys of Guelph Ontario. Here Tom Dietrich explains to Michel Tondreau the Randolph process that will be used on the rudder of his Fisher 101.

ress on Dave's project.

By now most of you have heard about Andrew Phillips' tragic accident. Our thoughts and prayers are with those close to him. I know that Andrew was a fine example of a person committed to family life while also taking the time to participate in Amateur Aviation at our very important level. His abilities and willingness to help anyone shines on in our memories.

We'll surely miss him, that friendly smile and a sense of happiness that he shared with us all.

David Stroud

Scarborough/Markham

We extend our thanks to Eric Dumigan (www.airic.ca, AIRIC <info@airic.ca>) for his talk to us at our November meeting. Eric showed us a great many excellent pictures taken at a variety of airshows (Wings & Wheels, Red Bull Air Race, Thunder Over Michigan, shows at Windsor, Brantford, Brampton, etc.). He has taken these pictures as a passenger in many different aircraft under curious circumstances, and explained some of the difficulties and the equipment he uses. There are more of his pictures in the current (January) issue of COPA Flight. Thank you, Eric, for introducing us to some details of aviation photography.

Eighteen of our Chapter members attended the Christmas Party at the Sisters Restaurant; with their guests, the total number was 32. The separate room made the event more enjoyable. Your Executive would welcome comments, both positive and negative, about possible venues for the future.

Flamborough

RAA Flamborough, for those who don't know it, is a small grass strip near Flamborough Centre just north of Waterdown ON. During the winter months there is no flying as, at the present time, nobody is flying skis. Lots of activity in the hangars, however, particularly on Tuesdays and Saturdays when things start to hum. Member Jim Anderson, who has almost finished his Glastar, but keeps gettting behind a little from all of the time he puts in helping others to get their projects moving, recently purchased from a builder in Naples FL an 85% replica of the WW1 fighter SE5A. Jim's brother has time on an SE5A so will fly the machine up when the weather becomes suitable.This machine has many special features and hopefully we can spotlight it in an article during the summer.

RAA Chapter 85 (Vancouver)

President Tim called the meeting to order at 19:42. 37 persons attended.

Membership: Rob reported we have 79 members as of tonight. Renewals are open for 2010. All chapter members must be national RAAC members. Only one family member need be a national member. Vice-President: The 2009 Awards Banquet will be held at the Terrace Room at the Delta Town and Country Inn on 20 March 2010, starting at 18:30. Banquet tickets $5.00/person. 68 tickets have been sold. A guest speaker (Harry Hardy) will be at the banquet He was a Typhoon pilot during WWII, and should provide an entertaining presentation. The banquet is also a way to celebrate the rebuild of the Round House.

The Turbi flew 11.1 hours in January. It will be down for servicing during the Olympics.

DapCom: Delta Airpark is now closed until the 25th of March. It is possible to return to Delta with a permit and flight plan. Dapcom is going to speak on behalf of the RAA to renew

continued on page 36

The original Zenith 701 was designed as an ultralight go-anywhere all metal bush plane that could be plans built by anyone with a 4 ft tabletop bending brake and a pair of snips. It was rarely described as a thing of beauty but so well does it fulfill its mission that these planes are found all over the world. They are inexpensive to construct, and because of their leading edge slats they can get in and out of extremely *short patches of clear ground.*

ELEVATED:

Angus Watt's CH-750

WITH THE ADVENT of the Light Sport category in the US, Chris Heintz saw the need for an updated version, something with a larger cabin, greater payload, and the ability to use an array of four stroke engines. The CH 750 was the result and its lineage is visually apparent but while the new plane resembles the 701 it is almost completely different in construction. CNC fabrication methods have made it possible to simplify the design, speed up the construction, and end up with a larger and faster plane at only a slight weight penalty.

The CH 750 has a wider and longer cabin with adjustable seats and luggage space for camping gear and a week's supplies. The fuselage is longer and the horizontal flying surfaces have greater spans, and the only part interchangeable with the 701 is the signature Zenith all-flying rudder. Formerly the skins were all .016" and they are now .020 to handle the greater mass of the range of possible four stroke engines and the 1320 pound gross weight on wheels, 1430 on floats.

Chris Heintz correctly surmised that the US Light Sport category would be attractive to aging American pilots who wanted to bargain down to their Sport Pilot category that allows a valid driver's license to be used as proof of medical. These pilots would want to fly behind a familiar powerplant with which their mechanics would be familiar, so Continental put the O-200 on a diet and shaved nearly 40 pounds from the old standby engine. In

the US this is the engine of choice for the CH 750, but in Canada the preference is for Rotax 912S and Jabiru 3300 six cylinder.

Zenith's 701 was notable for its combination of leading edge slats and full length Junkers flaperons. These allow a higher wing loading than is usual for light planes because the slats and flaperons combine at high angles of attack to provide a lift coefficient of over 3. This wing loading is appreciated on gusty days when a conventional light plane will be bouncing around in the air, while the 701 will be stable.

The CH 750 has the same flat bottomed high camber airfoil but it places the leading edge slats at a flatter angle, while the flaperons have one inch more chord, resulting in 2" greater overall chord, now 58". The new wing's 8" tall main spar now comes completely built and has a thicker shear web, .032" vs .025, and spar caps of 1" angle instead of the 701's 3/4".

In the CH 750 kit Zenith uses their CNC machinery to drill all wing, control, and tail skins, plus they drill the mating holes for the spars and ribs. The spars and ribs also have one side match hole for quick assembly but Zenith leaves the top spar cap and rib flanges to be drilled by the builder, a concession to the requirement for the builder to do 51% of the work. The tail goes together the same way with one side predrilled and the other to be done by the builder.

