November - December 2011

RECREATIONAL RELYER

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From The President's Desk

Gary Wolf

LIABILITY WHEN SELLING AN A-B AIRCRAFT

In the last issue I mentioned that when selling an Amateur aircraft you should ensure that the new owner does the annual and signs the logs before flying away with your plane. The reason for this caution was that another member and I had been acting as expert witnesses in a civil lawsuit in which the buyer / plaintiff was suing the builder of an Amateur Built plane, and the statement of claim had some sixty deficiencies noted. The amount of the claim would have bankrupted the builder, and unfortunately the plaintiff could afford more lawyering than the builder could. The plaintiff had declined to have his own AME or other person perform a prepurchase inspection and the plane was in annual at the time of the sale, so the plaintiff flew the plane on that annual. Subsequently the plaintiff took his recently purchased plane to an AME who disparaged the quality of build, although fewer than fifty flight hours earlier the plane had met every requirement of the MD-RA inspection. The AME then repaired the plane to meet his own standards, presented a bill that would buy a decent RV-7, and the plaintiff then sued the builder for compensation and other damages.

It was obvious in the list of "deficiencies" that the AME had been applying FAR 23 certified aircraft standards to an Amateur Built plane, and my job as a witness was to explain the differences in standards and privileges, and to show that there was no requirement under the regs for an Amateur Built plane to meet any other standard. Another RAA member, a retired aero engineer, refuted the AME's statements point by point, especially the ones in which the AME had made engineering pronouncements which were beyond his qualifications. In a pretrial meeting it came out that one important matter would be whether the builder had known about any deficiencies but had neglected to mention them. We were all prepared to go to court but a few days beforehand the builder decided to make a settlement. If he had lost because a judge might not agree with the regulatory differences between the requirements and privileges of the Certified and Amateur categories the builder could have lost his house.

If selling an Amateur Built plane it would be wise to point out to the buyer that an Amateur Built plane does not have a design standard, only a build standard, and that Transport Canada considers that every Amateur aircraft is a unique one-off project. There is a requirement that every Amateur aircraft be placarded to give fair warning that the plane is not certified and that the occupants fly at their own risk. Some builders in English Canada remove the French warnings after inspection, and some in French Canada similarly remove the English. Since this a bilingual country this practise might be unwise. Further, a seller should require that the buyer bring someone with experience to assist him with the prepurchase inspection. There should be some written and signed record that they have inspected the plane to their satisfaction and are accepting the plane as-is. As noted in the last issue of the Rec Flyer, the buyer should do a fresh annual and sign the logbook himself before being allowed to fly the plane away. In this unfortunate case it did not really matter whether the builder was in the right or not. What mattered was who could better afford the cost of litigation.

IMPORTING A PARTLY COMPLETED PROJECT

Barnstormers.com is a US website with free classifieds, and many would-be builders and flyers appear

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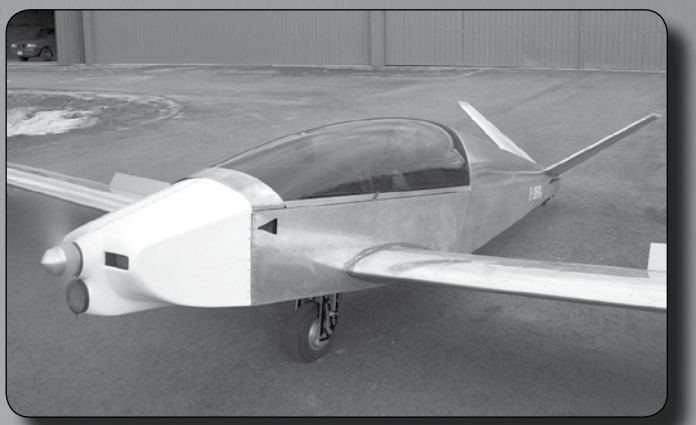
features

columns



George Gregory

Above: a beautiful retract-gear Cavalier at Goderich.
On the cover: William Goldhart's immaculate Moni.
Photo by William Goldhart.

Prairie Pride

Recently, the first RV-12 was registered in Canada. On September 26, 2011, I had a chance to speak with the builder and owner, Robert Dimond about his experience.

Bob built his RV-12 in Raymore, Saskatchewan. When I asked him what attracted him to the RV-12 in the first place, he said it all started with a friend. Bob's friend happened to be picking up a RV-7 from Vans when he saw the RV-12 and told Bob all about it and how good it looked. That sent Bob on a search for more information.

In the end, Bob chose the RV-12 kit for its completeness. "It sounded like it was something that you didn't have to go anyplace to buy anything. It was a complete. And when it was all said and done it really was a complete kit… there wasn't anything to buy elsewhere." One feature that also attracted Bob to the RV-12 was the removable wings. What this meant was as he was finishing the fuselage, he didn't need the wings on … "two pins and the wings are off! Good for winter storage as well."

Bob started building on Halloween 2008 in his garage and once he started, he couldn't put it down. The

Bob Dimond and The first Canadian RV-12 / by Laura Drinkwater

You get up and look around and the first flight is something you'll never take away... Like scoring a goal on in breakaway at the end of the game to win the game. it's really good."

result being he finished the build in 2009 in just under 1500 hours…a short time span as many a builder knows! I asked Bob what his secret was to keeping the build time so short. He said that he worked on the project after supper and on weekends.

For every builder there are parts of the process that come easier than others. One of Bob's challenges was the electronics. He found it to be very tedious work…generally simple to do; he is just more of a mechanic than an electrician. The work still went well though.

Another big learning curve for Bob was to believe in the plans. At times he thought he knew more than they did. He had built several RC models as a teenager and thought he knew some things about building from that experience that turned out didn't apply. The RC models were all wood, not fiberglass. The RV-12 is all aluminum except the cowling and the tail cone tip. Part of the learning curve was the terminology of aluminum and how to rivet. He was totally new to the process. Thankfully his friend had started the RV-7 mentioned earlier and was able to help. Bob added that "Vans was always good to help and always available."

Bob was the first person to go through the 51% rule with the MDRA and first to have a RV-12 registered in Canada. Being the first to go through these processes in Canada didn't present too many issues. The plane wasn't that hard to build and he just had to keep slowing himself down and making sure everything was according to plan – plans were in booklet form. Vans was always there, so a lot of extra research wasn't required. Only time he really needed to contact Vans was to confirm a rivet size or the like. There was this one time when Bob was working on the plane and was trying to put a piece of aluminum in upside down and didn't know what was wrong. He called into Vans and they knew exactly what he had done wrong… I guess Bob wasn't the

first to make that mistake!

When asked on other highlights of the project, Bob mentioned the painting. It was nice to go from aluminum to painted. A friend (Doug Cameron) painted it for him and did a nice job. Doug helped throughout the project too.

Other highlights were getting the wings done, getting the fuselage done and of course putting the motor in (Rotax 912). And when the prop went on Bob thought it's "finally an airplane". Bob's hints for other builders that are interested in RV-12s or RVs in general: Follow the book… don't jump ahead. You start at the empennage and end at page x and you're done. 40 sections including one for brakes, one for electronics, one for fuel tank, etc. and no extra parts at the end

When it came time for the test flight, Bob said it was really exciting:"I'm tickly in the stomach just thinking about it!" It was everything he hoped…" uneventful". On the first run, there was an alarm that went off for high fuel flow. He just had to increase the calibration number on it and it was good to go.

When asked what it felt like to fly the RV-12 for the first time, Bob relied, "Exhilarating. Comes off the ground and… yay, its flying!…Very emotional. You get up and look around and the first flight is something you'll never take away…never forget. Like scoring a goal on in breakaway at the end of the game to win the game…it's really good." He described the RV-12 as being very light on the controls. "You think of turning and it turns."

The RV-12 does not have an elevator, it has a stablilator. "All balanced and remarkable how it flies. So nice to fly. Like day and night to other flights." (Bob flew a Jodel in the past.)

When asked for a final comment on his plane, two words were provided: "Beautiful" and "Amazing."

Since the first flight (July 11, 2011), Bob has put 32 hours on the plane and shared the pleasure with his wife and friends. He put everything in it; the only thing he didn't install was the autopilot. Empty weight is 762lbs and gross weight is 1320lbs. He's been impressed with the performance so far. "She goes like scat!" He stated that the Cessna 172 he had doesn't come close. The RV-12 will fly at 140mph cruise speed, climb at 800ft per minute and has a stall speed of 47mph. The finished plane is a 2 seat side-by-side with lots of room. It's got flaperons running from fuselage to wing tip, not ailerons; the flaperons act as ailerons for roll and when "flaps" are actuated, both droop. The seats are set just ahead of the main spar of the wing which makes the visibility unreal. When asked for a final comment on his plane…two words were provided… "Beautiful" and "Amazing."

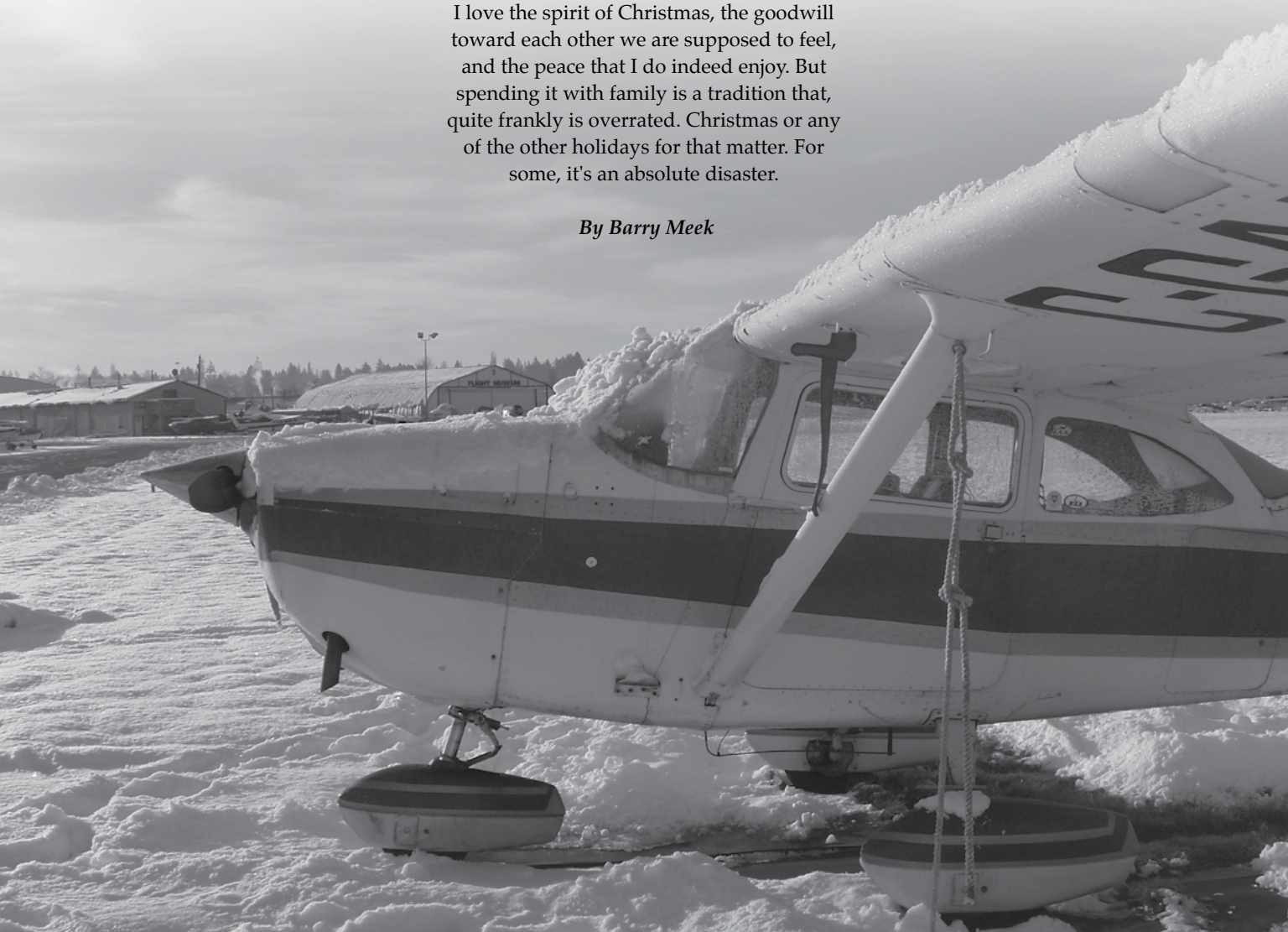
It was a pleasure speaking with Bob about his RV-12. May he have many wonderful flights ahead of him.

