publication agreement number 40050880

Issue 4, 2016

# RECREATIONAL RFLYER

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

RAA
RECREATIONAL AIRCRAFT ASSOCIATION
RÉSEAU AÉRONEFS AMATEUR CANADA

# From The President's Desk

*Gary Wolf RAA 7379*

**The Category 4 Medical**

In the 1-2013 issue of the Aviation Safety Letter the Director of Medicine, Civil Aviation addressed the alternative of the Recreational Permit and its reduced Category 4 medical requirement. The form TC 26-0297 is reproduced in this issue of the Rec Flyer. The holder of a Private license may request that his local TC office downgrade his license to the Rec Permit and he may then validate it with a Category 4 medical. The validity period remains the same, every five years to age forty and every two years after forty. I asked my local office if this could be reversed and the answer was that by supplying a Category 3 medical the Private license could be reinstated.

The Rec Permit allows a pilot to fly a single engine non high performance aeroplane in Day VFR. The FAA does not recognize this permit so the pilot is limited to Canadian airspace. The only rating that may be added is a float rating, and for many Canadians this permit is sufficient.

Why is there now an interest in a relaxed medical? A decade ago the FAA introduced their Sport Pilot license which accepts a driver's license as medical validation, Canadians have been asking if we could have the same for our Rec Permit, which is very close to the FAA Sport Pilot in training and privileges. Then last summer the FAA reduced the medical requirements to validate their Private License and it seemed incongruous that Canadians should still be held to the much higher Category 3 standard.

Canadians began asking more loudly why we could not have relaxed medical standards and another Canadian publication then suggested that since we already have the Rec Permit there is no need for any action. Unfortunately that article made a serious mistake in claiming that the Category 4 medical could be validated by the pilot's own signature. This was a bit economical with the truth – yes the pilot can sign his own Category 4 but if it is to be used to validate a Rec Permit it must also be countersigned by a physician (CAR Std. 421.22 (2) (b))

This is where the problem arises. Physicians are sometimes reluctant to do this because of insurance reasons. That takes the pilot back to a CAME and it then becomes necessary to make certain that you will be examined to Category 4 standard instead of Category 3.

At one time I held a Rec Permit and my family doctor, who was also a pilot, only reluctantly signed the medical, despite that for many years he had been signing my formula car racing license that had much higher medical standards. In his case it came down to his insurance, so after that I earned a Private ticket and went to a CAME.

The Category 4 medical with a doctor's signature may be used to validate the Rec Permit, the Student Pilot permit, and the passenger carrying endorsement to the Pilot Permit-Ultralight.

A self-declared category 4 medical without a doctor's signature will validate a Pilot Permit-Ultralight, a reasonable situation since passenger carrying is not allowed. The same medi-

*continued on page 35*

**The Recreational Aircraft Association Canada**

22-4881 Fountain St. North
Breslau RR2 Ontario N0B 1M0
Telephone: 519-648-3030
Member's Toll Free line:
1-800-387-1028

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

The Recreational Flyer is published bi-monthly by the Recreational Aircraft Association Publishing Company, Waterloo Airport, Breslau, ON N0B 1M0. 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. 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.

# features



# columns



George Gregory

*Above: Stearman, Arlington 2016*
*On the cover: Erich Munzer's impeccable Dornier Do27. George Gregory photo.*

# Zenith Cruzer

## Chapter 85's project gets its pre-cover inspection





Peter Whittaker

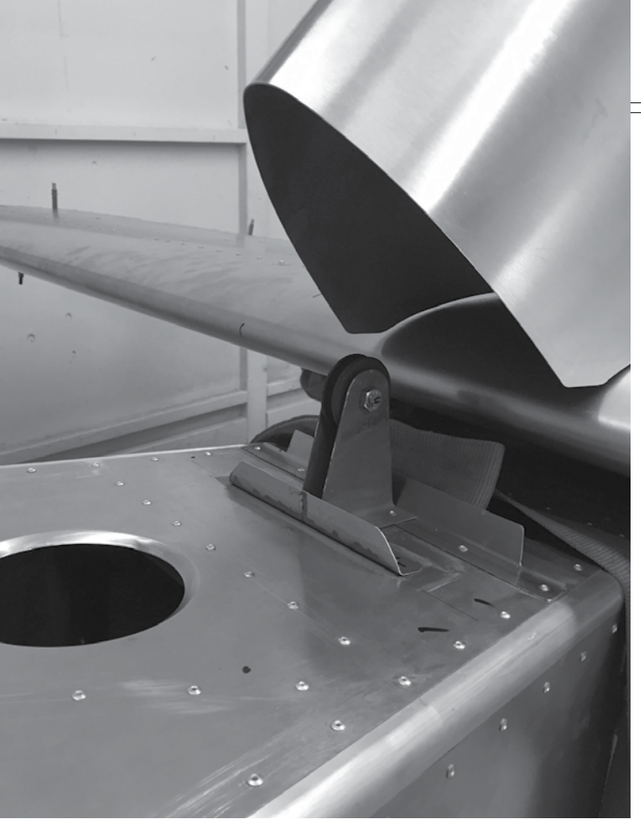
The Chapter 85 Zenith 750 Cruzer progressed to the pre-cover inspection stage of the building project by late summer 2016. Work on all of the major airframe components progressed at a slower pace during the summer with many of the builders being away on vacation at different times and members taking advantage of the summer weather to do some of their own flying.

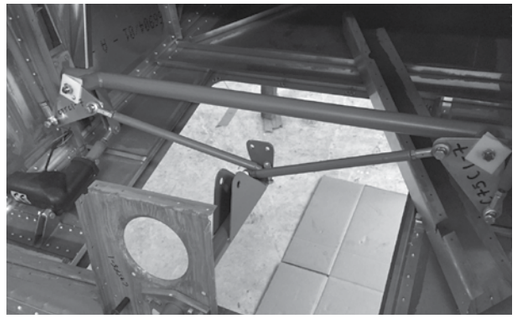
The summer season concluded with the Annual Show and Shine which constituted the September general membership meeting for Chapter 85. Work on the 750 Cruzer during the summer focussed on getting the airframe components to a point where they would pass inspection. This included checking the building plans and revisions to the plans to make sure any updates had been implemented, checking that all mating surfaces had been primed with zinc chromate and checking that rivets were properly set. Work also continued on parts beyond those needed for the inspection with assemblies such as rudder pedals and toe brakes, center console and landing gear and wheel assemblies.

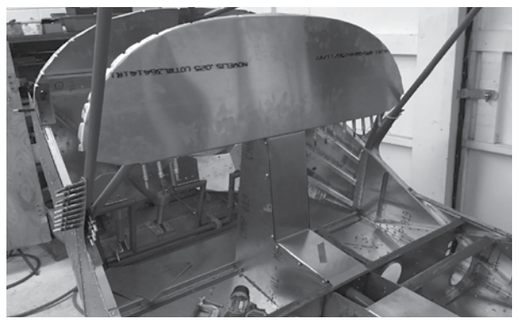
MDRA was contacted with a request for pre-cover inspection in May together with the fee. The MDRA inspector (Jim Asprey) was assigned at that time and we were instructed to contact the inspector when ready. This was done in mid-August and an inspection date of September 14th during the evening was established. The inspection began at 7 pm and lasted 2 hours. The workshop was organized such that all of the components were available on benchtops for examination with clecoes removed. The fuselage was sitting on a bench and the rear fuselage was raised to allow access to the inside through the main inspection hatch in the fuselage bottom. Examples of the plans, photo building guides and the building log book were made available to Jim for his review.

The MDRA inspector went through all of the components in detail with a flashlight and mirror and notes were recorded periodically during the process. Perry Delano, the building project Chairman and I assisted with the inspection. This involved moving components around, pulling clecoes out and re-installing them after the part was inspected, in other words doing anything that the inspector requested. The inspection process went very smoothly and it was a good opportunity to hear comments from Jim about the design and structure of the aircraft. This gave both Perry and I confidence in the robust design and structure of the airframe that Zenith have provided in the 750 Cruzer.

The final assessment came in the write-up of the much anticipated "Snag Sheet"! The items for attention included a number of missing rivets, some rivets that were improperly set (p.7) and removal of some remaining clecoes from the left outboard wing spar and replacement with A5 rivets since these would not be visible after the wing skin is riveted on. All of the snags were rectified



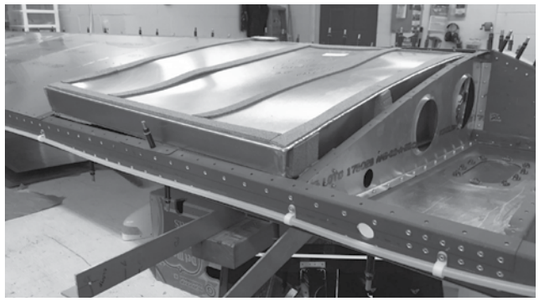




*Top left; Unlike the 750, the Cruzer features a fixed vertical stablizer. Here, the pulley for the elevator control is installed just forward of the horzontal tabilizer. Top right, member Eric Klassen drills a bracket; center, push-pull tubes run off the centre stick to bellcranks that actuate the ailerons. Above, the generous control panel, clecoed and awaiting its instruments.*

on the Saturday (September 17th) following the inspection. At a follow-up meeting on September 20th Jim approved the snag fixes and the MDRA inspection report was issued that gave clearance to close all components and proceed to final inspection. This is a testament to the great work done by the building team since the project started on October 10th, 2015.

The pre-cover inspection process went as smoothly as it did because of a dedicated building team who have taken this project on in a serious and focussed manner. There have been instances where questions about the plans have been sent to Zenith for clarification, where rivets have been drilled out that went in prematurely and then replaced later and where different sources of information from other builder web-sites have been used to get a good understanding of the sequence of building steps. All of this attention to detail contributed to an almost seamless inspection. With up to 12 different builders involved at various times, it is remarkable to see the consistency in the building quality by members and in the parts from Zenith.



*Left: the rudder pedals and brake cylinders are installed. Besides the differential braking, push-pull rods go through the firewall to the steerable nosewheel. Above, two pictures of the wind-mounted gas tanks. Although a high winged aircraft, the Zenith also features a fuel pump to make sure the gas gets where it's going regardless of the aircraft's attitude—perhaps a holdover from the Cruzer's STOL heritage, a direct lineage going back to the CH750 and from there to the CH701, both aircraft with phenomenal short field performance. Below, left: the snag list was mercifully short. A few improperly set rivets were rectified. Below, Perry Delano makes sure the fuselage stays put while MD-RA inspector Jim Asprey checks inside.*

# Never Stop Learning

**Barry Meek**

I'M WRITING THIS ARTICLE on a computer that is so old, it won't connect to the internet any longer. But, at least I can still work "off-line" with it. It is a laptop running Windows 98, which I decommissioned in about 2008. There was no other reason apart from "old technology" that caused me to put it away. It would still do everything I needed it to do, but Microsoft Corporation had other ideas. They pushed me along, as if I were just another piece of trash in front of a broom, while they advanced their technology. Windows 98 was a dinosaur already to any computer tech, and Microsoft was not supporting it any longer. So, reluctantly I moved along to Windows XP, which in hindsight, was a step I could have skipped. My computer knowledge at the time was very, very limited. But the world is changing, and we all needed to at least be familiar, if not comfortable with using computers. They were necessary for our work, and eventually became central to our private lives to a great degree.

At some point, my knowledge level became just 'very' limited (from very, very limited). There was a big increase in my confidence level when clicking around the device and while surfing the internet. In fact, there was a short period of time when the bond between man and machine (in my case) became quite amiable. That all changed last week when my computer "crashed". It may not be dead, and 'crashed' might be the wrong term to someone more computer literate. But the fact is, after five years with Windows XP (I managed to skip Windows Vista & SEVEN), there came a point when I had nothing. The machine won't turn on any more.

Thus, I'm back to square one. It's very humbling opening my newest computer to see something so foreign, so different, so intimidating that I'm reminded of the early days of that old one and Windows 98. Now I'm facing Windows 8. Microsoft, for whatever reason, has decided that what we've finally become comfortable enough to live with, even accept, is not right for us. New computers are now loaded with Windows 8. There is no choice in the matter. They call it "advanced" technology, and it may be. But the way we interact with computers is, I suggest, not outdated. It doesn't need advancement. We're all forced to go back to school on this, and at this stage, I simply don't want to go back to learning to operate a computer all over again.