The leading edge slats have always been the defining element of the Zenith 701 and they have also been the devil to build, normally taking a few weeks per side to jig and align, assemble, and finally rivet. Zenith has now predrilled every part of the flaperons and a full set can be completed in a weekend, a much appreciated timesaver.

The Junkers flaperons are unique in that they are split halfway down their length and joined by splice plates. The CH 750 has no washout in the wing so it can be final-assembled on a flat table. Washout is provided by the flaperons themselves with the outer sections being at a lower angle of incidence than the inner sections. As before, the full length flaperons are actuated by pushrods that go to the reinforced root rib.

The horizontal stab is unusual in that it is an asymmetric inverted airfoil. The purpose of the stab is to provide downforce to counter the pitching moment of the main wing, and an inverted airfoil can provide this downforce with less incidence so it will have less drag. New is a servo actuated full length adjustable trim tab that is fitted to one side of the elevator. Optional are VG's that may be riveted to the lower edge of the elevator to lower the stall speed to the high 20's.

The all-flying rudder is also common to Zenith designs and the one on the CH 750 comes straight from the

701. An all-flying rudder is lighter and much simpler to build than a conventional fin and rudder assembly. Some have asked how a plane with an all-flying rudder can have such good yaw stability and Heintz explains that the slab side of the fuselage provides the yaw stability normally supplied by a vertical fin.

The fuselage of the CH 750 has been considerably enlarged from the 701. The firewall comes straight from the 601 series and is 8" wider, and it is now 6" further forward to provide lots of legroom for tall pilots. Although most of the fuselage structure is aluminum, the flight and landing loads are taken through steel components. The forward wing carrythrough is part of the 4130 tube weldment that includes the upper cabin longerons and the forward "seaplane" braces that marry into the centre support of the motor mount.

The streamlined lift struts and landing gear are attached to steel weldments that bolt into the cabin's lower longerons. These are larger than those

on the 701 because the aluminum gear itself is now 6" wide instead of 3-1/4" to accommodate the considerably higher gross weight.

Besides being longer, the cabin is now 42"wide at the shoulders and with the swing-up bubble doors the elbow room is 50". At the panel the cockpit is now 38" wide instead of the 701's 34" making it much easier to get in and out of the plane. The seats are now separate pieces, no longer part of the structure as they were in the 701, and Zenith has made them fore and aft adjustable. It takes a wrench to do this but it is now possible to fit a range of pilots comfortably.

As is common in Zenith aircraft the CH 750 has a single stick control and dual throttles on the panel. Pilots fly with the right hand on the stick and left on the throttle. Instructors ▶

Chris Heintz saw the need for an updated version, something with a larger cabin, greater payload, and the ability to use an array of four stroke engines.

When he retired in October 2009 from his military career, Angus Watt held the rank of Lieutenant General, Chief of Air Staff, and he commanded Canada's Air Force. Most of his Air Force flying career had been in helicopters, usually sea Kings and Jet Rangers, so when he decided to build his own plane he went looking for one with good STOL characteristics. After surveying the market he decided that an all metal design would be most useful, and of these the new Zenith CH 750 best fit the bill. This stressed skin aluminum plane has ample leg and shoulder room plus a large luggage area, and with the clear bubble doors and cabin roof it offers the visibility of a helicopter. Most of the parts in the CH 750 kit feature CNC match hole technology so it goes together quickly, and alignment of critical components is easily achieved. Angus was looking for a kit that could quickly become an airplane and in January 2010 he made his first flight. Within two weeks he had flown off the 25 hours and made his last takeoff for awhile from CYKF enroute to his home base near Ottawa. Many of us walked out to the flight line on that cold day to watch his takeoff and to hear the sweet sound of the six cylinder Jabiru at full throttle.

do the opposite. Rudder pedals are provided for both sides but brakes are only on the left unless optional right side master cylinders are ordered. Elevator and flaperon trim are now by electric servo motors that are included with the kit.

The cabin now has great sight lines, courtesy the large bubble windshield, clear bubble doors, and the clear cabin roof and generously-sized luggage area windows. The panel is less than full cockpit width, providing a useful view down each side of the nose when landing.

The tailcone of the CH 750 is made very light because it is required to handle only the flight loads of the empennage. There is a diaphragm bulkhead at the intersection of the cabin and the tailcone, and two more simple rectangular bulkheads at the very rear to which the stab brackets attach. The rest of the tailcone is simply four triangles of .020" sheet internally reinforced by .025 aluminum angle stock riveted in a truss pattern. New for the CH 750 are extruded aluminum longerons that have generously radiused corners and recessed flats to accept the sheet metal.

The main landing gear is formed from a plank of aluminum, and is sandwiched in rubber sheet where it is clamped to the fuselage gearbox. Brakes are by Matco with two calipers per side, and the aluminum wheels carry large tundra tires suitable for rough field operations. The nosegear

The handling of the plane is responsive - and it's a lot of fun to fly.

is the usual Zenith 2" steel tube suspended by a bungee. At the bottom is an aluminum fork that holds an aluminum wheel and tundra tire. The nose gear strut tube runs in hard plastic bushes and is directly steered by links from the rudder pedals.

Angus Watt began his build mid-October 2009 when he first opened the collection of plywood crates at the Can-Zac hangar at Waterloo Airport. Working weekdays, and with time off for Christmas he made his first flight late in January 2010, a scant three months after beginning. He found that working with the help of Mark Townsend and Ryan Gomes of Can-Zac Aviation meant that any snags could be immediately remedied. He found that the manual is still a work in progress but fortunately the kit comes with complete CAD-drawn construction plans. After all the major components were built the alignment of the plane was done the old-fashioned way with strings, levels, and plumb bobs. Having a level floor and a few extra hands made this a simple process.

