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26 FLYING THE FRASER CANYON TO ECHO VALLEY RANCH

Throughout the interior of British Columbia, particularly in the Cariboo region, there are many fly-in ranches and resorts. Some are rustic, some are quite luxurious. While these vacation spots are destinations in their own right, so are the journeys to get there, especially if you're flying in. The Fraser Canyon is just one of the many spectacular features to fly over on the way.

ON THE COVER: Janine Cross and COPA's B.C./Yukon director David Black travel from their Vancouver-area base to check out Echo Valley Ranch and Spa in their Cessna 172.

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WAYS







THE ONUS FOR SAFETY IS ON **ALL OF US** YOU THE MEMBER CAN CONTRIBUTE IN MANY

WHEN YOU'RE OFFERED A SEAT AT THE TABLE, TAKE IT

Lately COPA has had the opportunity to be invited to various focus groups and forums, being solicited by either Transport Canada (TC) or Nav Canada to submit our opinions and, in a way, help them help us. To be invited to do so is a privilege and I never pass up the occasion to have a say in building our future and what concerns us. Recently, we participated and expressed our concerns about flight data recorders and cockpit voice recorders in light aircraft (currently excluded), and are constantly talking with Nav Canada about ADS-B and the antenna diversity requirements for GA.

There are presently two big studies going on with Nav Canada that will involve you, the individual members. One is the FSS-FIC review that is going on around the country, where Nav Canada is meeting with select COPA Flights. We have also put out a survey in a recent eFlight, one that you should fill out to voice your opinion.

The other study is the major airspace review in B.C.'s Lower Mainland/ Southern Vancouver Island region. On both occasions, Nav Canada is asking our members for their opinions and we should not pass this up. If you have an opportunity to speak up, do so. It will be too late when all is in place.

THAT SAFETY CULTURE NEEDS TO EVOLVE AND TAKE ROOT

I often talk about the General Aviation Safety Campaign and the benefits it

holds for all of us. It will increase safety while allowing shared techniques, common safety-enhancing tools and seminars across the country, without the introduction of more regulations. When everyone is putting so much effort into this, and while we still have a deal that there would not be more regulations to be coerced into being safe, I find it deplorable that we still see individuals flying with expired or invalid medicals (meaning no licence), buzzing someone's home, flying while impaired or simply flying when not at the top of their game.

In the May 31 edition of eFlight, we reported on the Brampton incident from November, 2018 for which the TSB report had been published. In a sad accident that killed two people (one of whom was a COPA member), we learned that the pilot had consumed alcohol and had lost his medical some time prior to the accident, but was still flying. Did no-one in his entourage knew about the situation? Could this have been avoided? I'm not pointing the finger at anyone, I'm pointing it to all of us when we just shrug it off, when for example we learn that someone without a licence is still flying. By allowing our friends to do such things, we are letting them hurt themselves and others, while penalizing all of us when the statistics and records show such behaviour. "Hold my beer while I buzz the cottage?" Time to rethink what is cool and what is not, otherwise we and our freedom to fly are all going pay for it.

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LA SÉCURITÉ EST LA RESPONSABILITÉ **DE TOUS**

SI ON VOUS OFFRE LE MICRO, PRENEZ-LE

Au cours des derniers mois, COPA a eu l'occasion d'être invitée à participer à différents focus groups et forums de discussion, sollicitée soit par Transports Canada (TC) ou Nav Canada, à mettre nos opinions et en quelque sorte, les aider à nous aider. D'être invité est un privilège que je ne laisse jamais passer, de pouvoir façonner notre avenir et ce qui nous concerne. Nous avons récemment participé et pu exprimer notre point de vue sur les enregistreurs de données de vol et les enregistreurs de voix pour les aéronefs légers et récréatifs (ils seront exclus): nous sommes constamment en contact avec Nav Canada en ce qui concerne l'ADS-B et les besoins pour la diversité d'antennes ou non pour l'aviation générale et nous participons aussi à d'autres groupes de discussion.

Deux études sont présentement en cours avec Nav Canada qui vous impliquent vous, les membres individuels. Une est la révision des services FSS-FIC à travers le pays, où Nav Canada rencontre divers Clubs COPA et pour laquelle nous avons aussi publié un sondage dans une récente infoLettre COPA, sondage auquel vous auriez pu répondre pour faire connaître votre opinion. L'autre étude est la révision majeure des espaces aériens du sud de la C.-B. Si on vous offre l'occasion de vous exprimer, saisissez-la. Il sera trop tard quand tout sera en place.

UNE CULTURE DE LA SÉCURITÉ DOIT S'INSTALLER POUR DE BON

Je mentionne souvent la campagne de sécurité de l'aviation générale et ses bénéfices pour nous tous, qu'elle améliorera la sécurité en nous permettant de partager des techniques et des outils voués à la sécurité et de participer à des séminaires à travers le pays, sans l'introduction de plus de réglementation.

Alors que tout le monde y met tellement d'efforts et que tient l'entente de ne pas avoir plus de règles pour nous amener de manière coercitive à être plus sécuritaire, je trouve déplorable de continuer à voir des individus qui volent avec leur médical expiré ou non valide (donc sans licence), qui font du rase-motte au-dessus de la maison d'un ami, qui volent intoxiqué ou tout simplement sans être à leur meilleur.

Dans l'infoLettre COPA du 31 mai dernier, nous présentions le rapport du BST concernant l'incident de Brampton survenu en 2018. Dans ce tragique accident qui a coûté la vie à deux personnes (dont un membre COPA), on y apprenait que le pilote avait consommé de l'alcool et avait perdu son médical depuis un certain temps mais qu'il volait toujours malgré cela. Il serait étonnant que personne de son entourage n'ait été au courant de la situation ! Cela aurait certainement pu être évité. Je ne veux pas pointer personne mais quand on ne dit rien et qu'on laisse faire des situations de ce genre, nous laissons les copains se faire du mal ainsi qu'à d'autres, tout en nous pénalisant tous lorsque les statistiques et les faits font état de ces comportements. « Tiens-bien ma bière pendant que je fais un low-pass en haut du chalet? » C'est le temps de revoir ce qui est cool et ce qui ne l'est pas. Sinon, nous et notre liberté de voler allons tous en souffrir. 500





SEND US YOUR STORIES, LETTERS **AND PHOTOS**

COPA Flight is the outlet for COPA members to let others know what they're doing to advance, promote and preserve the Canadian freedom to fly, and we're here to share your stories.

Our Regions section publishes news about the myriad activities undertaken by COPA Flights across the country, our News section is the forum for stories of national interest that may be happening in your backyard, so if you have something to get off your chest, write us a letter to the editor. We always appreciate nice, high-resolution photos, whether to accompany your submissions or as part of our photo contest.

To help us deliver your message effectively and efficiently, we ask that contributors follow a few guidelines.

The new format lends itself to concise, punchy stories that get the message across clearly and economically. Please keep event reports and local news stories from 300 to 400 words. Send them in an MS Word document without any formatting or inserted graphics. News stories should be from 500 to 1,000 words, and make sure facts are checked and the statements made in the article are factual. We will edit out any libellous or erroneous material.

Letters should be no more than 500 words and be civil and respectful. Photos must be sent in high resolution or we can't use them. A good rule of thumb is that if the image is 1Mb or larger it's good to go. Remember that this is your magazine and among its roles is to reflect the activities, goals and objectives of COPA. We're happy to help you make COPA even stronger through an open channel of communications. Send your submissions to steve@copaflight.ca by the first of the month for inclusion in the next magazine.

MADIATION AND GLOBAL WARMING

For the first time in recorded history. carbon dioxide in the atmosphere has topped 415 parts per million. Transportation contributes significantly to air pollution and global warming. Concrete actions can be taken today to reduce those emissions through more efficient transportation.

The solution is to improve the efficiency of transportation. In Canada, aviation is the predominant mode of passenger travel for trips beyond a few hundred kilometres. Travelling on airlines is more efficient and safer than driving long distances. Long distance passenger train and bus services are being replaced by the speed and efficiency of air travel.