Christmas At The Airport

Christmas comes but once a year. We should be thankful for that.

Before you get the idea you're reading the ramblings of a Grinch, let me get into it. I love the spirit of Christmas, the goodwill toward each other we are supposed to feel, and the peace that I do indeed enjoy. But spending it with family is a tradition that, quite frankly is overrated. Christmas or any of the other holidays for that matter. For some, it's an absolute disaster.

By Barry Meek



We witnessed and experienced the true spirit of Christmas that year... there were countless examples of sharing and goodwill, and the entire terminal seemed to be at real peace that Christmas Eve.

Because it's something our society has held on to for generations, we carry it on, in spite of the inconveniences and hassles that are inevitable. Many movies owe their success to scenarios like this: Christmas is at Grandma's house in Winnipeg. The entire family, spread out from Ottawa to Vancouver is flying home. There will be six more adults and all the grandchildren staying in the little two bedroom house for three full days. Grandma has the carpets cleaned, airs out the cellar, assembles all the bedding they own, while Grandpa puts up the tree and stocks the liquor cabinet. The tension mounts. Meanwhile, one sister-in-law dreads contact with another, while brother Earl, will predictably drink himself into a stupor, upsetting everyone. Old skeletons will come out of the closet. More tension. The kids will fight over each others new toys, and the neighbors dog will discover his Christmas dinner served on the back porch when Grandma puts the turkey outside to stay cold!

Have you seen that movie? Ever seen it happen closer to home, as in your own family? Many have. By the way, statistics show that more murders occur in December than at any other time of the year except July and August. I contend that's because families who don't see each other a lot, get together at Christmas, then suddenly realize they don't like getting together. Then, the fights are on!

A few years ago, while I was working at Vancouver International Airport, we witnessed several hundred families who avoided situations like that. Here's how they did it. They spent their entire holiday at the airport. Vancouver was totally isolated by a snowstorm that year. Nothing was moving from Christmas eve until Dec. 27 in or out of YVR. Besides that, the only route through the mountains and out of Vancouver by road, was also closed by snowslides for 3 days.

The airlines staff in the terminal building did what they could to help out the stranded travelers, including distributing air mattresses for

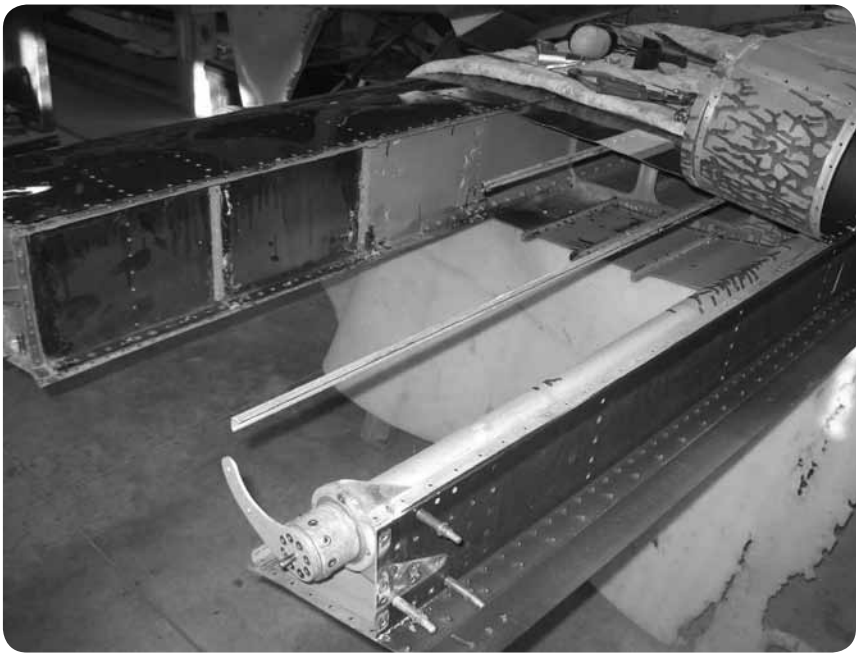
sleeping. Passengers from points other than Vancouver who were connecting to fly elsewhere, couldn't even get a cab and go home. Thus trapped, most had their luggage checked, and who knew where it ended up. They were separated from their razors, their underwear, their medications, for 2 days or more. Infants formulas and baby foods were packed in lost luggage, and at that time, there was no pharmacy or food store at the terminal. Volunteers risked driving slippery, slushy streets to go out and buy provisions for these unfortunate travelers. Some staff members even invited whole families into their homes for Christmas dinner. Lifetime friendships were undoubtedly spawned during that time.

We witnessed and experienced the true spirit of Christmas that year. No question, everyone was inconvenienced, and it crossed my mind that we could have made a fortune by renting out our shower room. But there were countless examples of sharing and goodwill, and the entire terminal seemed to be at real peace that Christmas Eve. There was no bickering, fighting or drinking. There were however, several decorated trees, lights, and even a Santa.

Someone should have made a movie about it. Come to think of it, that's been done too.

Given the traditions that live on in families, and the fact that many holidays are a time we dread, I wonder why folks don't change their habits and expectations. Grandma's house may not be the best place for the entire family anymore. Obviously not every family is this dysfunctional, but you shake your head at those that recreate stressful situations every holiday.

The folks stranded at the airport were forced to function outside their traditions, had no choice but to make the best of their holiday. It was different. Although they were disappointed and uncomfortable, most don't remember what presents they received. But no one who will forget that Christmas at the airport. *R*



The wing before applications of Polygon.

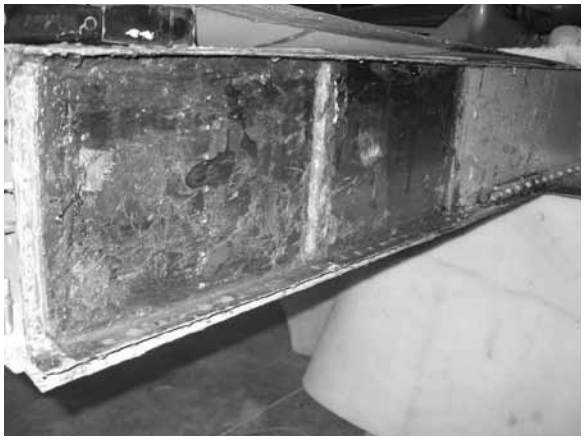
Taking It All Off

There really *is* a nicer way to strip tank sealer / by Wayne O'Shea RAA #8793

I WAS INTO A REAL MESS on this wing tank fabrication that I'm currently on. The previous builder had built wet tanks, and skipped a LOT of attention to detail; he gave up on trying to fix leaks years later. They cut all the rib and stringer structure apart and installed fiberglass tanks, leaving the wings with no compression or tension strength in the first 3 bays, which unfortunately had the new aircraft owner in a terrible place. In between that work they had tried the sloshing compound fiasco and it was *everywhere* as well. It was bonded real nice to all the flat surface though, but of course it will never seal gapping holes or skin overlaps that were never prosealed in the first place.

So once I had the wings all torn apart, the tanks out, wing ribs removed, top and bottom tank skins gone and wing skins cut back, and rear fuel tank bulkheads tossed in the big round can, I still had a pair of main spars and their skin overlaps coated in all this goop. So while browsing ACS to order some new Proseal 890B-2 I noticed a product called Polygone.

"PolyGoneT stripping agents are unique formulations that remove polysulfide (PRC) and silicone RTV sealants from metal, ceramic, and some plastic substrates. The top polysulfide producers include PRC DeSoto (now PPG), AC Tech, and Flamemaster. The top silicone producers are GE, Dow, and Wacker. Both polysulfide (polysulphide) and silicone RTV are difficult to remove completely since they actually bond into surface/substrate. The typically, sealant removal method requires scraping that results in damaging the substrate. There are also products that try to "dissolve" the sealants but due to their inertness, this does not work. PolyGone however, reacts with the polymers chemically and breaks them down so they can be rinsed away without damage to the surface/substrate. This offers



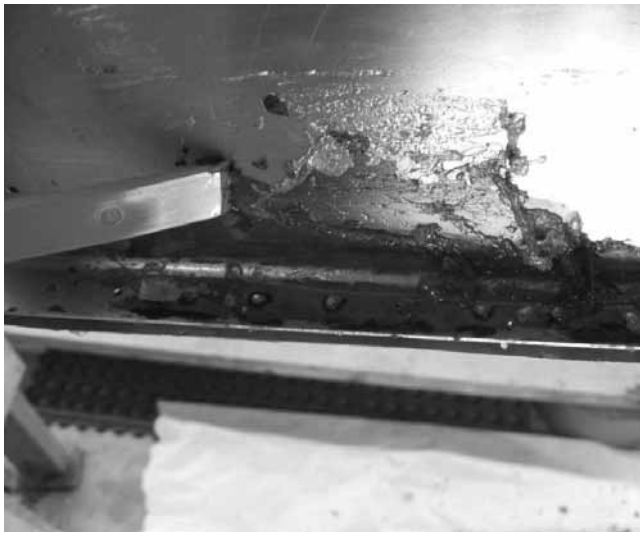
Left, from the top down: the process as Polygon starts to work on the paint. Fourth picture down shows the results after the first scrape. A second coat (above) was then applied.

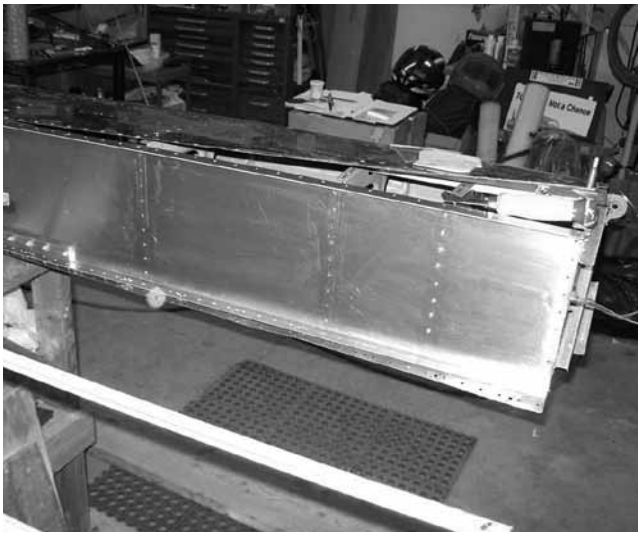
significant advantages over other removal methods. Poly-Gone emulsifiers are specialty blended chemistries that wet and penetrate the polymer and relatively quickly emulsify it. This emulsification prevents redeposition of the reaction by-products and allow for water rinsing"

I figured what the heck, I'll give it a try and if it saves hours and hours of labour trying to mechanically remove the mess, or risking my eyes to a gallon of MEK, then the $210 for a 5 lb pail of the stuff would be a great investment. Well, I gave it a whirl. I brushed on the gel (that stays absolutely in place even upside down) and then poked it around with the brush every 30 minutes as per the directions. This stuff doesn't just lift the sealer it actually emulsifies it and pulls it up out of the aluminum pores. After about 4 hours I used a plastic scraper to remove the majority of the sealant and slosh. Stubborn spots I recoated and left overnight. The next day I scraped most of that off easily and a few spots needed another splash of remover and about an hour later I had everything looking like shiny new aluminum ready for a good scotchbrite crosshatch and new parts to rivet and/or seal in.

The nice thing is that this stuff has no odor or fumes and it can be rinse with water if you like (or you can use acetone). It also eats and removes epoxy primer, as you can see in the pictures where the third bay was painted and not part of the original 2 bay wet wing.

Never again will I fight like mad, trying to mechanically remove the proseal from a badly prepped area of skin/rib or bulkhead to fix a tank. Even at a cost of $210 for a 5 pound pail, I figure I saved the customer at least double that in





Left: a scrape with a plastic putty knife, and then a final application to get the few spots left. Voila: the aluminum looks brand new. Awesome!

labour by using it. Now that I've seen how far it went, I probably could have got away with about 3 x 6oz packs at $21.50 each. instead of the 5 lb pail. Oh well. If someone has a spot they need to clean send me an email and I'll put some in a heavy ziplock container or similar for you. It has a one year shelf life, if kept cool and in the dark. R

Polygon 300-AG Gel Stripper/Polymer Remover, by RPM Technology, P.O. Box 33186 866-271-8766 www.rpm-technology.com

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PURIFION CT 600D welder/plasma cutter

Tig on a budget / by Gary Wolf

MANY BUILDERS would like to have a TIG welder or a plasma cutter but the costs have always been too high for the limited use to which most of us would put them. Domestically manufactured inverter TIG welders cost several thousand dollars, and even the smaller transformer types are in the range of $2000. Chinese machines have now broken through these price barriers but there are caveats.

