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RECREATIONAL RELYER

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RAA
RECREATIONAL AIRCRAFT ASSOCIATION
RÉSEAU AÉRONEFS AMATEUR CANADA

From The President's Desk

Gary Wolf RAA 7379

AVIATION SAFETY LETTER MIA, NOW REVIVED

Do you remember the old days when four times a year the Aviation Safety Letter arrived by mail in a large envelope? It had information that was pertinent to all categories of aviation, but in recent years the quality began to dwindle. Then it became available only by downloading from the TC website, denying access to many who live in areas that do not have good internet service. Last year it went missing in action after only two issues, neither of which contained the self-paced recurrency exam. I contacted System Safety about this and shortly the third and final issue for 2014 came online and it contained the exam. There was no fourth issue in 2014.

This year the ASL has been revived with a new editor, and in his initial address it looks doubtful that the ASL will hold much of use to pilots and builders of non certified aircraft. His policy is that only rarely will the ASL contain TSB reports of accidents that have been investigated at Level 5, which is the level that TSB customarily uses for Amateur and Ultralight aircraft. Level 5 is essentially a bit of filler for the coroner's report and does not get into any serious investigation. The rationale is that TSB and TC maintain that non certifieds are individual one-off projects so there is little that could be learned and disseminated to benefit the flying public. Every few years the TSB does a thorough investigation of an Amateur or Ultralight occurrence at Level 3, but these are few and far between. Meanwhile if you wish to read reports of a DeHavilland that collapsed its nosewheel, google for Aviation Safety Letter.

MD-RA MEETING

RAA met with MD-RA in September to discuss recent changes and future paths. MD-RA recently received a new contract for ten years, and now the contract is with Canada, not with Transport Canada, and this will give MD-RA greater stability. MD-RA will still take direction from Transport Canada as the technical authority.

One change that has occurred is that TC now requires a data plate for each individual float, same as for an aircraft. The plates must identify the manufacturer, model number, and a different serial number for each float. The inspection document is available on the www.md-ra.com website. Go to the Inspection Documents section and scroll down to form C20E-004 for the full procedure.

ROTAX OWNER WEBSITE

If you fly behind a Rotax, particularly if it is the 912-914 series, you would benefit from reading the www.rotax-owner.com website. Technical bulletins go back to 1992 and may be viewed for free. The real meat is in the subscription area where they have videos and articles on every aspect of using and maintaining these engines. The annual fee is $30 and it is worth every cent.

MEETING WITH THE NEW COPA PREZ

In October JC Audet and I met with Bernard Gervais, the newly hired president of COPA. There had been a six month void in their leadership ever since the previous president departed after having been blindsided (his term) by Transport on the issue of changes to the aerodrome regulations.

Bernard Gervais was a breath of fresh air after fifteen years of the previous administration. Bernard would like to bring all of aviation into the

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features

columns

George Gregory

One of only 2 flyable Mosquitos in the world at Abbotsford 2015
On the cover: Zenair's 750 Cruzer Photo courtesy Zenith Aircraft

by Mike Davenport

IT WAS EARLY, REALLY EARLY. 5 am and the Oregon sky was still full of stars but showing just a trace of light forming on the mountain tops to the east. The wind had been gusting all night, causing the tent to flap and interrupt my sleep.

A look at the large American flag on the north side of the hangars showed it to be straight out in a steady westerly wind. That meant that flying the gorge this morning would be a rough ride. I had planned to leave around 11 so maybe it would calm down by then.

An hour later after a shower but no coffee as it was still too early for the breakfast crew, it was daylight and that confirmed what I had feared; the westerly winds had pushed in the marine air from around Portland and had plugged the gorge from near the surface to about 4000 ft. OK, I've got lots of time to wait for it to clear. Local pilots tell me that it should be gone by 10 or 11, so I can probably leave then as planned.

Around 10:30, the clag in The Gorge had dissipated so I called for a weather briefing. Portland was clear and 4000. The Seattle area to the north was IFR but trending clearer as was most of the Puget Sound area. I figure with an 11:00 departure and a fuel stop in Chehalis, my route east of Seattle should be clear by 13:00.

11:10 and I'm just off runway 25 into a gusting 30 degree left cross wind. A quick call on Unicom to say thanks for the great weekend and I'm into the gorge.

It is rough from Hood River to well past Cascade Locks. The "g" meter bounces between "O" and plus "2' and I can smell fuel spilling from what now are the too full tanks. Up until now, I thought there was no such thing as having too much fuel. 3500 feet in the centre of the gorge, the ride smooths out a bit but the ground speed varies between 69 and 90 mph, indicating gusting head winds of 20 to 41 mph!

Once around the corner of the valley and headed north towards Kelso, Washington, it is smooth flying all the way to Chehalis, my planned lunch and fuel stop. Listening out on the Unicom tells me that 16 is the active and I have a Cub ahead of me in the circuit and a Fairchild 24 behind me. I set up on downwind behind the Cub, staying wide to give her time to get down as she is on a full stop landing. My God, Cubs are slow in the air and even slower on the ground. So I over shoot as it was going to be too close for comfort.

The next try got me down after a 2 bounce arrival. Hope no one saw that.

Fuel and a quick lunch later, I'm back in the air heading east and notice that the GPS, my ever faithful Garmin has not started up – no satellites! Who knew? Well it eventually found enough of them to show me that I really was headed the right way. I need to stay out of Seattle's class B air space as, after listening to Seattle Approach, I figure that they were way too busy to deal with a VFR Stinson today. A quick call to Seattle Radio opened my flight plan and generated the necessary transponder code for the border crossing.

The visibility and ceilings were good from Chehalis to Thun Field but started to drop by Crest Air Park.

North of Crest around the ridges at Issaquah, it hasn't cleared quite as I had hoped. Note to self: "hope is not a plan". So the further north I went, the lower the clouds were and my comfortable 3500 ft. of altitude is slowly eroded to a ceiling of about 1300. Still legal but not as comfortable. A check of the AWOS frequencies at Arlington and Bayview shows 4,000 and 10 miles so decide to persevere. Sure enough, I break out at Snohomish just as

Grand Champion & Peoples Choice1930 Stearman Speedmail Jr. Tom Reeves photo

predicted. I climb back up to 3000 and once past Bayview, dial in the Abbotsford ATIS.

The wind is favouring 19 but it's closed to landing aircraft as the Air Cadets are using it for glider training. Landings are on 25 with a gusting 30 degree left cross wind.

As I near the field I call in for landing expecting 25 as noted but was told to extend my base leg to the north of the centerline for a Convair on an instrument approach to 07. Hmm, downwind landings, OK for big airplanes, I guess.

So I did as requested and then doglegged back to 25 with a caution about turbulence from the Convair. After he departed, I touched down well short of where he had departed, bounced again twice – this is getting to be a habit – then got caught in a gust from the crosswind or turbulence from the Convair or something. I swerved hard right, yoke back, so much pressure on left rudder that my leg hurt for two days, swung equally hard to the left but on one wheel, rolled the width of the runway. Thank goodness for the 200ft width. No harm – no foul.

Cleared customs after a couple of aborted tries at dialing the phone; something to do with shaky hands.

Departed Abbotsford for Langley and again executed my by now "patented" two bounce landing with a complete lack of finesse. However, I did succeed in getting the airplane back in the hangar in a useable state.

Three days before, I had flown the reverse of that trip to the annual Hood River Fly In at the WAAAM Museum located at the Hood River airport. If you care to look it up, the airport can been found on the Seattle chart and the proper name is the Ken Jernstedt Airfield and the identifier is 4S2. Hood River is a sleepy little city on the Oregon side of the Columbia River. It is noted for its vineyards, wineries and of course its access to the Columbia River Gorge for the wind surfing.

The museum, in its 8th year of operation, has hosted a fly in each fall providing camping for several hundred fly in aircraft. This year a record 380 visiting aircraft were on site. While the museum's focus is on antiques, all are welcome with homebuilts, classics and warbirds all vying for space on the manicured lawn. The overflow goes to a somewhat less manicured and dustier area.

On site meals are provided by local service clubs. The Lion's Club served a great pancake breakfast each day while the Awards Dinner was catered by the "West Side Volunteer Fire Department". Several vendors also catered to pilots and looked after their aviation wants and needs. Spencer Aircraft of Puyallup, WA had a significant presence and display of parts and accessories. For the camper's personal needs on field, showers and porta potties were provided. If you prefer a more luxurious accommodation than a tent, there are numerous, if somewhat pricey hotels and B & B's nearby.

The entertainment on Friday night following the now traditional spaghetti dinner, was a well-attended movie projected on the hangar doors. This year's choice was the eminently forgettable comedy, Those Magnificent Men in their Flying Machines starring Robert Morley.

While the museum has some of their hundreds of airworthy aircraft on outside display, each year they feature one recent restoration in the flyby circuit. This year the museum declared "The Year of the Waco" and the highlight was a beautiful red Waco Taperwing that is featured on this year's poster.

On Saturday, there was plenty to keep one amused. There were book signings, gyrocopter and biplane rides, and seminars on fabric work, air traffic control and pilot medicals and of course, touring the museum itself. The largest hangar contains displays of aircraft, cars and trucks of all eras, military vehicles and small arms and models of all of the above. The complete front wall of Wally Olson's hangar from the old Evergreen Airport has been installed inside as the entrance to one of the many display areas.

On Saturday, the museum team of aircraft judges circulated around the field of 380 aircraft, selecting the winners of various classes to be awarded trophies at the dinner on Saturday night. Biplanes took the majority of the awards with a Stearman E-75 winning Best Warbird, a Waco INF Best Antique and another Waco winning Best Biplane, this time a YQC-6.The Grand champion and The People's Choice Award both went to Ben Scott for his 1930 Stearman Speedmail Jr. Best Homebuilt went to a Carbon Cub. My personal favourite, a Luscombe 8A won Best Classic.

Throughout the weekend, WAAAM had 130 hard-working volunteers doing all of the usual and necessary tasks to make the fly in the success that it was. They were parking cars and airplanes, cleaning showers, emptying garbage cans, setting up and tearing down fences, hosting forums and guiding visitors through the extensive museum facility. Without this dedicated group, it would not have happened. Congratulations and thanks to all who worked so hard. Mark your calendars, the 2016 Fly In is September 11 & 12. See you there!

This Luscombe is owned by Angelo Lombardo and is based at Fraser Lake Airpark, east of Monterey in central California. This aircraft, purchased by Angelo in 1978 and completely restored in 1990 has been lovingly maintained by him to show standards ever since.

1 The museum's full name is Western Antique Aeroplane and Automobile Museum. See also their web site at WWW.WAAA-Museum.org

2. Evergreen Airfield, Washington, long a favourite of west coast antiquers, closed in 2006 after 50 years of operation.

Mike Davenport *has long been involved in west coast recreational flying, owns a show-quality Stinson 108 and is involved with relief work in Haiti. He was involved in the recent restoration of Jim Britton's D17 Beechcraft.*

Summer Flying On The Prairies

Barry Meek

IN THE SUMMER OF 2006, the Alberta economy was booming. Evidence of big money was everywhere. Fuelled by the oil industry, the spin-offs spawned support companies, transportation, communications, big box retail stores in many little towns, and jobs for everyone. There must be more big diesel powered pick-up trucks per capita than anywhere else in the country. And most are parked at Tim Hortons.

I took a job flying for a company enjoying the success of the boom. For five months I flew into and out of many small-town airports. Flying on the prairies bears very little similarity to coast and mountain flying, and it's surprisingly similar in other ways. VFR navigation is one of the big differences because landmarks such as mountains and lakes don't exist. When flying low and in the more remote areas, VOR and ADF signals are not reliable. GPS is ideal, given the terrain is so flat and a straight line rarely runs through a hill or mountain. Due to the nature of my work however, GPS wasn't practical. It was all done with local county maps and a compass. This type of basic, primitive navigation is quite easy in fact, because every road runs north-south or east-west.