So how can the efficiency air travel be improved? It starts with and ends with an airport. The closer an airport is to where a traveller lives and wants to go, the more efficient the carbon footprint of the trip is. Taking a single flight directly to a destination instead of multiple flights by connecting through a hub airport also reduces emissions. This efficiency reduces costs and saves time. It increases the demand for point-topoint air travel from locally accessible airports. In 2018, there were more than 18,000 point-to-point routes worldwide.

Making Canadian airports, and the aircraft that use them, as efficient as possible is the next big step in reducing the traveller's carbon footprint. Under consideration are two big airport infrastructure projects that can significantly reduce greenhouse gas emissions per passenger-kilometre travelled.

The first is the runway extension project at Billy Bishop Toronto City airport (CYTZ). Porter Airlines is on record as wanting to switch to the more fuel efficient Canadian-built C-Series passenger jets, now known as the Airbus 220. To do this safely, it needs the Toronto Port Authority to extend the runway at CYTZ. Proposed in 2013, this will cost taxpayers nothing, and enable Porter airlines to start flying a new multi-billion

dollar fleet of Canadian made jets. The Airbus A220, is the most fuel-efficient aircraft in its class. It can burn less than 2 litres of jet fuel per 100 km per passenger seat over long distances. On Porter's existing short and medium routes, it it can average 2.5 litres per 100 km per passenger seat, 20 percent less than their current fleet of Bombardier Dash 8 Q400s. It is also a quieter aircraft.

To put this into perspective, the current Canadian automotive fleet average is 8.9 litres per 100 km. Not only can air travel be three times as efficient as driving long distances alone, but flying goes in a straight line and does not require thousands of kilometres of asphalt to be built and maintained. This saves tens of thousands of hectares of farmland and forests.

The second big infrastructure project being considered is Pickering airport. The Toronto region is the fastest growing major metropolitan area in North America and is primarily serviced by a single jet airport, Toronto Pearson International Airport. Even today the congestion at Pearson is causing delays, excessive fuel burn and unnecessary greenhouse gas emissions. In February 2019, Pearson ranked dead last in on-time performance out of 28 major North American airports. This problem will be magnified over time as the GTA continues to grow, resulting in the surrounding highway infrastructure being impacted.

Air traffic does not disappear when Pearson becomes congested. Aircraft congestion impacts the entire air navigation system, creating aircraft holds on the ground and in the sky resulting in much more fuel being burned. Once congestion occurs, aircraft arrivals into Pearson overflow into the early hours of the morning generating more noise pollution and keeping the citizens of Toronto awake.

The new airport in Pickering will take 10 years to build and will be desperately needed by the time it opens in 2028-2030. Every year the inefficiency of our airports adds millions of tonnes of unnecessary carbon emissions dumped unnecessarily into our atmosphere. It is



time to build the Pickering airport, extend Billy Bishop Airport's runway and a dozen other infrastructure projects that can improve aviation efficiency and reduce emissions.

Mark Brooks

ELT VS ADS-B OUT

The requirement for mandatory 406 MHz ELTs has been in the works for years. It is unfortunate that a lot of accidents keep happening and the ELTs don't work.

The current TSO for 406 MHz is a mature design requirement after the failures of the less robust 121.5 MHz designs. TSO-C126 devices now have a five-year (or more) replacement battery period and can be easily system-tested with the Canadian Beacon Registry. This is a far cry from 121.5 systems which have not been monitored for years.

A lot of failures are due to the ELT system installation. The components were located in positions that allowed moderate crash forces to rip the ELT from its mounts, or break the coaxial cable to the antenna. When ELTs were first introduced in factory built aircraft they were located at the rear of the airplane, statistically the most survivable during a straight-on crash. Somehow a lot of airplanes now have ELTs that moved forward for convenience and vulnerable antennae systems in a flip over.

There are 406 MHz ELTs with internal antenna systems that work when the external antenna system is compromised. This feature, along with a built-in GPS, may cost up to \$500 more. There are other tweaks that need consideration with this continually maturing technology. The Gswitches do wear out with continuous vibration. As a result, a lot of manufactures require a g-switch replacement with the five-year battery pack and if they don't, they should have.

ADS-B, on the other hand, as proposed for Canada is just too complex and requires a WAAS GPS and ADS-B transponder with a top-mounted antenna. On the other hand, my SPOT satellite tracker works very well for tracking my flights and alerting the FSS on my flight plan without the cost, complexity and exposure of space based ADS-B. In any case, most of us prefer a layered approach to such safety devices and aren't willing to put all of our eggs and our money into one technology solution.

So why has this mandatory requirement been allowed to be executed without due consideration of further tweaks to ELTs and installation issues?

Anyway, when you go to install a new 406 ELT consider upgrading to an internal antenna with GPS, and install it in the most crashworthy position in your airplane.

Lee Coulman



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'RUNWAY INCURSIONS'

THEY MULTIPLY EXPONENTIALLY IN SUMMER

BY MIKE SATTLER

Not too many years ago, a work colleague was taking off from a bush strip on the West Coast of British Columbia. It was a typical dirt strip carved into nothing but trees, surrounded by the great Canadian wilderness. The aircraft was a fully loaded DHC-2 Beaver on amphib floats.

Just as the wheels broke free, a fuel truck entered the runway from the only access road. With nowhere to go, my friend decided to keep the engine at full power, knowing they were going to hit, but trying to get it so the floats would absorb the impact and they may survive.

It worked, they survived; the aircraft hit the runway the other side of the truck, sans floats. Sorry, Hollywood, no big explosion, just six lucky people, a destroyed aircraft, destroyed truck and a lot of questions.

Runway incursions are real and can kill. But what if every day you must deal with not one but multiple runway incursions? It's summer, people, and for a branch of aviation, the good times are over. Now we go into survival mode.

For those who make a living landing and taking off from runways without numbers, or who merely enjoy splashing about for fun, the most feared word in the dictionary is the word 'hoater'

For the wet set, a runway incursion can be disastrous. Not only can the impact maim and injure the boat occupants, but the subsequent impact of the aircraft into the water would more than likely be fatal.

Seaplane pilots are taught, from the time they do their endorsement, to err on the side of caution with any waterborne traffic. Give way at all times.



Pilot Mike Sattler water-taxis in Salt Spring Island, B.C.'s Ganges Harbour.

However, the folks on the water need to be aware.

Yep, a seaplane at takeoff power is mighty noisy. But a seaplane landing can be as quiet as a church mouse. Coupled with the noise from a boat motor or the flapping of a sail and it might not be possible to hear the approaching disaster.

If you think or know you are in an area that may have seaplane activity (such as any lake in Canada), look behind you just as often as you look in front.

So what should you do if you realize the 'Red Barron' is heading at you? NOTHING! Maintain speed and heading. Seaplane pilots will often make a last-second course correction to bring the plane into the wind, or avoid a swell, or get a better angle to overshoot. If a boat starts to change heading, it will invariably (from my experience) be in the wrong direction. Bad karma day.

Now, mind you, I am only talking here about the vast majority of boating/ watercraft folks. The conscientious,

respectful and safe folks who are out to enjoy life.

I am not going to talk about the boaters who (and I am not making this up) will and do deliberately move into the path of a landing or departing seaplane just for kicks. I could fill an entire book on that subject. For those folks, words are not enough.

So, for the members of COPA who feel that an aircraft is not a big enough money sponge, but also enjoy boating, keep the water wing crowd in your hearts. Look out, look up, look behind. 🕯

TIPS

Did you know that you really shouldn't wave at a seaplane as it flies past? It is the international signal that you are in distress and that has led to some 'funny' moments.

AVIATE, NAVIGATE AND COMMUNICATE

I SAW FIRST-HAND HOW THAT WORKS

BY JONATHAN TEIGROB



"Any landing you can walk away from is a good landing," my daddy used to say.