All pilots learned the basics of flying at some point in their lives. Back in the early days it was all about stick & rudder skills. Pull back, you went up. Push forward, you went down. A little more power, you could go faster ... and so on. As time passed, and as computers got more powerful, so too did airplanes. They're nothing like they were in the early days of aviation, but the basics are still intact. Other than using an auto pilot, there is nothing much different controlling an aircraft made in 2012 than there was in 1920. Every time something new comes out in airplanes, we don't have to learn all the basic skills again to operate it. The same can be said for the much more advanced cars we have today. Yet we don't have to learn to drive all over.

It is not inconceivable to think that someone has figured out another, possibly more efficient way to operate an aircraft. But for some reason, that has never been the goal of airplane manufacturers as advancements are made. Better radios, more powerful and reliable engines, systems like FADEC and EFIS, efficient drag reduction technology and so on .... these are all positive steps that have evolved without the need to change the way we actually pilot the airplane.

I have a daughter who has a college education in computer science. When she was younger, she showed great potential in flying an airplane. It crossed my mind that someday she would be in the left seat with a big airline like Air Canada. Maybe it's fortunate for me, given the cost of that ride, that she never showed a keen interest in flying. Putting her through computer college cost me a small fraction of the flying career. Now it's about to pay off in another way too. I will commission her to do the magic of a computer geek and harness the power of this new Windows so that an old pilot can operate it. Apparently there are ways to outsmart Microsoft. I'm told there are "utilities" or "software" that can be downloaded which allow users who learned computers just a few years ago, to operate them as they were taught back then. By this time next month, I might finally be using my newest computer, and this old boat anchor will be back on the shelf, at least for a few more years.

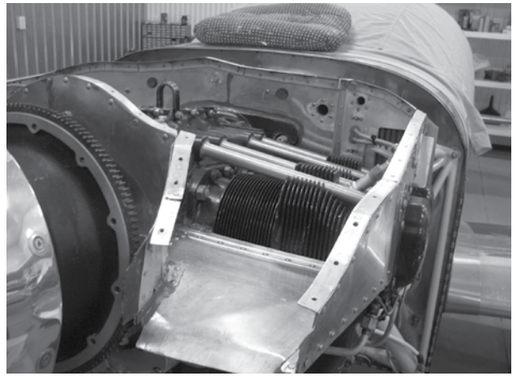
# Keeping It Cool

*Improving the cooling in an RV-6 / RAA*

Glen Mair and Stephen Gale completed a partially built RV-6 project and outfitted it with a 180 hp Lycoming O-360 A1A, and since the lifting of the 25 hour restrictions they have been doing mods and development work to improve the aircraft.

The engine had been fitted with the off the shelf Vans' engine baffles with silicone rubber edging to fit against the top cowl. Cylinder head temperatures were rather high in climb at 450F and the CHT spread from hottest to coldest was some 60 degrees. Temperatures were inconsistent and from the wavy appearance of the silicone rubber edging it appeared that indifferent sealing against the upper cowling might be the main cause. A gap here and a gap there can add up to several square inches of leakage. Also there was a lot of distance between the spinner and the cowl so air had an easy exit at the circumference, further reducing then effectiveness of the cooling air. A pressure plenum and a better fit between the cowl and spinner became the objectives.

Glen removed all the silicone rubber strips and formed lengths of ¾" aluminum angles to fit flush with the top of the exterior baffles. These angles were riveted in place to allow a top to be screwed on, to convert the exterior baffle to a pressure plenum. The next step was to decide how to make the top.




*Upper Left: aluminum angle was riveted around the perimeter of the engine baffle. Top right: foam beads and spray foam filled the plenum. Above, left: wallboard mud took a long time to dry, even with a heater; right, Stephen and Glen draped two layers of cloth onto the mould. Opposite: with the new spacer bonded to the cowling the gap between the spinner and cowl is minimal.*

The choice was between aluminum and fiberglass, and since Glen was more comfortable with the latter his next step was to cover the engine and the inside of the perimeter baffle with polyethylene sheet, with masking tape to protect the aluminum angles.The top of the engine was then covered with the foam beads that are used for packaging. Several cans of spray insulation foam were then sprayed onto the beads to bring the level up to just below the edges of the baffle. Once the foam had hardened Glen laid on several coats of wallboard mud, This took a couple days to dry thoroughly, even in a warm hangar with an electric heater blowing at it. The dried mud was then sanded to shape and sealed with peel ply sheeting.

Two layers of coarse weave fiberglass cloth were cut to shape, allowing some extra at the perimeter. With the first layer of cloth lying on plastic, West System epoxy was sparingly squeegeed on to wet it and anything extra was squeegeed off. A second layer was then fitted and wetted and the edges were patted down for a tight fit against the flanges.

Next day the top was hard and rigid so the perimeter was trimmed with a cutting disc and the edges were filed and sanded for a nice finish. Holes were drilled for self tapping screws at ~2" intervals to hold the top in place. There was a bit more glasswork necessary to make a tight overlapped fit to the cowl's air inlets, with silicone rubber sheeting for sealing

A test flight showed a great

improvement in cooling now that the air could not leak out of the plenum, but the rear cylinders were still hotter than the front pair. Aluminum dams were then added right against the front cylinders to block some of the cooling air, leaving more to cool the rear pair. Also, since the oil temperature had now become too cold at 140F, part of the cooler was also dammed.

The next step was to reduce the gap between the cowling and the spinner. Glass mat and a couple layers of cloth were laid into an old spinner bulkhead to produce a ring that would fit well with the RV's spinner. This was then trimmed and painted with a slurry of microballoons and epoxy to seal the outer surface, and to bond it to the cowling. producing a consistent ¼" gap between the cowl and the spinner.

The result of all the work is that CHT's are now 390F in climb and the spread is less than 20 degrees, highest to lowest. In cruise the CHT's are 300 with a spread of 15 degrees. The oil is still a bit on the cool side so the cooler will get a bit more damming, but the work is essentially finished. The work took several days but it was worth the effort.

*Top: edges were trimmed and smoothed. Above, the top was attached with self tapping screws*

# Rick Mercer visits Gyro Ontario

**The Magni Gyro belonging to Neil Laubach's Gyro Ontario flight school has for four years been the most prolific flyer at Waterloo Airport. This Fall he was visited by Rick Mercer and the CBC camera crew who flew in a Robinson R44 to film Rick's intro flight in the rear seat of the Magni.**

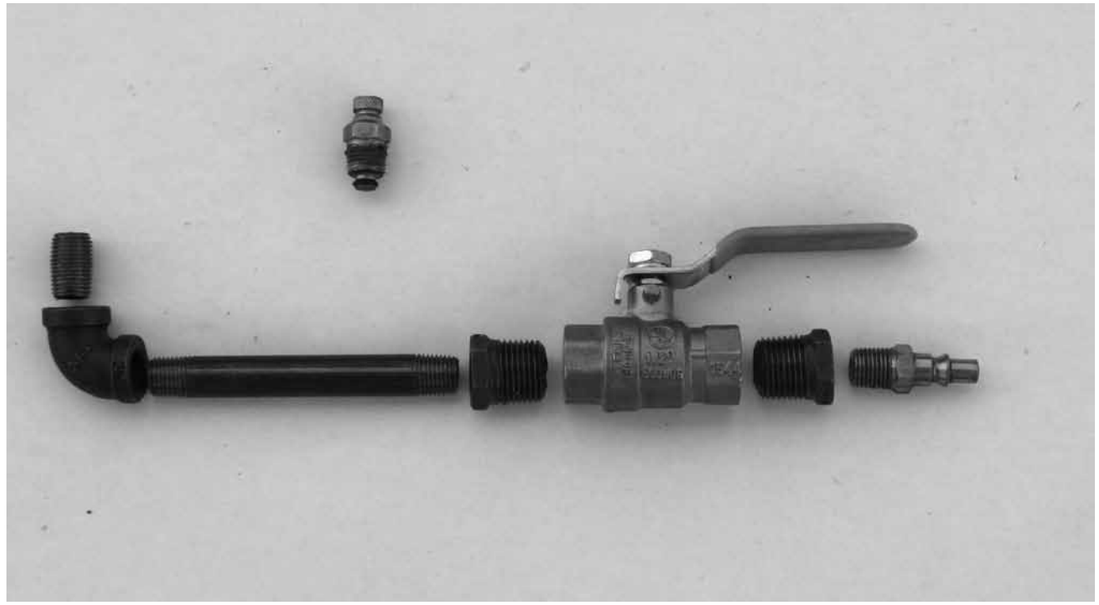
**Next came some ground school instruction, and then with Rick in the front seat of the Magni the Robinson gave chase to film their cross country gyro flight over Hamilton to a winery in the Niagara region, landing there on a mowed grass field.**

**Google "Rick Mercer Gyro" for news reports and the entire youtube clip from the Rick Mercer Report.**

Rick Mercer Report







# Civilizing an Air Compressor

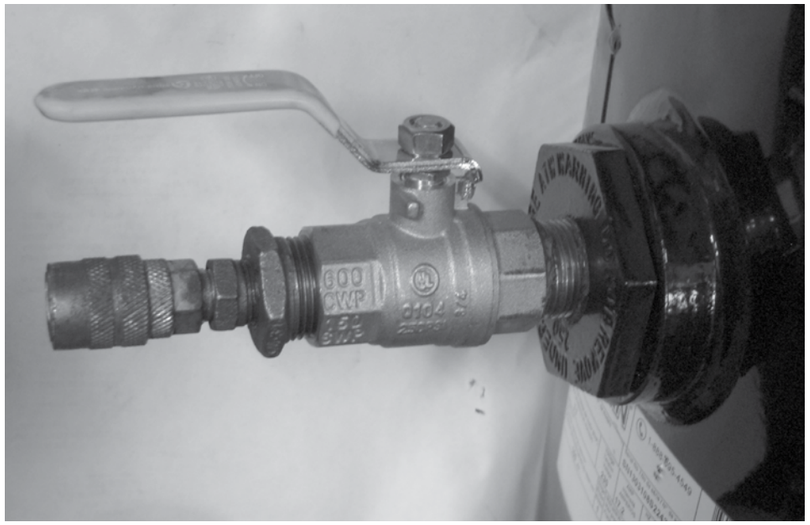
*Don Sinclair*

In March/April 2008 Rec Flyer I wrote an article about silencing the intake of an air compressor. The intake is just one component of the noise generated. There is also mechanical noise from the machinery, vibration transmitted through the floor, and the consideration of run time.

**Intake silencing**

When the intake port opens there is a gulp sound that propagates from the intake port. Most compressors pay little attention to silencing this noise but it is not difficult to provide a good measure of attenuation. On my 2 cylinder vertical compressor the head has a screwed-on cover plate that traps a rudimentary air filter. I removed the three screws and the filter and made a new cover plate from 1/16" 1 x 3 aluminum angle to blank off the filter area. Then I holesawed the angle to accept a short length of conduit to join the intake plenum to a large volume silencer, and epoxied it in place.

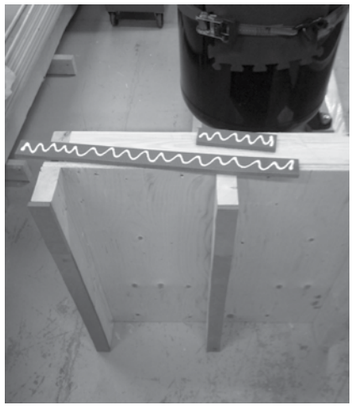
The silencer was just a Tupperware plastic container of about 3 litres, holesawed and epoxied to the conduit. Inside the container I fitted a paper lawn mower air filter which is much more efficient than the fibre gravel strainer the compressor came with. Another hole was holesawed into the side of the Tupperware and a 6" length

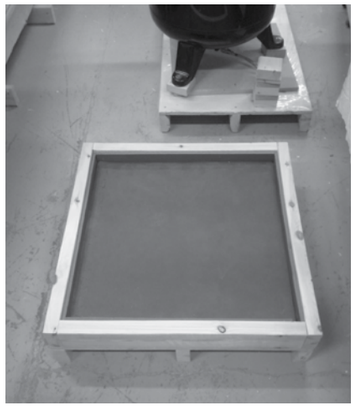


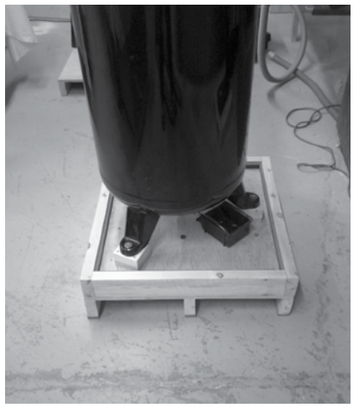

*Left: A Water Oil Gas ball valve rated for 600 pounds per square inch will not leak down.*

*Below, left, three bottom legs of the pallet are insulated with rubber mat. Centre, the top surface and sides are also insulated. Right, the compressor legs are bolted to plywood through wooden riser blocks.*

*Previous page: the plumbing used in Don's project.*







of conduit was epoxied to become the intake port. The snap lid was left unglued to allow replacement of the air filter.