Radio transmissions travel awfully long distances on the prairies. Too long sometimes. 123.2 is used as the ATF at most airports, and the frequency gets quite congested even though each airport has very little traffic. You just hear so many. Most of the users seem to be student pilots. I don't know what instructors are teaching these days, but they could sure lay off the phrase, "Any conflicting traffic please advise". Many pilots, not just students are using it, the most often heard, overused, and totally useless transmission on the radio today! There's nothing in the Aeronautical Information Manual about the use of the phrase. I wonder where it came from.

Having flown over 500 hours in the summer, I heard way more than I wanted to on the radio. While many pilots motor on with drivel that means nothing and isn't important to anyone, others neglect vital information in their radio calls on ATF's. They rarely broadcast their departure intentions prior to take-off. If I'm inbound to an airport and someone is about to depart, I want to be sure I'm not in the way he's planning to fly. That's a vital piece of information stated simply something like, "A.B.C. is rolling 28, planning the left turnout, departing south".

The way pilots use 126.7 seems to be changing. Many are using it as an air-to-air frequency, while others make general broadcasts of their position, intentions, type, registration and so on, quite often followed by, "Any conflicting ... blah, blah, blah ..." again. There is no calling up the nearest FSS to direct that information to where it may be useful in case of the aircraft going missing. That's what 126.7 was initially intended for. An enroute frequency to obtain updated weather and other pertinent information, give position reports and open and close flight plans, all with the nearest FSS or RCO.

There's a certain comfort while flying low across the prairies that I never have in the mountains or on the coast of B.C. It's all about places to land if a problem develops. I've

Whatever the reasons, I've witnessed the sad results of this shifting lifestyle. There must be many stories.

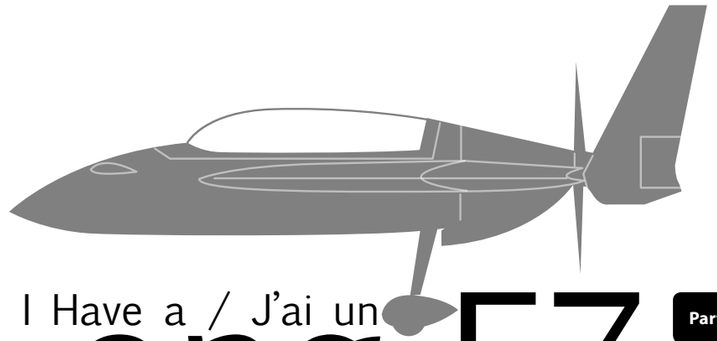
had one engine failure many years ago which fortunately happened over an airport. With the flat, uninhabited prairie stretching to the horizon in all directions, it's not a big deal to be motoring along at only 500 feet AGL. Also, there are roads every couple of miles. Long, straight roads. In most of British Columbia, I want five thousand feet between the airplane and the trees and rocks.

Prairie scenery can be interesting and awesome.

Having lived on the coast of British Columbia for many years, on an island actually, it was surprising to me to see up close and first hand the magnitude of the death of family farms on the prairies. The vast patchwork quilt landscape is dotted with these tiny farmyards, each surrounded by trees. They stand out like little islands. Many of them are referred to as "dead farms". Some appear quite liveable, their occupants having left fairly recently. Others are falling down, dilapidated, windblown, obviously abandoned for decades. I recall a deep sadness as I flew over them, wondering what became of the families that made a home there, and why they left. Folks in the stores and coffee shops of nearby little towns would talk about the small farms not being economically viable, about the drying up of the prairies, about the Hutterites buying up the land, and about government policies. Whatever the reasons, I've witnessed the sad results of this shifting lifestyle. There must be many stories.

If I wore a big cowboy hat, I'd be taking it off to the prairie folks, out of respect for their resilience. Ranchers, farmers, oil patch workers, small business owners, truck drivers, spray plane pilots ... these people are tough. Free-thinkers, entrepreneurs, moralistic, they probably contribute more than they receive from the rest of the country. Up until the Conservatives came into power in Ottawa, Albertans rarely heard from or saw a Prime Minister in their midst. The far-right thinking majority advocates reforms based on citizens' initiatives. Many would prefer to opt out of federal policies like tax collection, pensions and policing. On a personal, close to home basis, they make the best of their lot in life. At one time I lived in Alberta, in fact I was born and educated there but threw in the towel many decades ago, and left. Over time, I suppose I've forgotten about the hot, dry winds, the blowing dust of summer, and the awful cold and difficult conditions of winter. Small town Alberta. It was good to get see it. Next summer, maybe I'll look for a job in Quebec.

Barry Meek *is a retired ambulance paramedic, former broadcaster, mountain bike tour guide and commercial pilot. His articles have appeared in the COPA newsletter, the Aviation News Journal, and (of course) the Recreational Flyer. He resides on Gabriola Island in British Columbia.*



I Have a / J'ai un Long-EZ

Part 2 / Jean Claude (JC) Audet

At the end of my short flying season, in early December 1990, I got to work on my first major mod program. As I previously mentioned, my primary focus of attention would be the cockpit in general, and particularly the instrument panel. I wanted to be able to fully utilize the cross-country capabilities of the aircraft. The rather foggy photos below show the original panel and a rather large open space at the top of the instrument panel.

We can see that the original version, Photo 1a, was really basic VFR. My intent was to get a panel that could do IFR. Knowing that I would not be able to get this aircraft IFR approved (this is 1990), I decided to at least get it as close as possible on my low budget. The concept was that even with careful cross-country planning, there would always be a risk that I could accidentally get stuck above a ceiling while flying on top. In this eventuality, I would have the equipment to get back down. If necessary, I would navigate to a suitable airport, declare emergency, and request authorization and guidance to land. I had a valid IFR rating. Certainly not the wisest or safest way to do things, but at least I would be on the ground and able to explain what I was doing up there and face

À la fin de ma courte saison de vol en décembre 1990, j'ai commencé mon premier programme de modificaitons. Mon focus principal était le cockpit en général, particulièrement le tableau de bord. Je voulais être en mesure d'utiliser au maximum les capabilités de vol-voyage de l'avion. Les photos 1a et 1b (un peu floues) montrent le tableau de bord et on peut apercevoir un grand espace ouvert en haut du tableau.

Le tableau original (photo 1a) était vraiment VFR de base. Je voulais un tableau IFR. Sachant que je ne pourrais pas faire approuvé cet avion pour IFR (nous sommes en 1990), j'ai tout de même décidé d'y aller le plus près possible considérant mon budget plutôt limité. L'idée de base était que même avec une bonne planification de voyage, le rique de me retrouver accidentellement au-dessus d'une couche était quand même réel. Dans cette éventualité, j'aurais l'équipment pour revenir au sol. Si nécessaire, je pourrais naviguer jusqu'à un aéroport approprié, déclarer une urgence, et demandé le support pour me poser. J'avais déjà une annotation IFR.d'accord, ce n'est certainement pas la meilleure façon de faire les choses, mais au moins, je serais au

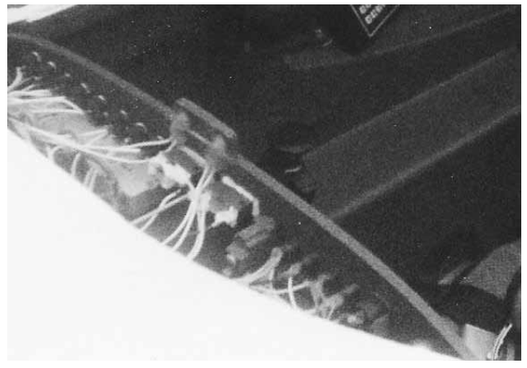


Photo 1a (left), original panel, and 1b (right), the top view of the panel.

the consequences. Once I decided what I wanted to get on that panel, I had to deal with the fact that the real estate was severely limited, actually, as much as my finances were. Despite these limitations, I was able to achieve my goal. And I never had to declare that emergency.

Creating the necessary panel space was not that difficult a task as it turned out. Like the rest of the aircraft, the panel is a foam/fiberglass sandwich. It was a matter of plugging all the openings with the same type of foam, including using up some of the space where the pilot's legs slide in, glassing all that over, sanding, painting, and the rest of that process. Looking at the photos, we can see a significant gap at the top of the original panel: this creates an open space between the panel and the canopy when this one is closed. This is real estate to recover, but the problem is that in doing so, the panel grows taller and I was concerned it might lose some rigidity as it will now have to support more equipment at the top end. The solution is to provide some structure to support it and the best way I could come up with was to use the canopy structure. Photo 2 (following page) shows the portion of the original canopy which was extending approximately 3 inches beyond the instrument panel. I decided to remove that portion of the canopy extending ahead of the most forward point at the base of the Plexiglas bubble and use it as the structure I needed to support the extended instrument panel. I marked where I wanted to cut the canopy (white line, inset), I cleaned and thoroughly sanded down the relevant mating surfaces between canopy and fuselage, and joined these mating surfaces together with epoxy flox. Then I cut the canopy along the line previously marked and thus obtained a structure that extends 2 inches in front of the panel, into the cockpit. At that point, all I had to do was build up the panel until it blended with that new found structure. This does not sound like much of a gain but it did allow to install what I wanted, leaving no unused space.

sol et mesure d'expliquer ce que je faisais là et de faire face aux conséquences. Une fois la décision prise quant à ce que j'installerais sur mon tableau, j'ai dû reconnaître que l'espace disponible était sévèrement limité, en fait autant que mes finances. Malgré ces limitaitons, j'ai réussi à atteindre mon but. Et je n'ai jamais eu à déclarer cette urgence.

Générer l'espace nécessaire sur le tableau s'est avéré être beaucoup plius facile que je ne le craignais. Comme le reste de l'avion d'ailleurs, le tableau est un sandwich de foam et fibre de verre. Je n'avais donc qu'à masquer les ouvertures existantes avec le même type de foam, incluant une partie de l'espace réservé aux jambes du pilote, refaire les surfaces de fibre de verre, sabler, peinturer, et le reste. Les photo 1 a/b montrent un espace ouvert important au haut du tableau. Ceici crée une ouverture assez importante entre le tableau et la verrière lorsque celle-ci est fermée. Voilà de l'espace qui peut être récupéré mais je craignais que le tableau ne perde de sa rigidité dû à l'augmentation du poids suite à l'installation de nouveaux instruments. Il fallait donc renforcir le haut du tableau et je n'ai pu trouver mieux que d'utiliser une partie de la verrière à cet effet. La photo 2 montre la partie de la verrière qui se prolongeait approximativement 3 pouces en avant du tableau. J'ai pensé enlever la partie avant de la verrière, jusqu'à la base de la bulle de plexiglass et l'utiliser comme structure additionnelle au tableua. J'ai nettoyé et bien sablé les surface appropriée verrière/fuselage, je les ai fusionnées avec les matériaux nécessaires, et ai coupé la verrière à la ligne jaune dans la photo 2. J'ai ainsi obtenu la structure désirée, laquelle se prolonge approximativement de 2 pouces vers l'intérieur du cockpit. Il ne me restait plus qu'à bâtir le tableua en hauteur jusqu'à ce qu'il se fusionne avec cette nouvelle structure. Ça ne semble peut-être pas un gain majeur, mais ça m'a permis d'atteindre mon objectif.

Photo 2 shows the portion of the original canopy which was extending approximately 3 inches beyond the instrument panel. The white line on the inset picture indicates where JC cut the canopy to accommodate the modification. He decided to remove that portion of the canopy extending ahead of the most forward point at the base of the Plexiglas bubble and use it as the structure he needed to support the extended instrument panel.