The Cessna 177 RG seemed quite low in the circuit and its IO-360 Lycoming was backfiring when the power was pulled back by the young instructor and his student. It was a night in the 1980s in the northwest of the beautiful state of Washington. I felt somewhat apprehensive while watching the Cardinal RG that night.

The following morning was a crisp day, with the snow-capped Cascades meeting a clear blue sky. Although a perfect day for flying (I was working on a commercial ticket), due to unforeseen circumstances I arrived late for a session in a complex airplane, "Over 15 minutes late and I cancel the session," the instructor immediately mentioned. "The only reason I stayed is it's such a beautiful day for flying." He was a seasoned instructor, a Vietnam vet with about 3500 hours flying time. A little startled by his words, I soon noticed there wasn't any attitude attached, and we did a thorough pre-flight on the same Cardinal I had seen flying the night before.

The ATIS recording was predictable severe clear with light winds. We took off with the IO-360 Lycoming powering us to 500 feet before it quit. Looking through the windscreen at the H lines and busy four-lane traffic on the Interstate, I still remember the worried feeling of a low-time pilot.

"I've got it," the veteran instructor calmly said, pitching the nose down at the same time for best glide speed. He banked the powerless aircraft towards an area more suitable. "I'm going to drop the gear to cushion the landing," he said, and called out a Mayday on the VHF. Then we were in a hilly meadow, climbing out of the damaged Cardinal. "I was thinking of trying to make it back to the runway," the instructor noted after emergency crews had arrived. "But we may not have made it."

That night I noticed a stripe across my chest from the shoulder harness, (a shoulder harness, preferably over both shoulders, can be a good investment), but no other ill effects.

Thinking back on the incident years later, the instructor...

Aviated: flew the aircraft, dropping their nose for best glide speed.

Navigated: banked towards an area where a landing would be less painful

Communicated: with me and the tower.

Because he followed this sequence of procedures, at the end of the day, "It was a good landing." 🐷

MY MANY **MENTORS**

THE MANY WAYS WE CAN ENCOURAGE A NEW PILOT

BY LAUREN NAGEL

My journey into the world of aviation started like many others': an introductory flight changed me, my first solo made me prouder than ever, and I beamed on the day I passed my flight test. During this time I felt scared, I made mistakes. I was arrogant and I learned a whole lot. Some of those lessons were learned the hard way. like always making sure the door is fully closed before the takeoff roll (so as not to frighten the crew). Many others, however, were taught by three pilot role models who have been most influential during my journey.

My mentor and friend, JC, is a retired airline and military pilot with more years of professional flying under his belt than I have on this earth. Put simply, flying with JC taught me that I don't know anything, or at least that I don't know everything. When I had the opportunity to fly into Wittman airport (KOSH) with JC last summer, his easygoing demeanor at the controls quickly humbled my overconfident 50hour self. Gently but firmly he would remind me to keep my ailerons into the wind, lean out the mixture in cruise and maintain a good lookout.

The true testament to JC's skill occurred while we were on final approach at Wittman field. Lining up for landing under his direction, I noticed a flicker outside my window and looked out to see another aircraft also on the approach beneath us. I mentioned this to JC and he quickly took control and softly deposited the plane onto the runway without incident, a few hundred feet behind the other plane. To this day he still gives me credit for the landing, but we both know what really happened.



My dad and I on our first flight together after getting our licences.

"Congratulations, you now have a licence to learn," JC said to me a couple of months later when the day came that I passed my private pilot flight test. I struggled not to roll my eyes at this classic aviation proverb, but I knew he was right. Ultimately, flying alongside JC has taught me that I'll never know everything, so I had better keep listening.

My next mentor is not a career pilot, nor does he have thousands of flight hours. What he does have, however, is an irresistible enthusiasm for flying. Chris is a fellow pilot who has always been eager to share his knowledge and ideas about techniques, safety and potential fly-out adventures. Over the course of countless days of flight planning and trips for \$100 hamburgers, Chris taught me the love of flying.

While he loved every aspect of planning and flying, he still let me take the lead as often as possible. Our most memorable flight took place on an otherwise bleak winter day with nega-

tive temperatures and a uniform grey sky. Flying across a snowy landscape, the highlight of the day was when he told me that he would put the 172 into a 'zero gravity' configuration. At first, I thought he was joking, but then I saw the pen in my lap float up to my eye-level, and henceforth decided that aviation was the coolest thing ever. While Chris emphasized strict safety rules, he also showed that aviation could involve a lot of enjoyment and a little bit of giggling.

My final mentorship started much earlier and began with a non-pilot. The real reason that I got into aviation was not because of any idea of my own, but because of a dare. Growing up as the eldest child consequently made me my dad's guinea pig, but also his partner in crime. This meant that I was often trying new things that seemed scary at first but ended up being extremely cool.

NEWSLINE

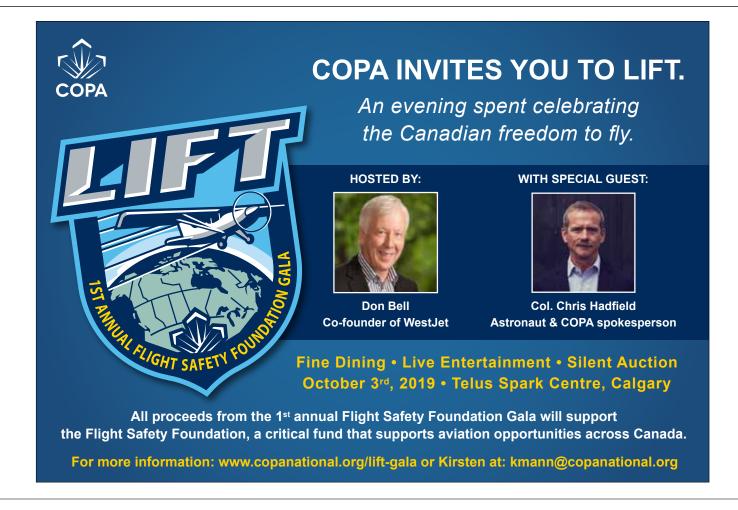
The epitome of this lesson took place three ago when I was home for spring break from university. My grandpa had been a glider pilot but never found the means to pursue an airplane licence after starting his family, though aviation had remained a passion that he passed on to my dad. My second day back, my dad asked if I wanted to go to the local airport for a fun little flight with one of his friends. Stifling my surprise and the butterflies in my stomach, I said yes and off we went. At the airport, we shook hands with pilot Jake who let me sit up front and said I could even help with the takeoff if I wanted to. I was tempted to say "No, thank you," but when I looked over at my dad, he had an expression on his face that was both expectant and mischievous: whatever was going on in his head, I would not

let him see me pass up on a chance like this!

After going through all of the checklist items, we taxied over to the threshold where Jake instructed me to add full power and then apply smooth backpressure on his command. When I did, my stomach dropped and flipflopped all at once as I could not believe that what I had done was propelling us away from the ground. For the next hour I learned how to climb, descend and turn, ending my lesson on final approach when Jake took back control. After we got out of the plane, my Dad asked me what I thought. Eyes wide with delight, I replied, "That was amazing."

On the drive home, Dad revealed that his 'friend' Jake was actually an instructor and that if I wanted, today's flight could be my first hour of training on my way to getting a pilot's licence. A million reasons to say no flashed through my head at that moment: "It's too expensive", "When will I find the time?" and "It's dangerous", but all those years my dad had taught me never to pass up on an opportunity. That summer my dad and I both started our training together, passing our flight tests on the same day.