The effect of this simple silencer was dramatic. Previously I had to wear hearing protectors when the machine was running. With the silencer all the high frequencies disappeared, and the intake sound became a deep hum, much less offensive. My family no longer complained about the noise and I could even talk on the phone while the compressor was running.

**Mechanical noise**

There is not much that can be done about mechanical noise - it comes from piston slap and bearing rumble. All that one can do is to use a good oil to ensure that the compressor wear is minimized. Fortunately these noises are low frequency so usually not too bothersome. If the compressor is belt driven it is worth tensioning the belt and ensuring that the pulleys are tightly bolted to the motor and the compressor. Loctite helps.





**Floor vibration**

There is always some vibration transmitted to the floor and because this is low frequency it can travel all through the house as an annoying background rumble. I decided to isolate my compressor from the floor. Hockey pucks were considered but the real ones are too stiff and the play ones are too soft to support a compressor. Instead I made a wood pallet from ¾" plywood and three 2 x 4's screwed to the bottom. Strips of rubber were cut from a dollar store children's play mat and glued to the bottom of the 2 x 4's.

The top of the pallet was ringed with 2 x 4's and another play mat was cut to fit inside this corral. The inside edges also received strips of rubber matting, glued in place.

The compressor was bolted to a piece of ¾" plywood, cut to be a nice fit to drop into the foam lined top of the pallet. This provided good support without any direct mechanical connection to the floor. The result of this is that when the compressor is running there is no hint of low frequency noise or rumble.

**Run time**

My compressor has a 60 gallon tank and it takes a couple of minutes to fill to 135 psi. Many compressors leak down between uses because the couplers leak slightly, meaning that the tank of air was wasted and the motor has to pump it full again whenever air is desired.

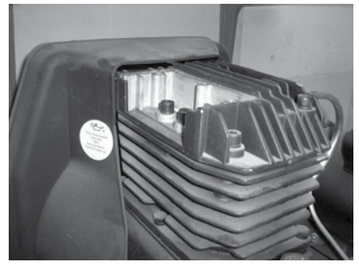
I installed a WOG (water oil gas) ball valve as a shutoff right at the tank. A WOG ball valve is so tight that I never shut the compressor off – I just turn the valve lever 90 degrees and it never leaks down. When I need air for a short job I do not have to wait for the compressor to refill the tank – I just turn the valve on and there is always a ready supply of high pressure air. This saves a lot of run time, thereby lessening the noise footprint, and it saves a lot of electricity.

**Draining**

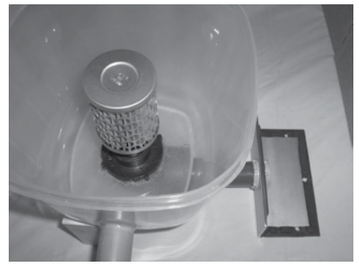
While not part of the noise equation, tank draining is important and because the little drain valve on the bottom rusts in place and the draining gets ignored. Draining the condensation means getting down on the floor and trying to open the valve with a pair of vice grips. If there is any residual pressure in the tank a large quantity of rusty water blasts out all over the floor and onto whoever is on the other end of the vice grip.

If draining is ignored, the tank traps water and this inevitably goes through the hoses and into the air tools and paint gun. I removed the original drain valve and replaced it with a small ½" WOG ball valve on an extension so that it is easy to reach. An outlet hose means that I can direct the drained water into a container and stay dry myself. A tank usually has a ¼" NPT female fitting so I used ¼ NPT for everything, with adapters to fit the ½" valve. Home Depot had everything for $10. It is important to use Teflon tape on every joint and to test with soapy water. Even a small leak can drain a tank within a day or two. R

***Don Sinclair*** *Don is an RV-7A builder who enjoys coming up with all kinds of devices for use in the building process, some that take minutes to design and construct while others that take considerably more.*



*On this compressor removing the cover plate and rectangular filter exposes the intake plenum.*



*A lawn mower filter is fitted into the Tupperware, connected by pipe to a new cover plate made from 1 x 3 angle.*

*The intake pipe contributes to minimizing noise.*

# Remembering Dan McGowan

*Alex Routh shares his memories of one of hombuilding's Great Ones*

MY FRIEND Dan McGowan died on Thursday night the 6th of October with his two devoted girls by his side, Honey his dog, and his true friend Robin McNamara. He will be missed. All my nonagenarian friends have died in the last 3 years, and all were Chapter 85 flying club buddies Dan McGowan, Charlie Longstaff and Alf Spence and a generation has now passed with Dan.

Dan grew up in Surrey and joined the RCAF at the age of 18 and became a pilot but never went overseas. He trained on Tiger Moths, got a few hours in Harvards, got 30 hours in Bristol Bolingbrokes (Blenheim Mark IV's) and ended the war with 1200 hours almost all on Avro Ansons flying training missions for aircrew of all trades.

During the war several incidents stand out. One was when he was training as an airman, an Airspeed Oxford landed at his station and parked in a hangar. In the evening this was swarmed by the excited trainees because they'd never seen a multi-engine aircraft before. Everything was innocent fun until somebody pulled the landing gear lever in the cockpit and the Oxford sank to the ground. Dan said you've never seen people disappear so fast. They never found the guilty culprit and there was little damage.

There was an incident with a Bolingbroke he told me about where there was a failure to lockwire a gascolator properly resulting in a fire where he witnessed the crew burn to death. Kevin Maher mentioned that Dan rescued somebody from an aircraft on fire but he never mentioned that to me. Dan also had an engine failure with an Anson on take-off at night and landed straight ahead just running off the end of the runway with no damage. Dan's favourite version of the Anson was the Mark 1 with the Cheetah engines which he said were very reliable, more so than the Jacobs.

Dan told me he always wanted to go overseas but they never let him. You don't necessarily have a choice in the military, but there was another factor. He was an excellent pilot there's no doubt, and that would have been reason enough to send him on active service after a training tour, but biology was against Dan as he had a growth spurt with all that good air force food ending up being 6'6" tall. Military airplanes are designed for average height bodies and most fighter aircraft for smaller than average, so he would not have fit in many, if any, operational types being that tall.

Dan consequently had a relatively safe war on prairie RCAF stations doing an important but unglamorous job. He grew so tall that the cuffs of his original issue battle dress jacket were inches above his wrists and trouser bottoms inches above his ankles causing an awkward flood pant look when not wearing flying boots. The quartermaster supply pukes refused to exchange his uniform for a proper fitting one, even after he had patched the worn out knees and ankles. They of course were always wearing perfectly new kit. When the war ended Dan was a Warrant Officer 2nd Class (the 2nd highest non-commissioned rank attainable) and I think fed up and bored. In retrospect, he knew he had a safe war because so many of his friends didn't make it back. We looked at a group photo one day and he pointed out at all the faces he knew that didn't return.

After the war, Dan spent time farming, working in Ocean Falls and but eventually came back to aircraft working for Canadian Aircraft Products Building Floats. Kevin Maher described his career this way: Dan became a skilled sheet metal worker and machinist and spent much of his career building tooling and prototyping. A couple of his achievements were helping with the installation of the Twin Otter on floats when none of the high priced engineers could get it right. He also installed water scooping floats on a Rockwell Thrush agricultural aircraft, turning it into a water bomber years before anyone else thought of the concept.

Dan eventually got involved in EAA Chapter 85 building a Stits Playboy which he put 1200 hours on before selling it. He was involved in restoration projects and was co-designer of the scale SE5 replica with Goguillot and the

Dan was involved in restoration projects and was co-designer of the scale SE5 replica with C.R. "Gogi" Goguillot

plans were drawn up by Tony Swain. They each built one and flew them to Oshkosh and made the cover of the EAA magazine. One had an engine failure on the way and made a forced landing. Later Dan was fooling around over Mud Bay in his SE5 and did a falling leaf maneuver that he couldn't recover from and crashed in the mud above the tide line. This resulted in back problems which plagued him for the rest of his life. His doctor late in life declared that Dan had a high mileage back as Dan was complaining about chronic back pain. He was losing inches and the Doctor couldn't believe had been 6'6" as he ended up losing at least 7" in height.

Dan's Playboy is still flying apparently, and the SE5 in the Langley Museum is Dan's even though it has "Gogi" painted on the side. Gogi was a director of the museum and that's why they did that. Tony Swain related an anecdote to me about his first flight in the SE5 where Dan, always a man of few words, was pre-flighting the airplane with him and Tony was firing questions at Dan regarding the important speeds and procedures. Dan didn't really answer them and eventually looked Tony up and down replying impatiently, 'It's just an airplane!'

My friend Alf Spence had a 51' white Rolls Royce Silver Dawn and he had a business renting it out dressed in a chauffeur's uniform to wedding parties but only on one condition, that he and his wife be invited to the reception. I thought this a very strange request and asked him why. He said that after reaching a certain age you have outlived all your friends and family, you have no social life, and you need to mix with new people! I had never considered this problem of great age and outliving everybody you knew and loved before. If this situation were compounded by lifelong bachelorhood and no children as with Dan, you might be living a very lonely existence at the end indeed, and that was the path where Dan's life was headed.

I knew Dan in the 80's but not very well. I was an expat in Asia until 2005 and returned to Vancouver and Delta Airpark. My close association with Dan came when I was spending a lot of time at Delta working on my Emeraude. I didn't have a real job and Dan was long retired at this point and I would see him all the time alone in the coffee shop. It was a daily ritual for him to come to the Airpark, let his dog run free, and read old EAA magazines, but Delta is a lonely place most of the time especially on weekdays. I was going to the airpark one day when a car zoomed by me on Hwy 99 and I realized it was Dan. I tried to keep up with him but didn't want to go that fast. He was a more aggressive driver than I was but never seemed to get a ticket! Terry Wilshire claimed that Dan was depressed and he avoided

*continued on page 42*


# AMO Hero

An Aviation icon shelves his toolbox.
by Beverley Dujay-Macdonald

A POPULAR SAYING amongst aircraft mechanics is, "God made aircraft mechanics so that pilots can have heroes too!" In fact, there are many people who believe exactly that! After thirty-six years of operation, John Dion's one-man aircraft maintenance show at Huronia Airport, CYEE in Tiny, ON is retiring. This is leaving many pilots wondering 'who will help them now?' Although John has almost single handedly performed heroics on hundreds of aircraft since the beginning of his career in 1980, he is too humble a man to label himself a hero. However, whoever fills his shoes will have one hard act to follow.

John's life has been all about mechanics. Born and raised in Moon River, it was his Uncle Malcolm who first introduced him, as a young lad, to the world of machines. For several years they built airboats using airplane motors for power. These airboats, once used for racing, continue to be a hot item on the waters of Georgian Bay reaching speeds of 100 mph on snow and 45 mph on water. John apprenticed with Georgian Bay Airways in Parry Sound and 3 years later, in 1968 wrote his exam to become a certified aircraft maintenance engineer. John is basically self-trained. He purchased books, studied them, wrote exams and got certified. In the early part of Dion Aircraft Maintenance, there were very few planes to work on and so he built airboats in his shop hangar. Twenty of them…all from scratch! He once held a student pilot license and also did a stint as an airport manager, but states, "I would rather fix planes than fly them." And so, he did!

If you were to visit John at his hangar, consisting of a workshop and adjoining office, you would step into a place replete with history. His office is a 10 x 20 staunch brick building where a well-used desk hugs one corner. White washed walls proudly display several well-deserved diplomas, certificates, photos and other airplane paraphernalia that speak both of momentous occasions and hard work. On another wall, multiple clipboards hang like Christmas lights holding important paper documents, each bundle one-inch thick. Greasy fingerprints punctuate the handles of the black file cabinet and a single light bulb dangles alone illuminating this most auspicious space. The mechanic, a medium stocky man sits stoically at his desk concerned only about the job at hand…fixing planes. The phone rings constantly. Everyone needs a plane looked at. They've called the right man for the job.