The firewall forward package was supplied by Lancaster Aero, the Canadian distributor for Jabiru of Australia. The 120 hp aircooled six cylinder 3300 cc direct drive engine is CNC machined from aluminum billets and is supplied as a complete firewall forward package including the mount and the cowl. The Jabiru is carbureted by a single Bing CV

updraft carb that has automatic altitude compensation so no mixture control is required. Below the oilpan is a transverse stainless steel muffler with heat muffs for carb and cabin heat. Angus used the whole firewall forward package except that he replaced the Jabiru-supplied firewall fuel fitting with one made from an aluminum air manifold that was bought at Princess Auto. He then chose a ground adjustable Sensenich 64" composite prop to match the power curve of the Jabiru. The firewall forward required one week, with much of the time spent on fitting the cowling.

The panel of an Amateur-Built airplane is the choice of the builder and Angus decided to go with a glass cockpit. He ordered a Dynon Flight Deck 180, Micro Air 760 radio with intercom, Bendix Aviator GPS, Garmin 327 Mode C transponder, and an ACK 121.5 ELT, all from Aircraft Spruce. Cutting and fitting the panel took two days' work with an Olfa knife for the rectangular holes and a panel punch for the round instruments. The Dynon provides almost all engine and flight information including angle of attack, however it was necessary to install a standard magnetic compass to meet the Amateur Built regulations. The CH 750 kit comes with a fuel selector but Angus replaced it with an Andair unit prominently mounted ahead of the centre stick.

The cockpit of Angus' plane is sparse and efficient. The kit-supplied seat belts were installed and Angus ordered a set of Can Zac-manufactured seat cushions for the aluminum seats. He also installed some flush D-rings for luggage restraint and finished the rest of the cockpit with paint.

The colour scheme of a plane is always a personal expression, and Angus chose a military theme. He requested the paint codes for the military helicopters and had his plane painted in the official colours. This paint scheme is very visible, even on a hazy day, and stands out well in the circuit.

The weight and balance was performed using the RAA electronic scales. The factory claimed weight ▶

CH-750 FACTOIDS

SPECIFICATIONS (Based on factory prototype, equipped with 100 hp Continantal 0-200 powerplant)		
WING SPAN	29 FT. 9 In.	9.1 m.
HEIGHT (rudder tip)	8 Ft. 8 In.	2.6 m.
WING AREA	144 SQ.FT.	13.4 m.sq.
WING CHORD	4 Ft. 10 In.	1.5 m.
LENGTH	21 Ft. 10 In.	6.7 m.
HORIZONTAL TAIL SPAN	8 Ft. 5 In.	2.6 m.
HORIZONTAL TAIL AREA	22.2 Sq. Ft.	2.0 m.sq.
EMPTY WEIGHT	775 LBS.	350 kg.
GROSS WEIGHT	1,320 LBS.	600 kg.
USEFUL LOAD	545 LBS.	250 kg.
WING LOADING	9.15 LBS/FT²	44.8 m²
POWER LOADING	13.2 LBS/BHP	6.0 kg/BHP
DESIGN LOAD FACTOR (ultimate)	+6 G / -3G	
CABIN WIDTH (shoulders)	42 INCHES	100 cm.
CABIN WIDTH (optional bubble doors)	50 INCHES	1.27 m.
FUEL CAPACITY (std., dual wing tanks)	24 US Gallons (2 x 12 gal.)	90 liters (2 x 45 liters)
STD. RANGE	400 miles	710 km.
ENDURANCE	5 Hours	5 Hours

PERFORMANCE	@ gross weight	
TAKE-OFF ROLL	100 Feet	30 m.
LANDING ROLL	125 Feet	38 m.
MAX. CRUISE, Sea Level	100 MPH	162 km/h
NEVER EXCEED SPEED	125 MPH	200 km/h
STALL, flaps down	35 MPH	56 km/h
RATE OF CLIMB	1,000 fpm	5.1 m/s
SERVICE CEILING	14,000+ feet	4,200+ m.

The CH 750 is the perfect plane for exploring and camping off the beaten path...

is 750 pounds for a bare and empty plane, and this plane weighed 807 with paint, extinguisher, and ELT. The CG range is 280-500mm from the leading edge slat and this plane came out at 412mm. Fuel and crew are both near the middle of the CG range and 150 pounds of luggage and camping gear can be stowed behind the seats and the plane will still be within the CG envelope.

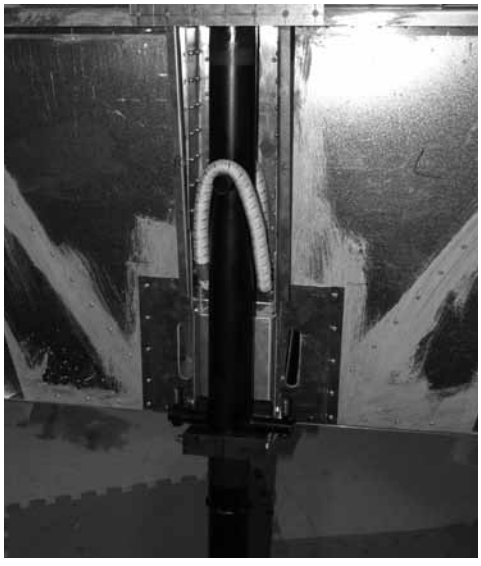
First flight of a newly built plane can be a surprise but on January 20th, 2010 the only unexpected event was that the vox of the radio was set too high, and on first climbout it was difficult to hear the tower. Other than that everything went smoothly. Takeoff is simple- just leave the stick neutral and push in the throttle. The CH 750 will then leave the ground with 100 ft of roll. With practice the landing may be achieved within 150 ft, so a 500 ft strip would be enough for most pilots and 1000 ft should be enough for anyone.