The lessons that I took away from these mentors didn't always sink in right away, but as I continued to fly more and more, each one found its place in my training. For that reason, I'm grateful to my teachers and role models for not giving up on me and giving me time to figure some things out on my own. I hope that any experienced pilot who feels like they have something to offer is willing to share, because we are listening, and we want to learn. 🐼



MES NOMBREUX MENTORS

LES NOMBREUSES FAÇONS D'ENCOURAGER UNE NOUVELLE PILOTE

PAR LAUREN NAGEL

Mon aventure dans le monde de l'aviation a commencé comme celle de beaucoup d'autres : un vol introduction m'a changé, mon premier vol solo m'a rendue plus fière que jamais et j'ai rayonné le jour que j'ai réussi mon examen en vol. Pendant ce temps, je me suis senti effrayée, j'ai fait des erreurs et j'étais arrogante, mais j'ai aussi beaucoup appris. Certaines de ces leçons ont dû être apprises à la dure, comme se souvenir de vérifier que la porte est fermée avant de rouler (pour ne pas effrayer les passagers). D'autres lecons m'ont été enseignées par trois pilotes qui m'ont influencé le plus pendant mon aventure jusqu'à présent.

Mon ami et mentor, JC, est un homme qui a passé une belle carrière comme pilote de ligne et pilote militaire avec plus d'années de vol professionnel que j'en ai sur la terre. Tout simplement, voler avec JC m'a montré que je ne savais rien, ou au moins que je ne savais pas tout. Lorsque j'ai eu l'occasion de voler à l'aéroport Wittman (KOSH) avec JC l'été dernier, son attitude relaxe aux commandes a rapidement mis en perspective ma trop grande confiance en mes 50 heures de vol. Doucement, mais fermement, il m'a rappelé de garder les ailerons face au vent, d'appauvrir le mélange de carburant en croisière, maintenir une bonne surveillance et de lâcher les commandes si j'étais fatiguée.

Le véritable témoignage de son habileté a eu lieu pendant qu'on approchait la piste à Wittman. Je m'alignais avec la piste sous la direction de JC quand j'ai remarqué quelque chose devant ma fenêtre. Quand j'ai regardé à nouveau, j'ai vu que c'était un avion. Lorsque j'ai mentionné cela à JC, il a calmement pris les commandes et a complété l'atterrissage sans incident, quelques centaines de pieds derrière l'autre avion. À ce jour, il me donne crédit pour cet atterrissage, mais nous savons tous les deux la vérité.

Quelques mois plus tard, le jour où j'ai passé mon test de vol PPL, JC m'a dit: « Félicitations, t'as maintenant une licence pour apprendre. » J'ai eu du mal à ne pas rouler mes yeux à ce proverbe classique de l'aviation, mais je savais qu'il avait raison. Enfin, voler à côté de JC m'a enseigné que je ne saurai jamais tout, alors je ferais mieux de continuer à écouter.

Mon prochain mentor n'est pas un pilote de carrière et n'a pas non plus des milliers d'heures de vol. Ce qu'il possède, cependant, c'est un enthousiasme irrésistible pour le vol. Chris est un pilote qui a toujours envie de partager ses connaissances et idées sur les techniques, la sécurité et les aventures potentielles en vol. Au cours d'innombrables jours de planification de vol et de trajets pour des hamburgers à 100 \$, Chris m'a enseigné un amour pour le vol.

Il est bien connu que l'enthousiasme est contagieux et cela n'aurait pas pu être plus vrai qu'avec Chris. Lorsqu'il parle d'un truc de navigation ou d'un itinéraire qu'il envisageait de voler, ses yeux s'illuminent et je peux voir sa véritable passion pour le métier. Bien qu'il aime chaque aspect de la planification et de l'aviation, il m'a néanmoins laissé prendre la direction aussi souvent que possible. Notre vol le plus mémorable a eu lieu un jour d'hiver plutôt sombre avec des températures négatives et un ciel uniformément gris.

Ce jour-là, nous avons survolé un beau paysage enneigé. Le point culminant de la journée était quand il m'a dit qu'il mettrait le 172 dans une

configuration « zéro gravité ». Au début, je pensais qu'il plaisantait, puis j'ai vu que le stylo sur mes genoux flottait à la hauteur de mes yeux. À ce moment, j'ai décidé que l'aviation était la chose la plus cool du monde. Bien que Chris a mis l'accent sur des règles de sécurité strictes, il a également montré que l'aviation pouvait entraîner beaucoup de plaisir et un peu de rires.

Mon dernier mentorat a commencé beaucoup plus tôt que les autres avec un non-pilote. La vraie raison pour laquelle je me suis lancée dans l'aviation n'était pas à cause de ma propre idée, mais à cause d'un défi. Grandir en tant que l'aînée de ma famille, je suis donc devenue le « guinea pig » de mon père ainsi que sa meilleure complice. Il s'est assuré que je ne manque jamais l'occasion d'essayer quelque chose de nouveau simplement parce que cela me faisait peur.

L'essentiel de cette leçon a eu lieu il y a trois ans, alors que j'étais de retour à la maison pour la semaine de relâche de l'université. Mon grand-père était pilote de planeur. mais n'avait jamais trouvé le moyen d'obtenir une licence d'avion après avoir fondé sa famille, mais l'aviation est restée une passion qu'il a transmise à mon père. La deuxième journée de ma semaine de relâche, mon père m'a demandé si je voulais aller à l'aéroport local pour un petit vol amusant avec l'un de ses amis. Étouffant ma surprise et les papil-Ions dans mon estomac, j'ai dit oui et nous sommes partis. À l'aéroport, nous avons serré la main du pilote Jake qui m'a montré les commandes et m'a dit que je pourrais même aider au décollage si je voulais. J'étais tenté de dire « non merci »,

NEWSLINE

mais quand j'ai regardé mon père, il avait une expression espiègle et pleine d'espoir... je ne savais pas ce qui se passait dans sa tête, mais je ne le laisserais pas me voir laisser passer une chance comme cela!

Après avoir parcouru tous les éléments de la liste de contrôle, nous nous sommes dirigés vers le seuil de la piste où Jake m'a demandé de mettre la puissance au maximum, puis d'appliquer une contre-pression en douceur sur sa commande. Quand je l'ai fait, mon estomac est tombé et a basculé tout à la fois car ie ne pouvais pas croire que ce que j'avais fait nous causait de s'éloigner du sol. Pendant l'heure suivante, j'ai appris à monter, à descendre et à faire demi-tour. La leçon s'est terminée en approche finale lorsque Jake a repris le contrôle.

En rentrant chez nous, mon père a révélé que son « ami » Jake était en fait un instructeur et que, si je le voulais, le vol d'aujourd'hui pourrait être ma première heure de forma-

"IL EST BIEN CONNU QUE L'ENTHOUSIASME EST CONTAGIEUX ET CELA N'AURAIT PAS PU ÊTRE PLUS VRAI QU'AVEC CHRIS."

tion dans ma poursuite d'une licence de pilote. Un million de raisons de dire non me traversèrent la tête à ce moment-là: « c'est trop cher ». « quand vais-je trouver le temps? », «

C'est dangereux », mais toutes ces années, mon père m'avait enseigné à ne jamais laisser passer une occasion comme cela. Cet été-là, mon père et moi avons commencé notre entraînement ensemble, en passant nos tests en vol le même jour.

Les leçons que j'ai apprises de ces mentors n'ont pas toujours été intégrées instantanément, mais comme je continuais de voler de plus en plus, chacune d'elles a trouvé sa place dans ma formation. C'est pourquoi je suis reconnaissante à mes professeurs et à mes modèles de ne pas m'avoir abandonné et de me laisser le temps de comprendre certains trucs moimême. Pour cette raison, j'espère que tout pilote expérimenté qui a le sentiment d'avoir quelque chose à offrir est disposé à partager, car nous sommes à l'écoute et souhaitons apprendre. 💹



INCIDENTS + ACCIDENTS



ATLANTIC REGION

An American, corporately registered Air Tractor AT-502B (N3031J) from Bangor, ME (KBGR) to St. John's, NL (CYYT) experienced a frozen auxiliary fuel line. The aircraft diverted to Sydney, NS (CYQY) due to insufficient fuel in the main tanks. No operational impact.

QUEBEC REGION

A Cargair Cessna 152 (C-GBJU) from Montreal/Saint-Hubert, QC (CYHU) to Montreal/Saint-Hubert, QC (CYHU), which had been instructed to hold short of Runway 24R on Romeo, crossed the stopline. A Cargair Cessna 152 (C-GJVD) from Montreal/Saint-Hubert, QC (CYHU) to Montreal/Saint-Hubert, QC (CYHU) was instructed to reject its takeoff on Runway 24R and to stop before Romeo.