When buying a welder, especially one that depends on electronics, the big questions are the warranty and level of service. The car racing magazines and Ebay have many welders on offer but the buyer will be on his own if anything goes wrong.

Mark Townsend of Can-Zac, a confirmed tool junky, recently brought over his newly bought Purifion CT 600D combination TIG / stick / plasma machine and wanted me to check him out on it. I was initially dubious about a Chinese machine and this doubt was immediately confirmed when it blew a circuit board upon being first switched on. So much for that day's checkout.

A few days later Mark returned with the machine, now repaired by Purifion, the supplier in Hamilton Ontario. I plugged it into my 220v line, hooked up the argon from my own welder, and began running beads on hot rolled steel 3/16" thick, using 1/6" diameter ER- 70-S2 filler rods. The little machine was pretty impressive – its snap start created a high voltage to begin the weld and the DC waveform was quiet and stable even when using very low amperage on thin mild and stainless sheet. The foot control regulated the amperage in a linear manner and the height of the pedal control was comfortable whether standing or seated. The machine has pre and post flow for the shielding argon, a necessity for good welds but a feature that is frequently not supplied on inexpensive machines.

The torch handle is a copy of a small aircooled Weldcraft unit and it came with a 3/32" collet, one size too large for most of the materials an aircraft builder would be welding. The 3/32" tungsten works alright but all tungstens wear during welding, and with 3/32" it becomes too blunt. I recommend to Mark that he get the 1/16" collet and a package of 1/16" tungstens, either 2% thoriated or 2% ceriated. The collets and electrodes are generic parts and can be bought at any welding supply and even at Princess Auto. With the 1/16" electrodes the welding was easy and consistent and I was able to weld 1/4" thick material in three passes, the first being a root pass, and then two fillers on top.

Next test was of the plasma cutter, so I hooked up to 90 psi shop air while Mark plugged in the plasma torch and

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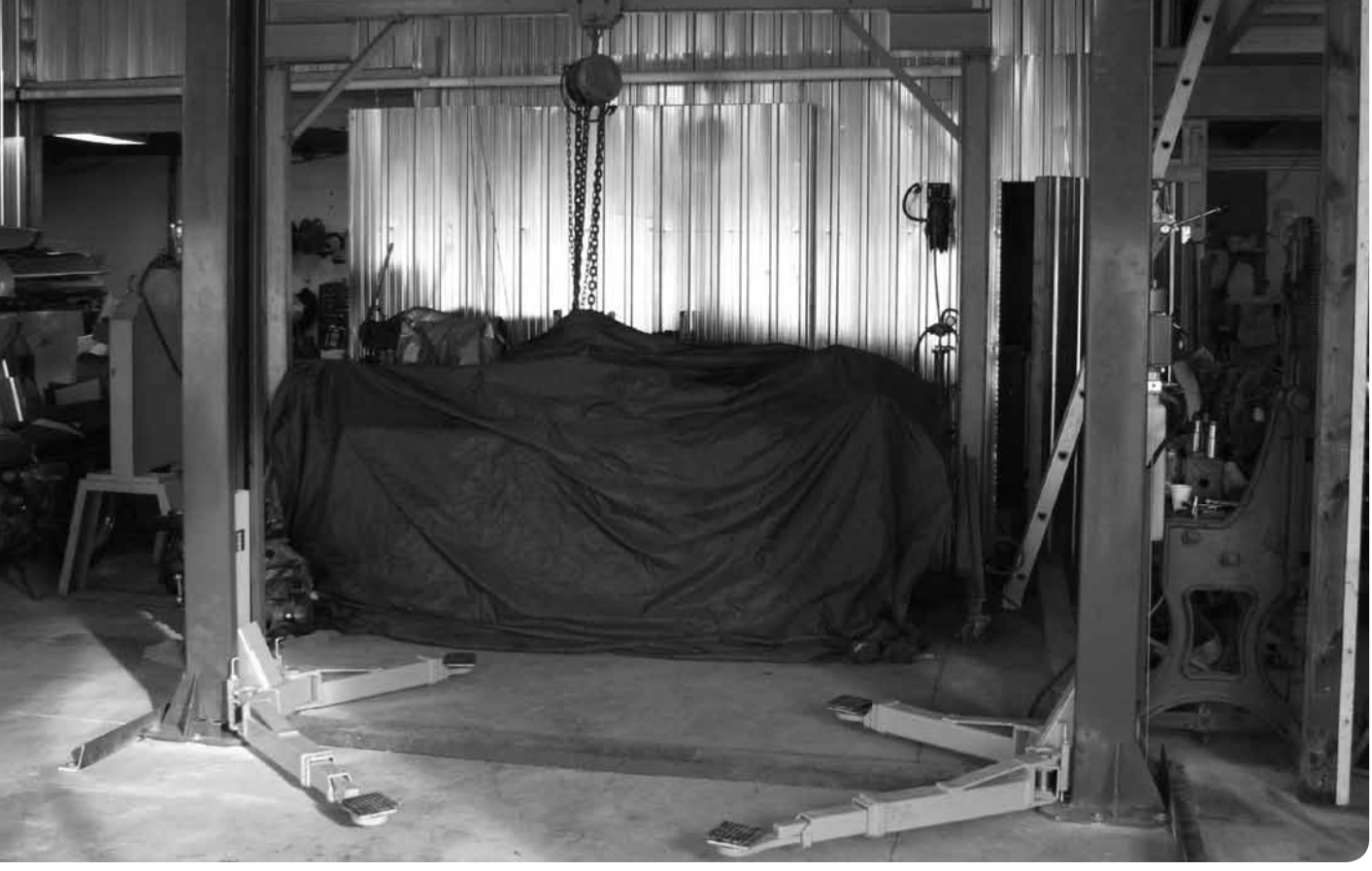


Ten Pounds of Manure

or, using lift technology to solve *your* hangar's clutter issues / Gary Wolf

TEN POUNDS OF MANURE in a five pound sack is how my pal Rob Schieck describes my hangar, and several pounds are there courtesy of Rob himself. This was no problem during the good weather while Rob was working on his fuselage and my own plane could go outside every day. However once the cold weather arrived, *everything* had to stay inside and we found ourselves having to play a daily game of aero chess, strategically moving planes and projects around every time either of us wanted to accomplish something. Both planes have some fabric surfaces so tiedown was out of the question.

The hangar has a ceiling height of seventeen feet so the obvious solution was to use some of the airspace being wasted. First thought was to sling the plane from the rafters but without knowing their strength this idea was a non starter. Second thought was to buy an airplane lift but since they are pretty scarce and cost in the range of $10K, that too was out of the question.

My son has a two post car lift in his garage, and an hour with a tape measure showed that it would be possible to use one to lift an airplane and get back the use of a lot of my hangar's floorspace. There are a lot of suppliers of car lifts advertising in the racing magazines and websites, and I settled on one from American Automotive Equipment, a company that appears to import Chinese subassemblies and assembles them into finished car lifts. It looks as if the same lifts are being sold by many different Canadian and American manufacturers with just paint and minor mechanical differences, but the prices can vary by 50%

Opposite: As insurance, longerons were welded to the sides of the bases and lagged to the floor. Above, clockwise from top left: Each arm comes bored to accept a car lifting pad; right, each wheel is chocked between a welded front crossmember and a rear rod. Bottom right,the nose gear receiver was fabricated from plate stock and bolted in place. Bottom left, The main gear receivers were bolted in place, and a length of 3" angle was welded between them.

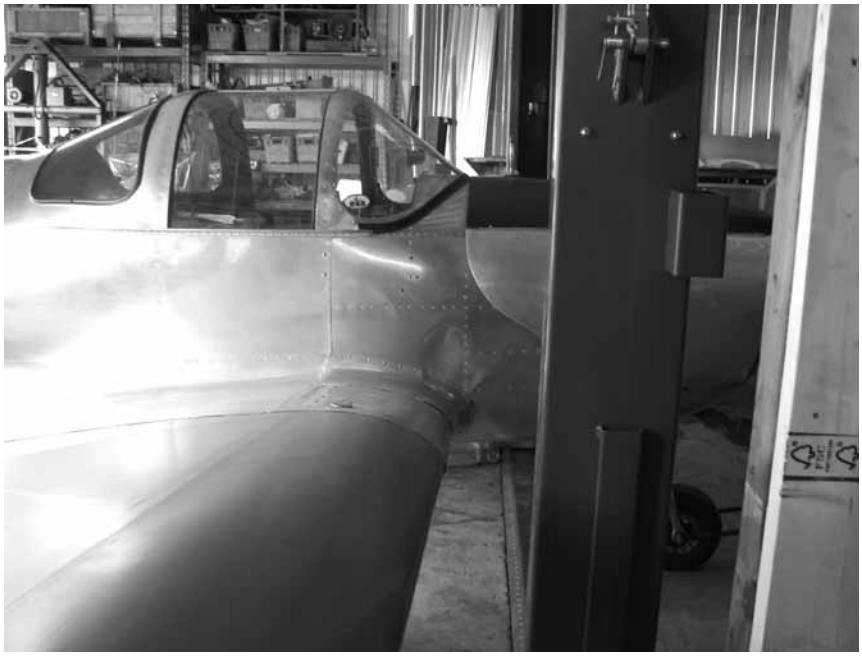
and the shipping costs are always the joker in the deck. I clicked on the AAE website to be sent some literature and found that I had become subscribed to their weekly emails, each offering one of their models at an "act now and we will include a vegamatic" limited time low price. After a few weeks they had my preferred lift on sale, a 9000 pound capacity unit that has a lift height of six feet. The sale price was under $1500 and they were halving the shipping cost to $200 from Texas to a warehouse in Niagara Falls NY. A week later it arrived and I picked it up with my son's truck and trailer, cleared customs by paying the 13% HST and I was on my way back to the hangar. Just google for "car lift" and you will find dozens of suppliers - take your pick.

The hoist was not all that difficult to set up vertically because much of the weight is in the base. Two fellows could stand each post up with just a bit of huffing and puffing. The instructions claim a three hour installation but three days is a lot closer to the truth for a first timer. The spacing between the columns must be accurate or the cables that keep the two carriages timed will not have enough thread left on their adjusters. The ¾" holes in the concrete floor were accomplished with a hammer drill, each of us taking turns as it is not easy work. The kit includes a good collection of steel shims to allow the posts to be leveled. They must be square to each other and within 1/8" accuracy in the vertical plane. The instructions are somewhat cavalier on details, and encourage the installer to work safely, but without explaining what would be required for this.

The kit does not include the 220v electrical cable so I stole one from my old Mig welder. TSC had the best price on a five gallon pail of hydraulic oil and it took most of the tin to fill the reservoir of the hydraulic pump.

Firing the machine up was easy - it took little time for the air in the system to burp out, and the carriages then began rising, but with one ahead of the other. The adjusters on the ends of the timing cables are well hidden inside the carriage so I made a special wrench by welding a curved piece of steel rod to a ¾" deep socket.

There are a couple of downsides to owning a car hoist. The first is that you will find that you will have a lot of new friends who want to do just a bit of work on their cars



There are spring loaded safety catches, one on each post, and they clack loudly in and out as the carriage rises. The object of the game was to get both to make their loud clack at the same time, and this took a couple hours of fine tuning.

Because I did not entirely trust the lag bolts to hold the posts perfectly I hedged the bet by adding a 4 ft length of angle to the base of each post. The lift is supposed to accommodate 9000 pounds and the plane weighs less than one-tenth of number but I figured that for twenty dollars worth of material I could sleep nights. I lagged the angles to the floor and welded them to the bases of the posts.

The first real test was to put my car up on the hoist to see if there might be any bugs to work out. It worked smoothly on the way up but was a bit glitchy on the way down, with one of the cylinders rubbing the carriage. We realigned the idler wheel at the top of that cylinder and it then worked smoothly, albeit a bit slowly with only 2500 pounds on the lift arms.