The factory claims a 100 mph cruise and Angus' Dynon confirms this with 85 knots airspeed. A 70 knot climb appears to be a good compromise between engine cooling and climb rate. In the circuit Angus uses a 70 knot approach to keep moving with the traffic and bleeds this back to 60 over the numbers. At this speed it is still flying and it is necessary to lift the nose a bit and pull back on the power or it will not land. Stall clean is 38 knots and with flaperons it drops to 32, so landing speeds could be slower as long as the pilot maintains some power to moderate the sink rate.

Stick forces are balanced and light but not oversensitive. The rudder is effective and there is plenty of authority for a sideslip. When flying solo Angus finds that the left wing is slightly heavy, not unusual for a side by side plane, but very little right stick will counter this. The CH 750 follows its nose well and the pilot can almost ignore rudder except for crosswind landings. The handling of the plane is responsive and it is a lot of fun to fly. The stall is a non-event except that the sink rate increases markedly, but the flaperons give good roll control even in the stall.

The stock wing tanks carry 12 gallons per side but Angus chose the optional 15 gallon units, and with the Jabiru his range is 5.5 hours plus reserve, over 400 nautical miles. Angus and his wife plan to use their new plane for local trips and cross countries. The Ottawa area is dotted with rural strips and bodies of water so a set of floats are planned for the future. The CH 750 is the perfect plane for exploring and camping off the beaten path.

For more information: Zenith's website: www.zenithair.com. The Canadian distributor is Can Zac Aviation www.canzacaviation.com



Top, left: This steel weldment holds the landing gear and takes the lift strut loads into the fuselage structure
Above: The nose gear is suspended by a bungee and steered by links from the rudder pedals
Left, the inverted airfoil stab produces downforce with less drag than a symmetrical airfoil

Cartesian Tube

Imagine trying to fishmouth 72 tubes with watertight profiles to form this ball. For Don VanRaay of VR3 Engineering it is simple, using the machinery and program that he has designed. VR3 now offers an extensive line of chrome-moly fuselage kits and engine mounts, all profiled to machine tolerances. Don VanRaay has done for tube construction what CNC punching and forming has done for sheet metal planes, putting the accuracy into the part so that in most cases there is no need for a jig. Many of the Red Bull aerobatic aircraft are built from tube kits manufactured by VR3.

Recently Don has added a CNC tube bender to his roster of machines and can now produce prebent parts with the ends already fishmouthed. This new process was necessary to fill the orders for engine mounts that usually have a lot of formed tubes. Besides aircraft parts, VR3 manufactures architectural components such as handrails for stairways, and produces a line of chassis and roll bars for race cars.

www.cartesiantube.com
519-273-6660

Many fuselages and motor mounts have bent parts with profiled ends. VR3 can now supply these ready to drop into the assembly, ready to be tack welded.

Above: Seventy-two pieces like this are cut to machine accuracy to produce watertight joints. Imagine trying to do this with snips and grinders.

Engine Preheater

If your hangar has 110 volts with a 15 amp fuse an engine preheater can be simply made using parts from a hardware store. Angus Watt chose a U-Line portable milkhouse heater, model H-2308, but any heater with a fan could be adapted. A visit to Home Depot's aircraft preheating aisle produced a series of takeoffs and elbows, and a couple hours later Angus had an engine preheater. The ducting is slipped into the lower engine cowling and half an hour will preheat the engine.

Some Tips on Preparing for Downtime

Meinold Rüther

Engine:

Remove the bottom plugs on horizontally opposed engines and squirt a short burst of liquid oil based lube *(not WD-40! Use LPS-2, an aviation based lubricant. WD-40 contains ethanol and isn't good for use with aluminum)* aimed at the upper cylinder wall (2 or 3 count) through the spark-plug hole. Turn the engine over by hand about two revolutions to distribute the oil coating. Repeat for a second time, reinstall the plugs to proper specs. Close the throttle and fit a tennis ball or bottom end first, snug-fitting styrofoam cup. This will prevent the entrance of damp air during night cool-down from entering the cylinders. Turn over 1 1/2 revolutions per month.

On radial engines, remove the forward facing plugs and use the same oil coating method plus give a second oil coating to the forward facing cylinder walls by using a spray-can straw with a "U" reverse nozzle (see pictures). Reinstall plugs to the proper specifications and close the throttle.

Airframe:

Undercarriage Oleo Equipped aircraft:

Extend the oleos as much as possible by lifting the wingtips one at a time by a second person and clean the oleo with mineral spirits and a rag. Should some dirt be baked on, use a wooden paint stir stick to remove. Wipe the oleo with a mineral based oil.