ONTARIO REGION

A Confederation College of Applied Arts & Technology Cessna 172N (C-GYHE) from Thunder Bay, ON (CYQT) to Thunder Bay, ON (CYQT) was told by the tower controller that they were required to land and was subsequently cleared to land. C-GYHE then completed a touch and go.

A privately registered, amateur built Wagaero Sportsman 2+2 from origin unknown to Timmins, ON (CYTS) landed on Runway 28 with gear up.

PRAIRIE AND NORTHERN **REGION**

A privately registered Cessna 182Q from Swift Current, SK (CYYN) to Swift Current, SK (CYYN) proceeding to the parking area manoeuvred through a swale, causing the propeller to strike the ground. Propeller sustained damage to both edges.

The Calgary/Springbank, AB (CYBW) digital voice logger (DVL) has been unserviceable (U/S) for over 10 days, preventing the completion of proficiency checks, which can lead to controllers being unable to work.

PACIFIC REGION

An AAA Aviation Ltd. Cessna 1721 (C-GUNE) from Langley, BC (CYNJ) to Langley, BC (CYNJ) was cleared for a right turn on departure. Aircraft departed and flew directly Northbound instead.

At 1950Z, a strong and steady emergency locator transmitter (ELT) signal was heard to be activated. The Area Control Centre (ACC) shift manager was advised. The Joint Rescue Coordination Centre (JRCC) Victoria was also advised, and they said it did not have a 406 and that a Civil Air Search and Rescue Association (CASARA) aircraft was being launched. The CASARA aircraft arrived and found the ELT aircraft source at 2103Z, approximately 1 hour and 15 minutes after the signal started. The source aircraft was a privately registered Cessna 180K in a west side hangar. The ACC shift manager and JRCC Victoria were advised that the ELT source was found.

RÉGION DE L'ATLANTIQUE

La conduite de carburant auxiliaire d'un Air Tractor AT-502B d'entreprise et de propriété américaine (N3031J) reliant Bangor (KBGR), ME, à St. John's (CYYT), NL, a gelé. L'aéronef a été dérouté vers Sydney (CYQY), NS, en raison de la quantité insuffisante de carburant dans les réservoirs principaux. Aucun impact sur l'exploitation.

RÉGION DU QUÉBEC

Un Cessna 152 (C-GBJU), exploité par Cargair, de Montréal/Saint-Hubert (CYHU), QC, à Montréal/Saint-Hubert (CYHU), QC, qui avait reçu l'instruction d'attendre à l'écart de la piste 24R sur Roméo, a franchi la ligne d'attente. Un Cessna 152 (C-GJVD), exploité par Cargair, de Montréal/Saint-Hubert (CYHU), QC, à Montréal/Saint-Hubert (CYHU), QC, a reçu l'instruction d'interrompre son décollage piste 24R et de s'arrêter avant Roméo.

RÉGION DE L'ONTARIO

Le contrôleur tour a avisé l'équipage d'un Cessna 172N (C-GYHE) exploité par Confederation College of Applied Arts & Technology assurant un vol de Thunder Bay, ON (CYQT) à Thunder Bay, ON (CYQT) qu'il devait atterrir et l'a ensuite autorisé à atterrir. Le vol C-GYHE a effectué un posé-décollé.

Un Wagaero Sportsman 2+2,

d'immatriculation privée et de construction amateur, de provenance inconnue et à destination de Timmins (CYTS), ON, a atterri piste 28 avec son train rentré.

RÉGION DES PRAIRIES ET DU NORD

L'équipage d'un Cessna 182Q sous immatriculation privée assurant un vol de Swift Current, SK (CYYN) à

Swift Current, SK (CYYN), qui se dirigeait vers l'aire de stationnement, a effectué une manœuvre qui l'a amené à se retrouver dans une baissière, ce qui a fait en sorte que l'hélice a percuté le sol. Les deux bords de l'hélice ont été endommagés.

Enregistreur numérique de

communications vocales (DVL) à Calgary/Springbank (CYBW), AB, hors service (U/S) depuis plus de 10 jours, ce qui ne permet pas de faire des contrôles de la compétence et pourrait se traduire par l'incapacité de travailler des contrôleurs.

RÉGION DE PACIFIQUE

L'équipage d'un Cessna 1721

(C-GUNE) d'AAA Aviation Ltd. assurant un vol de Langley, BC (CYNJ) à Langley, BC (CYNJ) a été autorisé à effectuer un virage à droite au décollage. L'aéronef a décollé et s'est dirigé directement vers le nord à la place.

À 1950Z, un signal de radiobalise de repérage d'urgence (ELT), fort et constant, a été entendu. Le gestionnaire de quart du centre de contrôle régional (ACC) a été avisé. Le centre conjoint de coordination de sauvetage (JRCC) de Victoria a également été avisé et il a indiqué qu'il n'avait pas de 406 et qu'un aéronef de l'Association civile de recherche et de sauvetage aériens (ACRSA) était dépêché. L'aéronef de l'ACRSA est arrivé et a trouvé l'aéronef à la source du signal ELT à 2103Z, environ 1 heure et 15 minutes après le début du signal. L'aéronef à la source du signal était un Cessna 180K sous immatriculation privée qui se trouvait dans un hangar du côté ouest. Le gestionnaire de quart de l'ACC et le JRCC de Victoria ont été avisés que la source du signal ELT avait été identifiée. 🐷



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ENFORCEMENTS

QUEBEC REGION

A person conducted a take-off. approach or landing in an aircraft over a built-up areas in a manner that is likely to create a hazard to persons or property. The person also failed to make specified entries in the aircraft journey log (CAR 602.12(2), \$750; CAR 605.94(1), \$750).

A person failed to operate an unmanned air vehicle in flight in accordance with a special flight operations certificate or an air operator certificate (602.41, \$1,000).

A person operated a VFR aircraft in Class C airspace when they had not received clearance from the appropriate air traffic control unit before entering the airspace (CAR 601.08(1), \$1,500).

A person signed a maintenance release in respect of a major modification on an aircraft when this major modification did not conform to the requirements of the relevant technical data (CAR 571.06(1), 60-Day Suspension).

ONTARIO REGION

A person operated a model aircraft over a security perimeter of a first responder emergency operation site (Interim Order No 9 s. 5(1)(d), \$750).

A person failed to make specified entries in the aircraft journey log. (CAR 605.94(1), \$750)

PRAIRIE AND NORTHERN **REGION**

A person operated a VFR aircraft in Class C airspace when they had not received clearance from the appropriate air traffic control unit before entering the airspace (CAR 601.08. (1), \$750.

PACIFIC REGION

A person operating a VFR aircraft failed to establish two-way radio contact with the appropriate air traffic control unit before entering Class D airspace (601.09(1), \$250).

A person signed a maintenance release in respect of work performed by another person and failed to personally observe the work to ensure performance in accordance with the requirements of applicable airworthiness standards (CAR 571.11(6), \$750).

RÉGION DE QUÉBEC

Une personne a effectué le décollage, l'approche ou l'atterrissage d'un aéronef au-dessus d'une zone bâtie d'une manière risquant de constituer un danger pour les personnes ou les biens. La personne a aussi omis de consigner les inscriptions requises dans le carnet de route de l'aéronef (RAC 602.12(2), 750 \$; RAC 605.94(1), 750 \$).

Une personne a omis d'utiliser un véhicule aérien non habité conformément à un certificat d'opérations aériennes spécialisées ou à un certificat d'exploitation aérienne (RAC 602.41, 1 000 \$).

Une personne a utilisé un aéronef VFR dans l'espace aérien de classe C sans avoir recu l'autorisation de l'unité de contrôle de la circulation aérienne compétente (RAC 601.08, 1

Une personne a signé une certification après maintenance à l'égard d'une modification majeure exécutée sur un aéronef alors que cette modification majeure n'était pas conforme aux exigences relatives aux données techniques pertinentes (RAC 571.06(1), Suspension 60 jours).