The next two days were spent designing and building the adapters to carry the plane. The main wheels are 600-6's so I used 12" lengths of 6" steel channel with a ¼" wall. If I had it to do over I would use 14" lengths of 8" channel to allow some wiggle room when putting the plane on the lift. Each of these channels has a piece of 1" material welded across the front as a stop, with a series of holes drilled in the webs to accommodate various size tires of future planes. The rear of each tire is chocked by a 3/8" steel rod inserted across the appropriate pair of holes.

The arms of the lift's carriages have 1-3/8" holes bored in them so I holesawed the same size holes into pieces of 3/8" plate and welded these plates to the sides of the 12" long channels, and bolted them loosely to the arms of the hoist.

Rolling the plane up to the hoist, I positioned the channels and carriage arms, drew magic marker lines around them on the concrete floor, and measured the distance between the two channels. A length of 3" angle with ¼" wall was cut to this dimension and welded between the two channels.

For the nose receiver I did not have any more channel so I cut some ¼" plate to an 8" width and welded 3" flat bars vertically along the sides, again with a series of holes to accom-

Opposite: This is how a nosedragger fits the lift, with the leading edge adjacent to the column. Above: Two strong men, Clare Snyder (l) and Gerry Poulton (r) demonstrate their faith in the new rig. Now that the belly of the plane is accessible, there are no more excuses for dirt on the underside. Such is life.

modate future different sizes of nose wheels. Two more pieces of 3/8" flat bar got 1-3/8" holes and they were then welded to the sides of the nose receiver, and the finished weldment was then bolted loosely in place. Again magic marker lines were drawn on the floor for future reference.

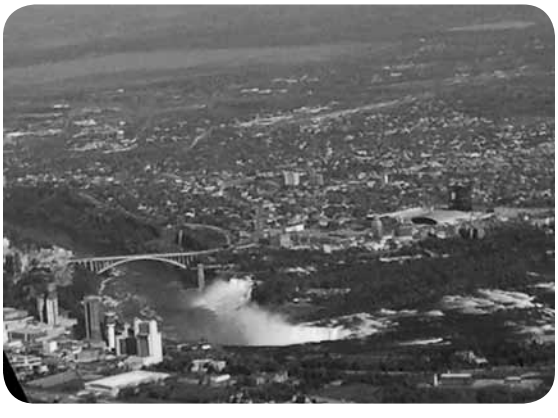
The plane was then rolled into the receivers and locked in place with 3/8" rods slipped through the appropriate holes, and we all held our breaths as I pushed the UP button. At one foot altitude I stopped and we all shook the plane around to be sure that it was secure. It was, so I lifted it to the top with the wheels six feet off the floor. One of the fellows quipped that it climbed faster on the lift than when under its own power.

Again we pushed and prodded the plane but a bit less vigorously than when the altitude had been only one foot. I pulled the safety latches back, pushed the pressure release and lowered the plane, holding my breath all the while. The descent was uneventful so up the plane went again and then all the equipment that had been rolled outside was put back in place. And just in case the safety latches failed, I put Rob's plane right where it would get squashed.

The hydraulic oil a cable and plug, lag bolts, and steel for the adapters cost in the range of $250, so the entire installation cost just over $2000, labour being free.

There are a couple of downsides to owning a car hoist. The first is that you will find that you will have a lot of new friends who want to do just a bit of work on their cars. That can be remedied by leaving the adapters firmly bolted to the lift carriages. The other downside is that all the dirt on the belly of the plane becomes fully visible, and now that it can be reached without getting on one's knees, there is no longer any excuse for leaving it there. R

Member Harish Hadeja is nothing if not intrepid. Recently he made the trip to Oshkosh in his X-Air AULA, flying over a lot of open water on the way home. At Thanksgiving he took his wife Rashmi for a ride from Fergus to Niagara, following the track established for flights over the Falls.



Join the RAA Forum

RAA's new forum is online! We hope to add many features over the next while to enhance the value of your membership. The URL is the same at raa.ca - once you're on the home page, simply click on the "forum" tab to get there. You'll find it a useful place to exchange ideas and ask questions - but it's only as good as the people who contribute to it. Help make this a useful resource for builders and pilots.

Members are encouraged to send in news and chapter happenings **for postings on the site. Get the word out, and check frequently for news on upcoming events. You can post them directly on the forum, and we'll make sure they make it onto the main site as well.**

Any suggestions and ideas for improvements are welcome and can be sent to George Gregory at gregdesign@telus.net. Stay tuned for further developments!

Across Canada

RAA Chapters in Action

Chapter 85 (Vancouver)

The year in review

The year 2011 started off with our Annual Awards Banquet held at the Delta Town and Country Inn. We have held the event there for the last 3-4 years as the hotel provides an excellent venue. The menu was Baron of Beef with Yorkshire pudding. Approximately 50 guests attended the banquet in 2010 compared to over 100 guests the previous year.

The Most Valuable Member award went to Rob Prior for outstanding service to the chapter for more than 20 years. Raymond Colley, an ex-commercial pilot who has become an active participant in the chapter received the Ira Jamieson Award .This award, formerly the Unsung Hero Award, is presented to the member who contributes to the betterment of the chapter on their own initiative Carol Foley accepted the Woman of the Year award for her careful management of our finances.

Lynn Walker recently completed a photo exhibit in our clubhouse. It consists of pictures of a variety of homebuilt and classic certified airplanes belonging to Chapter members and adds a lot of aviation related interest to our newly renovated clubhouse.

David Marsden joined our chapter executive this year, taking on the responsibility of Membership Chairman and providing voluntary assistance in other activities. David has been a RAAC member for a number of years in Alberta, has designed and built his own airplane (Skylark) and has extensive experience with homebuilt airplane technology. We are very pleased David has chosen to be involved in our chapter.

Top: members of Chapter 85's Remembrance Day flight; above, Chapter 85's booth at the 2011 COPA convention in Langley, BC. Left to right: President John Macready, Tim Nicolas, Dave Marsden and Lynn Walker.

In June the Chapter was invited to participate in the 2011 COPA Fly-In AGM held in Langley BC. Several Chapter members organized a display illustrating examples of homebuilt airplanes. The display includes three posters describing the activities of national and local organizations of RAAC which can be used at other events. We hope this display will give our organization some needed exposure to the General Aviation community.

About the same time, Terry Wilshire, our RAAC regional representative, COPA Director, Chapter Vice

Member Tim Novak salutes with Air Cadets from 655 (Richmond) during the Remembrance Day Ceremony; Longtime member Dan McGowan completed the restoration of his Aeronca in 2011.

President and Delta Heritage Air Park Operating Committee Chair passed away from a long term illness. Terry had contributed major amounts of effort in terms of leadership and day to day management of the airpark. He was an extremely capable homebuilder having completed, with Bob Cutting, and flown, what is in our opinion one the world's premier ¾ scale Spitfires. Terry will be sadly missed. A memorial meeting was held in his honor at Delta Heritage Air Park this summer.

Another notable member, Jim Hunter, passed away this year after a long term illness. Jim had been a member of the chapter for many years, a home builder, an ex air force pilot and school principal. Jim had a special personality and contributed many hours to our organization especially as a secretary recently.

A former member of the chapter and member of COPA Flight 5, Donn Hubble was killed this past year in his Cessna 150. Donn was a member of the Remembrance Day Demonstration Team which annually flew over the Lower Mainland cenotaphs. Donn was a very popular and softly spoken pilot who will be missed by all who knew him.

The July RAA Fly-In was a success, as always, and held at our home airfield, Delta Heritage Air Park, CAK3.

Several projects have been completed at Chapter 85 this year. Most notably, Dan McGowan, a long time member of Chapter 85 and notable aircraft builder, recently completed the restoration of his Aeronca Champ. Dan completely disassembled his aircraft, repaired all structural components and recovered the aircraft despite the fact he is getting on in years. The aircraft is registered in the Owner Maintenance Category. Another member, Roy Taylor, has almost completed his RV-7 and is awaiting final inspection. Roy has assisted other members in building their own airplanes and this time put this knowledge to good use finishing his own. In 2011 Helmut Gebenus completed his Jodel which he built under the deck of his home. Helmut is a cabinet maker by trade and his expertise in wood working came in handy in the finishing of this aircraft. Helmut is also a glider pilot and flies extensively in the USA. For the last year or so, our chapter aircraft, a Druine Turbi, has undergone a number of upgrades including a top overhaul of the engine, a minor repair of the canopy and some improvement of the communication equipment. This work was carried out under the guidance of Robin McNamara, previous aircraft chairman and Gerald Van Dijk, a former president of the chapter. The Aircraft has been signed off as airworthy by the Chapter executive aircraft committee and is available on rental to current club members.

Our annual Remembrance Day Ceremony was held at Delta Airpark on November 11, 2011. This joint cooperative event was sponsored by Chapter 85, COPA Flight 5 Boundary Bay Flying Club and the Corporation of Delta. Each year our chapter participates with COPA Flight 5 Boundary Bay Flying Club in a fly-by of cenotaphs. Our ceremony at the airpark is included in the events. A contingent from 655 Richmond Squadron, Royal Canadian Air Cadets, was present for the second time this year and added much pageantry. Lunch was served in the Air Park coffee

shop afterward by the volunteers at Delta.

At our October General Meeting, our new executive was chosen. The elected members are as follows: John Macready President, Raymond Colley Vice President, David McIntosh Secretary, Tom Boulanger Treasurer, Bruce Prior Custodian, Cyril Henderson Programs. Two directors were added, namely, John DeVisser and Alex Routh. To see a complete list of executive members go to the chapter website.

Chapter 85 has 61 active members for the year 2011 compared with 77 members in 2009 and 73 in 2010. We are doing our best to identify innovative methods to attract new members but in a fashion similar to other organizations our membership numbers have fallen recently.

Our annual Christmas wine and cheese was held on Tuesday December 6 at 1930 hrs in the Chapter clubhouse.

Saskatchewan RAA 4901

The club was able to enjoy an extended fall. In fact the first snowfall didn't come until mid-November! As such the fly-ins continued into October and pilots enjoyed the improved performance with the now cooler air. The club has started our meetings up again this fall. Members have also started work on the Christavia project. They have stripped down the fuselage to determine what fixes or improvements are needed to the plane. It's a free flowing project, so whichever members have time on Saturday mornings, they meet at our club hangar, the Prairie Partners Aero Club for some building and coffee. The club is also planning our annual after-Christmas party in January. Date still to be announced, but it's normally the 2nd or 3rd weekend in January. If you're in the area, feel free to come join the pot-luck!

RAA Scarborough/Markham

We are grateful to Paul Riedlinger (paul@fisherflying.com, 905-838-1050) who spoke to us about his company, Fisher Flying Products Inc. The expanded company is moving to 13779 McLaughlin Road in Caledon (from Hangar 100C at Brampton Airport). Paul's background is in woodworking in the furniture industry. His company has replica kits for nine classic aircraft (e.g. The Celebrity, Dakota Hawk, R-80 Tiger Moth, etc.). He has innovated grooves in wooden parts for more precise gluing. A lot of interesting information is available at his website www.fisherflying.com/. We regret that the turnout was small for what was a very interesting presentation by a really enthusiastic speaker.

RAA Calgary

At the October meeting, Bill Beaton gave us a financial look at aircraft ownership as well as using geothermal heating on aircraft hangers.

We have confirmed our welding workshop for December 10, 2011. at Don Mueller's ranch by Three Hills. Cost will be $55.00 for members and $60 for non. This includes material, transportation, and lunch. This is introductory and intermediate welding for Gas, Tig, and Mig. This will be hands on welding, so don't wear your best clothes. Don is a welder by trade and up to date with all techniques. Everyone will be shown and get a chance at trying the 3 welding techniques.

RAA London/St. Thomas

Guests for the November meeting were Roland Mereien, (a friend of Ray Taylor) who has flown fire bombing sorties in Alberta, and Paul Payette, from St. Marys, who learned to fly at age sixteen in gliders with the Air Cadets, and is working on an RV aircraft.

Dave Hertner brought a sample of the remote switching device that he is marketing. It is based on a cell phone for communication, and is capable of switching on an aircraft pre-heater or any 110 volt device. You dial the switches number and text to it a pre-programmed code, and it will switch the device on or off as you desire.

Howard Faulkner announced the passing of Cliff Robertson, a Spitfire owner, who has piloted the Spitfire at aircraft displays and air shows for many years now. Originally it was thought that the Spitfire MK923 went to Kalamazoo, however Denny Knott found that the aircraft has now gone to a museum in Seattle. Howard also noted that in a recent trip to Aircraft Restoration in Windsor, he saw a Mosquito and a Lancaster currently in restoration. The Mosquito will not fly again, but the Lancaster is being restored to specification and may some day fly again. Howard noted that many of the windmills south of Rodney to the US border were not lit at night.