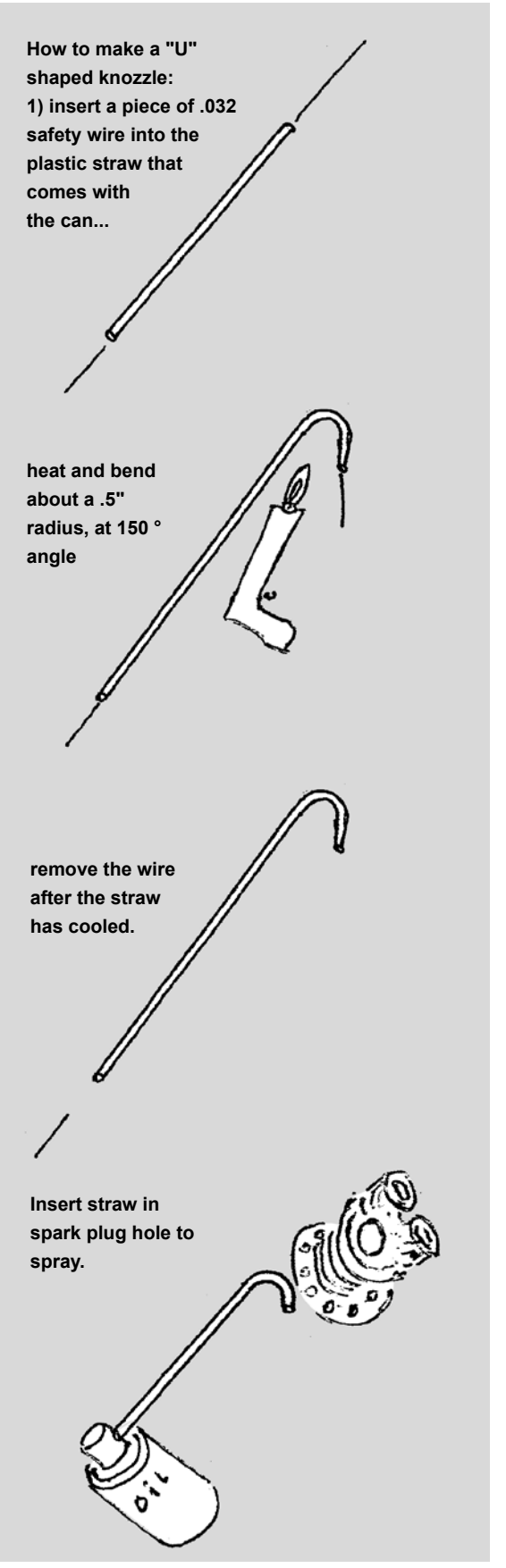
To extend the nose oleo. place a cushion on both sides of the horizontal stabilizer close to the fuselage and place a 12 quart case of oil on the cushions. Have a second person lift up by the prop. Give the nose oleo the same treatment as the mains.

Spray lube all hinges, rod-end (Heim) bearings, pulleys and along the control cables, landing gear pivots, and trim spindles. In all cases use the manufacturer's lube chart and you won't miss anything.

Remove the battery, store and charge.

Remember to move the aircraft once in a while to exercise the tires and wheel bearings. A foot or two should suffice.

Keep your fuel system free of water. This will go a long ways toward preventing engine teardowns, cable replacements and oleo rechroming.



BIG / continued from page 7

be about seven and a half hours, but at a leisurely cruise of 105 mph.

My building schedule varies depending on my mood, time, the four seasons and funds available. I had intended to do the wings over this winter but I just kept hacking away in the garage on steel parts. It may work out well though because I can take the spars out of the basement, fit them directly to the airframe come Springtime. This way no critical jigging will be necessary to ensure a perfect fit of wings to airframe, not to mention the fact that I won't have to cut an eight by two foot hole in the foundation of the house to get the wings out. I can drag the fuselage out to the hangar for storage, finish the wings over the summer, then bring the fuselage home and fit the wings and struts. Man, that'll be a good time for some pictures. With any luck, I could be flying late in 2011...more likely 2012. Where have you heard that one before?

AIRCRAFT SPRUCE CANADA ANNOUNCES NEW WEBSITE

Aircraft Spruce is pleased to announce that our Canadian website is now available for your use in placing orders. It has all the features of HYPERLINK "http://www.aircraftspruce.com" www.aircraftspruce.com, but it is dedicated to serving our valued customers throughout Canada. It will provide you with pricing in CAD only, and will show you if products are in stock in our Brantford, ON warehouse or when they will be in stock. This website will offer you shipping options from the Brantford warehouse.

We appreciate your business and your support of Aircraft Spruce Canada, and we invite you to use HYPERLINK "http://www.aircraftspruce.ca" www.aircraftspruce.ca for your future orders. Request your complimentary copy of Aircraft Spruce's free 800 page catalog and our full color Pilot Shop catalog. For more information, please contact Aircraft Spruce Canada at 1-877-795-2278 or 1-519-759-5017.

Tower: "Mission 123, do you have problems?"
Pilot: "I think, I have lost my compass."
Tower: "Judging the way you are flying, you lost the whole instrument panel!"

President's Message / cont'd from page 2

not check his facts and he blamed the wrong manufacturer. BushCaddy has never had a structural failure, nor has there ever been a fatality in one of their planes.

NEW FORMAT LICENSE APPLICATION

So many private pilots waited until the last minute that Transport had to extend the deadline to June 30 2010. This issue contains a copy of the appication and the instructions for filling it out. You may tear the page out or alternatively download the application from the Transport Canada website. Go to www.tc.gc.ca and in the search section type in the form number, 26-0726. Then get a haircut and get a passport photo taken. Send the form and photo in early so that you avoid the inevitable rush in June. *Do not send in your current license!* Surprisingly there is no charge for the new format license.

BUSHMASTER WING FAILURE

Last summer a Bushmaster Basic UL being used for flight training suffered a wing failure that resulted in the deaths of the instructor and the student. Gerry Golla of Saskatchewan did an intensive investigation of the crash and has produced a comprehensive document complete with photos of the failure. He is to be commended for the pro bono work that he has done in this investigation. The Silvaire Bushmaster was built under several names, among them Husky Norseman and Safeflight Mountie. RAA has sent out lists of registrations to our Regional directors, asking that they propagate the information among the flying community. You may read the entire report by going to the www.cfisher.com website.

If you know a novice who is intending to take training in a Basic UL, please make him aware that there is no design or construction standard for planes in this category, despite that it is legal to use them for flight training. For that matter there is not even a requirement for a weight and balance, nor is there a requirement to keep maintenance records. Please go along with the novice and check the plane and paperwork out before letting a friend take flight instruction.

ZENITH 601 REPORT RELEASED BY FAA

The FAA has now come out with a report on the Zenith 601 XL and 650. They claim that on Light Sport models the wing structure does not make the required G's, and they also recommend that ASTM, who wrote the Light Sport document, make quite a few changes to the design standard.You may read it at http://www.faa.gov/aircraft/gen_av/light_sport

RAA Canada is now asking for another chapter in Southern Ontario take charge of the RAA stand at the 2010 Canadian Aviation Expo. If your chapter is willing to handle this, please contact the RAA office as soon as possible.