From cities and towns throughout Ontario aircraft owners have contacted John for maintenance and repair as well as annual inspections as required by Transport Canada. He holds his "Maintenance Organization Certification," which allows him to work on commercial airplanes used for skydiving, flight schools, parachute planes and charters, all craft that require greater regulation. Over his career he has worked on hundreds of planes of all types and sizes up to 12,500 lbs. The Twin Otter, with its PT 6 Pratt & Whitney engines is one of the most popular turboprop aircraft engines in history, and is an airplane John remembers with great personal pleasure. He has also repaired the Hawker Siddeley SH 748, a twin-engine short medium-range airliner powered by two Rolls-Royce turboprop engines. His most challenging work was on the Canso PBY, which were originally American flying boats, and afterwards amphibious aircraft of World War II. Later, a fleet of these incredible aircraft, based in Parry Sound, ON was used to fight forest fires. John literally had to repair these babies while standing precariously on a ladder. He admitted to being leery at times, but he did it. It's what he does!

John also answers questions very thoughtfully, such as, "Have you ever made a mistake?" "Probably," he replies with a smile, "but not that I am aware of." He admits to worrying at times about whether or not he does his job right. "It's part of the job to worry," he says with a twinkle in his eye. When asked what gives him pleasure at work, his sense of humor pipes up, "I get a charge out of pilot stories…the ones about how great they are, how they got through the down pour, or through the fog."

*Quite a crowd turned out to celebrate John's career at a BBQ held in his honour. Left, John receives a token of appreciation from representatives of the local aviation community. Previous page, John in front of a Pilatus PC12; inset: John and his wife Doris*

Sort of like the big fish that got away. Over the years many pilots have kept John duly entertained.

Aircraft maintenance is constantly listed in the top ten or top twenty career lists by popular websites. John agrees that it's a great industry to be a part of. Over his career he has coached four apprentice candidates in the trade. He feels greatly satisfied with his personal contributions to the aviation industry. Retiring at age seventy-seven is going to be difficult for him. "The work hasn't always been glamorous," he speaks quietly, "but it's been fun. I will try to do some hunting in the fall and boating in the summer, as well as spend more time with my family."

In short, aircraft mechanics are tasked with ensuring that all aircraft everywhere are maintained in an airworthy and safe manner. John Dion has committed himself to doing just that for the past thirty-six years. His colleagues and clients agree, "There is an unbelievable mechanical brain in this man!" "He is a God-Send for older airplanes."






"What will we do when he leaves?" Well John, we don't know what we will do without you, but wherever your life takes-off to now, remember…to many, you are indeed a Mechanical Hero. **R**

*Below: an airboat John built, and John at work on a Cessna in his shop.*



## Absolutely Mint Ercoupe for Sale

2009 Aerocoupe amateur built, 335TT, Metal wings and fully polished airframe. Cleveland brakes, CHT/EGT, Narco Mode C, Sigtronic intercom, spin on filter, retract shoulder harnesses. Sale includes Cyclo polisher and materials, Bruce custom cover. $36,500 CDN / US $28,000. Located in Caledon ON. 416-797-9458 or 519-941-7668.

# Twenty-Five Plus

## Erich Munzer's Marathon Dornier Restoration Project

This is the story behind my Do27 C-GTWU STOL airplane. It goes back a long time and started with my family, wife Susan, son Marc, daughter Nisha and I building a log cabin on Savary Island (BC). Savary Island is located on the Sunshine Coast about 120 km North-West of Vancouver.

When we bought our lots on the beautiful island in 1984, the island boasted an airstrip which was of course one of the reasons for us buying there. I had built a BD4 (featured in RECREATIONAL FLYER November-December 2006) and was able to take my whole family from Langley (YNJ) to Savary in less than an hour, allowing us to go there for the weekends. Doing the same trip by car takes 8 hours thereby eliminating any weekend adventures.

Now, the Savary Island airstrip sported a 2000 feet gravel/sand runway with tall trees at one end and surrounding it on both sides. This runway proved to be a problem for me the pilot and for the BD4. I had to touch down, fully loaded with the family at 90 mph on a strip about 12 feet wide, with soft sandy spots all along and broom bushes growing as close as 10 feet from the runway's edge on either side. Getting somewhat used to this strip took me many flights by myself before I took the family along.

On one memorable weekend trip with the family to Savary, we had just landed, put the airplane into a reasonably good parking spot and were walking with our back packs toward our cabin (a one hour walk along the beach). The weather was gorgeous and we had a long weekend on our beloved Savary ahead of us. I was very happy but soon noticed that everybody else was somehow rather subdued. I asked what the problem was and only our daughter Nisha (11 years old at that



*Modifying the BD4 to fly slower was impossible. The conclusion of my deliberations was, looking for a bigger and slower landing airplane.*

*Savary Island, just off the BC coast. Inset: Savary's late, great runway, a little too short and a too little rough for Erich's BD-4. Hence, the Dornier.*

time) timidly replied that I was always in a "bad mood" on our family flights to Savary. It took me quite a while to recognize the truth in Nisha's statement. Landing the BD4 loaded with my family, made me always subconsciously very anxious. Apparently no talk was allowed in the airplane before we landed at Savary. This was a big eye-opener for me. I was very sorry for having been so negative and I spent a lot of time thinking of a possible solution during that weekend. Modifying the BD4 to fly slower was impossible. The conclusion of my deliberations was, looking for a bigger and slower landing airplane.

That night I contemplated Beavers, Helio Couriers etc. and by checking for prices, it turned out that none of the ones I looked at were affordable at that time in our lives. The same evening however I suddenly remembered that, in the late 1970s, I had been offered a Dornier Do27 by a friend who had bought 18 Ex-Israeli Airforce Do27s from the Israeli Airforce and had brought them, disassembled, to Blaine WA, USA where he then reassembled all the airplanes and eventually sold them all in the US. When the offer was made in 1976 the price was right but I had just started building my BD4 so I passed-up that opportunity. However now I realized that I needed a Do27 which would be the ideal airplane for Savary Island and for our family. I started to look for my friend in Blaine, but he and all the airplanes were gone and nowhere to be found. A few weeks later, on a beautiful Sunday afternoon, I flew with my son Marc to Chilliwack for a customary coffee and pie. After landing and taxiing by Upper Valley Aero's (UVA) hangar, I noticed a couple of Do27 wings standing outside the hangar. Pointing them out to Marc, he just laughed and told me that this was just "wishful thinking" on my part. Determined to check, we stopped and looked in the hangar where a painter was doing some work. Sure enough, there stood a Do27 fuselage, confirming my earlier recognition of the wings outside. I asked if it was for sale and yes, it was! I excitedly phoned the seller, bought the airplane and took it home on a special trailer and truck combination, offered to me graciously by UVA's Ken Smith. Driving up to our house with the truck and trailer loaded with the Do27, my wife came out and asked what this was. I replied happily that this was our new Savary Island transportation! Susan just rolled her eyes and went back in the house! Yes, I'm still married! Once all the airplane parts were stored away in our 4 bay garage, it was time to take a real close look at what I bought. I found out that my airplane had ground looped in Arkansas, scaring the owner so badly that he sold the aircraft back to my friend in Blaine who then sold it to a couple in Canada. They had it repaired by a professional outfit in BC's interior. The repairs took the new owners too long and they were looking for a buyer for the almost completely repaired Do27. This is where I came into the picture and you already know the story.

So, enough of the background information...

When I purchased my Do27 it was looking very dejected and had been taken apart as much as possible, with lots of parts stored in many boxes everywhere. I had no drawings, manuals and instructions and I didn't know if I had all the required parts to make a complete aircraft. I started working on it by taking everything apart that hadn't been done before, leaving only all the riveted parts assembled. Now I could do a thorough inspection and

**TECHNICAL DATA**
**DORNIER D027 G-GTWU**

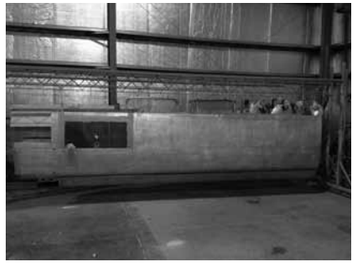
| | |
|---|---|
| Wingspan | 12.0 m (39.37 ft) |
| Length | 9.6 m (31.5 ft) |
| Height | 3.57 m (11.77 ft) |
| Empty Weight | 2365 lbs |
| Max. Weight | 3460 lbs |
| Power | 270 hp @ 3400 RPM |
| $V_{ne}$ | 180 kts IAS (never exceed) |
| $V_{no}$ | 130 kts IAS(normal operating) |
| $V_a$ | 90 kts IAS (manoevering) |
| $V_s$ | <40 kts IAS (stall) |

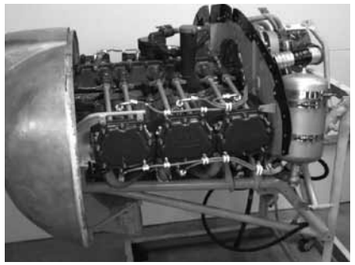
Erich's daughter and wife Susan

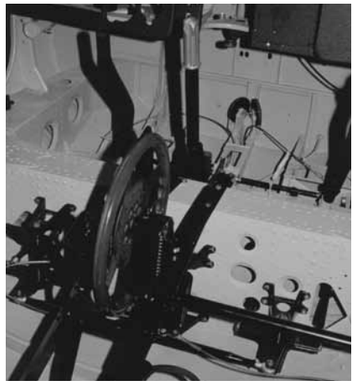
inventory. It looked like I had indeed all the pieces necessary to assemble a complete airplane. Was I ever relieved! I took advantage of a then existing option to take the Do27 out of the certified category and put it into the amateur built category. A 51% eligibility inspection was done by Lower Mainland MD-RA inspector Beat Meyer. Now, my Do27 being an amateur built airplane, allowed me to do all the work by myself. I began by removing all the Dornier nameplates and then the rebuilding started in earnest! It took me a few months just to clean the airplane and to remove all of the Israeli Airforce electronic devices, instruments and miles of wires and cables. In the process I must have removed in excess of 10 kg of sand from everywhere in the airplane since it was used in desert operations while in the IAF.

Every part was carefully inspected, cleaned, re-furbished and repainted. Most bushings were replaced and the complete control system was reworked. Colin Walker (†), a woodworker par excellence redid my trim wheel and I know I have the nicest Do27 trim wheel in the world. All the control surfaces on the Do27 are fabric covered. I removed all the fabric coverings of the flaps, ailerons, elevator and rudder. My friend Werner Griesbeck then recovered everything beautifully and professionally.

There was a trap door on the bottom of the fuselage which I removed and covered the opening with a proper aluminum skin riveted in place. The installation of the two gear legs, the wheels, new tires and two completely new brake systems followed next. The mechanical fuel pump and the 2 Bendix magnetos were rebuilt by SIL in Langley. All control cables were removed and replaced with new stainless steel ones that I could buy from Germany. All the windows were removed and replaced with new ones, requiring me







*Above: the unrestored Donier arrives at the Munzer home. Top right down: The Dornier's huge wings feature full span slots and double ailerons. It's a lot of airplane to paint! Centre, the Lycoming G0480 B1A engine was checked over and then given a top overhaul. Erich also overhauled the starter, the alternator and the electric fuel pump. Right, the passenger and cargo area befits an industrial-grade bushplane. Below, the world's nicest Dornier trim wheel handcrafted by the late prop maker Colin Walker of Chapter 85.*

to make a few molds first. I installed two new Gel-cell batteries and two redundant power converters (24/12 VDC) for my new radio stack.

My Do27 was equipped with 6 seats. I however wanted a 4 seat only aircraft. I discarded the second bench seat that was used in the original "club seating" arrangement, overhauled the other seats and had them re-upholstered. New 4 point seatbelts were installed for all seats. The next step was replacing the floor boards with new Boeing type aluminum honeycomb boards.

A first inspection was carried out by MD-RA inspector Beat Meyer and a list of deficiencies was made. I was then given the go-ahead to complete the restoration pending a final inspection before the first flight.