Bob Buchanan reported some initial test flights of a four-engine C-130 Hercules ¼ scale amateur built two-place aircraft powered by four Volkswagen engines. Built near Listowel, and now based at Stratford, the aircraft has two 2200cc engines, and two 2270cc engines where the larger displacement inboard engines are alternator equipped. The aircraft has made a few flights at twenty or thirty foot altitudes for testing of flight characteristics.

RAA Winnipeg

On Saturday, November 5th, 2011 the RAA Winnipeg Chapter and the Springfield Flying Club co-hosted the 2011 Model Build at the Lyncrest Flight Centre. The event started at 10:00 a.m.

continued on page 35

Tell Us What You're Up To!

Help keep the national membership up to date on what your chapter is doing. Send your pictures (the bigger the better!) and submissions to George Gregory (george@sidekickgraphics.com) or Gary Wolf (garywolf@rogers.com) - we'll see your reports and upcoming events are posted in the magazine and the RAA website.

Motorglider

I used to wait with anticipation for the new copy of Sport Aviation and dreamt of flying an aircraft that I had built with my own hands. I had purchased plans for a Starduster Too, a big two-place biplane, and had started to cut ribs from a sheet of very expensive marine mahogany, but at that time I lived in an apartment building and I knew I'd have to have an alternate place to build. Up to this point I had been using the maintenance room that the superintendent graciously made available. If I were going to build a whole aircraft in an apartment it would have to be substantially smaller than this 2-place monster biplane.

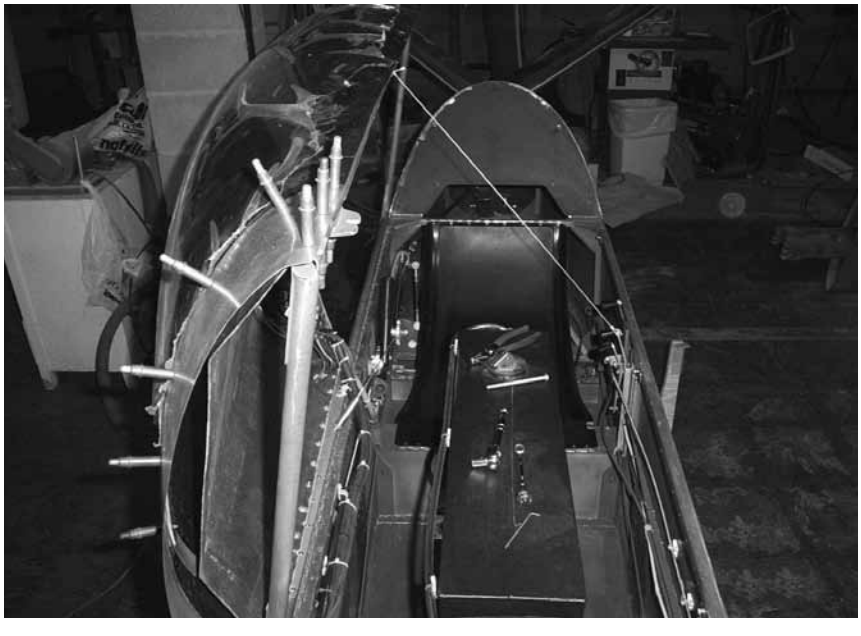
William Goldhart's

Moni

It was love at first sight, and the article made me salivate all the more.

WHEN IT WAS FIRST introduced, I had been wowed by the BD-5. A group of neophyte builders and I had considered building 2 or 3 in parallel but there were reported problems with this design and I chose to take the "wait and see" posture. I'm glad I did. Then one month I opened the mailbox and this sleek, sexy looking, all metal, motorglider, dubbed the "Moni", lept off the page at me. This was the latest offering by John Monnett, and it looked like a little fighter-plane. I dreamt of manipulating the side-stick control, executing barrel rolls, loops and Immelmans: then, after carving the clouds, I could shut off the engine and soar to unlimited heights, on invisible thermals at zero cost. It was an all aluminum, self launching, motor-glider dream machine. It had my name on it. I was smitten.

It was love at first sight, and the article made me salivate all the more. So on Oct 31, 1983, I gave myself an early 37th birthday present. I wrote a cheque for $225 to purchase a set of plans and a subscription to the newsletter, Moni # 242, and my Moni was on its way. I felt like a kid waiting for the secret decoder ordered from a cereal box. When the plans arrived, I poured over them and thought "yes, I can build this aircraft and do it in the apartment building. I can afford to purchase the whole kit or one or two at a time. I'll build this Moni to get me into the air, and then I'll build the Star-



Above: Darren Pond mating the spars to the fuselage. Left: the Moni's cockpit. Yes, that lunchbox-shaped thing that goes between the pilot's legs is the fuel tank.

duster Too. After all, how long can it take? John Monnett touted approximately 700 hours of labor, so I'll be in the air by the summer, right?" Well not quite. How naive I was. I placed an order for the complete kit.

It seemed like an eternity before the shipment finally arrived here in Canada and that was further stretched by Customs who wanted to charge me for importing an airplane(?). Don't ask... The large wooden crate and two heavy cardboard boxes arrived at the building and were wrestled down to the maintenance room before I had to return to work. I was working as an appliance salesperson in those days, taking a course in real estate sales with a view to a change of vocation. What's that old expression? Life is what happens to you while you're busy making plans. I hurried home that night to do a complete inventory. The kit arrived mostly complete but there were several items backordered, and some were never delivered.

The tail feathers were the first items attempted and by the time I finished the ruddervators, I was convinced that building this aircraft was certainly do-able but I would be unable to fly it with the wrist injuries I would incur from hand pulling an entire airplane's worth of stainless pop rivets. I was not going to hand-squeeze another rivet: I bought a compressor and a pneumatic rivet puller, as well as other air tools like shears, a nibbler, and a belt sander.

Well, now that I have this aircraft building thing conquered, let's get at the fuselage. First thing is to get this work table built. As careful as I was, the table was constructed with a slight warp built in. Rather than scrap this table and start afresh, I came up with a six point mounting system that enabled me to anchor each post to the floor and then level the table top. Warp eliminated. This aircraft building is pretty straight forward. There are several ways to skin a craft.

It was only a matter of weeks from the time I received the kit, until I was informed by the super that the building had been sold, and I would have to find another place to build. I had a little less than 9 weeks. I made

arrangements to have my aircraft stuff put into storage and I continued to stay in the apartment for a few more months. During this time I had the mixer, and other parts that needed welding done by a pro. I've taken courses in oxy-acetalene welding, and have gained the knowledge of how to stick pieces of metal together, but never attained the artistry that I wanted on my bird. The parts came back sand blasted and primed, and the welds looked like they had been painted on. Each part moved smoothly and there was no binding. Following the plan was quite easy and I was impressed with how well designed the Moni was. I was a happy camper.

I was now a registered Real Estate Agent and there was little time for thinking about building anything but my new career. Once a week the

Above: it flies - quite well, thankyou very much.
Here, Bill runs up prior to the Moni's first flight. Prior to the big day, some extra training on tailwheel aircraft and a bit of glider time were considered prudent investments.

Above: Bill shows off his new paint job. Opposite, top: proof positive.

agents at our office would all go to view and inspect the new office listings of that week. There was a new listing. There was an older 2 bedroom bungalow that was situated on a busy street, 3 houses from a level railway crossing, and directly across from a large cemetery. The address number was 666. It was priced low, the owner had died and the family was motivated to sell. The thing that caught my eye was none of the above. This property had an attached garage on one side and on the other there was a long driveway leading to an old 1 1/2 car garage that had seen better days. I could see my aircraft shop. The building was near falling over, but I jacked it up, installed a 60 amp service, poured a concrete floor, sealed up and insulated the structure , installed a pot-bellied stove, new lights, and voila…my airplane manufacturing plant was born. It took 3 months to prepare the shop, and I had worked hard through the summer to prepare for a winter of aircraft building, but before I could finish the fuselage, I had an offer on the house that I just couldn't refuse. The hunt was on for another house and I found one that was a step up, had a basement apartment, a swimming pool and a single garage that I could make do with for the airplane. The garage was never used for anything but storage and there the project sat for the next 12-13 years. Another move, business, family responsibilities, and again, the lack of a suitable place to build (my excuse), put the project on hold for what turned out to be just shy of 20 years.

To be honest, I was not willing to continue with the build because of all the problems that developed with the design. I stayed up to date with the news letters and other builders, but was not compelled to restart the project. I followed the developments, good and bad, that surfaced. The engine problems that were being experienced by other builders with failed cranks and departing propellers, the de-lamination problems with the bonded wings, wing root modification, extra ribs, etc. were all things that I wanted to be ironed out before I committed them to my airplane. Monnett had some liabilities problems and went out of business, leaving Moni-owners on their own. Most parts had been delivered, but there were still items that were back-ordered that never came.

In Nov. 2003 I moved again, this time to an old horse farm, out of the city. This old house had an unfinished basement with a concrete floor and a single flight of stairs straight out the back door. The day I moved in, I decided that this was where the Moni would come to life. I committed to at least 2 nights a week and at least one day of the weekend for aircraft building. Progress was made, slowly at first but as I gained confidence and skill, each task was ticked off the "to do list" and things were starting to come together. There were more nights than I care to remember, going to bed at 2-3 in the morning because I'd lost track of time, and still having to get up at 7 AM for work.

Among the most challenging of tasks I ran across were fitting the cowling, canopy and the turtledeck.

The Moni's cockpit features semi-supine seating as befits its soaring mission. The aircraft is only three and a half feet high. Opposite, the author enjoying the fruit of his labour.

These were not insurmountable but took lots of fidgeting, fiddling, and fooling about. To this day, the cowl has not been painted because it's still not right. Sometimes, when you need a third set of hands or you just have to be terribly dexterous or innovative, a roll of fibre tape may do the trick. Sometimes you just have to stand back and give it another "think". Sometimes you just have to make the mistake, learn the lesson, and vent. I have to admit to more than one tirade, complete with its string of expletives (not to be repeated here). There was one night the air turned blue after I tightened a screw, and cracked my beautiful fighter style canopy. I can still remember the sound of the pop made by the cracking plastic. It was stomach wrenching.

In 2004 I met Darren Pond. A bright young tool and die maker, he had built the prototype automation for the blood-testing company I worked for at that time. Darren, I discovered, had recently achieved his private pilots' license and was passionate about flying. With our mutual interest discovered, I told him stories of flying days gone past. When we were able to fly a c-150 for as little as $7.00 per hour - wet. A Citabria with 115 horsepower for $9.00 per hour, also fuel included. A c-172 for $12.00 per hour... wet. A 150HP Citabria with a full inverted system, for $14.00 per hour -wet. A Comanche 250 for $23.00 per hour, wet and insured. This was back in the days that the government supported private aviation and "flying clubs" were legal and provided many a loop hole for inexpensive flying. I introduced him to the world of homebuilding, while we observed the test tubes being transported from one station to another, just as it should. From that day forward Darren was hooked. He helped get the Moni built. He has assisted with the construction, fabricated parts, brainstormed with me, sat in the seat making airplane noises. Most importantly he regenerated the commitment every time we spoke. He was the most motivating force I had ever run across, and for that, Darren - thank you my friend, thank you.

As the months and years past, more and more Monis took to the sky. Yet every few months, someone bent their bird. I could see this was not an aircraft for a ham-fisted novice, but an aircraft that could bite you bad. Having said that, with some tail-dragger experience, a good check-out in a glider, and the knowledge accumulated by the brave souls who had pushed the envelope and lived to tell the rest of us, the Moni is a solid, responsive, rewarding airplane to fly, but fly it you must - at all times. It is reported to have some peculiar habits in the low speed range if you don't keep the ball in the centre. The Moni is eye-candy for sure; slight, sleek, sexy, smooth lines, "V" tail, and slender wings. But it is so tiny its near impossible to be seen in the air. I've had traffic in the pattern that could not find me on short final without rocking my wings in response to radio communication. In my opinion, running lights are a must and I have a strobe system ready to be installed.