CLASS E AIRSPACE CLARIFIED

Ever since the inception of the CARS there has been a Hatfields and McCoys scrap going on about 602.29. Some at Transport say that it denies a Basic UL access to Class E airspace, while others at Transport say that it allows this. The regulation was written in so convoluted a manner that in 2000 Transport wrote a clarification 603.78 that stated clearly that basic UL's are allowed in Class E airspace. However although the document went through CARAC it languished in some Transport lawyer's inbox for the past decade. The matter is now resolved by an exemption to the regs that clarifies that a Basic UL is allowed to fly in Class E airspace as long as the plane has an altimeter. If the flight is a cross country the Basic UL must also have a compass or a GPS. That's it - there is no more excuse for pilots of Basic UL's to be scudding about at low altitudes and breaking the circuit regulations. Just install an altimeter and something to indicate the heading. Use normal circuit altitudes and fly like everyone else. This is going to be a disappointment to the members of the Low Flying Club.

FAA CHANGES & EFFECTS ON CANADIANS

The FAA for many years has turned a blind eye to their Experimental Amateur category. There was no formal precover inspection and in some cases companies were selling complete factory built airplanes, with the "builder" posing for a photo in front of an incomplete wing, then changing his shirt and posing in front of an incomplete fuselage. All that was being inspected was the photographs and signatures in the logbook, to make certain that the "builder" had legal responsibility for the project. Then the FAA began clamping down on all the "two weeks to taxi" shops and stopped performing 51% evaluations of new kits. They finally resumed performing evaluations but with stricter guidelines about what constitutes 51%. In the FAA system if the kit manufacturer has performed 49% of the operations, the builder must do every remaining bit of the work himself.

In Canada we legalized builder assist a decade ago when it became apparent that it was going on under the table. Transport views the 51% as the means of qualifying the kit for the Amateur category The owner may then have the plane completed by a

subcontractor as long as the work is documented and the owner maintains control of the project. The FAA view will have repercussions for owners of planes that were built under our builder assist system, if they ever try to sell their planes to an American. Telling the truth in the builder's log might prevent the plane from gaining a US registration. Builders who opt for some assist might have to decide whether to log the subcontracted work or to lie to the MD-RA. This is a return to the old days, when the regs made liars out of honest men, but this time it is the US regs.

CANADIAN AVIATION EXPO

For many years when it was held at Oshawa Airport, RAA Oshawa carried the ball and set up and operated the RAA display, with help during the event from members in other chapters. Last year the event was moved to the Hamilton Airport and was set up in the Warplane Museum. Kitchener Waterloo RAA took responsibility for building the 2009 display and for setup and takedown after the show, with members from other chapters again helping during the weekend.

RAA Canada is now asking for another chapter in Southern Ontario take charge of the RAA stand at the 2010 Canadian Aviation Expo. If your chapter is willing to handle this, please contact the RAA office as soon as possible.

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."

Coming Events

Saturday, March 20 Chapter 85 Awards Banquet at the Delta Town and Country Inn. Tickets only $5. Contact Jean Prior 604-437-4219

Saturday May 22 8 AM to Noon. RAA Flamborough Breakfast Fly-In. All welcome.

Friday June 11 5 PM to Dusk. Family & Friends Bar B-Q, Flamborough chapter. All welcome.

If flying in, field elevation is 840 ft. 43 22.25N 79 55.95W circuit height 1,000' AGL and all circuits MUST be to the East of the field. If driving, take Hwy 6 North from Hamilton to Concession Six East. Turn right at the restaurant on the NE corner. Go to Flamborough Centre and Centre Road. Continue East 1/2 mile to railway tracks. Cross tracks and after 50 yards take the first laneway to the left (Flamborough Springs). Follow lane N through woods to the hangars. There are no signs.

Service d'inspection Représentant du Ministre-Aviation de Loisir (RM-AL)
Le RM-AL va tenir une session d'information aux Les Ailes Québecoises, Aéroport Jean Lesage, Québec, samedi le15 mai, 2010 de 13:00 à 16 :00 hres.
Toutes les personnes concernées par l'Aviation de Loisir sont invitées.
Si vous désirez des informations additionnelles, contactez moi à pierre-fournier@videotron.ca ou au (514) 645-4355

Chapters / continued from page 21

the licence for the Airpark. There will be a breakfast on February 14th.

Joan would like ideas and submissions for articles for the next issue.

For the evening's entertainment. we enjoyed 2 videos on aircraft safety and a very interesting one on John Lovelace's 100 plane flight to commemorate the 100th anniversary of flight in Canada last year.

New Business: Terry is in the process of vacating the end hangar in the RAA Hangar. Terry is also donating any remaining tools to the club. Terry feels that it should be vacated by the end of February. There is also some 4130 steel, that is available for anyone who is interested.

John Macready mentioned that there is always a need for volunteers at Delta Airpark. Volunteers are what helps make Delta Airpark the great place that it is. The bathrooms in the coffee shop need to be redone, and volunteers are needed. Anyone interested can contact a DAPCOM member.

Toronto

If you were at the February meeting you saw our newest acquisition, our video projector, at work on your behalf. Sure makes for less hassle for us and the BFC when setting up for a meeting. We have plans to put it to good use when we revert back to Hangar 41 for our meetings.

Another thing we enjoyed at the February meeting was Fred Grootarz presentation of decoding the TAFs. This was a follow-up to his January presentation on decoding the METARS. These were very professionally prepared and presented, and I learned a lot – hope you did as well. I'm continuing to get very positive comments on Bernie Wurster's "Minute for Maintenance" – a regular feature at our Club meetings. Thanks, Bernie, from all of us. I am constantly amazed at the expertise and enthusiasm to share that we have in our Club.