I wanted to use as much of the original instrumentation as possible but also wanted a DYNON Skyview system in my aircraft. This required me to design and fabricate a completely new control panel. Now all engine instruments are original Dornier and the original airspeed (2), altimeter (2), VSI, artificial horizon, VOR and glideslope indicators are all used as back-ups to the Skyview. All instruments were bench tested and/or overhauled professionally. Next came the removal and replacement of the complete electrical system which required a total redesign by me. The new system consists of all new circuit

**Above: The Dornier at Delta Air Park, July 2016. Right: The Dornier is a *big* airplane. The painting was handled by Upper Valley Aviation of Langley, BC**

breakers, switches, strobe lights, indicator lights, solenoid and all wiring. The following makes up the new radio stack:

2 King KX-165 Nav/Coms
King KT 76A Transponder
King KMA Audio/Marker Panel
Sigtronics Intercom
ACK ELT
Cooling fan

My friends Luc Martini and Gary Peare helped me with the intricate wiring of the radio stack.

The following big step was tackling the Lycoming GO480 B1A engine. It had 628 hrs on it when I bought the airplane and came with a brand new propeller. With the help of a very experienced friend we carefully checked the whole engine and gearbox. Then we top-overhauled the complete engine, replacing all valves, rings and gaskets. I also overhauled the starter, the alternator and the electric fuel pump.

Once all the above work was completed, the time arrived to consider the painting of the Do27. The preparations were extremely tedious and labour intensive. I had decided on a camouflage paint scheme, designed it and was searching for a recommended paint shop. I selected Upper Valley Aero in Chilliwack after seeing some of the work done by them previously. Up to this moment the Do27 resided in my 4 bay





garage at home. Now I had to rent a large flatbed trailer and tow the disassembled aircraft to YCW with my son-in-law Dean's truck. I spent three days assisting and watching the painting progress. Very pleased with the end result, I towed the still disassembled but painted airplane plus engine and all the other miscellaneous parts in one fell swoop to my hangar in Langley in UVA's big, totally enclosed large trailer, which was a real treat.

Finally things started to become exciting! After all the tedious detail work of the past I now was faced with the task of re-assembling my bird. At that time I owned a couple of smaller T- hangars on the Langley (YNJ) airport. One housed the BD4 and the other one was rented out to the Museum of Flight. My friends Beat Meyer and Peter Durant and a hired mobile crane helped me with putting the two wing halves together and to mate the now completed wing with the fuselage, which took us the better part of a day. When we moved the fuselage with wings attached but minus tail feathers, wing tips and engine into the vacated hangar,

*When we moved the fuselage with wings attached but minus tail feathers, wing tips and engine into the vacated hangar, it became quickly apparent that the hangar was not quite wide enough*

it became quickly apparent that the hangar was not quite wide enough and later, after mounting the engine, propeller, spinner and tail feathers, not deep enough either. What a predicament! Hangars for sale did not exist at the YNJ airport. Luckily I located one aircraft owner who, after completing his own home built, bought a large hangar because it was the only one available at the time. He was interested in buying one of my small hangars and selling me his large one. It turned out to be a win-win situation, making us both happy! Even though this is a large hangar, originally built for a Beaver on amphibian floats, it still turned out to be too short, leaving almost the whole engine and propeller sticking out past the doors. I was indeed fortunate enough to know the hangar bay owner behind my own bay. Peter Klein, the owner, was extremely gracious and allowed me

*Left: the Dornier's panel features a mix of old and new: most of the steam guages are original with the aircraft, but serve as backups to a shiny new Dynon Skyview.*

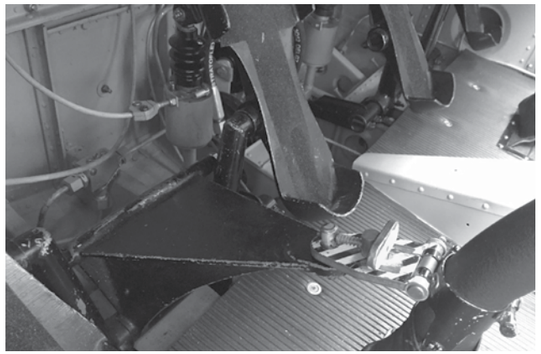
to cut a 5x2 feet opening into his bay and to construct a box to enclose the Do 27 rudder. Now, with the rudder in Peter's bay and the elevator right against the hangar back wall, I have a meager one inch clearance between spinner and door. Close but possible!

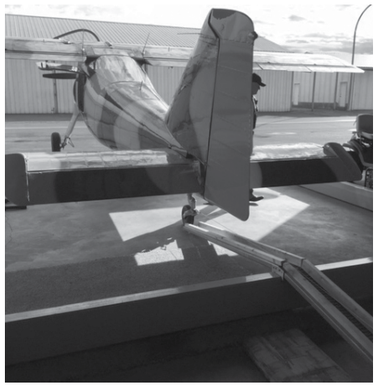
Completing and readying the Do27 for final inspection took me another 4 months. Running the engine for the first time was another exciting event.

Bob Cutting was the MD-RA inspector assigned to do the final inspection. I spent an extra amount of time with filling out the required documentation. Bob was pleased with my work and the airplane and issued me with a temporary, restricted Certificate of Airworthiness the same day which allowed me to fly the Do27 within an area of 25 miles radius around Langley airport for the next 25 hours of trouble free operation before the temporary restrictions could be removed.

The next and most important high light was of course the first flight. Having spent lots of time and money on this aircraft, I wasn't willing to make the first flight by myself never having flown a Do27. Fortunately again, I have a friend, Dan Zagorseck who owns a Do27 and has accumulated some 2000 hours on type. Dan had previously advised me on many issues during the reconstruction period and knew my Do27 well. Dan was willing to be the PIC with me in the Co-pilot seat for the first flight. Everything went

*Top: Erich designed and built the step for the passenger/cargo compartment, modeled after a step in a Grumman Tracker. Centre: the Dornier's geared engine features dual mufflers, an unusual feature on a small aircraft. Left, the Dornier features split ailerons that droop as the flaps are deployed. As a postwar design, German designers had less access to up to date material technology, so they compensated by using every trick they could think of to optimize the design—not a bad discipline by any measure.*





*Top, left: the passenger compartment is huge. Normally, the seat shown here would be set further back and another set put in facing aft, making the Dornier a true six place aircraft. Top right, an innovative control lock moves the rudder pedals towards the stick while an attachment on the stick flips down to engage a pin on it. A simple push on the release undoes it all. Above left: Erich's BD-4 had to go somewhere: an aircraft hoist stores it above the Dornier. Right, an electric winch pulls the aircraft into the bay when it's time to put it to bed, with a small ramp getting the tailwheel over the hoist's structure.*

well and we did one circuit at Langley before we celebrated with a good lunch at Adrian's on the airport. What a happy occasion!!!!

I have now flown off the 25 hours and have the full C of R for amateur built airplanes. C-GTWU is a dream to fly and I'm still learning with every flight. It's been a long, exciting but sometimes aggravating restoration. However the satisfaction after completing such a long and tedious endeavour made it all worth-while.

I couldn't have done it without the understanding of my wife Susan and the excellent help of my friends Beat Meyer, Dan Zagorseck, Luc Martini (the Guru), Peter Klein, Werner Griesbeck, Peter Durant, Gary Peare, Fred Hinsch and Colin Walker (†). Thank you all from the bottom of my heart!

Epilogue:

In the beginning of the story I mentioned that Savary Island HAD an airstrip. Well that's not true anymore. An accident on the airstrip (not involving an airplane) in the late 1990's closed the strip forever, which indirectly resulted in me losing interest in my project and not working on it for over 10 years.

***Erich Munzer** is a retired engineer and originally hails from Switzerland. He is a very active member of Chapter 85 and besides the Dornier has built an exquisite BD-4 and is involved with the Chapter's Cruzer project.*

# DIY Fuselage Rotisserie

WORKING ON A FUSELAGE, whether metal, composite, or tubing, can mean a lot of crawling underneath and reaching over if it is sitting on a table. A rotisserie makes it possible to position the fuselage at the desired height and clocked to provide best access for riveting and welding, or for installing cables, panel, and interior.

Useful stands can be made from 6 foot lengths of 2" square steel tube with a 1/8" wall, welded to a base of 2-1/2 to 3 feet width and length. The base can be steel angle or square tubing but it must be large and rigid enough to give good support. This is a good place for practice in welding with a MIG welder using fluxcore filler wire.

The sliders are made from the steel tube that supply houses sell to people making their own trailer hitches, 2.5" x 2.5" x .237 wall thickness, flash removed. This provides a good sliding fit on the 2" square uprights. If you cannot get material with the flash removed you had better check the fit to your 2" material or you might have to spend an afternoon with a die grinder and a few grinding stones.

The bolts and nuts can be ½" or 5/8" and you should drill the holes at least 1/16" oversize, then centre the nuts before welding. If you install the bolts to help in centering it is best to remove them once the tack welds have been done. Sometimes the welding pulls the nut out of round, trapping the bolt. It is frequently necessary to run a tap through the thread after the weld has cooled.

## Fuselage Rotisserie Materials List

**Posts: 2" square steel tube, 1/8" wall 6 ft each**
**Sliders: 2.5 x 2.5 x .237 wall tube, flash removed ~ 8" each**
**Horizontal members: 1-1/2" schedule 40 Pipe ~ 8" each**
**Rotating members: 1-1/2" steel tube, 1/8" wall 2 ft each**
**End fittings, flat plate or angle as required for your fuselage**
**Bolts and nuts ½" or 5/8" NC, preferably unplated**
**3 per stand**
**Base angle or square tube, enough to make a 3 ft square**
**Note: Many steel suppliers will cut to length for $1-2 per cut, well worth the money.**

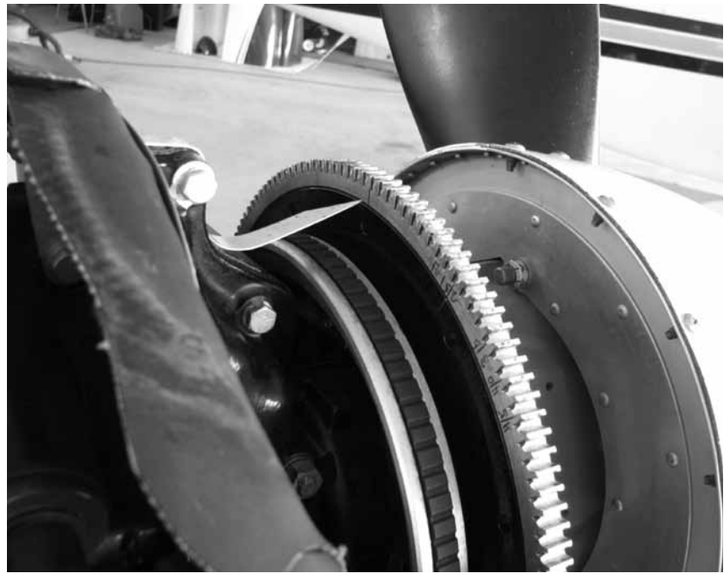
The horizontal member welded to the slider is 1-1/2" schedule 40 pipe, which is a very loose fit on a 1-1/2" piece of tubing. (Pipe is sized by nominal ID while tubing is sized by OD.) Drill the pipe for a jam nut and bolt too. The rotating member is 1-1/2" tubing with a 1/8" wall. A length of angle welded to the tubing will accept a tailpost on a tube fuselage, using U-bolts for clamping.

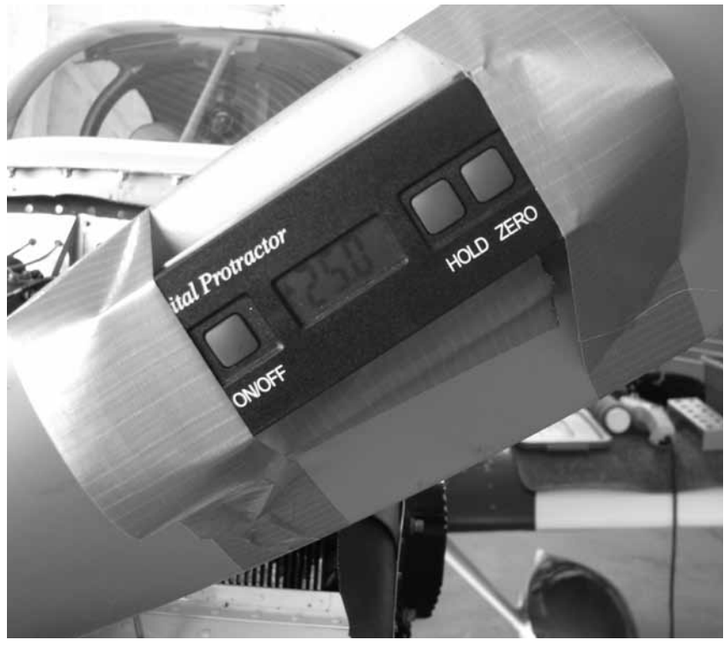
The firewall end is best fitted with a flat plate with some drilled holes to screw on a length of 2 x 4. The 2 x 4 can be drilled to fit the engine mount holes of the firewall.