While some specific items have remained in their original location (throttle quadrant, tach, primer, landing gear lever (slightly lowered), landing light lever, control grip), one will notice that everything else has either been relocated, or done away with, and a fair bit of additional stuff has appeared. This whole effort resulted a full gyro panel (requiring a vacuum pump), a new CDI and suction gauge (at the bottom), the compass relocated at the top, all circuit breakers relocated (not seen here), the appearance of engine instruments down the right hand side, and the center piece of this: the radio stack. In this process, I replaced the original mechanical Oil Pressure gauge with an electric one: I just did not like the idea of having a tiny tube running the length of

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Certains items sont demeurés inchangés (contrôles moteur, tach, primer, commande du train, levier du phare d'atterrissage, commandes de vol), mais on remarque que tout le reste a changé de place, ou a été enlevé, et plusieurs nouveaus instruments sont apparus. Le résultat de cet effort a été un tableau avec gyroscopes (nécessitant une pompe à suction), un nouveau CDI et indicateur de suction (en bas), la boussole se retrouve en haut du tableau, les disjoncteurs sont relocalisés, plusieurs instruments moteurs en bas à droite, et la pièce de résistance : l'ensemble radios. En passant, j'ai aussi remplacé l'indicateur de pression d'huile mécanique par un instrument électrique : je n'aimais pas l'idée d'avoir un petit tube, sur toute la longueur de la cabine, tout à côté de mon bras droit, et plein d'huile très chaude et sous pression. Je pouvais simplement imaginer

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My first passenger

Megan Ferries

"AND... WE'RE FLYING."
These were my first words to my passenger once our wheels had left the runway. I had just received my private pilot license, and decided to make my first passenger my father, an Air Canada A320 Captain. He was not thrilled about being 4500 feet in the sky in a single engine, 2-seater Cessna. However he tried to brave it because I was so excited to show him my newly acquired pilot skills! We had taken off from the St. Andrews airport (CYAV) and were on our way to the practice area when the plane encountered a little bit of turbulence! Winds were 12kts gusting 19, nothing a Cessna couldn't handle.

"Megan -I'm done! Take me back." These were my dad's first words to me. I told him we couldn't go back yet because I hadn't shown him any of my air work but he refused to continue the flight. He said a single engine airplane going 90kts was very unsettling when he is used to so much more power. Sadly, we were not able to continue that flight but I did have a great landing, which he was very proud of. Since that flight, we have done some circuits, trying to make him more comfortable. I love that I am now able to share flying stories with my dad, instead of just hearing about his! Although his first words on this flight were not what I wanted to hear, I often think back to his final words on that flight. "If being a pilot was easy, everyone would do it, and I am so proud of what you have accomplished, and am thrilled that I am able to help you with your studies and watch you become a great pilot".

Kenora

"Kenora Radio, Cessna 150, Charlie- foxtrot- lima- uniform- golf is 5 minutes from the field, straight in for a full stop 26". This was my first landing call on my 300nm adventure from Lyncrest (CJL5) to Thunder Bay (CYQT). As a commercial student, one of the requirements is to complete a 300nm cross country with 3 full stops, and I thought, "What better province to complete it in than Ontario – because, "it's yours to discover!" On board I had a passenger - a female pilot who is also a commercial student - and I had some winter equipment in the baggage compartment. As I was flying in October I wanted to make sure I was prepared if temperatures dropped below zero. My first stop was Kenora (CYQK), where I quickly refuelled, and was enroute again to Dryden (CYHD), the second stop on my journey. The highway was in sight and I started following it. About 10 minutes out I realized the road I was following wasn't matching my map, and my times weren't matching my Nav Log. I was following the wrong highway! If it had not been for the VFR navigation skills I had learned while working on my private license I probably would have kept going.

Back on track to Dryden (CYHD), we landed and fuelled. It was here that I was informed of a fuel discount for Copa Members and C-FLUG is a member. After checking the weather for the last leg, it looked as if I had chosen a perfect day for flying. I was going to be able to complete the 2 hour and 10 minute trip to Thunder Bay (CYQT) which was the half way mark of my journey. It was also the bumpiest leg of the journey! After I tied the plane down over night, the Thunder Bay airport provided us with a complimentary van so we could see some of Thunder Bay so we explored for a bit before getting a hotel room and calling it a day. In the morning, we were forced to wait for fog to clear and for very low visibility in Dryden. (CYHD) Once it cleared we were on our way back to Manitoba with no further delays. When I arrived back at Lyncrest I was so proud of my accomplishment. This trip is

One of the great things about being a pilot is that you get to see everyday sights in a way that regular folks can't. The CN tower and Niagara Falls are memorable sight.

the farthest I have gone to date, and it gave me a lot of confidence. I can't wait to plan my next trip! I was fortunate to have had another pilot with me on this adventure and highly recommend anyone attempting their first solo long distance trip to consider doing the same.

The USA

In order to build hours to obtain one's commercial licence, a pilot needs to fly long and short cross countries. In my experience, this is where one really learns what flying is all about. There is no instructor in the seat beside you helping with radio calls, advising what altitude to fly at, or how to join the circuit. You plan your route, get into your plane and go. However, there is one thing stopping you from heading off just anywhere - the Canada/USA border crossing! Recently another commercial student pilot and I planned a trip to Thief River Falls (KTVF), south of the border. In a Cessna 150 it was about an hour in duration, and we thought we were well prepared. However, it wasn't until we landed at Piney/Pinecreek (48Y), a runway that is half in Canada and half in the USA, that we learned what border crossing was all about. When planning a flight into the States, one must file an Eapis. This provides the border with the passenger details, owner of the aircraft information, and details on one's trip into the States. We were advised to file one for entry and one for departure at the same time. We also learned you MUST make sure to call the US border one hour prior to your wheels up time! Once you have successfully crossed the border and are back in the air, you are supposed to radio for flight following. I was unable to access flight following because I wasn't at a high enough altitude, and couldn't climb due to weather. Despite this setback we landed in Thief River Falls without incident, and we were greeted by very helpful staff who explained their refuelling system. When crossing the border on the way home, we had to deal with Canadian customs agents who were super friendly! I look forward to my next border crossing adventure as I make my way to Grand Forks, North Dakota.

Toronto Island

I grew up just outside of Toronto, and the day I started flying I made it a goal of mine to fly out of the Toronto Billy Bishop Airport (CYTZ and recently I realized that dream. I took a few days off work and flew commercially to the Toronto Pearson International Airport. As it turned out, I deplaned and met my dad, who was at the airport preparing for HIS flight as an Air Canada pilot. I met up with him long enough to take a picture with him and to get a Toronto VNC and VTA for my upcoming flight. I made my way down to the Island airport, rented a Cessna 150 and went up with an instructor for 2 hours. We did a short cross country out of the Island airport to Niagara Falls, and then flew back for a tour of downtown Toronto. Due to the spectacular views, this has been my favourite flight so far, although not the least nerve-wracking! I had to be brave when it came to my radio communicating skills as I had to talk to Toronto's (YYZ) tower when passing through their airspace. I followed the shoreline, and because there are few places to land in case of emergencies we went over the ditching procedures. We had flight following, which was a joy as we were passed off from frequency to frequency. When arriving at Niagara Falls, there was a specific circuit pattern and altitude that had to be followed to avoid helicopters that were giving fall tours. Despite these complications, I completed a few circuits right over the falls. This Cessna was equipped with VOR and ADF instruments, and with my commercial written test looming, we worked on flying while intercepting radials. It was a great learning experience. Our downtown tour was an amazing experience. We did circles around the tip of the CN tower, and flew right over the Jay's Stadium. Returning to the Billy Bishop airport for some circuits was another new experience for me. On a normal approach into an airport that is not surrounded by water you start putting down flaps on base leg, and have full flaps extended before short final. However on this approach we did not lower any degrees of flaps until we had a landing clearance, and were over the threshold of the runway. It was fantastic learning about the different procedures and landing techniques associated with the island airport, and I recommend giving it a try if you ever have the opportunity.

***Megan Ferries** is a new PPL working on her CPL with the Lyncrest RAA club plane C-FLUG C-150. Jill Oakes spearheaded the chapter aircraft initiative and a requirement is that all users must be National RAA members.*

Wrap that Plane!

DRAMATIC ADVERTISING on trucks, buses, and cars has become common, and in the past decade it has usually been accomplished by application of large pre-printed vinyl decals. Many of us have gone through the frustration of applying vinyl letters to a plane, chasing the bubbles and pinpricking to let out trapped air. Fortunately that is not the material that is being used nowadays for graphics.

The state of the art material is cast vinyl sheeting with tiny air channels on the adhesive side, and microscopic glass beads to allow the material to be slid around and repositioned until the operator presses it down in its finished position. This material has revolutionized the advertising industry. Vinyl sheeting is reasonably formable at room temperature and very formable when heated, and it is not uncommon to do a complete colour change on an entire car using vinyl wrapping instead of the traditional repaint method.

Companies like 3M, Avery, and Hexis are the premier suppliers of vinyl sheet, and because the advertising world is always looking for an edge there is a lot of competition on price and appearance. Vinyl sheet may be had in solid colours and various textures, even giving the appearance of carbon fibre. Several companies now make chrome sheeting in silver, gold, and various other chrome colours; entire cars have been wrapped in chrome, using conventional colour only for accent panels or stripes. Vinyl material may also be photo printed - a local machinery dealer has the entire side of his truck covered with a photo of all the lathes and mills in his showroom. Even buildings have been covered with preprinted material, and in Kansas City one exterior wall of a library now looks like a row of thirty foot high books on a shelf. If you have the imagination, just about anything is possible with vinyl.

The traditional way of finishing a metal plane is with paint, and a professional job will cost upwards of $10K. The prepwork must be meticulous and the solvents and paints are very expensive. A two part epoxy primer will cost in the range of $300 per gallon and good urethane paint is $250 to $500 depending on the colour. The painting must be done in a paint booth to contain the carcinogenic chemicals, and the painter must be covered in a full suit with a supply of fresh air. When the job is finished the weight of most planes will have increased by forty or more pounds. Some builders choose to do their own paint, but unless they have had a lot of experience the job is rarely as good as a professional job. An airplane is not the place to learn how to paint.

Frank Owens' RV-7 graced the cover of a recent issue of the Rec Flyer and like most new planes it was in bare metal, with paint or primer only on the fiberglass cowl and fairings. Frank wanted to try vinyl wrapping as an alternative to paint, so he contacted Twin City Graphics in Kitchener Waterloo for a quote to wrap the entire plane.

Before Twin City arrived at his hangar Frank wet sanded the fiberglass cowl and fairings to prep for covering. Vinyl has some masking power but it will not hide

Top: Remember Frank Owens' RV-6? The bare metal speedster has since had colour put to it, but not with the traditional paint. Vinyl vehicle wraps offer a cheap and flexible alternative to expensive - and toxic- paint. Above left: Twin City Graphics' truck is a good example of what can be done with vinyl; right, after sanding and cleaning, measuring is next

low spots or dents. Frank had previously polished the aluminum so he sanded it with fine paper to give the surface some tooth, then washed the entire plane with soap and water. Nothing with silicone should be used, so that lets out many of the car wash preparations and even Windex. The plane was dried with clean cotton cloths and allowed to stand in the hangar for a few days to ensure that there would be no water trapped anywhere.

The Twin City Graphics three man crew arrived in their large vinyl-wrapped truck and set to work cleaning the entire plane with isopropyl rubbing alcohol to ensure that it was

completely degreased. Ambient temperature was initially about 70F and the next day when the temperature dropped a supplementary propane heater was used to maintain that temperature.

The application process could best be described as a cut and fit operation. A panel is measured and the material is cut somewhat oversized and centered on the surface, held in place with masking tape. (On a steel car they use magnets) On the RV-7 the easiest panel is the turtledeck because it is at a convenient height and is single curvature. The vinyl was gradually pressed down using debit cards as squeegees, working both ways from the middle. Frank wanted a diagonal stripe along the side so the silver turtledeck material extended down to it. At the bottom edge the excess material was sliced off using a box cutter knife in a practiced hand.