Your Directors continue to meet every month and we're actually quite busy. We're working on several initiatives to add value to your membership. We want to remind you that our Director's meetings are open to all members, and we welcome your constructive suggestions on how we can do more things better. Your Club now owns a cable tension meter. If your airplane has control cables you'll likely want to sign this tool out from Per for your next annual. Cable tension is important, even critical in some instances, so here's a way to get it right.

The days are getting longer, and there's less snow that usual to melt so we expect to get an early jump on the spring and summer social and aviating season. Check the calendar for all our events and make sure you are a part of them.

Brian Heinmiller, President Meeting open at 7:30 by President Brian Heinmiller with 49 members present. Guest was Chris Balmer, student pilot and graphic artist. New member Armando has been on the field for six years and flies C FCCQ. The guest speaker was introduced by Bernie Wurster and was Bruce McPherson of Pointer Avionics. He has been 10 years with Pointer and they are set up at Breslau Airport. Bruce gave on overview of the 406 ELT situation. It was mandated 10 years ago and the government waffled until the very last second to implement. The satellites are owned by the member countries under the auspices of the UN. The proposal sits on the Minister's desk and will expire approximately 1 month from his talk. They are hoping for some government direction by Jan. 2011.

Pointer wants to do something

different and intends to include as many functions as possible. It will utilize 406 to provide location within 5 km, then 121.5 for the military on which to home in. A commercial system will be 5k$ and GA version about 1000$. Battery power limits the ability of ELT + PLB + GPS in the same unit. They are combining GPS & ELT antennas in the same unit and a USB to a Blackberry for file download. An extensive Q&A period then ensued. The speaker was thanked by Bill Tee. Break for coffee and d'oh nuts with a 50/50 draw. After the break, the Jan. 4th meeting minutes were read. Fred Grootarz moved the minutes be accepted and seconded by Bill Tee. Passed. Charlie Dumas moved we accepted the Director's minutes as published for information. Passed. Brian Heinmiller then updated the club on the (newly demonstrated) Epson projector. Also we are arranging for wireless internet at the north end for flight planning and weather information. The website overhaul has resulted in a request for quotes ands several providers have been contacted. Hangar lighting is to be improved with new ballasts and bulbs for a greater efficiency. Cost to the club will be minimal. Alain O. did a review of survival items in the event of a forced landing. A remarkable compact yet rugged hatchet/knife combination was demonstrated plus additional information on sources of safety equipment (bug repellent, first aid kits, hand chain saw, snow shoes etc). The US Army survival manual is now a pdf on our website.

Fred G. gave another one of his engaging reviews of TAFs – something that we tend to be too busy to do for ourselves! Good on Fred. See also NavCanada/Services/Guide. Fred is planning a future review of the self test in the Safety Publication. This will count for recurrency.

In the open forum, John Weatherseed has space for rent in his hangar (see ad later). Sources of materials were discussed and mentioned were Golden Triangle Metals in Cambridge for aluminum and behind them is a steel shop for other supplies. Also of note were the architect's plans for the NW corner of BFC to be re-zoned back to Airport/industrial. March 1st is the next meeting.

A long ago member of our chapter, Dave Koch, has reportedly passed away. Dave was a hard working member of our group in the 1970's and 80's ands although not a pilot completed a Zenair CH200 aircraft which was subsequently imported into the UK by Mr. Brian Arnall. It is still flying in the UK.

In the 1980's Dave and his wife Janet, the pilot in the family, moved from his home in Etobicoke and took up residence once again in his original home in Guelph Ontario. Dave went on to restore several Austin Healey sports cars while living his retirement years in Guelph. Dave will be missed by all those whom he helped over the years. Dave is survived by his wife Janet and his two sons Jim and Gord.

Keep in Touch With Your Board of Directors!

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

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

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

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

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Recreational Aircraft Association Canada

President: Gary Wolf
Treasurer: Wayne Hadath

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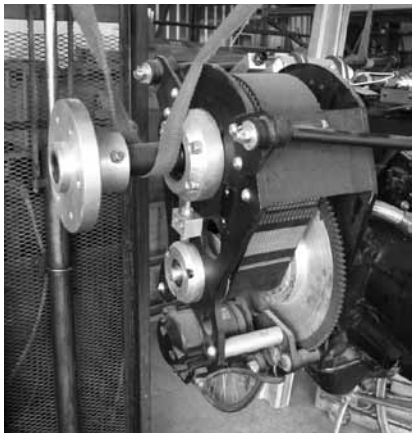
The Recreational Flyer is devoted to the aerospace sciences. The intention of the magazine is to promote education and safety through its members to the general public. Material in the Flyer is contributed by aerospace engineers, designers, builders and restorers of aviation devices and vehicles, used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

For Sale



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

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

SIDEWINDER: All metal; seats two. Equipped with Lycoming 0-290D (110 hrs STOH), engine log, 3-blade ground adjustable Wrap Drive Prop. Bendix/King KY 97A radio, Icom portable standby radio; intercom, transponder/c. Full cockpit and panel lighting, strobes, L/L, and nav lights. Ready for MDRA final pre-flight

inspection. All drawings and building manuals are included. Selling for material cost only ($20,000 cdn.) Call Norm at 519-745-7971 or email at ldservice@rogers.com. Apr09

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

FOR SALE: Bushcaddy R120 kit for sale. Tail section completed, cabin 85% completed. Rexton NB. Asking $24,500.00 For more information & pictures, please call 506-523-9614 or 506-523-9056 e-mail ahudson@nbnet.nb.ca