By keeping to the schedule I had set, the Moni was approaching

Moni Motorglider

Crew	One
Length	14 ft 8 in (4.46 m)
Wingspan	27 ft 6 in (8.38 m)
Height	3 ft 6 in (1.07 m)
Wing area	75 ft2 (7.0 m2)
Empty weight	260 lb (118 kg)
Gross weight: 500 lb (227 kg)	
Powerplant	1 × IAME KFM 107, 30 hp
Performance	
Maximum speed	120 mph (193 km/h)
Cruise speed	110 mph (177 km/h)
Range	320 miles (515 km)
Service ceiling	12,500 ft (3,810 m)
Maximum glide ratio	20
Rate of climb	500 ft/min (2.5 m/s)
Rate of sink	167 ft/min (0.85 m/s)

completion in the spring of 2004. I had run the engine in for about 10 hours on a test stand, in the recommended manner in the fall of 2003 before it was installed on the airframe for the first time. I had decided to do the test flights at Kitchener/Waterloo airport. There were three runways all long enough, emergency facilities on the airport, not too much traffic and the day the aircraft was transported to the airport, I went up to the tower to speak to the controllers. These guys were excellent. They told me where I could conduct my taxi tests, gave me the layout of the airport, advised me of the times of regular commuter flights, and were generally receptive to the idea of conducting my test flights at their facility. I remember taxiing around the tarmac in April one afternoon, maintaining radio contact with the ground controller. He contacted me to tell me that there were sparks coming from the wing tip. I had replaced the tip wheels that were supplied with the kit, with a set of roller blade wheels because they had bearings and were of better quality than the original. They also flashed different colours when they were turning. This explanation put their minds at ease, and a good laugh was had by all.

During the taxi tests a few problems were identified and corrected. A small fuel leak around the bottom fitting of the sight gauge, the tach was totally unserviceable, and the brake required adjusting (I had installed a drum brake; the scrubber just didn't do it for me). It was activated at the end of the spoiler actuator handle. I taxied around the aircraft parking area and unused taxiways for much longer than was necessary as the weather was not being cooperative and my confidence level required further inflation. Every trip to field I had always had someone with me. However, on July 2, 2004, though I hadn't expected the weather to be cooperative, it turned out to be The Perfect Day, and although there was nobody with me to observe this wondrous event, I felt that the conditions were exactly what I was looking for.

I had decided to do the test flight on my own very early in the construction phase. Right or wrong, if anyone was to be injured or worse in this bird, it was going to be me. I approached the test flight phase with some degree of preparedness. I joined the local glider club in Arthur, and soloed in a 2 place Blanik in preparation for my first flight. I also took some instruction, and brushed up on wheel landings. These activities help bolster my confidence and this afternoon I felt the time was right, as good as it was going to get. I again, went up to the tower to inform them of my intensions. I wanted to stay over the airport in case of the unexpected, and get some feel for the craft. A plan for the first flight had been typed out and stuck on the tank. The guys in the tower wished me luck and allowed me to do a few quick runs down the runway to get the tail up and determine if it was to be a go.

The day I had dreamt about for so long was finally here and although nervous, sweating and shaking, I was ready to take number 242 aviating. The feelings experienced, mere words cannot describe. The smile on my face was beginning to be painful. I radioed the tower and was cleared for takeoff. I applied full power, brought the low wing to level, maintained the centre line and applied some forward stick to lift the tail and before long the Moni became light on its wheel, skipped a couple of times and became airborne. It flies. By Joe, it *flies*.

IFR for Homebuilts

Excerpted from RDIMS-#4221485-v2-FORM / Transport Canada

Purpose

The purpose of this information package is two-fold:

(a) To inform the owners of amateur-built aircraft of the requirements for and the procedures by which the "VFR ONLY" standardized operating condition may be removed; and

(b) To make the owners of amateur-built aircraft aware of the equipment and maintenance requirements for Instrument Flight Rules (IFR) flight.

Background

Initial issue of a Special Certificate of Airworthiness, in the amateur-built classification, allows the aircraft to operate under day Visual Flight Rules (VFR) with initial operating limitations specified in Airworthiness Manual 507.09. After completion of the applicable periods of flight time specified in AWM 507.09, the owner may apply to have the operating conditions modified.

Requirements

To operate under Instrument Flight Rules (IFR), all aircraft shall be equipped in accordance with the requirements of the Canadian Aviation Regulation. Operator's who plan to operate their aircraft under IFR regulations, are required to comply with the CAR's and related Standards, and are alerted to the specific requirements contained in the following documents:

-CAR's 605.18 Power-driven Aircraft – IFR

-CAR's 605.35 Transponder and Automatic Pressure-altitude Reporting Equipment

In addition to the CAR's requirements listed above, the transponder and altitude reporting equipment shall have a correlation check carried out to insure the accuracy of the IFR equipment.

Installation of IFR Equipment

Although the installation of IFR equipment may be performed and certified by the owner, due to the complexity and cost of test equipment, it may be more practical for this work to be performed by an appropriately rated aircraft Approved Maintenance Organization (AMO).

IFR Equipment Installed in Amateur-built Aircraft

IFR equipment, which has been installed in an amateur-built aircraft, is not eligible for installation in a certificated aircraft unless that IFR equipment has been recertified by an appropriately rated AMO.

Statement of Compliance

A Statement of Compliance shall be entered in the Technical Records and signed by the register owner.

A suggested Statement of compliance entry:

STATEMENT OF COMPLIANCE

The installation of the equipment required for Instrument Flight Rules as specified in CAR 605.18, and 605.35 have been properly installed, tested and calibrated in accordance with the requirements of CAR 571, and 605 along with the related standards, and that this equipment functions properly.

Date: _____ Signature Of Owner _____

Print Name: _____

The statement shall indicate that the equipment required for IFR flight as specified in CAR 605.18, and 605.35 have been properly installed, tested and calibrated in accordance with the requirements of CAR's 571, and 605 along with the related standards, and that this equipment functions properly. The owner must be prepared to demonstrate that the installation, test and calibration of IFR equipment have been appropriately performed.*(See sample, sidebar, bottom of opposite page)*

With regards to the installation, test and calibration of the IFR equipment required by CAR's 605.18 and 605.35, owners are to insure that the requirements of 571.02 are met.

571.02 Maintenance and Elementary Work Performance Rules
(amended 2000/12/01; previous version)

(1) Subject to subsection (2), a person who performs maintenance or elementary work on an aeronautical product shall use the most recent methods, techniques, practices, parts, materials, tools, equipment and test apparatuses that are:

(a) Specified for the aeronautical product in the most recent maintenance manual or instructions for continued airworthiness developed by the manufacturer of that aeronautical product;

(b) Equivalent to those specified by the manufacturer of that aeronautical product in the most recent maintenance manual or instructions for continued airworthiness; or

(c) In accordance with recognised industry practices at the time the maintenance or elementary work is performed.

(2) A person who performs maintenance or elementary work pursuant to subsection (1) shall ensure that any measuring device or test equipment used

(a) Meets the specifications of the manufacturer of the aeronautical product with respect to accuracy, taking into account the intended use; and

(b) If calibration requirements are published by the manufacturer of the measuring device or test equipment, is calibrated by means traceable to a national standard.

(Amended 2003/06/01; previous version)

Certification

Owners of Amateur Built aircraft are reminded that when maintenance is performed that a Maintenance Release must be entered in the technical records of the aircraft in accordance with CAR's 571.10.

571.10 Maintenance Release

(1) No person shall sign a maintenance release required pursuant to Section 605.85 or permit anyone whom the person supervises to sign a maintenance release, unless the standards of airworthiness applicable to the maintenance performed and stated in Chapter 571 of the Airworthiness Manual have been complied with and the maintenance release meets the applicable requirements specified in section 571.10 of the Airworthiness Manual.

(2) A maintenance release shall include the following, or a similarly worded, statement:

"The described maintenance has been performed in accordance with the applicable airworthiness requirements."

Information Note:

(1) When an entry is made in the aircraft technical records to the effect that the required test and calibration of the IFR equipment has been performed, details of the work performed must be recorded in the aircraft technical record in accordance with CAR's 605.92 and 605.93.

(2) CAR's 571.11 identifies that a person who is the owner of an Amateur Built aircraft or an AME appropriately rated, may make a maintenance release in accordance with CAR's 571.10

Documentation to Transport Canada for Removal of "VFR ONLY" Restriction

Submit a request in writing to the Minister at one of the Transport Canada Centers, requesting that the Operating Conditions be amended and enclose the following:

Copies of Technical Records detailing, Statement of Compliance, correlation check, the work performed and the certification of the work performed.

A copy of the front page of the applicable logbook that shows the registration and general aircraft information.

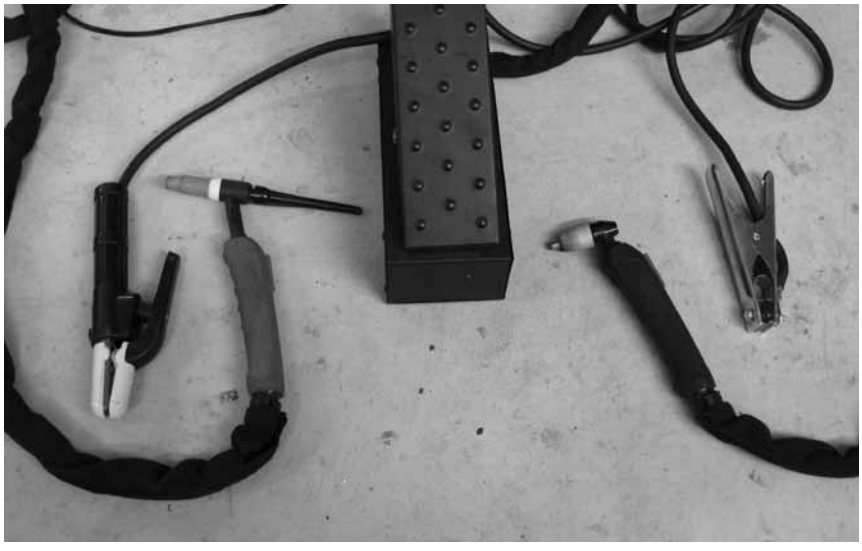
A copy of the Weight and Balance, (including an equipment list), amendment if applicable.

A Fee of $35.00 (Make check or money order payable to the "Receiver General for Canada").

Maintenance of IFR Equipment

Owners of Amateur Built aircraft that have had the "VFR ONLY" Operating Condition removed are reminded that the Equipment required by CAR 605.18, and 605.35 shall be maintained in accordance with the requirements specified in Standard 625 Appendix "C" (Out of Phase Tasks and Equipment Maintenance Requirements).

Top: left to right, stick welding handle (not tested,) tig torch, the all-important foot control, plasma cutting torch, and the ground clamp which is common to all. Centre: The argon bottle and regulator must be plumbed to the single inlet fitting on the rear of the welder, and so must the air line for the plasma cutter. Mark added a valve to make the changeover simple. Right, Cutting stainless sheet is a walk in the park with plasma.

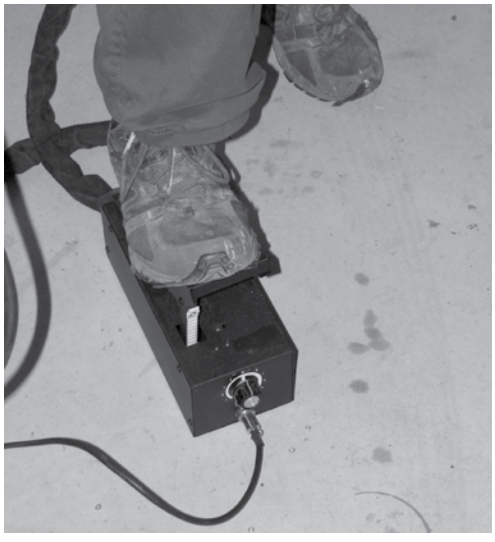


Welder / continued from page 13

fitted the consumable tip. Upon initial startup this board also blew so another call was made to Purifion. I was becoming skeptical but to their credit Purifion came up the next day and replaced the necessary parts. The plasma cutter feature then worked very well, slicing quickly through 1/8" aluminum, 1/16 stainless, and 1/8" mild steel. I then tried a piece of 3/8" steel bar stock, a real test of a plasma cutter. To my surprise the plasma went through 3/8" steel at a rate of six seconds per linear inch, very impressive. There was a bit of slag on the lower edge but it knocked off easily after the material had cooled down. Another cut test was made with a piece of angle clamped to the 3/8" bar as a guide for the torch and this produced a nice straight cut.

Consumables are always the question mark with any plasma cutter and some manufacturers charge so much that they should just hand out machines for free and make their money on selling replacement tips. Purifion sells their tips on their website at a very reasonable price.