Lifting or lowering the fuselage usually requires an extra set of hands but rotating is easy if some care has been taken to centre the mass of the fuselage to the shaft. If not, a weight clamped or screwed to the 2 x 4 can help with balance.

Having a rotisserie means that all riveting and welding can be accomplished in comfort, and even bonding and painting become easier when the work is at the correct position. The cost of all materials is in the $75 range, a bargain for what a rotisserie does.

*Top: The slider, made from 2 x 2 x .237 flash removed square tube is the important part. Centre: for a tube fuselage a length of angle will accept the tailpost. Left, the firewall end can be fitted with a 2 x 4, drilled to fit the engine mount bolts.*






# Timing Marks

*RAA*

Ivan Kristensen wanted to verify the timing of all three triggers of the Lightspeed ignition fitted to his IO 540. The Lycoming has TDC and advance marks, but only one set. Lightspeed has three separarately adjustable triggers so it was necessary to create new marks at 120 degree intervals.

The Lycoming TDC marks are referenced to the parting line of the crankcase, and a pointer was installed to extend this line closer to the flywheel. In the olden days a tape measure would have been wrapped around the flywheel, the perimeter would have been divided by three, and new marks would have been made, but inevitably there would be some error.

Instead of using a tape measure Ivan taped his electronic level to the prop and zeroed it, then rotated the prop to 120 degrees either side and scribed new TDC and advance marks at each station. Since the level has a resolution of 1/10 of a degree the new marks can be made very precisely, referencing the pointer.

Finally an automotive inductive timing light was used to verify the individual timing of all three ignition triggers, and fortunately they were all correct so there was no need to remove the prop and flywheel to make adjustments.

*Top: A pointer was fitted to extend the parting line to the flywheel.. Left: After zeroing at TDC the prop can be rotated to the advance timing*



*President's Message / cont'd from page 2*

cal will validate the student permit for the PP-UL.

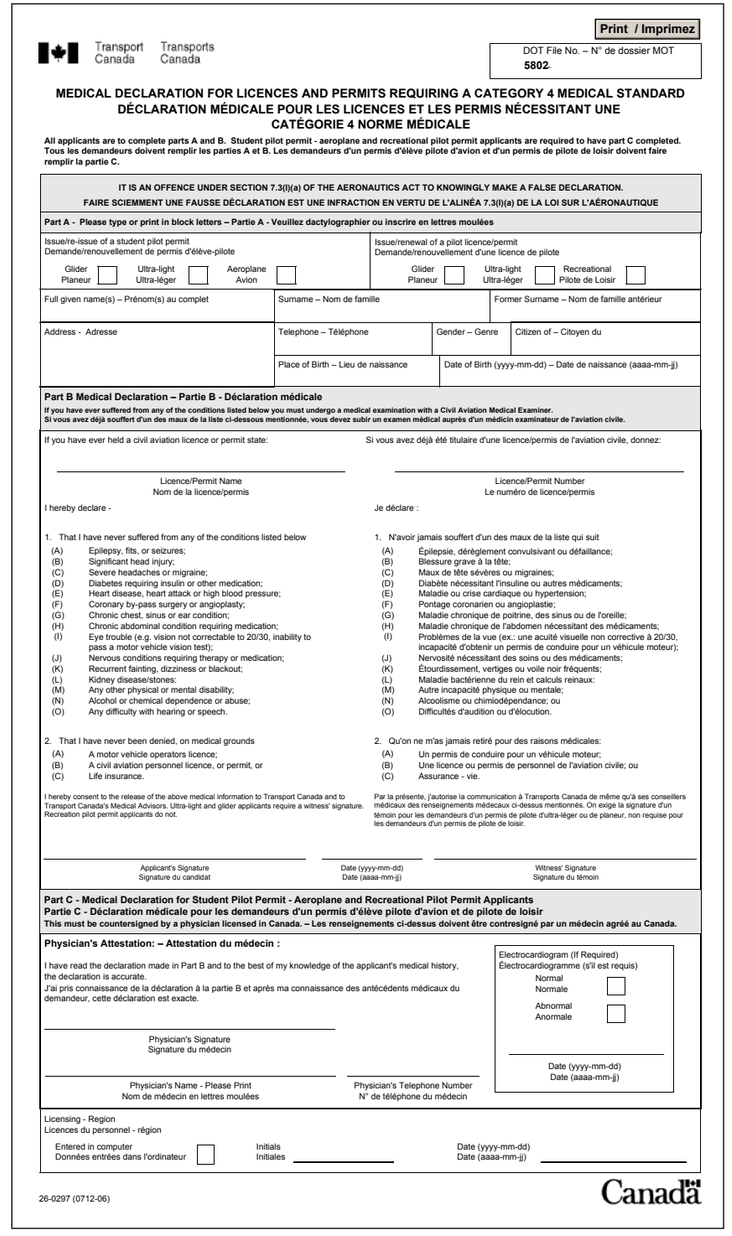
A glider license is also validated

> In upcoming years it will be interesting to see how TC handles the situation when Americans flying on relaxed medicals wish to fly into Canada

by a self declared Category 4 medical without a doctor's signature, but since this license carries the automatic privilege of passenger carrying, the result is that a glider pilot can sign his own Category 4 medical and carry a passenger.

A motor glider is considered by TC to be an alternative means of launching a glider. Once the Glider license has been endorsed for motor launch, the pilot can carry a passenger in a motor glider, still on his self declared Category 4 medical. A motor glider pilot appears to have it all, a self declared medical and the privilege of passenger carrying.

In upcoming years it will be interesting to see how TC handles the situation when Americans flying on relaxed medicals wish to fly into Canada. Transport has for the past decade been unwilling to accept American Sport Pilots with driver's license medicals, but they are a small group. Private Licensed pilots are a much larger lobby group and they have political clout. If TC allows them into Canadian airspace without a Category 3, then why not allow the same for Canadians?



Transport Canada / Transports Canada

Print / Imprimez

DOT File No. – N° de dossier MOT
**5802**

**MEDICAL DECLARATION FOR LICENCES AND PERMITS REQUIRING A CATEGORY 4 MEDICAL STANDARD**
**DÉCLARATION MÉDICALE POUR LES LICENCES ET LES PERMIS NÉCESSITANT UNE CATÉGORIE 4 NORME MÉDICALE**

**All applicants are to complete parts A and B. Student pilot permit - aeroplane and recreational pilot permit applicants are required to have part C completed. Tous les demandeurs doivent remplir les parties A et B. Les demandeurs d'un permis d'élève pilote d'avion et d'un permis de pilote de loisir doivent faire remplir la partie C.**

**IT IS AN OFFENCE UNDER SECTION 7.3(l)(a) OF THE AERONAUTICS ACT TO KNOWINGLY MAKE A FALSE DECLARATION.**
**FAIRE SCIEMMENT UNE FAUSSE DÉCLARATION EST UNE INFRACTION EN VERTU DE L'ALINÉA 7.3(l)(a) DE LA LOI SUR L'AÉRONAUTIQUE**

**Part A - Please type or print in block letters – Partie A - Veuillez dactylographier ou inscrire en lettres moulées**

Issue/re-issue of a student pilot permit
Demande/renouvellement de permis d'élève-pilote
Glider Planeur ☐ Ultra-light Ultra-léger ☐ Aeroplane Avion ☐

Issue/renewal of a pilot licence/permit
Demande/renouvellement d'une licence de pilote
Glider Planeur ☐ Ultra-light Ultra-léger ☐ Recreational Pilote de Loisir ☐

Full given name(s) – Prénom(s) au complet | Surname – Nom de famille | Former Surname – Nom de famille antérieur

Address - Adresse | Telephone – Téléphone | Gender – Genre | Citizen of – Citoyen du

Place of Birth – Lieu de naissance | Date of Birth (yyyy-mm-dd) – Date de naissance (aaaa-mm-jj)

**Part B Medical Declaration – Partie B - Déclaration médicale**

**If you have ever suffered from any of the conditions listed below you must undergo a medical examination with a Civil Aviation Medical Examiner.**
**Si vous avez déjà souffert d'un des maux de la liste ci-dessous mentionnée, vous devez subir un examen médical auprès d'un médicin examinateur de l'aviation civile.**

If you have ever held a civil aviation licence or permit state: / Si vous avez déjà été titulaire d'une licence/permis de l'aviation civile, donnez:

Licence/Permit Name / Nom de la licence/permis | Licence/Permit Number / Le numéro de licence/permis

I hereby declare - / Je déclare :

1. That I have never suffered from any of the conditions listed below / N'avoir jamais souffert d'un des maux de la liste qui suit

| | | |
|---|---|---|
| (A) | Epilepsy, fits, or seizures; | Épilepsie, dérèglement convulsivant ou défaillance; |
| (B) | Significant head injury; | Blessure grave à la tête; |
| (C) | Severe headaches or migraine; | Maux de tête sévères ou migraines; |
| (D) | Diabetes requiring insulin or other medication; | Diabète nécessitant l'insuline ou autres médicaments; |
| (E) | Heart disease, heart attack or high blood pressure; | Maladie ou crise cardiaque ou hypertension; |
| (F) | Coronary by-pass surgery or angioplasty; | Pontage coronarien ou angioplastie; |
| (G) | Chronic chest, sinus or ear condition; | Maladie chronique de poitrine, des sinus ou de l'oreille; |
| (H) | Chronic abdominal condition requiring medication; | Maladie chronique de l'abdomen nécessitant des médicaments; |
| (I) | Eye trouble (e.g. vision not correctable to 20/30, inability to pass a motor vehicle vision test); | Problèmes de la vue (ex.: une acuité visuelle non corrective à 20/30, incapacité d'obtenir un permis de conduire pour un véhicule moteur); |
| (J) | Nervous conditions requiring therapy or medication; | Nervosité nécessitant des soins ou des médicaments; |
| (K) | Recurrent fainting, dizziness or blackout; | Étourdissement, vertiges ou voile noir fréquents; |
| (L) | Kidney disease/stones: | Maladie bactérienne du rein et calculs reinaux: |
| (M) | Any other physical or mental disability; | Autre incapacité physique ou mentale; |
| (N) | Alcohol or chemical dependence or abuse; | Alcoolisme ou chimiodépendance; ou |
| (O) | Any difficulty with hearing or speech. | Difficultés d'audition ou d'élocution. |

2. That I have never been denied, on medical grounds / Qu'on ne m'as jamais retiré pour des raisons médicales:

| | | |
|---|---|---|
| (A) | A motor vehicle operators licence; | Un permis de conduire pour un véhicule moteur; |
| (B) | A civil aviation personnel licence, or permit, or | Une licence ou permis de personnel de l'aviation civile; ou |
| (C) | Life insurance. | Assurance - vie. |

I hereby consent to the release of the above medical information to Transport Canada and to Transport Canada's Medical Advisors. Ultra-light and glider applicants require a witness' signature. Recreation pilot permit applicants do not.

Par la présente, j'autorise la communication à Transports Canada de même qu'à ses conseillers médicaux des renseignements médecaux ci-dessus mentionnés. On exige la signature d'un témoin pour les demandeurs d'un permis de pilote d'ultra-léger ou de planeur, non requise pour les demandeurs d'un permis de pilote de loisir.

Applicant's Signature / Signature du candidat | Date (yyyy-mm-dd) / Date (aaaa-mm-jj) | Witness' Signature / Signature du témoin

**Part C - Medical Declaration for Student Pilot Permit - Aeroplane and Recreational Pilot Permit Applicants**
**Partie C - Déclaration médicale pour les demandeurs d'un permis d'élève pilote d'avion et de pilote de loisir**
**This must be countersigned by a physician licensed in Canada. – Les renseignements ci-dessus doivent être contresigné par un médecin agréé au Canada.**

**Physician's Attestation: – Attestation du médecin :**

I have read the declaration made in Part B and to the best of my knowledge of the applicant's medical history, the declaration is accurate.
J'ai pris connaissance de la déclaration à la partie B et après ma connaissance des antécédents médicaux du demandeur, cette déclaration est exacte.