There are three main ways to do a trim: Some cut the material after it has been pressed into place, making certain not to score the metal. Some lift the edge and cut in the air, then press it down. Some use a product called Knifeless Tape, which is a thin Kevlar thread on a tape backing. The Kevlar tape gets pressed down to define the line, either straight or curved, and the vinyl is laid over it. The operator pulls up on the Kevlar and slices a clean line through the vinyl. The edge of the vinyl is lifted, the tape is removed, and the vinyl gets pressed into place with a debit card.

Double curvature parts present a challenge. There are areas that require the vinyl to be stretched, and other areas that require it to be gathered up. The top of an RV cowling has both conditions. There is a bulge to make the line to the prop spinner, and adjacent to it on each side is a concave section that requires the material to be stretched if it is to conform to the shape. The material is draped over the cowl and again taped into place on the centerline. The area requiring a stretch gets softened with a heat gun and then it is squeegeed down. If there are any persistent bubbles the usual procedure is to prick them with a pin and squeegee the air out.

The air nostrils are the opposite – these require the material to be gathered up as it forms around the convex front edge of the cowl, and around the corner into the nostril. The heat gun is used again but the process is a lot slower. The operator must wipe the material down in an isobar pattern, not getting too far ahead in one area or the area left behind will be more difficult to squeegee down. The edges of the cowl must be dealt with too, and the tidiest method is to

Top down: The top engine cowl has every surface - single curvature, concave, and convex; debit cards are used to squeegee, beginning at the centreline and working down the single curvature sections. Above, the material is pulled into tension to aid in wrapping the tight radius at the outside corner of the cowl.

Top: Brian Heinmiller's Sonex was wrapped a decade ago. It still looks great! Above left, a touch of the heat gun helps in the difficult areas. Right, knifeless tape is the big secret for cutting curved lines

wrap around the edge and trim on the inside surface.

The boot cowl and windshield surround were handled as one piece of material, heat formed and squeegeed into place. The vinyl was then cut out at the perimeter of the windshield using a sharp knife.

The fuselage underside was wrapped in white vinyl, upwards to meet the turtledeck's edge. It is possible to do a flush butt joint but much more commonly the operator will do a 1/8" overlap, which becomes almost invisible if the cut line is well done. Sometimes a pinstripe covers the overlap, same as is done when two paint colours meet. In this case the accent striped covered the joints.

Most vinyl material is 5 ft. wide, so on an RV wing the material could have been run spanwise, with an overlap on the underside of the wing. Instead Frank decided to run chordwise from the rear spar, around the nose, and over the top to meet again at the rear spar. Adjacent sections met with a 1/8" spanwise overlap, unnoticeable to most. The flush riveting was barely visible through the white vinyl, just as it would have been if the wing had been painted.

Gearleg fairings were wrapped but the wheelpants were painted to match, and vinyl striping was applied. Long tapered stripes had been cut on a cnc vinyl cutter and these were positioned with tape and adhered to the sides. The rudder then received its cnc Canadian Maple Leaf, centered on the trailing edge and squeegeed forward. The top of the boot cowl received a glare shield of matte black "carbon fibre," as did the

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A New Club Airplane

Chapter 85 Starts Construction of their Zenith 750 Cruzer / by Peter Whittaker

AT THE BEGINNING OF 2015, RAAC Vancouver Chapter 85 based at Delta Heritage Airpark made the decision to begin a homebuilt project. This came about because the chapter airplane, a Druine Turbi, had been damaged in a landing accident and the remains had been sold in 2013 to an RAAC member in Brandon, Manitoba. With funds in the bank account it was decided at the January 2015 meeting to use the money to build a new chapter aircraft, the intent being that it would be for the use of chapter members and follow the model used with the Turbi.

The decision to build an aircraft then initiated a number of questions and debates that took place over a 7 month period until a final decision was reached to purchase a Zenith 750 Cruzer kit project from Zenair Ltd in Midland, Ontario. One of the first tasks was to determine who the core builders would be and establish a builders group out of the overall chapter membership. The builders group started with 12 people and has grown to include 16 people at the time of writing.

Meetings took place starting in January to deal with questions that were oriented to finding an aircraft project that would be suitable for chapter use by a range of members with different levels of flying experience and at the same time have a reasonable aircraft for cross country flights, which in the lower mainland of BC, would inevitably involve mountain flying. A few meetings were required to determine if the chapter wanted to consider buying a used certified aircraft such as a Cessna 150 or 152, refurbishing a non-flying certified aircraft as a restoration project or building a kit aircraft. The overriding consideration was that members were not interested in a multi-year long drawn out project. This led to the realization that a project would have to develop relatively quickly in order to foster and maintain enthusiasm in the project. The key attributes that were finally decided upon included:

- All metal construction for durability and corrosion resistance

Matt Heintz goes over construction details with chapter participants the Saturday of the workshop. The Cruzer was chosen since it met the chapter's mission parameters - high wing, all metal, tricycle gears and side by side seating.

- Proven construction methods since most members have not built an airplane
- Tricycle gear (not everyone has taildragger experience)
- Readily available and serviceable engine (Continental or Lycoming: no auto conversions)
- High wing
- Robust and short field capable
- 2 seater acceptable since most previous Turbi flights were single or with 1 passenger
- Good leg room and head clearance, side by side seating (not the case in the Turbi)

One of the build tables the chapter built for the project. Here, the aft fuselage bottom lies clecoed together prior to drilling full size holes, deburring and final assembly.

Members wanted to gain hands on building experience so a "quick-build" kit was ruled out.

The aircraft attributes decided upon by the building group were presented to the general membership for discussion and further input at several of the monthly meetings. At this point, the building group met to develop a list of potential kit projects. At several stages during the search process, tempting "good deals" for partially completed kit projects were brought up. The underlying concern in all of these was the state of workmanship, the completeness of the remaining parts inventory and how much re-work would have to be done. It was finally decided that the most expedient approach was to buy a new kit so that the chapter had full control over the building process and support from the manufacturer.

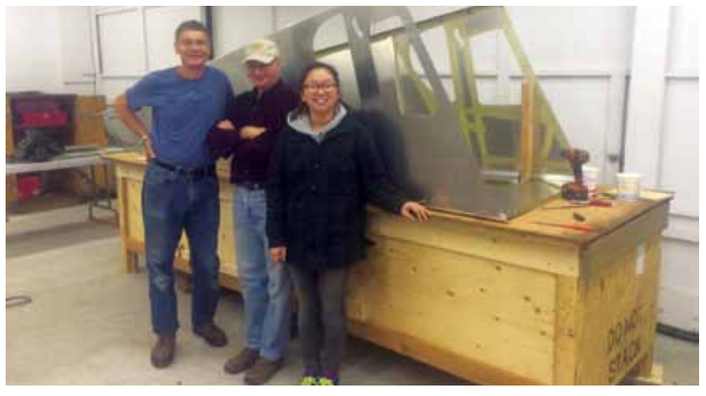
After going through an evaluation of kit aircraft that met the criteria, it came down to the Zenith 750 Cruzer and one other high wing all metal kit. The Zenith 750 Cruzer was selected for the long running and consistent history of kit development from Zenair Ltd, competitive pricing and ongoing support and interest in the chapter 85 project. Chapter 85 had also built a Zenith CH 600 with Chris Heintz during Expo 86 in Vancouver, several members had experience building Zenith aircraft (701, 601 HDS) and this provided a level of base knowledge for moving ahead with a Zenith project. Part of the commitment from Zenith Aircraft was to conduct a kick-off building workshop designed to get the project started. A possible follow-up weekend workshop later in the building process is also planned. All of these factors helped to make the decision to build a Zenith 750 Cruzer. During the summer of 2015, John Macready, past-president, was in Ontario and was able to visit Zenith aircraft and have a flight in the 750 Cruzer. That flight clinched the choice!

The Cruzer goes together quickly. The kit chosen was not a quick build since part of the rationale was to maximize participants learning opportunity. The aft fuselage is shown here: a way to go, but it's starting to look like an airplane.

The decision was finalized at the July chapter meeting to purchase the Zenith 750 Cruzer kit plus the firewall forward and finishing kits. This would leave engine and instruments which would become separate projects for future scrounging and hunting for deals. The order was placed in early July and the kit was delivered in September. Preparation work began with discussions and advice from Zenith on setting up the chapter workshop. Chapter 85 has a permanent aircraft maintenance workshop for members to use for repairs and annual inspections. The building project would take over the workshop for the duration of the build and the entire kit would be located in the workshop. Four worktables would be needed, three 4' X 12' tables were built, one from plywood from the kit shipping crate and a fourth table was donated which

Team Leaders

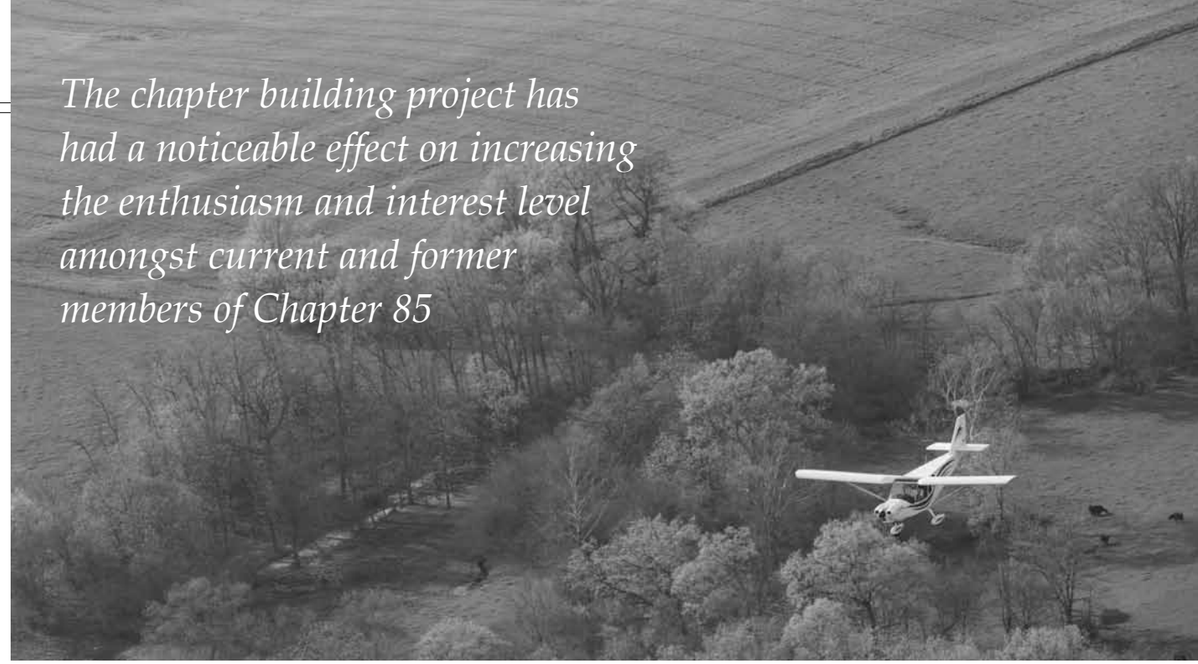
Workers are divided into 4 teams. From left to right: Cyril Henderson (forward fuselage and firewall) discusses the construction of the cabin; past president John Macready with the empennage, Chapter president Peter Whittaker describes the construction of the aft fuselage and Perry Delano explains wing construction to chapter members. By breaking up the workload and assigning teams to specific components, a more efficient utililzation of manpower is achieved with less chance of duplication or mistakes. That said, it's still a learning experience. That's what RAA is all about. Exciting times!



was 4′ X 8′. Tools were acquired from members and a few were purchased along with zinc chromate primer plus reducer.