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

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

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

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

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

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

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

FOR SALE: ZENITH CH-300 on floats. First flight, Sept 1983, total hours 575 (300 on floats since July 1993). Engine O-320-C2A zero timed in 1999 now with 170 hours. panel, no radio. Prop McAuly 1A175/GM8241 new in 1993, Floats Zenair 1850. Location Lake Muskoka. $30,0000 George 705 445 7054 CollingwoodAug09

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

(1) 1967 C-172, 3155 TT, Cont. 0-300, 1005 SMOH, new windshield, new battery in 2007, new paint in 2005, a working DME, two 720 com. radios, a ELT, current annual until Nov.09. $41,000. (2) 40' X 30' Calhoun structure hangar at Earlton,CYXR, 5' high steel walls, 10' high doors, fabrene roof, put up in Nov. 2004, will hold a C-172. $12,000. Phone 705-544-8743 or whiteheadbj@msn.com Aug09

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

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

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

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

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

For Sale: Ballistic Recovery System Model BRS-5-1200-VLS complete with harness,rocket,installation guide and owners manual. New $3400.00 US. Never used--needs repack only. Price $500.oo Call 613-543-0594. Oct09

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

Murphy Super Rebel Kit SR2500 (Moose) Complete airframe kit. Tricycle landing gear. In factory crate. $15,000.00 Larry 905 460-0880, work 905 677-8300 or email lawrence.strilchuk@sympatico.ca Oct09

Zenair Zodiac 601HDS Tricycle gear, registered 1993, Rotax 912 UL, ARPLAST flight adjustable prop.. 756 hrs TT. ICOM A-4, 2 headsets, GARMIN 95 GPS, Vacuum AH. Stainless exhaust, new upper paint 3 years ago. Canopy cover. Cruise 120 mph. Asking $28,000 CDN. At Oshawa. Dave, 416-282-5252 Oct09

Cessna 150H, 3980 TTAF, 1820 SMOH, KX145 NavCom, Icom 200 Com, Narco Mode C, paint 8/10, interior 7/10, 4 new cyls/321hrs $19500 gbemus@rogers.com Dec09
For sale, new RV9A parts; Lycoming conical engine mount, 3 L/G legs with mounting brackets, nose wheel, fairings. All the parts I didn't use when I converted to tailwheel. Approximate cost to buy $3000. Contact Terry Elgood for list at TMB_Elgood@shaw.ca or 250-503-5188 Feb 10

1995 Zenair 701 on floats, 300 hours TTAE, Rotax 80 hp with new Warp Drive propeller. Always hangared, overall, 7/10. Minor dings and scratches. Many extras, $35,000. Anderson Kingfisher project: Sponsoons, wing ribs, fuselage and tail completed and on its gear. Brakes, controls, fuel system installed. includes Lycoming 0-235 and McCauley prop with logs. May extras, $22,000. $50K takes both. Guy at (902) 682-2888 (Nova Scotia). Feb10

Wanted

Wanted- Great Plains only VW dual spark plug heads, Aerovee 29mm Injector Carb or similar Revflo in good condition, or even Ellison ESF 2, low time Slick 4316 mag, Great Plains only complete Force One Prop Hub. John Donaldson, 519-426-8583, jdonaldson@kwic.com near Simcoe ON. Dec09

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

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.

Rotax Exhaust Heads-Up

This is the common failure mode for a Rotax muffler system that does not have the intermediate 90 degree elbow. Vibration is transferred to the 180 degree cone, which after several hundred hours of use has become carbon embrittled. It is possible to reweld these cracks, and then fit a patch piece over the failed area and weld its perimeter too, but the repair will be short lived. The absorption of carbon has turned the original 1010 into something more suitable for making knives.

Chapter 85's Trubi
at the 2009 Delta Fly-In

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

RAA Chapters and Meetings Across Canada

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

ATLANTIC REGION

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

QUEBEC REGION

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

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

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

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

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

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

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

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

ONTARIO

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

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

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

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

FLAMBOROUGH: Second Thursday 8:00 pm at Flamborough Airpark. Contact Pres. Karl Wettlaufer 905 876-2551 or lazykfarm@sympatico.ca

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

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

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

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

NIAGARA REGION: Second Monday 7:30 pm at Niagara District Airport, CARES Building. Contact Pres. Elizabeth Murphy at murphage@cogeco.ca, www.raa-niagara.ca

OSHAWA DISTRICT: Last Monday at 7:30 PM at the Oshawa Airport, South side, 420 Wing RCAF Assoc.

Contact President: Jim Morrison ,905 434 5638 jamesmorrison190@msn.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.

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

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

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

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

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

MANITOBA

BRANDON: Brandon Chapter RAA meets on the second Monday of each month at the Commonwealth Air Training Plan Museum

at 7:30 PM except in the months of July and August. Contact Pres. John Robinson 204-728-1240.

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

SASKATCHEWAN

Chapter 4901 North Saskatchewan. Meetings: Second Tuesday of the month 7:30pm Prairie Partners Aero Club Martensville, Sk. info at www.raa4901.com. Brian Caithcart is the chapter president. Contact email: president@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 President Gene Lukan at 403 932-4238

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

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

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

BRITISH COLUMBIA

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

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

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

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

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

CHAPTER 85 RAA (DELTA): First Tuesday 7:30pm, Delta Heritage Airpark RAA Clubhouse. 4103-104th Street, Delta. Contact President President: Tim Nicholas vibraanalysis@shaw.biz.ca. Website http://raa85.b4.ca.

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

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

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

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

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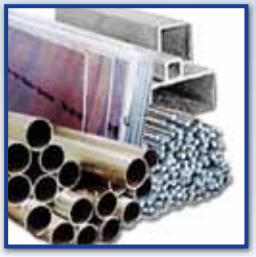
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