What will the machine not do? Well it will not weld aluminum - the CT 600D is a DC only machine. For aluminum a machine with AC and high frequency is necessary. Some manufacturers claim that thin aluminum can be TIG welded by reversing the polarity of the torch and the ground strap but on this machine it is not possible without adding your own connection points. I have tried reverse polarity DC on my own machine and feel that it is a waste



Mark Townsend demonstrates that TIG welding requires that the operator be seated comfortably... and the foot control must be positioned for comfort too.

of time. AC with high frequency is what you want for aluminum, but an AC DC machine is in a higher snack bracket.

If you are considering buying any TIG machine make certain to get one that has a foot control and pre and post flow of argon. On this machine the foot control is an option but it costs under $100. Foot control means that if you are welding an outside corner you can back off the amperage to prevent blowing through, and on an inside corner you can increase the amperage to provide the necessary increased heat. Definitely get a foot control. You will also need a regulator, $50-100, and a tank of argon. The annual lease will cost $75, or you can buy your own small bottle for ~$150 from many suppliers including TSC stores. The cost per cubic foot of argon will vary widely so shop around for the best deal, balancing the annual lease fee against the cost of the gas. You will also need a good 220v supply and probably an extension cord. Pay the extra to get a thick gauge cable.

Would I buy one of these machines? The answer is a qualified yes. This machine worked well once the teething troubles were corrected and at the $5-700 price depending on accessories it is a real bargain. However I would take my helmet and some material along with me and test the machine before taking it home. The warranty is one year and Purifion does stand behind what they sell, but since they are an hour's drive I would want to know that the machine worked before heading home with it. I bought my Hobart twenty-five years ago when I needed it for eight hours a day of production welding. Now that I am on the cooldown lap of life, if the Hobart ever gave up the ghost I would definitely be looking at one of these small machines for the light duty work required when building a plane.

For more information, check out www.purifion.ca

Float Sets for Amateur build and Owner-Maintenance aircraft

Pierre Gagné of Quebec is now offering for sale his float sets for amateur and owner-maintenance aircraft in 1650 - 1800 - 2350 pound sizes. These floats feature baggage compartments and pump-outs, and they are equipped with two water rudders and lift boosters. Pierre can also supply all rigging and spreaders for popular aircraft. For more information call Pierre Gagné at 818-732-3941

New Safety Video

Tanis Aircraft Products Releases NEW Helicopter Preheat Safety Video "Just Plug It In"

EDEN PRAIRIE, MINNESOTA, NOVEMBER 16, 2011 - Tanis Aircraft Products announced today the release of a new video outlining the safety benefits of helicopter preheat. Tanis is the technology and innovation leader in aircraft preheat systems, including state of the art systems designed specifically for rotary wing aircraft. The new video highlights the functionality and features of the company's helicopter preheat systems. Tanis preheat technology allows an operator to preheat critical driveline components and fluid reservoirs prior to flight.

The video was first presented at the International Helicopter Safety Symposium (IHSS) in Fort Worth, Texas, on November 9th. Following the video presentation, a number of delegates took the time to express support for Tanis preheat technology. One cold climate operator commented, "I have Tanis preheat systems on all of my helicopters. For my fleet it is simply the best winter safety practice that money can buy." Another participant opined, "I was not aware that such a system existed. We've tried portable heaters at our remote sites and they are cumbersome to transport and fickle to operate. The Tanis system looks like the real deal, transportable, reliable and best of all safe."

The short two-minute video identifies wintertime hazards affecting the safe operation of rotary wing aircraft relating to fluids, critical driveline components and battery efficiency. Tanis advocates the use of preheat systems prior to engine start to ensure a safer, more predictable winter launch with all gauges in the green. With the installation of a Tanis preheat system, the message concludes, helicopter operators can optimize launch times and minimize safety worries concerning critical in-flight components and fluids.

Operators in cold climates have known for years that preheating is a winter season best practice and is mandated by both engine manufacturers and certain government jurisdictions. Selecting a proper preheat system enhances operational safety and saves on operational costs, enhances scheduling and decreases downtime during winter operations.

See the video "Tanis - Helicopter Preheat - Just Plug It In" online at http://www.youtube.com/watch?v=vPwl_A7yUE0

For more information, contact: Bob Krueger - 1.800.443.2136, bob@tanisaircraft.com

President's Message / cont'd from page 2

to cruise it every weekend, and E-Bay with its limited time auction or "Buy It Now" sings its siren call. Inevitably the phones ring at RAA every Monday and Tuesday to ask about importing partly completed projects and low time flying amateur aircraft. The answer is always the same - a project must be at the precover stage, and a flying amateur plane must have 100 verifiable flight hours.

Composite projects are the most difficult to import because usually the builder has given up when he realized how much sanding was left to do and how much the engine and panel were going to cost. If all the flying surfaces have been bonded together there is no way of opening them up in Canada for the MD-RA precover inspection. US builder logs are not acceptable as proof - it is not unknown for a US "builder" to show up at the factory with four different shirts to have his photo taken in front of a partly built aileron, a partly built wing, etc. For most US projects there has been no precover inspection worthy of the name, and one might well ask why anyone would want to take passengers up in a fast plane that has had little more inspection than Canada requires of a Basic Ultralight.

If you buy a composite project that is past the precover stage you might as well leave the closed components with the vendor, or just stop at the closest dump and drop them off before trailering the rest home. There is an exception for factory-built components, but only if the factory has received permission to build these while remaining within the 51% rule. The factory document must accompany the parts, so if it is not available you are buying yourself some expensive landfill.

Aluminum projects that have been closed can have similar problems, especially if the fasteners used are stainless pulled rivets. It is very difficult to drill out stainless rivets ▶

Chapters / continued from page 21

with fifteen young aspiring engineers/builders accompanied by parents and grandparents who were eager to begin construction of their chosen "Legends of the Air" model kits. The day began with an informational presentation on Theory of Flight given by Air Cadets Squadron Leader, Tom Stoyka.

By 12 noon, most teams had their fuselage completed so a call for lunch by airport manager/head chef, Jim Goold was welcomed by all. After a hearty lunch of gourmet hot dogs and tasty sides, the teams were led on a tour of several hangars to view all types of vintage, home-built and ultralight airplanes. Of particular interest was our first visit at Mr. Burt Barkman's hangar which shelters his vintage Ercoupe, countless aviation artifacts and a unique collection of vintage service station memorabilia that Burt has preserved from his varied business ventures of the past. John Blackner's pristine 1946 J3 Piper Cub alongside a 1/5 scale, RC Cub was also greatly appreciated by all who were on the tour.

Zenairs by Ken Podaima, ultralights and RC flying models at Perry Chromiec's hangar were also very much appreciated by all. Gilbert Bourrier's AcroSport II Biplane, alongside a 1950 Aeronca Champ and an array of classic motorcycles, quads and his 1973 Camaro were also enjoyed on the tour. After the tour, the group made its way back to the Flight Centre to continue the build.

This year's build featured several prizes which were provided by the RAA Wpg. Chapter and Jill Oakes's offer of a biplane ride to the first prize winner. A complete RC model Piper Cub and a 27" "Spirit of St. Louis" balsa kit were awarded by random draw by Dani Pokornik, President of Springfield Flying Club.

Not long after resuming work on model building, several proud builders were holding up completed projects with broad smiles. Kids and parents alike were eager to share their joy in having finished their respective projects. With the day winding down, the last of our participants said farewell with gracious thanks and queries about next year's build. What will the future hold for these young craftsmen? Will they be the aviators of tomorrow? Were they inspired to pursue bigger and better projects? We at the RAA and Springfield Flying Club can only hope that our efforts to foster the dream of building and flying our own airplanes will be embraced by these young builders.

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without spinning, and thereby enlarging the holes beyond limits. It is easier to build a new wing than to reskin and deal with oversized and ragged rivet holes. Aluminum is worth 50 cents a pound at the scrapyard, but if it is contaminated with steel it is worth 15 cents.

Fabric covered planes must be stripped for inspection of the wing structure, and it can be a lot of work to clean and sand the woodwork so that the glue joints may be inspected. Fabric is not cheap and there will be a lot of remedial work, so price this in when making an offer.

Sealed up wood wings as on a Tailwind are the same as a closed-up composite wing. The advantage is that they can be cut up and burnt in the fireplace, a shame but they cannot be used on an airplane. Again why would you fly a fast high wing loading plane when you know nothing about what is inside the wing structure?

Either import a flying plane with 100 verifiable flight hours or an unstarted project, and nothing between. It is a lot simpler to buy in Canada, or to build one from scratch or from an unstarted kit.

NAV CANADA MEETINGS

In November RAA attended another Nav Canada meeting that dealt with the Montreal-Toronto-Windsor corridor. Previous meetings have resulted in some improvements to airspace commonly used by our sector. This meeting had few revelations as it dealt mainly with high altitude and approach patterns for airliners. One point that was mentioned is that in every province except Alberta there is no requirement for a proposed wind farm to notify Nav Canada or any airfield. In Ontario the green energy policy trumps everything aviation related. Even Hamilton airport might have to deal with a large wind farm off the end of a runway, and if that happens it is likely that their airspace would become Class C and require Mode C transponders.

Jill Oakes of Manitoba is attending the Nav Canada meetings that deal with Manitoba airspace. If you have suggestions please contact her at jill_oakes@umanitoba.ca .

BRANDON AND WINNIPEG JOINT PROJECT

Members of Brandon and Winnipeg are working together on the restoration of the Brandon ATP Museum's Tiger Moth. The Winnipeg chapter has now set up a rib building jig to train newbies in the skills of woodworking, and they will later be assembling these with new spars to rebuild the wings. All work will be inspected and signed out by an AMO. This is an excellent way to interest young people in aviation and to initiate chapter members in the building process.

WINTER IS HERE

Yes, it is winter again and most of us put our planes away. Put the battery on trickle charge, oil up the cylinders, seal all the airframe openings with netting, and distribute some moth flakes all around to keep the mice out. Pat your plane and head to the basement to work on the new project.

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 Fourth Monday 7:30 PM Lake Simcoe Regional Airport Contact Secretary Dave Evans 705 728 8742

E-mail david.evans2@sympatico.caCOBDEN: Third Thursday 8:30 pm at Club House, Cobden Airport. Contact Pres. Clare Strutt, 819-647-5651.

COLLINGWOOD AND DISTRICT; The Collingwood and District RAA, Chapter 4904, meets every first Thursday of every. month, at 7:30 PM except July and August, at the Collingwood Airport or at off-site locations as projects dictate. The January meeting is a club banquet held at a local establishment. For more information contact Pres. 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 7:30 pm at various locations. Contact President , Jim Easter 519-676-4019 jim.easter@teksavvy.com.

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

LONDON/ST. THOMAS: First Tuesday 7:30 p.m. At the Air Force Association building at the London Airport. Contact President Angus McKenzie at 519-652-2734 or angus.mckenzie@sympatico.ca

MIDLAND/HURONIA

Meeting: First Tuesday, 7:30 pm at Midland/Huronia airport (CYEE) terminal building. Contacts: President Ian Reed – 705-549-0572, Secretary Ray McNally – 705-533-4998, E-mail – raa.midland@gmail.com .