In early October, Matt Heintz from Zenair in Midland, Ontario came out to Vancouver / Delta to conduct the kick-off building workshop. This began on a Saturday morning with a presentation and review of aircraft building standards and basic building techniques. The building seminar then moved into the workshop where everyone had a chance to build a practice piece which involved reading a small design plan, arranging L angle stiffeners onto a square piece of sheet aluminum, drilling and clecoeing 2 sizes of rivet holes, drilling for an AN3 bolt and then riveting and installing the bolt.

Top: chapter members work on practice pieces at the Octover kick-off. Left, top, Shawn Connelly, Perry Delano, Cyril Henderson and Gerard van Djik work on the horizontal stabilizer. Left, fuselage team Eric Klassen, Peter Whittaker and Evie Chan stand in front of their handiwork.



This generated a hive of activity and regardless of the plan, a number of different ways to complete the practice piece were conjured up! This turned out to be an excellent exercise for getting people on the same page in terms of reading a plan, using a drill and drill bits (and no, the masonry bit that was tried never did work) and realizing what was meant by the tolerances called for in the Zenair construction techniques document.

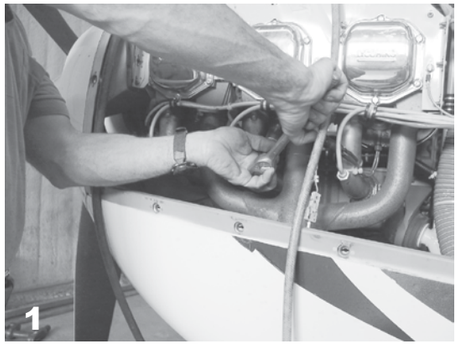
The organization of the building process benefited greatly from the experience and advice given by Matt Heintz (it became readily apparent he has done this many times before). The key points involved keeping the project centred in one place in order to keep track of parts, establish component building teams and keep the team members focussed on their chosen component. This allows builders to study the photo manuals and drawings and get to know their component. Building teams were established for the empennage, wings, main / rear fuselage, forward fuselage and firewall plus another sub-group was formed to begin a search for a suitable used engine. Other members are on the lookout for avionics.

The building workshop carried on into a full day of activity on the Sunday and this saw parts of the empennage, one wing, forward fuselage and the rear fuselage bottom skin dry fitted, de-burred and ready for primer and clecoes (Figures 4 & 5). One month later (early November) work had progressed to having some of the components partly riveted and in a suitable state for eventual pre-cover inspection The chapter building project has had a noticeable effect on increasing the enthusiasm and interest level amongst current and former members of Chapter 85. Several previous members have decided to re-join and a few new members have joined as a result of interest in aircraft building and hearing about the project via the grapevine. One of our new members is a grade 10 student, she is very diligent at reading plans and has a good eye for detail. Former members have appeared out of the wood work to offer and donate tools. Apart from eventually having a chapter aircraft for members to use once again, this project is off to a good start in terms of increasing interest, attracting former members and most importantly, raising interest and awareness in private aviation in some new and younger members. R

***Peter Whittaker** is the president of RAA Chapter 85 (Vancouver). He is the owner of a Zenith 601 HDS which he built from plans over a 14 year period, and which has recently completed its 25 hour fly-off.*

Cylinder Leakdown Test

Vito Perino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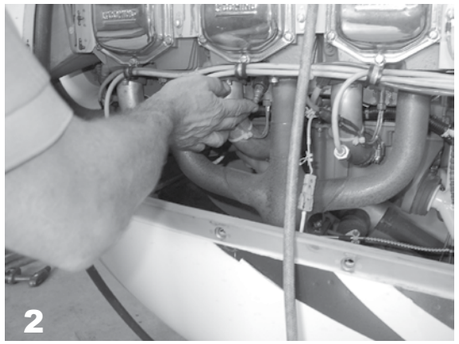
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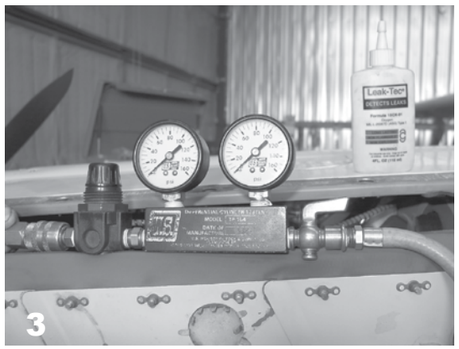
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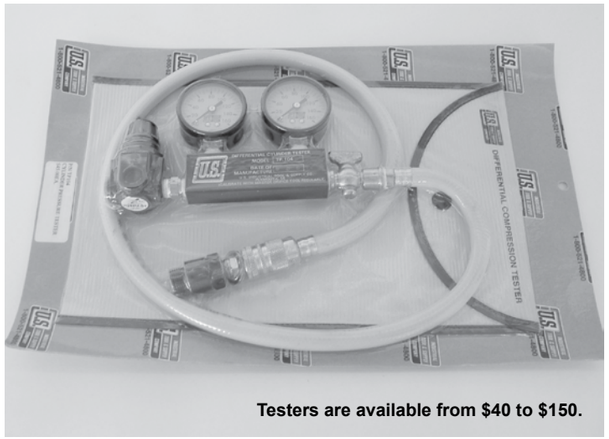
Testers are available from $40 to $150.

THE LEAKDOWN TESTER is a very handy tool for determining the condition of the top end of a four stroke engine. Essentially it is a means of pressurizing a cylinder to a known number of psi, and then measuring how well the engine retains that pressure. To do this test you will need a leakdown tester available from an aviation or auto tool supplier or from Princess Auto, and you will need an air supply at 80 psi. Here's how to do it:

1: Turn off the mags and remove one plug from each cylinder. Install the pressure adapter and tighten as you would for a sparkplug

2: Rotate the prop by hand and feel for pressure with your finger-tip, to determine when the cylinder is at compression TDC.

3: Back the regulator down to zero and connect to the shop air supply

4:Turn the regulator up to 30 psi and rock the prop gently to be certain that you are at TDC. The prop will not try to turn any-more when it is at TDC.


4

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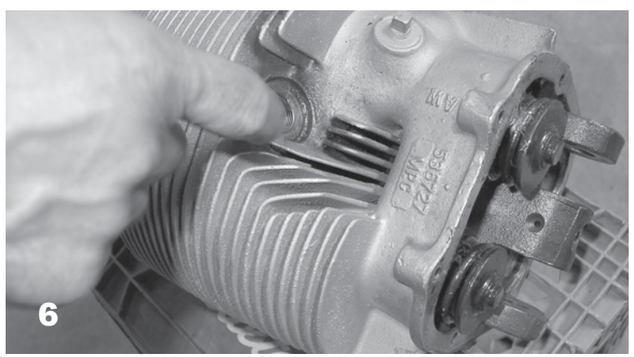
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5: Now wind the pressure regulator up to 80 psi on the left hand gauge. Stay out of the way of the prop, and keep one hand on it to warn you if it begins to move. The right gauge shows how much pressure the cylinder is retaining. This is a freshly broken in engine, and it holds 79 psi. Check your manual to see what is acceptable. 20% leakdown is not unusual.

6: If there is leakage, the air has to be going somewhere. Worn rings will produce a hiss at the oil filler. Leaking valves can be heard at the carb or the muffler outlet. A cracked spark plug seat can be found with a solu-tion of dish detergent. Leaking air will produce bubbles. On Continentals the screwed joint between the head and the barrel can leak too.

Paperwork and Final Inspection

Art Penner

While building my RV10 and getting ready for my C of R and Final Inspection, I came across this statement from the MDRA website: "The builder must have on hand the Certificate of Registration for his aircraft before the inspection can be performed".

So I contacted Transport Canada to apply for the Cert of Registration and was told that "to receive a Certificate of Registration (C of R), you will need to submit Inspection Authorization Form that states "Final Inspection". Sounded like a catch-22 to me. Next I went to see Gary Wolf (RAA president) and asked "what comes first: the C of R or the Final Inspection". His answer was "the procedures at Transport can be inconsistent. When you figure this one out, let me know the latest"

So Gary, this is what I found out. It really isn't a serious catch-22 at all. The first thing to do is to contact Transport Canada to get your Registration marks because these need to be on all the documents. This can be done by reserving them in advance or by applying for "next available" and paying the fee. If they are reserved, make sure a year does not pass or they will expire and someone else may have claimed your letters. The letters can be renewed for another year for $45.

Then, apply for the Final Inspection using MDRA form C02E. It conveniently includes a credit card form to pay for the inspection. Taxes must be added to the quoted fee. Take a picture of the dataplate attached to the airplane, and then another picture – a ¾ view - of the whole airplane with the registration marks showing. MDRA will then send you Form C07B by email which is your Inspection Notice. This inspection notice is what Transport Canada needs to see before issuing the C of R.

Then you need to pay the C of R fee.You can call Transport Canada Finance (416-952-0400 or 800-305-2059) to pay the $110.00 C of R fee by Visa, MasterCard or American Express. Their hours are 8:30 to 4:30 EST. You will receive a receipt by email. Add this receipt to the C of R application package.

To submit the application, include the above documents, ie:

- Application for C of R (260522)
- C07B Final inspection notice
- Receipt for payment of fee
- Picture of Dataplate
- Picture of airplane

and email them as attachments to CASO-SACO@tc.gc.ca. I received a reply stating that my application would be reviewed and I would hear from someone within 3 months but I had the C of R in my hand within a week. With the C of R in hand, I could now call the inspector listed on the Inspection notice C07B and arrange a convenient time for final inspection. The documents and requirements for final inspection are spelled out clearly on the same form C07B.

Art Penner RAA #9350

Ed note – Art has received his paperwork and is now flying off the 25 hours.

Amending Operating Limitations at the end of 25 Hours

1) Call 1-800-305-2059/416-952-0400 and pay the $35.00 fee, code 9K11. You will get a receipt number.
2) Enter and sign a journey log entry stating that the aircraft has successfully completed 25 trouble-free hours.
3) Scan the following:

- **the C of R**
- **the Special C of A you have now**
- **the logbook cover page that identifies the aircraft**
- **the page(s) that show the 25 hours and entry , as well as the climb test.**

4) Send an e-mail to CASO-SACO@tc.gc.ca requesting that the limits be amended and attach the scanned documents. Include the receipt number.
5) Include your address and contact info in the e-mail. Your application will be forwarded to the TC office closest to your address. Until you have the new document in hand you are still restricted to the initial operating limitations of 25 miles.

Zenair announces new Two Week Builder Assist Program

Based on similar well-established programs in the US, Plane-Crafters is now offering the ultimate accelerated plane-building experience North of the border. Designed for busy people short on spare-time, Plane-Crafters, a new "Build-Center" in central Ontario, offers pilots a unique opportunity to assemble and taxi their own personal kit aircraft after just two weeks of workshop time.
"We know and have demonstrated that Zenith kits are quick and easy to build," says Matt Heintz, Zenair CEO and son of well known Canadian light aircraft designer Chris Heintz, "so we are not surprised that Plane-Crafters is basing its "Two-Week-Wonder" programs on our popular two-seat Zodiac and STOL designs".
The two-week programs at Plane-Crafters put the owner-builder in charge of the assembly process, but surrounds him/her with several experienced hands-on assistants at all times. This removes time-consuming hesitations and guess-work from of the process. Sure enough, by the end of the program, the engine is fired-up and the proud new owner can taxi the completed kitplane onto the adjacent taxiway… The aircraft can then be taken home for paint, cabin interior and final paperwork in preparation for the first flight. Completed aircraft can be registered in the AULA (Advance ultralight) category or in the E-AB (Amateur-built) category, depending on the inspections completed during the construction process.
Three different Zenair aircraft models can be assembled through this program: The CH 750 STOL and CRUZER models, as well as the low-wing Zodiac CH 650. A variety of engine choices are possible, as well as a customized panel. Price for an aircraft built through the Plane-Crafters program will vary depending on engine, avionics and installed options, but most will come within the $100,000.00 range (USD). To help promote the program, Zenair is currently offering a $10,000 discount on advanced avionics packages.
For more information on the "Two-Week-Wonder" program, visit planecrafters.com or contact Plane-Crafters at planecrafters@gmail.com; for information on the aircraft and/or available options, see zenair.com

Wrap / continued from page 21

forward top section of the turtedeck.