Electrocardiogram (If Required) / Électrocardiogramme (s'il est requis)
Normal / Normale ☐
Abnormal / Anormale ☐
Date (yyyy-mm-dd) / Date (aaaa-mm-jj)

Physician's Signature / Signature du médecin

Physician's Name - Please Print / Nom de médecin en lettres moulées | Physician's Telephone Number / N° de téléphone du médecin

Licensing - Region / Licences du personnel - région
Entered in computer / Données entrées dans l'ordinateur ☐ | Initials / Initiales | Date (yyyy-mm-dd) / Date (aaaa-mm-jj)

26-0297 (0712-06)

Canada

# 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 or J-F Alexandre info@raa415.ca*

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

*ASSOC DES CONSTRUCTUERS D'AVIONS EXPERIMENTAUX DE QUEBEC (QUEBEC): Third Monday 7:30 pm at Les Ailes Quebecoises, Quebec City Airport.*

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

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

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

**ONTARIO**

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

*COBDEN: Third Thursday of the month at the Cobden airfield clubhouse 20:00 hrs. Contact Bob McDonald 613-432-8496 or bobkim.mcdonald@gmail.com*

*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. Skip Reeves 705-429-5154*

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

*KENT FLYING MACHINES: First Tuesday 7:00 pm at various locations. Contact President Paul Perry 519-351-6251 pkperry@teksavvy.com*

*KITCHENER-WATERLOO.* Meetings are on the second Monday of each month at 7:30pm upstairs at the Air Cadet building at CYKF except during the summer months when we have fly-ins instead.
Please contact Dan Oldridge at kwraa@execulink.com for more information or visit our newly expanded website at http://www.kwraa.net/.

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

*MIDLAND/HURONIA*
*Meetings: first Tuesday of each month, 7:30 pm, at the Huronia Airport terminal building (CYEE). Contacts: President Rob MacDonald - 705-549-1964, Secretary Ray McNally - 705-717-2399, e-mail - raamidland@gmail.com E-mail – raa.midland@gmail.com .*

*NIAGARA REGION: Regular meetings occur the second Monday of every month at 7:30pm in the CARES building at St. Catharines Airport (CYSN). During the summer months though, June-September, meetings take place the second Monday of those months at 5:30pm in Hangar #4 at Welland Airport (CNQ3). Contact Elizabeth Murphy at murphage@cogeco.ca, www.raaniagara.ca*

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

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

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

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

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

*TORONTO: First Monday 7:30 pm at Hangar 41 on north end of Brampton Airport. Contact: President Fred Grootarz - Tel: (905) 212-9333, Cell: (647) 290-9170; e-mail: fred@acronav.com*

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

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

**MANITOBA**

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

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

**SASKATCHEWAN**

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

**ALBERTA**

*CALGARY chapter meets every 4th Monday each month with exception of holiday Mondays and July & August. Meetings from 19:00-22:00 are held at the Southern Alberta Institute of Technologies (SAIT) Training Hangar at the Calgary Airport. Join us for builder discussions, site visits, tech. tips, fly out weekends and more. Contact President Bob White 403-472-1035 pittsflyer111b@gmail.com*

*EDMONTON HOMEBUILT AIRCRAFT ASSOCIATION:* meets second Monday - Sept. to June. Contact Pres. Roger Smeland - 780-466-9196 or Jim Gallinger 780-242 5424. Website www.ehaa.ca

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

**BRITISH COLUMBIA**

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

*OKANAGAN VALLEY: First Thursday of every month except July and August (no meetings) at the Mekong Restaurant.1030 Harvey Ave. Dinner at 6:00pm, meeting at 7:30pm Contact President, Cameron Bottrill 250-558-5551 moneypit@uniserve.net*

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

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

*CHAPTER 85 RAA (DELTA): First Tuesday 7:30pm, Delta Heritage Airpark RAA Clubhouse. 4103-104th Street, Delta. Contact President Peter Whittaker pwhitt@telus.net Website www.raa85.ca.*

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

*THOMPSON VALLEY SPORT AIRCRAFT CLUB: Second Thursday of the month 7:30 pm Knutsford Club, contact President Darren Watt 250-573-3036*

*ALASKA HIGHWAY: meetings held every third Thursday of every month (except July & August) at the Taylor Fire Hall at 7:30 p.m. For more information call Gerry at 250-782-4707 or Heath at 250-785-4758.*

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

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

# Classifieds

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

The Recreational Flyer is pleased to offer you colour advertising within the magazine. Previously limited to the back cover, we have added 4 new colour pages which will be available with limited space for your advertising needs. Our rates for both black and white and colour ads remain very competitive and you reach a captive and qualified audience. Emails can be sent to President Gary Wolf at: garywolf@rogers.com and George Gregory at gregdesign@telus.net

Deadline for submissions is the first of the month preceding date of issue.

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

Advertising Policy: The Recreational Flyer Publisher reserves the right to refuse any or all advertising for any reason stated or unstated.

The Recreational Aircraft Association Canada does not assume responsibility for advertisements, but does exercise care to restrict advertising to responsible, reliable individuals.

Please note: Ads running more than 3 issues must be renewed to guarantee continued display in the magazine.


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

**Recreational Flyer Magazine**

Registration Mail Publication No. 09869

Contributing Editors: Gary Wolf, Don Dutton, George Gregory, Wayne Hadath, Tom Martin
Art Director and Layout: George Gregory.
Printed by Rose Printing Orillia, ON

The Recreational Flyer is published bi-monthly by the Recreational Aircraft Association Publishing Company, RAA Canada 22-4881 Fountain St. North Breslau RR2 Ontario N0B 1M0 . Toll Free line: 1-800-387 1028

Purchased separately, membership in RAA Canada is $35.00 per year, subscription to Rec Flyer is $35.00 per year; subscribers are elegible for reduced membership fees of $15.00 per year. Rec Flyer to have a single issue price is $6.95.

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.


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

"CLEANING OUT THE HANGAR" Best Offer: New Fly Baby fuselage and vertical tail/rudder. Thorpe 18 fuselage, gas tank, lots of small parts and front landing gear. Call or email for photos and information 705-653-4525 davidcarlaw@prototyperesearch.com

O200 L/H muffler (CESSNA) rebuilt by Acorn Welding. $450. 28 VDC voltage regulators, 2 ea. Kelly Aerospace, P/NVR500-0101 (Cessna 337)$150. ea.

Piper Pitot static tester adapter,P/N PS56620M2-4-4, with hoses and case. $650.

From the back of the Hangar.

24 volt starter, electro System p/n MHJ-4003SR, o'haul/2000. $350.00

24 volt starter prestolite, p/n MHJ-4003S serviceable. $300.00

24 volt alternator Delco Remy 50 amp. p/n 1100747 $300.00 Oil filter adapter kit Mod. BC700 for all Lycoming 235, 320, 360, 540, 720. $500.00

Cessna 172 nose cap cowling p/n 0552019-new. $100.00 Stabilator tip fairing p/n GF95620-07 Piper PA-200/220 $150.00 McCauley Propeller p/n 1A101GCM6948 bolt pattern 4 3/8in. $800.00 Prop spinner 10in.dia,. 12in. tall bolt pattern 4 1/2in $125.00 Cantact len Kennedy 506-622-0105, cell 506-623-8162 email - lenpat@nb.sympatico.ca Miramichi NB .

CONTINENTAL A75-8 ENGINE. Approx 30 hours SMOH.Stromberg NA-S3A1 carburetor, Slick mags. Was mounted on my Pietenpol. Am selling because I bought a Continental 0-200 instead – wanted an electrical system! $5000 OBO. Located in Ontario. contact Pat pjb@ornithopter-pilot.com 519-925-3639

MOVING AND CLEANING OUT:
Continental A65-8 with logs, #1166018. TT930, 130 STOH - $3000. 4 cylinder BMW motorcycle engine - $150
Project, a McDonald S21,single seat all metal low wing. 1st inspection done. No engine, $1000 Metal prop for Continental with 43 hrs, 74 x 45. $600 Bendix mag, 4 cyl. New style. $495 A-B project Aeronca S-7EC. Complete overhaul of airframe 2010, Lycoming O-290-G 125 hp with 90 hrs. Zero time metal 74-52 prop. 1500 Federal skis and 1800 PK floats.600-6 wheels. Intercon and ICOM radio, xponder, cyl temp and exh temp gauges. Make an offer. Beechcraft LH landing gear assy - $100 Beechcraft RH landing gear assy - $100 Lycoming oil pan 150 hp rear mount carb TO 320 81A One set NEW 500-5 wheels and brakes $600
2 used Goodyear brake wheel cylinders, complete with axle. $375 600-6 4 ply tires (used) 6 available, $20 ea. 600-6 6 ply tires (used) 6 available $25 ea. Lycoming O-435 case and crank assy, complete with mags $500 Lycoming O-435 prop hub for splined shaft $50 Hartzell 76" adjustable prop, fits Lyc O-435 $100
Stinson 10A LH and RH gearlegs complete with tires and brakes. Both $400 Pair of NEW Cleveland wheels and brakes, 500-5 with 1-1/4" axle $650 Prop governor McCauley 762092, $50
NEW aerobatic carb, Ellison EFS-4, serial # 1061, $500 NEW, 3 pieces 600-6 x 15 tires 6 ply, $150 each Aluminum shrinker and stretcher, $40 each 2 available, 600-6 4 ply Goodyear wheels, brake cylinder and discs, $450 pair
Piper nosebowl mould for fibreglass, $90 8 x 3 tailwheel assy $250 4" tailwheel assy $350 Lycoming GPU 4 cyl O-290G 125 hp, no mags $400. Differential cylinder tester $50 400 running ft of square tubing 5/8" .035, $200 the lot 50 running ft of square tubing 7/8 x .035, $25 the lot. Several Lyc O-290 cylinders and several Franklin 350 cylinders, Make an offer Stinson 10A fuselage static display only, $100 Fleet Canuck fuselage static display only, $160 Jodel D11 fuselage and wings, static display only, $200 1 set seaplane floats-to-fuselage rigging, J3 Cub to EFO 1400, $500 Contact Lawrence Shaw, Orillia Ontario. Phone/fax 705-325-8017

ZENITH 300 PROJECT - all new drawings, and most welded parts are finished. The ribs and spars are all ready, and the tailplane and centre section bulkheads have been built. There is enough sheet metal to complete the aircraft. Buy it and just start putting it together. $5000 OBO.
519-843-2221 (Ontario)

SONEX PROJECT on gear with fitted canopy. First MDRA inspection completed. Jabiru 3300 engine brand new with Aero carb and original carb included. Panel is analog for flight instruments and electronic for engine monitoring. $27K OBO. 705-493-0112 leave message and I will return your call. Located in Sturgeon Falls ON

FOR SALE: 0290 Lycoming engine equipped with 6 bolt prop extension. $7000 CDN. I have the log book and mechanic's manual. For full details call Norm @ 519 496 7971.