RÉGION D'ONTARIO

Une personne a utilisé un modèle réduit d'aéronef au-dessus du périmètre de sécurité d'un site d'opération d'urgence d'un premier répondant (Arrêtée d'urgence No 9 § 5(1)(d), 750 \$).

Une personne a omis de consigner les inscriptions requises dans le carnet de route de l'aéronef (RAC 605.94(1), 750 \$).

RÉGION PRAIRIE ET DU NORD

Une personne a utilisé un aéronef VFR dans l'espace aérien de classe C sans avoir reçu l'autorisation de l'unité de contrôle de la circulation aérienne compétente] (RAC 601.08(1), 750 \$).

RÉGION DU PACIFIQUE

Une personne a utilisé un aéronef VFR dans l'espace aérien de classe D sans avoir établi au préalable une communication bilatérale avec l'unité de contrôle de la circulation aérienne compétente (RAC 601.09(1), 250 \$).

Une personne a signé une certification après maintenance à l'égard de travaux exécutés par une autre personne alors qu'elle n'avait pas elle-même observer les travaux dans la mesure nécessaire pour veiller à ce que leur exécution soit conforme aux exigences de toute norme de navigabilité applicable (RAC 571.11(6), 750 \$).



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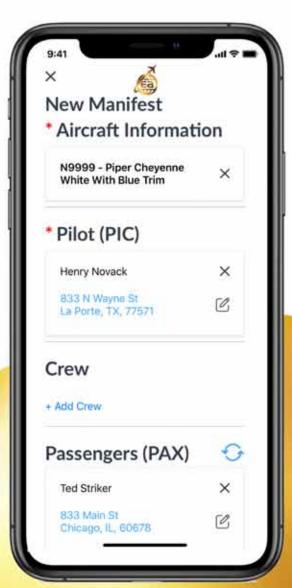
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CLEAR AIR ICING

IT WAS ALL I COULD DO TO HOLD ALTITUDE



cing is a funny thing, especially for a newly minted low-time VFR pilot. It was an overcast day in October when I departed Toronto/ Buttonville Municipal Airport (CYKZ) for a scenic flight to Kawartha Lakes/Lindsay Airpark (CNF4), with three passengers on board. I had flown into Lindsav a few times and was familiar with the route and the airport. I rented a Piper Warrior from my flight school, properly and meticulously pre-flighting the aircraft. The journey log book was reviewed, with no outstanding squawks to be concerned about. A quick stop into the Flight Service Station provided a face to face briefing outlining the weather picture. There was nothing in the briefing that caused concern. The walkaround, run-up and departure were normal. I had flown into Lindsay a few times and was familiar with the route and the airport.

The flight to Lindsay was routine, followed by lunch at the airport restaurant. With butter tarts in hand, we departed Lindsay back to Buttonville. The weather was VMC, with ceilings at 4,000 feet and 10 miles of visibility. The flight itinerary was standard: depart Lindsay, west-

"I WAS ABLE TO FLY THE AIRCRAFT WITH VISUAL REFERENCE TO THE GROUND THROUGH THE SIDE WINDOW."

ward to the north shore of Lake Scugog, west to Uxbridge, follow the curved highway south of Uxbridge to the next curve, head south to Claremont, pick up the rail road tracks, fly parallel to the tracks until the Markham water tower

is in sight, turn right 45° to the water tower and call Buttonville control tower inbound at the water tower. I had flown this track many times during my fight training. This was pre-GPS, pre-electronic flight bags and pre-moving maps.

Upon reaching south of Uxbridge the picture radically changed for the worse. The ceilings were the same and there was no rain. However, the airframe began to pick up ice. Not a little bit, a lot. The windscreen was totally coated with it. My first thoughts were aviate, navigate and communicate. I switched the defroster on and the fan to full speed. A very small hole emerged on the windscreen, about the size of a used paper towel tube. With full power, I was able to maintain altitude and airspeed. There was no ice on the side windows, providing me with a view of the ground. Looking forward was entirely different, which was like looking through a periscope;

limited forward visibility caused by the iced windscreen. My location was outside of radar coverage and the control tower was not equipped with the necessary hardware to receive Toronto ATC's radar signals.

"Ok," I told myself, "the aircraft is under control." I was southbound and I was losing the picture as to where I was. Again, pre-GPS, no moving map, no pocket-sized smartphones. I quickly tuned in Buttonville's ATIS and got the numbers for the field. A quick call to CYKZ tower went something like this:

[Me] "Buttonville tower, GXYZ with information Golf." [Tower] "GXYZ, Buttonville tower." [Me] "Buttonville Tower, GXYZ is a Piper Warrior, south of Claremont, with icing, inbound and landing. Requesting DF steer." I advised the Tower of the icing problem.

DF steering is something which was

practiced during my flight training, so I was experience with the procedure. The procedure in a DF steer is to communicate to the tower in a prescribed manner, allowing the tower's communication hardware to lock onto your transmission. This provides the hardware with a location of the aircraft. The tower provided me with a compass heading to steer. Using a repetitive process of transmissions, I made my way back to the airport.

I was able to fly the aircraft with visual reference to the ground through the side window. Every now and then, a little kick of rudder provided me with forward visibility through the side window. The tower provided me with heading changes and steered me onto the downwind for Runway 15. Upon turning final. I flew the aircraft in a sideslip. I had perfect visibility of the runway environment through the side window. As I neared the round-out, I released the rudder and held the flair. No hard landing, no bouncing! Exiting the runway at the high-speed taxiway, I called ground and got taxi clearance to the ramp.

Upon exiting the aircraft, I examined the ice. It was everywhere; leading edge, wings, tails, prop and the windscreen. It was now slowly melting.

LESSONS LEARNED:

- There is no such thing as a standard flight
- Icing can happen very quickly
- When icing happens, do something different. Change altitude or turn around.
- · Defrosters don't work well
- Do not panic. Think, but think quickly
- Don't cause your passengers to panic 🕯



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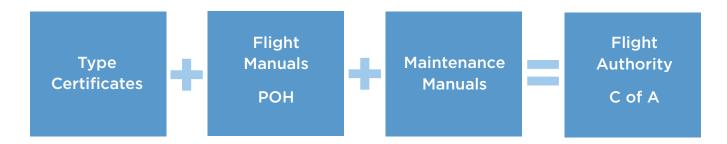






ROLE AND RESPONSIBILITIES OF THE AIRCRAFT OWNER

A SUMMARY OF REQUIREMENTS



his article is an abbreviated version of a lengthier paper by the same title available on the COPA website. That paper aims to discuss the role and responsibilities of private aircraft owners in General Aviation. It would appear that not all aircraft owners understand their role and responsibilities with respect to aircraft ownership. Aircraft maintenance is an area where this appears to be particularly evident. Maintenance constitutes an important aspect of aircraft ownership. An aircraft owner's role and responsibilities also constitute another important aspect of this relationship. Misunderstanding these aspects and their implications typically leads to uncomfortable situations that usually manifest themselves when the AME presents the owner with the invoice for the aircraft's annual inspection. Yet the owner is fully responsible for the maintenance of his aircraft: what, how often, how extensive, etc. The AME is responsible for the quality of the work done on the aircraft.

MAINTENANCE AND **AIRWORTHINESS**

Aircraft maintenance and the airworthiness of the aircraft are very closely related. In fact, the primary purpose of the aircraft maintenance, carried out in accordance with the Maintenance Manual defined by the aircraft manufacturer, is to ensured that the airworthiness

of the aircraft is maintained such that the condition of the aircraft is always in accordance with its Type Design. In accordance with CAR 101, airworthiness means in a fit and safe state for flight and in conformity with its Type Design. The aircraft's Flight Authority allows the aircraft to fly legally. This Flight Authority can exist under different forms, primarily as a Certificate of Airworthiness (C of A), or as a Special Certificate of Airworthiness (SC of A). Due to space constraints, this article will focus on the C of A. The reader is invited to visit COPA's website for further reading on the topic.