The final touch was to wrap the spinner in two pieces of vinyl, with the lengthwise overlaps 180 degrees apart. This will be an accelerated test of the adhesive, and subsequent test flights have shown no tendency to loosen.

The result of three days of work was a first class "paint job" and a hangar floor littered with snippets of material. Cleanup was a non issue, just a broom and a plastic bag, a contrast to the work involved in cleaning up after paint. At the end of the week Frank's hangar was again tidy and his RV-7 was resplendent in its new livery. Frank reweighed his plane after wrapping and the plane had gained only 20 pounds. His flight testing showed an increase of 2 knots, possibly attributable to the now smoother wing.

Some ask about the longevity of vinyl material. In road vehicle all weather applications it is possible to get ten years of service from vinyl. In an airplane that is hangared and does 100 hrs. per year it should last a long time.

Brian Heinmiller's Sonex had a partial vinyl job just after it was built in 2005, and the red graphics and cowl were already a few years old when the plane was on the cover of the Rec Flyer in 2008. All red was done in vinyl and until Brian mentioned it I thought that it was paint. The Sonex has button head rivets, and the vinyl wraps each rivet perfectly without any meniscus at the edges. The heat gun was largely responsible for this, and after a decade the Sonex still looks like new.

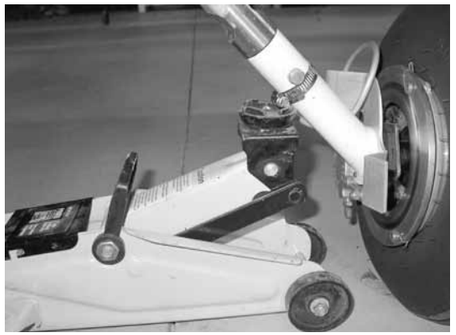
You may wish to try using vinyl in the interior of your plane. Dan Oldridge did this with his firetruck motif Highlander, using vinyl printed to look like aluminum checkerplate.

If you would like to try your hand at using vinyl wrapping you might be able to get some cutoffs from a local wrap shop. Many of these places were originally window tint and accessory shops, so have a look in the yellow pages, or just google for "automobile vinyl wrap" in your city. A car door mirror is a good place to practice because it has concave and convex sections, and a few dollars would buy one at an auto wrecker. The topography of a car door mirror will require a few pieces with butt or overlap joints. You can also practice removing vinyl after the adhesive has cured, which usually takes 24 hours. A heat gun works well to soften the adhesive, and Goo Gone citrus cleaner will remove any residue.

Top: the work of an expert always looks easy when the job is finished. The cowling has both concave and convex surfaces with compound curves. Above, the intersection fairings on the landing gear were wrapped, with parting lines at the leading and trailing edges

If you want larger sheets there are all sizes and colours available on Ebay and Kijiji, usually in 5 ft. widths. There are also many small shops specializing in selling to people who want to do their own wrapping.

Twincitygraphics.com
Hexis-graphics.com
Averyvinyl.com
Solutions.3m.com
carwrapsupplier.com
3dwraps.ca



Jacking of Wittman Gear and Removal of Wheel

WAYNE HADATH has been doing a lot of touch and goes while he flies off the restrictions on his new F-1 Rocket, and the tires show it. Toe setting on his plane causes most of wear to be on the inside of the tires, but they can be reversed on the rims to stretch their lives. However the Rocket has a rod-type Wittman gear and there are no jacking points. The easiest way to get a temporary jacking point is to use a good hose clamp. Wayne cautions that it must be a stainless Tridon or other strong hose clamp to take the load. The thin plated steel ones are not strong enough.

Once the hose clamp is tight, a small floor jack may be used to lift the landing gear leg, with the screw housing of the hose clamp being used as the jacking point. Although omitted for clarity in the photo, a shop cloth should be used if there is any chance that the jack might scratch the gear leg.

Occasionally the three rim bolts get weakened by rust or previous overtorqueing, and they can shear. When this happens, only the axle nut holds the two halves of the rim together. As you unwind this nut and it reaches the last thread, it can get blown across the hangar. Sometimes the outer rim half can go with it. Nothing good has ever been said about either occurrence.

Good practise is to remove the tire's valve stem before removing any of the axle or rim nuts.

Derek shows the right way to tighten the gear clamp in a low clearance situation. Notice how his fingers keep the clamp from creeping alround. This avoids the nubbin from chafing against the oil pan.

Small Clamp, Big Problem

DEREK ANDREWS dropped by the other day to show me how a small mistake resulted in a large problem for the owner of a Continental six cylinder engine. On this engine there is an intake crossover tube that is secured with a hose clamp, and the clamp had worn a hole right through the engine's oil pan. Fortunately this was still at the pinhole stage when Derek found it during the annual. However, to remove the oil pan for a weld repair meant that the engine had to be lifted from its mount. This was a certified plane so the aluminum oil pan was sent to an approved facility for repair, not an inexpen-

continued from page 33

sive proposition.

What caused this? -just a moment's oversight when the clamp was being tightened. When a hose clamp is being tightened with a socket wrench, it is normal for the mechanic to be pressing the socket against its hex nut. This can cause the clamp to creep around the hose while it is being tightened. In this case it crept until the nubbin at the other end of the screw contacted the oil pan. Normal movement of the engine on its rubber mounts then chafed the pan against the clamp.

Derek recommends putting a fingertip behind the gear clamp when it is being tightened, to prevent contact with anything nearby. It is wise to consider that horizontally-opposed engines do have a lot of vibration, and that clearance to adjacent components can be drastically diminished when the engine is running.

President's Message / cont'd from page 2

COPA fold and he is now traveling across the country to accomplish this. We discussed the various possibilities for COPA and RAA to become closer, ranging from having COPA distribute our magazine, all the way to becoming a subset of COPA. If you have opinions on the matter please email or phone to let us know.

AVIATION SILLY SEASON

Every fall near the end of October many planes change hands as the owners wish to avoid the cost of hangarage over the winter months. For Amateur and basic UL aircraft the procedure is simply to fill out the registration documents and go flying for 90 days until the new paperwork appears.

Advanced UL aircraft have a different issue. If the plane is registered as an AULA the current owner and the purchaser must both fill out the Fit For Flight form which affirms the plane's conformity with the manufacturer's type definition. If a plane is not in flyable condition this form may not legally be signed.

Frequently there are for sale Advanced UL projects from manufacturers no longer in business. People who buy these projects must realize that without a manufacturer's rep to sign the initial paperwork the plane cannot be registered as an Advanced UL. The default is to go into the Basic UL category if the plane can meet the Minimum Useful Load requirement at that category's lower maximum gross weight. All the assurances in the world mean nothing if the document has not been signed.

We discussed the various possibilities for COPA and RAA to become closer, ranging from having COPA distribute our magazine, all the way to becoming a subset of COPA.

PLEA FOR ARTICLES

A decade ago it was easy to edit the magazine. Members were a decade younger and they sent in articles. All that was necessary was to check spelling and grammar, and forward to George Gregory who turns everything into artwork. Gradually the flow decreased, and now George and I have to go hat in hand begging for the bones of an article so that we can write them ourselves. This is a far cry from what we signed on for and it is consuming most of what used to be our free time.

Initially Chris Horsten handled editing but when his family demands became at odds with the demands of the magazine, the mag got dropped into my lap. At the time my kids were in their teens and the last thing they wanted was a dad getting in the way, so time was available. Now they are parents and I find myself taking little children to and from school each day, leaving only four hours per day for everything else. We desperately need member supplied articles about what you are building and flying. The alternative is to fill the magazine with reprints and advertiser-written puff pieces, and if it gets to that point why do it? Many of our members are engineers, quite capable of writing on many aviation subjects, but instead it appears that most members sit back and wait for someone else to do this. This is Canada, and Canadians have a great aviation history, and all we need is for half a dozen members to write up their personal experience for each issue. Is it really that difficult?

Long-Eze / continued from page 13

the cockpit, next to my right arm, and carrying high pressure hot oil. I could just imagine the effect of a pin hole at the wrong place, at the wrong time.

All the avionics were Narco products obtained from Toronto Avionics in Peterborough. After some shopping around, this avionics shop gave me a fantastic price for the whole stack (about 50% off list price), including harnesses (floating and tagged at one end for my own completion/installation). The radio stack is made up of an AT150 Transponder with separate AR850 Altitude Encoder (used to be referred to as a blind encoder), a COM 810 radio, a NAV 824 receiver, and a LORAN C LRN820. LORAN was in service at that time and was useful as far as Oshkosh, albeit with a few holes between Ottawa and Manitoulin. With respect to a NAV/COM set-up, my preference would have been for a NAV/COM/LOC/ILS such as the 12D but the price was too high, and they could meet my budget with these separate COM radio and VOR units. Photo 3 shows the new instrument panel. Note that both the original panel and the new one have an empty space at the bottom of the radio stack. This was a small storage place on the original panel. My new panel had the Loran C in that location but it has since been removed since the system has now disappeared. The photo is recent. Toronto Avionics accepted to recognize the warranty of these radios although I was installing them and they even included a Transponder/Encoder check as part of the deal at the time. Designing and manufacturing the structure to mount these avionics trays was not as straightforward as I foolishly expected at the beginning, but it all worked out in a very compact installation.

Next article will discuss the modifications that came along in the following seasons and we will discuss some interesting and exciting aspects of the performance of the Long-EZ in the real world.

Long-Eze / suite de la page 13

les conséquences d'un petit trou au mauvais endroit, à un moment inopportun.

Tous les elements de l'ensemble radios sont des produits Narco obtenus de Toronto Avionics à Peterborough. Après avoir beaucoup magaziner, j'ai trouver ce fournisseur qui m'a accordé un pris fantastique pour l'ensemble (presque 50% de réduction) incluant les câblages montés à un bout et marqués à l'autre extrémité pour mon installation. L'ensemble comprenait un Transpondeur AT150 avec Encodeur Altitude AT850, un radio COM810, un récepteur NAV824 et un LORAN C LRN820. LORAN était en service durant cette période et était efficace jusqu'à Oshkosh, bien qu'il y avait quelques trous entre Ottawa et Manitoulin. Du point de vue NAV/COM, j'aurais préféré un MK 12D avec ILS mais mon budget ne le permettait pas. La photo 3 nous montre le nouveau tableau de bord. On remarque que le tableau original et le nouveau tableau ont tous deux un espace vide sous les radios. Dans le cas de l'original, il s'agissait d'un espace de rangement alors que dans le cas du nouveau tableau, il s'agit de l'espace laissé suite à l'enlèvement du LORAN C puisque ce système est maintenant disparu. La photo est récente. Lors de tous ces changements, Toronto Avionics avait aussi accepté de supporter la garantie de ces radios même si j'en faisais l'installation et ils ont par surcroît inclus une vérificaiton de l'ensemble transpondeur/encodeur à condition que je me rende chez-eux. Par contre, la conception et la manufacture d'une structure pour supporter tous ces radios dans un espace aussi exigü n'a pas été une sinécure mais finalement, le tout a donné une installation très compacte.