RV-7 WING AND EMPENNAGE for sale. Varying states of assembly. Right wing top skin riveted with leading edge installed. Left wing in jig with 20% of top skin riveted, leading edge assembled. Wings set up for conduit. Tanks set up for capacitive fuel quantity senders. Right tank complete, left tank complete but rear not yet installed. Empennage assembly halves riveted. All assemblies primed with Boeing epoxy primer.
Included in package is Gretz Aero heated pitot, Mac trim tab servo, RMD wing tip lighting kit, Whelan 650 PR-14 wing tip strobe/back lights and Orndorf assembly videos. Not yet inspected as aim was to complete 50% of riveted sides before inspection. I have personally completed all assemblies.
Buyers must arrange their own shipping. Potential buyers welcome to inspect project in southern Ontario Call Tad, 905-627-6901, Asking $9500 CDN

BELITE FUEL PROBE SYSTEM 1/8" A.S # 10-05866 never used $180; Sky Tec Solenoid A.S, # 07-03562 never used $50. Aerovoltz battery charger $80 Ask about 16 cell Aerovoltz lithium battery + shipping
Mike 519-762-3910 or mtyit@start.ca

AME / homebuilder retiring and selling a lifetime of collected parts - Beech Sundowner prop and exhaust, C-150 starters, Lycoming starters, ring gears, flywheels. Lots of control cables including from an RV-6 kit. Brand new Gill 35 battery. Spinners, props, you name it and it is probably here. The hangar has been sold so everything must go. Ron Fleet at Hanover airport, Ontario. fleetair@wightman.ca

1990 ROTORWAY EXEC Helicopter for sale. TT 92 hrs. Quick sale $10,000. Always hangared. Contact Chris 807-854-0524 or email at dkeats@tbaytel.net

Fisher 404 biplane, geodetic wood & fabric construction.
Continental 65 GPU mounted & partially adapted, formerly powered by a VW. This is an estate sale and there is no paperwork or logs but the plane could fit the ultralight category. Email for photos. First $500 takes it. Also a rough glider trailer that currently houses the wings, $100 if bought with the plane. Jack Innes, Brooklin, Ont. 905-655-0000 innco@sympatico.ca

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

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

**Midland/Huronia**

Member John Spick recently passed. John was one of four who constructed four modified Texas Parasol aircraft in the 1990's and John did much of the machining of parts that were incorporated into the upgrades of that design.

A date of February 11 has been set for the winter fly-in.

**RAA London-St. Thomas**

Chris Staines sent in a couple of pictures of this GP4 undercarriage. The GP-4 is an experimental aircraft designed to fly cross country with two passengers 1,200 nmi (2,222 km) at 240 mph (386 km/h). Aircraft Spruce & Specialty Co has the rights to distribute the kits for the aircraft, while the plans are distributed by Osprey Aircraft. The GP-4 is the fourth aircraft from designer George Pereira, It is a low wing side-by-side retractable gear aircraft of wood construction. It has a single spar stressed to +8 to -6G loading. The aircraft's wooden construction is labor-intensive and an estimated 3000–4000 hours are required to construct it. A simply gorgeous airplane.

Gear retraction on tChris Stains' GP-4

**Chapter 85, RAA Vancouver**

A number of events have taken place at Delta Airpark and RAA Chapter 85 which have involved the Zenith 750 Cruzer project and Delta Airpark. The first of these was the move to get the pre-cover inspection for the Cruzer completed and then to get the fuselage off of the work table and onto its landing gear. This was completed in mid-September when the pre-cover inspection was carried out by MDRA inspector Jim Asprey on September 14th (Fig.1). With the inspection completed and approval given to proceed to final inspection, building got underway again and the fuselage was connected to its landing gear, lifted off of the workbench and it stood on its own gear for the first time on October 22nd (Fig.2). Since then, work has focussed on the wings, cockpit structure and the empennage. Saturdays have become the prime building day for members and visitors from Delta Airpark frequently drop in to check on progress. The Continental O-200 engine and accessories have been delivered Aero Sport Power in Kamloops for its initial assessment prior to rebuild. Eric Munzer (VP elect for 2017) has taken on the instrument panel building and most instruments plus the radio, transponder and intercom have been acquired. The group decision was also made to install a Dynon Skyview system for flight and engine instruments and this is yet to be purchased.

In October, Peter Murphy donated a Microsoft flight simulator complete with flight controls, engine controls and three monitors. Peter is busy checking members out for simulator flying (Fig.3) with a nominal fee being charged to help offset Cruzer 750 costs. This is a great way to stay familiar with the area during the current and lengthy wet season and to also stay dry while flying. At the October general membership meeting, which is our Annual General Meeting, elections were held for 2017 Executive and Directors. Most of the positions were retained by acclamation, of note were the election of José Font as Secretary and he takes over from Bruce Prior after years of stellar service in this role. Heidi Bekker stepped down as VP and Eric Munzer stepped forward and was elected as VP. Tom Boulanger will carry on as Treasurer and the membership will have to put up with yours truly as President for another year. The full list of Directors and the Executive will be posted on the Chapter website.

November has seen more wet and dreary weather with the exception of Remembrance Day which provided decent flying weather. John Macready coordinated the days' events which involved 160 people in attendance and included Richmond 655 Squadron, Royal Canadian Air Cadets for the ceremony (Fig.4) plus a flypast by 3 Harvards. After the ceremony, soup and buns were served to about 120 people resulting in no leftovers (Fig.5).

On November 16th, Boundary Bay Flying Club and Chapter 85 hosted a presentation by COPA CEO Bernard Gervais at the Chapter 85 roundhouse. Bernard gave a presentation on the current state of general aviation in Canada (Fig.6). Bernard was also given a pre-meeting tour of the Chapter 85 Zenith 750 Cruzer building project. Homebuilt or amateur built aircraft are recognized as a growth area in general aviation in Canada and the USA.

Our final event for the year will be at our next general membership meeting on the first Tuesday in December, and that is the Christmas Party and Potluck. This fall and the year in general has been an active one for the membership. The focus has certainly been on the 750 Cruzer building project, however Remembrance Day and the Annual Fly-In at the end of June were both events that benefited from a dedicated membership. As President, my sincere thanks go out to everyone in the Chapter for your efforts and enthusiasm since this is what really makes Chapter 85 tick.

**COPA PRESIDENT VISITS DELTA HERITAGE AIRPARK**

On Thursday evening, November 17th, COPA President Bernard Gervais came out to the RAA Roundhouse to meet local pilots and present his COPA "state of the union" address. The evening event was hosted by COPA Flight 5 Boundary Bay Flying Club. Accompanying Bernard were COPA Legal Counsel Glenn Grenier and BC/Yukon Directors Tim Cole and Joe Hessberger.

Even though the event was held mid-week on a dark and rainy night, one pilot drove in from Abbotsford and another flew down from the Okanagan.

Bruce Prior had arrived early to open up the roundhouse, set up the seating and tables, and get the coffee started. Mark Garner and Roberta arranged the catering, which was appreciated by all judging by what little food remained at the end of the evening.

The office was opened to exhibit the three-screen MS Flight simulator that Peter Murphy had generously provided to the chapter in a see-through donation and had set up.

The chapter workshop was also opened to allow visitors the opportunity to check out the 750 Cruzer project. COPA Legal Counsel Glenn Grenier was one of the visitors to inspect the project and ask many questions. It was gratifying to see the keen interest that many of the evening's guests had in the project.

Chapter 85 directors Jim Stunden and Eric Munzer personally guided Bernard Gervais around the 750 Cruzer, providing him with details on the aircraft and on the project's background. Bernard was genuinely impressed with the workmanship and the build progress. Upon hearing of the camaraderie and enthusiasm the 750 Cruzer project had generated, he commented, "this is the future".

The time passed quickly during the workshop visit, resulting in the a bit later than anticipated start to the main event. After an official welcome and introduction by Carter Mann, Bernard launched into his presentation. The main topics consisted of: a recap of COPA's mission/vision statement, the organization and what it is currently doing; an update from Nav Canada; 406 ELT status; Freedom to Fly; Avgas 100LL development; Aerodromes; COPA future activities; and what members can do to help promote Freedom to Fly and COPA. On this last point, Jim Neissen demonstrated

*Top: Bernard Gervais presents to assembled chapter members. Above, members Jim Stunden and Erich Munzer show Bernard the chapter's project airplane.*

great initiative in getting the evening's attendees to contribute $355 to the Freedom to Fly Fund!

The following are just a few points gleaned from the presentation:

*—There are 17,000 COPA members across the country*
*—95% of all Canadian registered aircraft are General Aviation*
*—Chris Hadfield is the COPA spokesperson*
*—COPA magazine went from $300,000/year loss to a projected break-even in 2019*
*—eFlight will be produced in-house starting April 2017 and will be enhanced*
*—406 ELT's will be mandated in 2017*
*—Nav Canada is phasing out certain* ground nav aids
*—The windmill threat and actions taken by COPA (Collingwood/Stayner)*

*Dan McGowan / continued from page 17*

him for that reason, but I think he was just lonely. Dan was the only guy in the coffee shop so I started to talk with him and we became friends.

I found him to be extremely well read and he consistently surprised me about his knowledge of science, history and interesting things in general, never mind his aircraft knowledge which was encyclopedic. He was a very interesting man to get to know. I started bringing my son to the airpark when he was 3 and Dan always played with him and they were fond of each other. Naturally being a font of information, I would ask Dan about any technical problems I had and he always had good answers.

I had a problem with the Emeraude tie down points at the wingtips where there had been a little rainwater ingress. I discussed the solution I had in mind to cover the tops of the wings completely with no hole through the wing. My idea was to have a threaded insert to which you could screw a ringbolt in from the bottom anytime you needed to tie it down. The next day he presented me with a pair of machined mushroom aluminum inserts with a threaded hole. They worked perfectly. It was only after that that I learned he had two machine lathes in his basement and he could make anything. He made a beautiful propeller balancing device, he made an incredible hands free air gun riveting machine, he made his own hand rivet squeezer and on and on. Later when I had the Jodel, I had a problem with the tailwheel and needed to make my rudder horns wider where the cable attachment points are. Dan came up with the easiest modification when all other suggestions were to far too complicated and he even made the parts for me unsolicited!

He was always flying his Aeronca Champ with his dog. Some related the story where he was flying it from the back seat with the dog in the front and he would overtake other airplanes and hide by leaning back. It would then appear that the dog was flying the Champ from the front seat with no visible human. Dan kept his Champ outside for many years but the crows were pecking holes in the wing fabric and it was time for him to rebuild it for the second time. At the age of 88 he rebuilt it with help from his friend Robin McNamara.

I would have done anything for him. We flew together to many places, Pender & Saltspring Islands, and Rowena and it was then that I learned about the many places that he used to fly to that had been shut down by successive property owners, we flew over those places and he would point them out to me.

Dan had a scathing intellect and a fierce sense of humour. I always told him jokes because he would get into paroxysms of laughter which was great to witness. At Christmas and Thanksgiving Robin McNamara and I would host dinner parties in the club house with Dan, Charlie Longstaff and other friends attending. We had a great circle of hangar friends and I had breakfast with Dan regularly and we would often dine together at the Sundowner or the River House Restaurant after a day of airplane fun at Delta.

Dan's lonely aging trajectory as I mentioned previously was inevitable given his lack of relatives but he did not die a lonely man at all. He had his friend's right to the end. His most loyal and precious friend was Robin McNamara who looked after him selflessly like a daughter. She looked after Dan because she liked him, enjoyed his company, was his devoted loving friend and he needed looking after. She stepped up and volunteered and did more than a fine job of that going way above and beyond the call of duty. Goodbye, old friend Dan: you will be missed. And thank you, Robin, for taking care of him for so many years.

*Chapter / continued from page 41*

*—The best method of donating an aircraft to the Freedom to Fly Fund*
*—Everyone who flies in Canada should be a member of COPA*

Animated group discussions ensued about medicals, cross-border flying, 100LL developments, and aerodromes with none, it seemed, in a real rush for the evening to come to a close.

With some final words by Tim Cole, the event formally finished after 9:00 pm. And although it was already approaching 9:30, attendees were still availing themselves of the snacks and breaking off into small group to chat, with some checking out the simulator set-up. By 10:00, after many helped stack chairs and put away tables, Bruce Prior did a final clean-up and then turned-off the lights on a successful event.

*Jose Font*

Aircraft Spruce & Specialty Co. SINCE 1965

# AIRCRAFT SPRUCE

AIRCRAFT SPRUCE IS YOUR ONE STOP SHOP FOR PARTS & PILOT SUPPLIES - SINCE 1965

## BUILDING MATERIALS & KITS

Composite Materials • Covering Supplies
Electrical • Hardware • Metals & Plastics
Tools • Wood Products • Kits & Plans

## AIRCRAFT PARTS

Airframe Parts • Electrical • Engine Parts
Landing Gear • Hardware

## AVIONICS & INSTRUMENTS


GPS • EFIS • Panel Transceivers
Audio Panels • Attitude Indicators

## PILOT SUPPLIES


iPad/iPhone & Android • Apps • Mounts
Flight Bags • GPS Accessories

## VISIT OUR NEW 20,000 SQ.FT. WAREHOUSE!


FREE CATALOG!

AIRCRAFT SPRUCE
TRANSPORT CANADA APPROVED

ASK FOR YOUR STAMP!

**(877) 795-2278**

**www.aircraftspruce.ca**