CERTIFICATE OF AIRWORTHINESS (C OF A)

The following diagram illustrates how Maintenance and Airworthiness relate to each other and what this means for the aircraft owner.

A certified aircraft is built to an approved design, otherwise known as an Approved Type Design. Eventually, after extensive and expensive developmental and certification flighttesting, this aircraft is certified and receives its Type Certificate. Aircraft manufactured in accordance with that Type Certificate are issued a Flight Authority, also known as a Certificate of Airworthiness, or C of A. Be aware though that the owner of the aircraft is responsible to ensure that the validity of the C of A is maintained, and

that there are circumstances where the C of A might lose its validity. And it is illegal to fly a certified aircraft without a valid C of A.

In order to facilitate the task of ensuring the continued validity of the C of A, the manufacturer provides a flight manual commonly known as the Aircraft Flight Manual (AFM) or the Pilot Operating Handbook (POH). These manuals guide the pilot in the operation of the aircraft and intend to ensure that the pilot always operates the aircraft within the limits of its design, or within the Flight Envelope. As the pilot operates the aircraft, within its flight envelope, wear and tear appear, degrading the condition and overall performance and reliability of the aircraft to the extent where the C of A could become invalid. Adequate maintenance of the aircraft is then required to maintain the validity of the C of A.

The manufacturer provides a Maintenance Manual to this effect. Regular maintenance performed in accordance with the Maintenance Manual protects the aircraft condition and performance from degrading to an unacceptable level with respect to its Type Design. In the event of failure of some component, the aircraft must be repaired in accordance with the Maintenance Manual. The maintenance of a certified aircraft is the domain of qualified and licensed personnel known as the Aircraft Maintenance Engineer or AME.

In addition to the routine maintenance discussed above, we also have scheduled inspections. The annual is one of these scheduled inspections and we will limit our discussion to this one. The annual is actually far more than just an opportunity to give our favourite AME a nice cheque. No matter how many hours our aircraft has flown during the year, be it zero hours or a few dozens of hours, and even if no snag appeared or no maintenance or a lot of maintenance was required, the annual is still necessary.

Any maintenance carried out during the year addresses issues that require attention at the time. But numerous other items can and do degrade over time and they require attention. Any normal maintenance action might not typically address these issues. The manufacturer defines what the annual inspection must investigate and

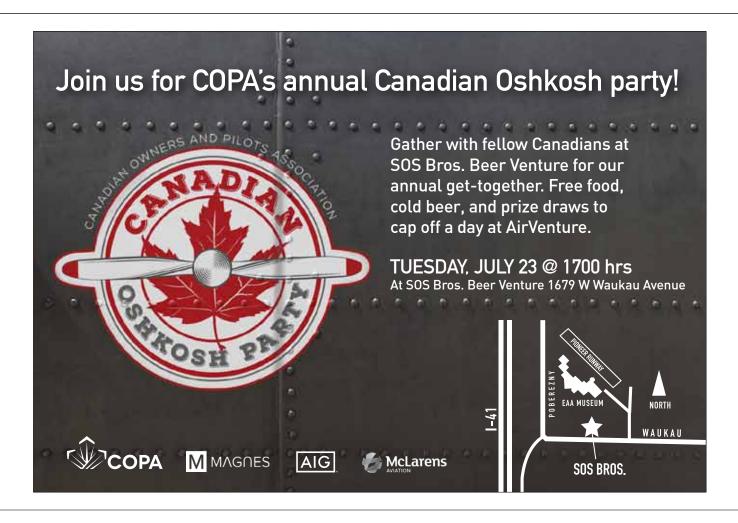
address as appropriate. The AME is responsible to carry-out the annual as per the Manufacturer's instructions and sign-off the annual as per the CARs. The owner is responsible to tell

"THE MANUFACTURER **DEFINES WHAT THE** ANNUAL INSPECTION MUST INVESTIGATE AND ADDRESS AS APPROPRIATE."

the AME what this owner wants the AME to do in excess of the annual.

Other than the normal use of the aircraft, a variety of events and circumstances can also invalidate the C of A. The first instance that comes to mind is when the pilot does not operate the aircraft in accordance with the Pilot Operating Handbook (POH) or Aircraft Flight Manual (AFM). When a pilot does not respect the POH, that pilot operates the aircraft outside of the limitations defined in the Type Design, in a region where the aircraft has not been tested and certificated, or in other words outside of the area known as the Flight Envelope.

Any event such as exceeding speed limits, or some extreme maneuvering, could have a negative impact on the aircraft itself, potentially requiring maintenance. The AME who will inspect this aircraft will rely on the Maintenance Manual, published by the manufacturer. Bottom line, for a certificated aircraft to fly legally, it must have a valid Flight Authority usually referred to as a Certificate of Airworthiness or C of A.



RÔLE ET RESPONSABILITÉS DU PROPRIÉTAIRE D'AÉRONEF

UN EXAMEN DES EXIGENCES

et article est une version abrégée d'un document détaillé disponible sur le site de COPA. Le document en question se veut une discussion du rôle et des responsabilités des propriétaires d'aéronefs privés dans l'aviation générale. Il semblerait que les propriétaires d'avions ne comprennent pas tous leur rôle et leurs responsabilités sur ces questions. La maintenance des appareils est un secteur où l'attitude des propriétaires devient particulièrement évidente. Pourtant, la maintenance constitue une composante importante dans l'ensemble des responsabilités d'un propriétaire. La méconnaissance de ces aspects et leurs implications entraîne généralement de fâcheux malentendus lorsque le technicien d'entretien présente sa facture, à la suite de l'inspection annuelle de l'appareil. Pourtant, le propriétaire reste le premier responsable de l'entretien de son appareil, en ce qui concerne notamment de la nature des travaux, du moment de leur mise en œuvre, de l'intensité de l'intervention etc . . . Le technicien, lui. est responsable de la qualité du travail effectué sur l'aéronef.

MAINTENANCE ET NAVIGABILITÉ

Il existe un lien très étroit entre la maintenance et la navigabilité d'un appareil. En fait, le but premier de la maintenance d'un aéronef, accomplie selon les termes du manuel d'entretien publié par le manufacturier, est de s'assurer que l'appareil conserve sa navigabilité conformément à la définition de type. En conformité avec le RAC 101, la navigabilité signifie que l'appareil peut voler en toute sécurité et en conformité avec sa définition de

type. L'autorité de vol est par ailleurs la disposition qui permet à un aéronef de voler légalement. Cette autorité de vol peut revêtir plusieurs formes, soit comme certificat de navigabilité ou comme certificat spécial de navigabilité. Seul l'aspect du certificat de navigabilité sera discuté ici. Le lecteur est invité à visiter le site de COPA pour plus d'information.

CERTIFICAT DE NAVIGABILITÉ

Le diagramme suivant illustre la relation entre la maintenance et la navigabilité et les implications qui s'en dégagent pour le propriétaire d'un aéronef.

Un aéronef certifié est d'abord construit selon une conception de type approuvée originale. Par la suite,

LE MANUFACTURIER DÉFINIT CE QUE L'INSPECTION ANNUELLE DOIT EXAMINER OU CONSIDÉRER COMME **APPROPRIÉ**

au terme d'essais en vols coûteux et approfondis, l'appareil est certifié et on délivre alors un certificat de type. Les appareils construits en conformité avec ce certificat reçoivent alors une autorisation de vol également connue sous l'appellation de « certificat de navigabilité ».