Le prochain article présentera les modifications qui ont suivies au cours des prochaines saisons et nous discuterons un peu certains aspects intéressant et excitants des performances du Long-EZ dans le monde réel.

JC Audet / *With a MSc in Physics and BEducation in hand, JC started out teaching high school but then chose to join the Air Force a year later. He qualified as Aerospace Engineer and subsequently took pilot training. He served in operations, support, training, and on some major acquisition programs. After military life, JC joined Bombardier Aerospace as Chief of System Engineering for the Regional Jet and the Challenger fleets. He then moved on to Fairchild-Dornier in Germany as Director of System Engineering and later as Chief of Engineering for some of the new aircraft programs. In this position, JC worked extensively with Israeli Aircraft Industries (IAI) and moved to Tel-Aviv for a period of time. Upon returning to Canada, JC did some consulting work with the Air Force and Transport Canada before accepting the responsibilities of Program Manager and System Engineering Manager with CAE in Montreal, the world renowned flight simulators manufacturer. He later formed his own company to design, test, and certify special purpose aircraft modifications. JC is currently the Chief Flight Operations and Chief Test Pilot at CMC Electronics, a manufacturer of communication and navigation equipment for airline and the military transport aircraft, as well as glass cockpits. He holds an Airline Transport Pilot License and has accumulated more than 1000 flying hours as a Flight Instructor.*

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. Contact president Normand Rioux at NRIOUX@lapresse.ca

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.

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 CHAPTER 4th Monday of the month at 6:00 PM at the Lake Simcoe Regional Airport for the months of June, July & August (BBQ nights) For other months contact Dave Evans at david.evans2@sympatico.ca or 705 728 8742

COBDEN: Third Thursday of the month at the Cobden airfield clubhouse 20:00 hrs. President - Grantley Este 613 432 0797 este@compmore.net

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. George Elliott gaelliott@sympatico.ca 705-445-7054

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 7:00 pm at various locations. Contact President Paul Perry 519-351-6251 pkperry@teksavvy.com

KITCHENER-WATERLOO. KW-RAA meets the second Tuesday of each month at 7:30 pm at the Air Cadet Building at CYKF. In summer months we have fly-ins instead of meetings. Please contact President Dan Oldridge at oldridge@golden.net .

LONDON/ST. THOMAS: First Tuesday 7:30 p.m. At the Air Force Association building at the London Airport. Contact President Phil Hicks p.hicks@tvdsb.on.ca 519-452-0986

MIDLAND/HURONIA

Meeting: First Tuesday, 19:30 pm at the terminal building Midland/Huronia airport (CYEE) . Contacts: President Robert Gow, 705-549-2894, Secretary Ray McNally 705-717-2399

E-mail – raa.midland@gmail.com .

NIAGARA REGION: Second Monday at 5:30 pm in the orange hangar at Niagara Central Airport June to September. Contact Pres. Elizabeth Murphy at murphage@cogeco.ca , www.raaniagara.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

OTTAWA/RIDEAU: Kars, Ont. 1st Tuesday. Contact: Secretary, Bill Reed 613-858-7333 bill@ncf.ca

SAUGEEN: Third Saturday for breakfast at Hanover Airport. President: Barry Tschirhart P.O. Box 1238 27 Ridout Street Walkerton, Ontario. Home: 519-881-0305 Cell: 519-881-6020. Meetings are held every second Tuesday evening, at 7:30pm. Location(s) Saugeen Municipal Airport, Kincardine or Port Elgin. All interested pilots are welcome. Email: barry.tschirhart@bell.net

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 7:30 pm at Hangar 41 on north end of Brampton Airport. Contact: President Fred Grootarz - Tel: (905) 212-9333, Cell: (647) 290-9170; e-mail: fred@acronav.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 Bob White 403-472-1035 pittsflyer111b@gmail.com

EDMONTON HOMEBUILT AIRCRAFT ASSOCIATION: Meetings, Second Monday, 19:30 at the Aviation Museum. Contact: President Roger Smeland (780) 466-9196 or Jim Gallinger (780) 242-5424 . Website - http://www.ehaa.ca/

GRANDE PRAIRIE: Third Tuesday, (September to April), 7:30, 2nd floor boardroom of the Grande Prairie Terminal Building. Summer events on an informal schedule. For more information contact Lee Merlo at 780-518-4254 or e-mail arniesusanmeyer@gmail.com

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 Mekong Restaurant.1030 Harvey Ave. Dinner at 6:00pm, meeting at 7:30pm Contact President, Cameron Bottrill 250-558-5551 moneypit@uniserve.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 Peter Whittaker pwhitt@telus.net Website www.raa85.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 Darren Watt 250-573-3036

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 Gerry at 250-782-4707 or Heath at 250-785-4758.

Chapter executives, please advise of changes as they occur. For further information regarding chapter activities contact RAA Canada, Waterloo Airport, Breslau ON N0B 1M0 Telephone: 519-648-3030 *Member's Toll Free line: 1-800-387-1028*

Emails can be sent to President Gary Wolf at: **garywolf@rogers.com** *and George Gregory at* **gregdesign@telus.net.**

Classifieds

To submit or delete a classified ad, please send to raa@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. Emails can be sent to President Gary Wolf at: garywolf@rogers.com and George Gregory at gregdesign@telus.net

Deadline for submissions is the first of the month preceding date of issue.
Artwork: Rates apply to camera ready artwork. Digital files are preferred and should be sent as email and in .txt format, PDF, JPEG, MS WORD, Photoshop or other common file types. Advertising is payable prior to printing of magazine unless other arrangements have been made. Payment is in Canadian funds. 10% Discount applies to one year (6 issues) insertion paid in advance. Commercial Classified ad rates 1/8 page minimum.
Advertising Policy: The Recreational Flyer Publisher reserves the right to refuse any or all advertising for any reason stated or unstated.
The Recreational Aircraft Association Canada does not assume responsibility for advertisements, but does exercise care to restrict advertising to responsible, reliable individuals.
Please note: Ads running more than 3 issues must be renewed to guarantee continued display in the magazine.

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.

WANTED: CONTINENTAL A65 PARTS: Pistons, cylinders, carb, magnetos, rocker covers, spyder, cams, etc. Also interested in complete engines up to C90. Email Chris at cphorsten@yahoo.ca or call 416-918-6569.

RV6 FOR SALE $69,900 440 hrs TT Lycoming A1A 180 hp Sensenich Fixed Pitch Propeller JPI Fuel Flow Gauge Dynon D10A and autopilot servos Dynon Heated Pitot Kannad 406 ELT GPS Garmin Aera 560 Transponder KT76A Odessey Battery Bell Tailwheel Yoke Stereo Intercom PM3000 Garmin SL30 ADF KR87 Certified for IFR until September 2016 Annual due June 2014 Call George at 647 588 8544

0-290-D LYCOMING ENGINE with newly overhauled carb, 6 Bolt prop extension Newly reconditioned 80 amp light weight alternator. Starter. 80 amp gel-cell battery. Cooling plenum. Log book and maintenance manual Asking $8,000 OBO ontact Norm at graham110@rogers.com

1946 AERONCA CHAMP 7 A/C. Very good condition. Wings rebuilt in 2002 with new spars in right wing. Hanlon Wilson exhaust. Good glass. New floor boards and skid plates. Front seat rebuilt with new padding and leather cover. 406 ELT. About 2600TT airframe, 1100 SMOH engine. Like new tires and new wheel bearings. ICOM. Radio. Original aluminium wheel pants. Asking 27900.00 OBO, or some trades. tinymiller@sympatico.cae

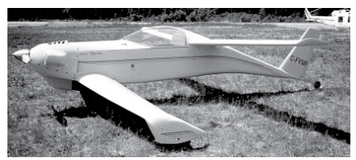
MINI MAX. ROTAX 447. TTSN220. TSEO40. ICOM Navcom. Header and wing tanks. Shape 9/10. Always hangared. Medical forces sale. Skis available. Reduced to $6900.00 for quick sale Contact by phone Alberta 780-460-6841 or cell 780-945-0411.

RUTAN LONG-EZ, first flight Aug. 30, 1986. Total time 961hrs., engine overhauled at 542 hrs.Light weight starter installed. Prince PT prop. New ELT awaiting installation. Terra 720 com., Collins VOR available. Removed as planning GPS installation. Loss of licence due to medical issue.$30,000. Phone (403) 5279571, balewis@telus.net Medicine Hat AB

PIEL BERYL/EMERAUDE parts and plans for sale. All 26 wing ribs, rudder, elevator etc. with a/c grade unused plywood, also one piece Sitka spruce 12 ft 3in long x 7.5 in wide x 2 in deep, West System epoxy glue and hardener with pumps. Offers. Contact Nigel at (705) 429-3449

PAZMANY PL-2 with 150 hp O-320 E2A and McCauley fixed pitch prop. 1100 hrs TT, always hangared near Hamilton Ontario. Full panel and everything is in good condition. 905-961-4585 sheldonjobb@gmail.com Super Cub 15 gallon tank covers (left and right) sold as a set. Super Cub Carb air box, filter and nose cone. Landing lights (old style) for Cubs. Rear sealed strut for PA 11 or Cub from Univair. New style fork ends. Two sets of wing covers - one set for cubs. Nose cone complete for 135-150 horse power - 6 holes. Millie.hanstke@gmail.com

1969 CESSNA 150J with fewer than 6000 hrs on airframe and 800 hrs on engine, zero hrs on prop. Selling at less than the price of a kit, $18500. Laurie 519-843-2221



FLYING SUPER QUICKIE 52 hp Rotax, 349 pounds empty weight and 660 gross. This plane is agile and fast, but not for faint of heart. $6000 OBO. I also have a complete Q200 kit with carbon spars. Never started. $6000 OBO. Email dkeats@tbaytel.net

STINSON 108-3 with heavy case 165 hp Franklin. Airframe 2365 hrs, and recovered in 2005. Engine 998 hrs. Float kit. Two props, one fine for climb and one coarse for cruise. $24000 Quesnel BC. 250-991-7958

LYC. 0-320-E2G 150 HP. Total time 500 hrs/logs. New mags, cam, pistons and rings Jan 2015 by Aerotec Halifax. All accessories including Sensenich propeller M740M-0-49 and SS crossover exhaust system. $15000,- Guy 902-682-2888

WARP DRIVE three blade prop hub with 4" extension.to fit SAE 1 hub (Continental engines) $300. 3 blade Warp drive hub with 4" extension. Believed to be a SAE 2 - fits Lycoming 0235. $300. este@compmore.net

RV6 TAIL KIT with a box full of instructions including videos.$250. este@compmore.net

PELICAN AIRCRAFT PROJECT. Side by side seating. HKS 60 hp motor with 420 hours Last flown 4 years ago. 1980's design. $9500 este@compmore.net

CUB PROJECT, Wag Aero plans, fuse on gear, brand new Riblett wing kit(still in crates) new windscreen , new J3 style cowls. May sell wing kit separately. Ask $15k. (647) 981-0044.

KR 2 TRIGEAR 2180cc Great Plains VW. 3.5 gph @ 130 mph Cruise. TTAF/TTE 54hr. int/ext 10/10 $15000 call Ray Larson 905 892-6389

SENSENICH PROPELLER M76 AM-2-54 with Saber bolts and includes spinner. $800 CDN OBO. Conical style motor mount up to 150 hp but from unknown plane. $350 OBO Gary Johnson 705-879-4696 Kindsay ON

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REBUILT GROB 102 GLIDER, all fibreglass, modified to motorglider with Rotax engine, 190 hours, flew from Lindsay Airport. Trailer is included. Selling because owner is now too old to continue flying. Glider is in Pickering. $14,900 or best offer. Hans Lohr, telephone (905) 509-2356.
Arthur Ontario CMZ2 ....