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

OSHAWA DISTRICT: Last Monday at 7:30 PM at the Oshawa Airport, South side, 420 Wing RCAF Assoc. Contact President: Jim Morrison ,905 434 5638 jamesmorrison190@msn.com

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

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

SAUGEEN: 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 8:00 pm at Hangar 41 on north end of Brampton Airport. Contact: President Fred Grootarz - Tel: (905) 212-9333, Fax: (905) 212-9993, 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 Don Rennie cgmmv.skylane@gmail.com 403-874-0876

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

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

BRITISH COLUMBIA

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

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

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

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

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

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

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

THOMPSON VALLEY SPORT AIRCRAFT CLUB: Second Thursday of the month 7:30 pm Knutsford Club, contact President - Wally Walcer 250-578-7343

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

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

Classified Ads

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

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

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

Recreational Aircraft Association Canada
President: Gary Wolf / Treasurer: Wayne Hadath

Recreational Flyer Magazine

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

For Sale

MINI-MAX ttsn 217 seoh 29.8. Rotax 447 new GSC prop. skis. radio. always hangared. excellent condition $11,900.00 obo Dec11

FOR SALE KR-2 FUSELAGE in boat stage and metal kit for retractable landing gear castings $300.00 call Ian 604-856-1159 or email tri-pyramid@telus.net Dec11

PROPELLERS, wood, new, never mounted, tractor cwise (view from cockpit), priced OBO plus shipping: One 42x23, weight 2 lb., Lepper, conventional outline, 4 bolts on 70 mm b.c., $195. One 43x34, 4 lb., squared tips, 6 bolts on 75 mm b.c., $295 Call Frank, 905 634 9538

BEDE-4 FOR SALE! 380+ hours TTSN, Lycoming 0-320 E2D McCauley FP prop 75x53 2000 lb GW, 1285 empty. Murphy ext. metal wings, 30 ft with droop tips. Vortex generators, Extended flaps and ailerons. Wing fold mech. built in! Complete set of fairings - all design improvements complied with. Cessna gear legs with solid link in gearbox. Murphy type nose wheel (5x4) Towbar (2 pc) New brake discs and linings! Endura paint - 2002. Complete upholstery, adjustable seats, headliner, door panels, carpets. Instruments: A/S, A/H, Alt., VSI, Turn Co-ord., Slaved mag compass. Tach, Vac. Gauge, Cyl. Temp (2) Fuel (2) oil press., amp. meter, clock/air temp and heated pitot. King KX145 NavCom with KI205 Ind., ValCom 760, Flybuddy Loran, RT359 Transponder with Narco AR850 Encoder (mode C) Magellan GPS with expansion card/software, Sharc ELT, 2 place Flightcom intercom, 2 headsets. Maintenance records, builder manual, some spares, etc., halon fire ext. first aid kit. Any serious offers near $27,000 considered. No tire kickers please. Located CYNJ. Contact Fred Hinsch fred7@shaw.ca

FOR SALE. Lycoming 0-360-A4A. 279 SMOH c/w mags and carb. Recent prop strike inspection by Pro Aero Engines in Kamloops. Yellow tagged. New bearings, rings, gaskets, inhibited and crated, ready to ship. $15,000. Barry Holland 250-785-6431. w-b-holland@uniserve.com

CP 301-A Emeraude, first flew June 2003. TTAF 47 hours O290G Lycoming 393 hours since Major. Sensenich metal prop inspected and refurbished by Hope Aero June 15/09. Dual controls (pedals, sticks, throttle), custom interior, Annual due may 2011. Hangared at Stratford Ont. $23,000. Jim Demerling 519-348-9655

VANS RV7A, by owner and 6 times Van's builder. TT A/F and E 183.3 hrs. Lycoming 0320/ 160, AP, EFIS, KLX 135 with GPS and Moving Map,GRT Engine Monitor, 3 blade Catto comp prop., etc, etc, list of eqpt and more pic avble on request, Prof paint., new FlightLine int, superb workmanship throughout. Manitoba, $110,000 204 371 5209, burtloewen@mts.net

AVID AMPHIBIAN KIT FOR SALE $5,000 Complete kit; tube fuselage and tail, all wing parts, wheels, tires, hardware. Left wing started. No engine, no mount, no instruments, no fabric. Contact Don, located near Owen Sound, ON Telephone: 519 372-1383 . email: we3kingers@yahoo.ca

FOR SALE; MURPHY REBEL KIT, Serial #515. Wings and Empennage complete,also Fuselage from Cabin back. All closure inspections completed. Spring type Landing gear. Reason for sale, lost Medical. Available in Edmonton AB. $12,000. OBO. Ted Taylor,780 455-2524
ted.taylor@shaw.ca

AMPHIBIOUS HOMEBUILT Floats approx 1400'S in need of modification water tight bukheads not watertight.with rigging for installation 2 rudder config Floats too small for my aircraft $6000.00 Larry Taylor 250-492-0488 days ltaylor@pacificcoast.net

THE ORIGINAL PEGASTOL aircraft built by the owners of Dedalius Aviation in 1997. Aircraft is registered as an amateur built aircraft @ 1200lbs gross weight and can be flown with a ULP. Rotax 912S x 100 HP, with slipper clutch gear box and 68" Warp Drive Propellor. Engine has 20 hours on it since coming back from Rotax (Tri-City) for starter sprag clutch replacement. The gear box was also overhauled considering it was on their bench and was done as a precautionary inspection considering it was already there. New engine Barry Mounts upon engine reinstall. New Custom aluminum main fuel tank spring 2010. New windshield and upholstery in 2009. Floats have Lake n Air pump out cups (that are rarely needed as floats are tight). 1/2" sound deadening foam throughout cabin. Wheel gear and forks also included. Airframe Total Time equals 620 hours, 912S Engine Total Time = 380 hrs, Propellor Total Time = 532 hrs, Total Time on Amphibs = 442 hrs. Has new $700 Heavy Duty starter as well. LIMITED TIME ONLY $42,000, so he can put that + winter storage fees towards a 4 place.
For more details view at www.irishfield.on.ca or send us an email oifa@irishfield.on.ca

0320 E2C currently mounted on my Osprey which could be included in sale. Osprey has 175 hrs since new engine has 1850 but was dissassembled for a propstrike inspection 200 hrs ago Compression 125 lbs cyl on all four jugs oil pressure good complete with accessories. $6000 for engine $9000 for all aircraft needs refinishing and recover Larry Taylor 250-492-0488 days ltaylor@pacificcoast.net

FOR SALE: 1997 Pazmany PL1. C-90 Cont. Total Time: 220 hrs. (Airframe and Engine). Side by side seating. Low wing, tip tanks (24 gals US total). Full inst. panel with mode C. Always hangared. Pictures available. $24,000.00 or Best Offer. Call: Ed at 204-642-9485 or email: edira@mts.net Sep11

FOR SALE Teenie Two, completed in spring of 2011 and has taxi time only. New Great Planes 1835, icom handheld, beautiful construction. Registered as ultralight and currently hangared CYPQ. See the youtube video at http://www.youtube.com/watch?v=d89Gg0TvJ98 $5000. Owner deceased so I am handling the sale. Contact Dave Smith davecsmith2002@yahoo.com Sep11

STITS SKYCOUPE with O-290 125 hp, 240 hrs TT. Garmon 195, Escort 110, ICOM A5, intercom, wing tanks. Located at Burlington Ont CZBA. Must sell due to financial constraints. $16,900 OBO. 905-332-7331

T-HANGAR FOR SALE at Springbank (Calgary) airport, so if you know anyone who is interested let me know. This is the lowest priced hangar and most economical to operate at Spring Bank. Total monthly cost including, natural gas, electrical, insurance, and lease is about $100. There is nothing else. The capital cost for the hanger is $105,000 which you can get back at any time. Don Rennie 403 874 0876 or rennie.don@shaw.ca Sep11

9187 AERO GRINDER M 92 with directions, plus drill guide #d 92. This machine refaces exhaust ports without removing cylinders from thenengine. It has a drill guide for removing broken exhaust studs on Continental and Lycoming engines. Air powered. asking $800 647-298-4461 Toronto area. Sep11

AERONCA CHIEF project, 1160 TT A and

E Original 65 Cont, McCauley metal prop Interior, panel, instruments, refurbished, new tires, New ELT, rejuvenated ceconite, requires windshield, Work on wings and assembly to complete. No runout on engine shaft. $10,000 or offer. 416-431-2009 Sep11

FRONT PORTION of RV6 Tilt Type Canopy new, covered with protective material. $60 or offer. Misc chief and champ parts. Call for details. 416-431-2009 Sep11

CHAMP FUSELAGE, ribs, fuel tank, complete tail and numerous other parts $ 1000.00 . Sprint fuselage, spars, ribs, $ 1000.00 Bill Donig 705-842-0801 Dec11

VANS RV-9A.: Inspection Ready, Lost Medical, Sault Ste Marie, Ontario. Certified Lycoming O-235-N2C Engine. TTSN 157 hrs – all logs current. All parts NEW. Professional paint. ($10,000)
Features:
Professionally painted (White, with Blue trim, Red highlights) with grey interior. Lockable sliding canopy. Nose wheel, Daytime or nighttime cross country, Fly from Left or Right seat. Enter left or right side. Professional seats - conform cushions and 5-point seat harness. Large baggage area with 8 tie-downs and Map box. Foot kickpads & wall to wall soundproofing.
Navigation and Communication:
XCOM 760 VHF Transceiver with Intercom Garmin 320A Transponder (Mode A/C) AK-350 Altitude Encoding Reporter ACK Model E-01 ELT - panel display & control Panel controls for Aileron trim. Pitch control and status display Flap adjustment display and control includes three presets.
Firewall Forward:
Quiet, Ed Sterba Wood Propeller 66x68. Oil Cooler with cockpit control cable Lamar Carburetor Ice Detector with remote control Adjustable Carbon Monoxide detector is always ON Jumpstart through oil door requires key access to ignition. Engine heater for winter starts Bird Strike protection for air intake and carburator protection.
Instruments and Panel:
Over voltage protection, and oil pressure protection. Ground power charging, starting and voltage control Stuck Starter protection. Sirs Lighted wet Compass Round instruments (6 for engine, 6 for electrical), Falcon gyro Turn Coordinator Lighted Nav system based upon Removable Navigation computer (HP) and Anywhere MAP software.
Other:
Aeroelectric Connection Z11 schematic based wiring for layout of electrical design / documentation. All outstanding mods have been completed. Extensive documentation includes 180 pages POH. Details available. $58,000. 705-946-4461. ekells@sympatico.ca Dec11

SKYBOLT FUSELAGE with Marquart Charger cantilever U/C., tail feathers, rudder/brake pedals, metal fittings, axles, wheels. Offers. Bill Phipson #3954. Phone 416-431-2009 Dec11 VW engine and many parts. Engine was disassembled after 10 hours for inspection and is still open and appears to be in good condition. Engine has prop flange and one mag. Ten boxes of parts include enough to assemble another complete long block engine. Includes spare oil coolers, spare sidedraft carbs, and there will still be parts left over. Cleaning house - also a set of Firestone 800-6 wheels and axles with tires and tubes. $400 or best offer - bring your trailer or empty car trunk on the first visit. Located near Hamilton ON w.brubacher@sympatico.ca Dec11

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Garth Elliot's
Marquart Charger

AFTER 14 MONTHS of intermittent refurbishment and improvement work, imported (via truck from California) homebuilt aircraft Marquart MA-5 Charger C-FRGX (named "CAVU") made its maiden flight 26 August 2011 at about 9:15 AM.

The most recent delay (about 3 months) resulted from an oil pressure problem. The oil seemed okay in cooler weather but with warmer weather the oil temperature rose to normal -but with subsequent drop in pressure to below acceptable limits. This was soon isolated to be an oil pump problem. The oil pump was totally rebuilt with all new parts and the result was wonderful oil pressure..."on the money" being a good and appropriate expression.

The first flight occurred in CAVU weather with the wind at 5 KPH or less and very little traffic at Muskoka (CYQA) Airport. We used the 6000 foot runway. The flight revealed no adverse handling problems, and no apparent need to re-rig the aircraft. The angle of climb was steep and the flight consisted of one circuit only. No subsequent oil leaks or problems. We do suspect inaccurate airspeed readings and this is now being investigated.

Pilot for the test flight was John C. Elliott - a "bush pilot" with many thousands of hours flight time...much of it on "tail wheel aircraft".

The rate of descent (as with most biplanes) is steep, but the angle of climb is remarkable....those of us who witnessed the flight were pleasantly surprised/startled at the rapid climb.

The engine is a Continental 6-cylinder 125 HP driving an AeroMatic propeller. It is thought that the propeller "might" be replaced with a new wooden Sensenich unit because the AeroMatic might not make a worthwhile difference with such a "draggy" airframe. Time will tell.

At 100 - 115 (actually anything over 80) indicated the wind in the rear cockpit is intense. I believe the matter can be solved with a different front windshield.

Controls are sensitive and very responsive.

Over the years I learned much useful information via the RAA and this information stood me in good stead when searching for a well-designed homebuilt aircraft.

I am greatly indebted to mechanics Henry Longhurst and John C. Elliott (and several others who volunteered) for their assistance in this endeavour.

The COPA guidebook on homebuilt aircraft was useful, giving a good overview of the situation when importing a homebuilt aircraft.

Much credit is due to the MD-RA organization and Bill Tee for assistance in threading my way through the maze of paperwork.

Garth Elliot

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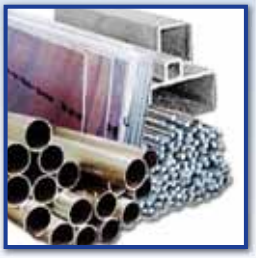
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