TEE HANGER FOR RENT, $150 negotiable....37ft wide and 10ft high . Hanger was designed for ultralights with a high mast, but would suit most aircraft . Front section is 15ft deep and the ' Tee' part is 12ft wide and 11ft deep . N/S runway is approx. 2000ft and E/W approx. 1200ft both with clear approaches . Contact Mac at macpat@live.ca

BOWERS' FLYBABY PROJECT, includes 6 tail surfaces, all welded parts, tailwheel, A65 Continental engine (no logs), ground adjustable propeller, lots of various parts, $1,200.00, located in Surrey BCdndpost@shaw.ca

PRINCESS AUTO SANDBLASTING CABINET #8046492, brand new and never used. List price is $450, occasionally on sale for $250. This one is $200, and proceeds go to charity. 519-648-3030.

IPAD MINI 2 (RETINA DISPLAY), 128 gb ssd memory and cellular. GPS chip built in. This is the top end version of the iPad mini with more than enough storage space to hold all the maps, plates and apps.
The unit is in excellent condition and comes with a hard shell back and flip top case.Selling for $ 550.- or best reasonable offer. Contact Rudy at 519 648 3006 rudyhane@gmail.com

FULL LOTUS 1220 floats with aluminum stiffener, stiffener tubes never used asking 2500. EDO 1400 floats certified asking 10,000. Continental C-85 1235hrs certified 5000 firm. 519 288 5792

LYCOMING IO-540 A1A5 wetsump; this is a certified engine with logs, includes injectors and 2 mags, timed out at 1200 hrs but running condition. No starter or alternator or ring gear. Great core for rebuilding. $6000 OBO 514-331-9760

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WANTED - ZENITH CH 200/250 TAILDRAGGER, flying with a basic panel. Sheraldm@yahoo.com 416-427-5410 Alliston ON

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Classifieds On The Internet:
http://tvsac.net/BS1.html - more ads from our Kamloops chapter
http://www.lyncrest.org/sfcclassifieds.html - more ads from our Winnipeg chapter

RAA Midland/Huronia

President Bob called the meeting to order at 7:30 with 13 members present.

Minutes of the October meeting were approved as amended, moved by Jim H. R., 2nd by Adam R., and carried.

Treasurer Dan L. reported a balance of $7,615.53, including a $924.25 CFK reserve. Moved to approve, Leigh R., 2nd Bob G. and carried.

Christmas Party: (Dec 5)

Ian R. to pick up prizes.

Adam R. to contact Tom W. re. donation of additional prizes from Tom's insurance company employer.

Adam R. to pick up 6 table centrepieces.

Group to set up tree and decorate at the December 1 meeting following elections.

COPA for Kids: (Jun 4)

Leigh R. will also contact Big Brothers/Sisters, Guides and Scouts organizations.

NRFI: (Jul 9)

Adam R. to question Tom W. regarding other area T.C. seminars the we as a group might attend in order to free up more members for food preparation during our July 9 seminar.

Adam R. updated the group regarding proposed Lions Club sponsored fly-ins in 2016 and 2017. More information to follow.

Nominations for positions opening at end of year. Nominations will still be open prior to elections at the December meeting.

Ian Reed for President, 1st Ray M., 2nd Bob G.

Adam Rigden for Vice-President, 1st Ray M., 2nd Dan L.

Ray McNally for Sectetary, 1st John S., 2nd Bill R.

Dan Laurin for Tresurer, 1st John S., 2nd Bill R.

Bill Rittershofer for Director, 1st John S., 2nd Bob G.

Don Morrrow for Director, 1st Ray M., 2nd Leigh R.

RAA Chapter 85 (Vancouver)

Chapter 85 has been busy since the last "Message" in June. The Chapter had a booth promoting home built aircraft at the Abbotsford International Airshow at the beginning of August. This started late on a Friday afternoon and closed up on the Sunday afternoon of the first weekend in August. The weather cooperated and we enjoyed a flight line position for the RAA Chapter 85 booth in between a Canadian Forces Aurora coastal surveillance aircraft and a pair of Dornier Alpha Jets from Cold Lake, Alberta. Chapter 85 President Peter Whittaker had his scratch built Zenith 601 HDS on display at the RAA booth in between the military hardware.

The Delta Heritage Airpark operating licence was renewed for another 5 year term with Metro Parks, Vancouver. The new term is effective as of July 1st and keeps DAPCOM as the airpark operating committee. As part of the operating mandate, the second review meeting of the year was hosted at the Chapter 85 round house in late October. This meeting is a review of airpark operations with Metro Parks and airpark neighbours, both commercial and private. There were no concerns raised by the neighbours.

Delta Heritage Airpark hosted a

Chapter members gather around the project at the November meeting of chapter 85. In the foreground the cabin, behind the starboard wing. Work is progressing at a good rate.

Thomas John Hawkins
1922-2015

Whenever we lose someone to the grim reaper, there is left a profound sadness in the lives of those in which that person played an important role. Tom was just such a person where members of 427 wing, members of the Recreational Aircraft Association (which includes this writer) and of course his family are concerned. Every Friday morning, Tom was usually one of the first to arrive at the wing for lunch. He always managed to get the preferred parking spot close to the front walkway. We all knew his car with its distinctive license plate: NO 13 EFTS (Elementary Flight Training School at St. Eugene, ON) beside the veteran's poppy. Inside, Tom would always sit at the same table with his buddies. Tom was an affable, easy-to-like kind of guy, with an infectious, droll sense of humour, and always a gentleman. One Friday earlier this year, Tom didn't show at the regular lunchtime. No one at his table knew why he was absent, and several weeks passed without Tom's presence. We all finally heard of his passing on June 28th while he was with family in Cambridge. Tom was a very private person and I learned sometime later that his wishes, as his health began to decline, were to leave most of us out of the loop. He just wanted to be with family.

My first involvement with Tom came about back in the '80s. My older brother told me of one of his former flying instructors while he was learning to fly at St. Eugene, Ontario (NO. 13 EFTS). He said Tom was living in London and that I should track him down. I did just that and we became fast friends. Tom had recently retired from the CNR where he spent many post-war years as a purchasing agent. All he needed was a bit of a shove to infect him with the aviation bug again. I invited him to be my passenger back in '88, then many flights thereafter. When I got my own amateur-built Jodel D-11 in the air, Tom helped me perform the gross weight climb test. From then on he never refused an invite to fly out to some event or to simply stooge around polluting the air. I always felt safe while he was on board, knowing that his superior judgment would prevail if needed. Soon after he retired, he plunged straight back into flying, soon instructing on ultra-light aircraft, and buying one himself, and soon he joined the London Flying Club, checking out in Cessna's and Pipers. He joined the Tillsonburg Harvard group and for a time Tom was check pilot for the CHAA Tiger Moth (currently being restored). During the years from 1941 to '46, he contributed nearly 3000 flying hours with the British Commonwealth Air Training Plan which came into being under Prime Minister Wm. Lyon Mackenzie King. After soloing in a Tiger Moth at Malton base on Dec. 7"41, it seemed that nothing would stop him. In those six years of war, Tom made a tremendous contribution to keeping us all free, by training dozens of young fliers at some 13 different air bases in Ontario and the prairies. Starting with Tiger Moths, he instructed on seven different aircraft types, single and double engine planes: Fleet Finch, Cornell (Fairchild M-62), Harvard, Avro Anson, Air Speed Oxford and Cessna Crane T-50. And gleaning through Tom's 4 log books loaned to me by his family, one gets a profile of his service years. In the 'comment' columns it was obvious that there were plenty of scary moments: one such entry being one word... crashed! I would love to know the details.

Tom would have turned 93 on August 26th this summer (born in 1922), but he died on June 28. He was part of the very fabric of RCAFA 427 wing. I learned from Flo Douglas that he would quietly donate quantities of grocery supplies to the wing, stuff that he bought when on a good sale. Tom lost his brother in a flight training accident near Fingal, then his wife Audreene a few years ago, then one of his two daughters, so he had his sad times. He and I had many good chats over a cup of tea in his home on King Street east. He was a lover of poetry and good jazz music, always had a stock answer when asked how he was: "Can't complain" he'd say. He was an accomplished cook and gave me a great recipe called `Grandma's fruit chutney'. When we flew and I would ask him if he wanted to take control, he'd say "No, I'll just sit here, fat, dumb and happy?" He was neither fat nor dumb, but always seemed happy. I miss him much, as I am sure many of you do.

small warbird fly-in in late August which saw some local Harvards and a Stearman in attendance. The Fraser Blues, a piston powered (Navions) flight of four gave a 10 minute aerobatic performance. Chapter 85 members provided aircraft marshalling and crowd control services.

The major event for Chapter 85 in the latter half of 2015 was the delivery of the aircraft building project. This is a Zenith 750 Cruzer which is now well underway. The project was initiated with a weekend building workshop in early October directed by Matt Heintz from Zenair in Midland, Ontario. The building workshop gave prospective building team members an introduction to the requirements and methods to be used in the course of construction. Significant progress was made in dry fitting wing, fuselage and empennage parts together and this served to get the building team enthused and motivated. Individual component teams were established for the empennage, wings, rear fuselage and forward fuselage / firewall and these teams could then progress on their own schedules. The Chapter 85 workshop is now fully utilized for construction of the Chapter airplane.

Elections were held at the October general meeting and the 2016 Executive and Directors are a mix of 2015 slate and some new faces. Heidi Bekker was elected as Vice-President and Jim Stunden was elected as a new Director. Peter Whittaker will carry on as President, Bruce Prior as Secretary and Tom Boulanger as Treasurer.

The Remembrance Day ceremony was held again at Delta Airpark on November 11th and this was organized by John Macready, Chapter 85 Past President. Instead of typical Vancouver rain and wind for November, the 11th was a bright and sunny day and allowed for a fly past by a formation of 4 Harvards at precisely 11 am. Approximately 200 people attended and a lunch of soup and buns was served at Mary's Place following the ceremony.

The year end is rapidly approaching and plans are underway for the Chapter 85 Christmas Party. This will be held in the round house on the first Tuesday of December, the usual night of the general membership meeting.

It has been a full year with various Chapter 85 activities, renewal of the airpark operating agreement with Metro Parks, and the beginning of the Zenith 750 Cruzer building project. This has all come about because of the interest and involvement of members, which is what drives the Chapter.

RAA London-St Thomas

The meeting was called to order by Eric Bartlett at 7:40 pm.

Minutes from the September meeting were approved as written with Dave Hertner moving to accept and Phil Hicks seconding.

Treasurer's Report: Dave Hertner did not have a formal report, but will forward updated balances to Phil. Dave said there has been no change to the savings account, but he had received several checks to be deposited.

Membership Report: Bob Buchanan was sad to report that long time member Tom Hawkins had passed away in June. The chapter has 45 members currently.

Builder Reports:

Phil has made steady progress on his Sonex fuselage this month and will soon need to take apart his large work table.

Dave is working on attaching a new oil cooler to the firewall of his RV10.

Denny said the Kara Two restoration has stalled over the summer. He'll discuss this in more detail at the December meeting.

Future Events:

Next month's meeting will be Wednesday, November 4th at the 427 Wing. The topic will be "Internet Aviation Resources".

It was decided that the traditional December dinner will be a catered chili dinner as opposed to pot luck.

The business portion of the meeting was concluded at approximately 8:15 pm, and was followed by a viewing of the movie, "Fly Boys".

The meeting was adjourned at approximately 10 pm.

As the WWII bomber pilot settled into his seat, he pulled out a .38 revolver and placed it on top of the instrument panel. Turning to the navigator, he asked, "Do you know what I use this for?" The navigator replied timidly, "No, sir, what's it for?" The pilot responded, "I use this on navigators who get me lost!"

The navigator proceeded to pull out a .45 and place it on his chart table. The pilot asked, "What's that for?" "To be honest sir," the navigator replied, "I'll know we're lost before you do."

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