Il faut bien prendre note, ici, que le propriétaire de l'appareil demeure alors le premier responsable du maintien de la validité de ce certificat. Il existe par ailleurs des circonstances où le certificat pourrait devenir invalide. Il est illégal, faut-il le souligner, de faire

voler un avion certifié dont le certificat est toutefois périmé. Pour simplifier la tâche de maintien de la validité du certificat, le manufacturier fournit un manuel de vol aussi appelé manuel du pilote. Ce manuel guide le pilote dans les opérations de l'aéronef et permet ainsi de s'assurer que le pilote opère toujours l'avion en respectant les limites posées par le design, aussi connues comme l'enveloppe de vol d'un aéronef. Même lorsque piloté selon les règles, l'usure normale finit par dégrader la performance ou la fiabilité de l'appareil, au point où le certificat de navigabilité deviendrait invalide.

Un entretien approprié devient donc nécessaire pour être en mesure de continuer à voler légalement. Là encore, le manufacturier fournit la documentation appropriée, soit le « Manuel de maintenance ». La maintenance d'un aéronef certifié appartient au domaine d'un spécialiste qualifié, soit un Technicien d'entretien d'aéronef (TEA). Le manuel de maintenance contient également tous les renseignements nécessaires permettant à un individu qualifié d'effectuer les travaux de routine de l'entretien comme les réparations ponctuelles, l'inspection annuelle, les inspections épisodiques en fonction de l'utilisation de l'appareil, et d'autres interventions diverses.

Ces exigences plutôt strictes font en sorte qu'un appareil certifié entretenu régulièrement reste « comme neuf », comme à sa sortie d'usine, à toute fin pratique, et résiste victorieusement à l'usure du temps, ce qui est loin d'être le cas pour nos coûteux véhicules routiers!

En plus de l'entretien de routine dont il est question plus haut, il existe également des entretiens périodiques. L'inspection annuelle constitue d'ailleurs l'un de ces épisodes de maintenance

obligée et nous nous en tiendrons à cet exemple dans notre discussion. L'annuelle, comme on surnomme cette inspection particulière, est beaucoup plus qu'un simple prétexte de verser un beau gros chèque à notre TEA favori! Peu importe le nombre d'heures de vol effectuées par notre aéronef au cours de l'année, qu'on parle de zéro heure ou de quelques douzaines d'heures, et ce, même si aucun pépin n'a été signalé ni aucune réparation n'est devenue nécessaire à l'issu d'une inspection ponctuelle, l'inspection annuelle est toujours obligatoire.

Toute maintenance effectuée au cours de l'année concerne des situations surgies inopinément et requérant une intervention ponctuelle. Mais un bon nombre d'autres problèmes peuvent se manifester, ou surgissent effectivement, en raison de l'usure normale. Et les inspections obligées

pourraient facilement passer à côté de la solution. Le manufacturier définit ce que l'inspection annuelle doit examiner ou considérer comme approprié. La responsabilité du technicien consiste à effectuer la démarche telle que décrite dans les directives du fabricant de l'appareil pour ensuite apposer sa signature au bas d'un document spécifique décrit dans le RAC. Il appartient au propriétaire d'informer le technicien de la nécessité de toute vérification additionnelle au-delà des exigences officielles de l'inspection annuelle, si ce propriétaire désire que celles-ci soient accomplies.

Hormis l'utilisation normale de l'aéronef, divers événements peuvent entraîner l'invalidation du certificat de navigabilité. La première possibilité qui nous vient ici à l'esprit est l'utilisation anormale de l'appareil. en dehors des normes fixées par le

Manuel du pilote ou le manuel de vol de l'aéronef. Lorsqu'un pilote ne respecte pas les indications du manuel, il opère l'aéronef en dehors des normes admises pour ce type d'appareil, en se livrant à des manœuvres pour lesquelles l'avion n'a pas été vérifié ou certifié, ce qu'on désigne comme l'enveloppe de vol.

Excéder les limites de vitesse, ou effectuer des manœuvres extrêmes non approuvées, pourraient laisser leur marque sur l'aéronef nécessitant ainsi une visite à la maintenance. Le TEA chargé d'inspecter cet appareil s'appuiera alors sur les indications appropriées du Manuel de maintenance publié par le constructeur. L'argument ultime: pour qu'un avion certifié puisse voler légalement, il lui faut une autorité de vol valide habituellement connue sous l'appellation de certificat de navigabilité ou C of A. 🔝



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UPGRADING LEGACY AIRCRAFT

NOT AN INEXPENSIVE UNDERTAKING



n Canada there are roughly 65,000 licensed pilots and 36,000 aircraft, 28,000 of which were built before January, 2000. Many pilot owners are wondering how to upgrade their aircraft without investing a disproportionate amount of money versus its value. Upgrades fall into four categories: safety/reliability; performance; compliance and whiz-bang gadgetry - or airframe, power plant and avionics. John Leggat, president of Leggat Aviation, told COPA Flight, "Aircraft owners are investing into their older aircraft not only for safety and avionics upgrades, but also driven by a sense of pride in ownership."

While little has changed from a Lycoming or Continental engine perspective, a number of companies have developed technologies designed to improve the manner in which engines perform. SureFly and Electroair have designed solid state

magnetos designed to improve engine performance and fuel consumption. A standard mechanical magneto is usually overhauled at 500 hours, while Surefly's magneto has no TBO or mandatory replacement time. Jason Hutchison of SureFly said that their design and manufacturing capabilities allow their magnetos to attain 3.000 hours. However, with the average engine being overhauled at 2,000 hours, it was natural to set the TBO in the middle. Economically, a new Slick Champion magneto costs per hour (including tax and installation) while an overhauled magneto is \$3.33 per hour and SureFly's is \$1.17. (See my February, 2018 Tech Column in COPA Flight for more information.)

Avionics manufacturers like Insight Avionics, JPI and EI manufacture graphic engine monitors (GEMs) which are in fact purpose-built computers. The GEMs are equipped with a microprocessor, data storage, an

LCD screen and electrical interface probes. Information is displayed and stored on the 2 1/4-inch or 3-inch instruments, with the ability to upload to cloud-based analytical providers such as Savvy Aviator. With the engine data captured during every flight, cloud-based analytics systems can provide meaningful insights into your engine providing proactive maintenance. The Commander which I fly came out of the factory with an Insight Gem 602, which had no data storage capabilities. Upgrading to their Gem G3 was a simple plug-andplay exercise. The existing wiring harness connecting the EGT and CHT probes plugged directly into the G3. A second RS-232 connector is used to connect optional probes such as RPM, MAP, Oil Temp, Oil Pressure, Fuel Flow, Vibration and OAT sensors. The G3 is STC'd by Transport Canada and the FAA as a primary instrument, replacing or backing up six legacy

analog engine instruments, providing an additional safety benefit.

LoPresti Aviation (now part of Whelen Aerospace Technologies) has been manufacturing aircraft components such as fairings, wing root seals, hubcaps and other airframe mods since 1991, all designed to improve aircraft performance. A rule of thumb is \$1,000 USD for every one knot of increased speed. Sales manager Bruce Cady reports that the return on investment (ROI) is comprised of 50 percent fuel savings and 50 percent increased aircraft value at time of sale of the aircraft. Depending upon how long you keep your aircraft, a \$3,500 upgrade would break even in one and a half years and, over a 10-year term, create a savings of \$3,750 in fuel (excluding price increases over time).

In some cases, the transition from steam gauges to all-glass panels can cost more than the value of the aircraft. Garmin and AeroVonics manufactures sold state glass products designed to replace the vacuum driven attitude indicator and directional gyro (and HSI). Priced from \$1,595 to \$3,075 USD (plus installation and tax), these units deliver glass capabilities on a reasonable budget while displaying more information onto the instrument. Replacing two of the six components of the six-pack consolidates information and allows

other information such as altitude. airspeed, vertical speed and turn and bank to be displayed as well. Some year-2000 instruments have internal battery backup, allowing the vacuum system to be removed from the aircraft. The trade-off is replacing the vacuum pump filters at annual and a 500-hour limit on the vacuum pump versus managing the internal batteries on the new instruments. For pilots concerned about electri-

IN SOME CASES. THE TRANSITION FROM STEAM GAUGES TO ALL-GLASS PANELS CAN COST MORE THAN THE VALUE OF THE AIRCRAFT.

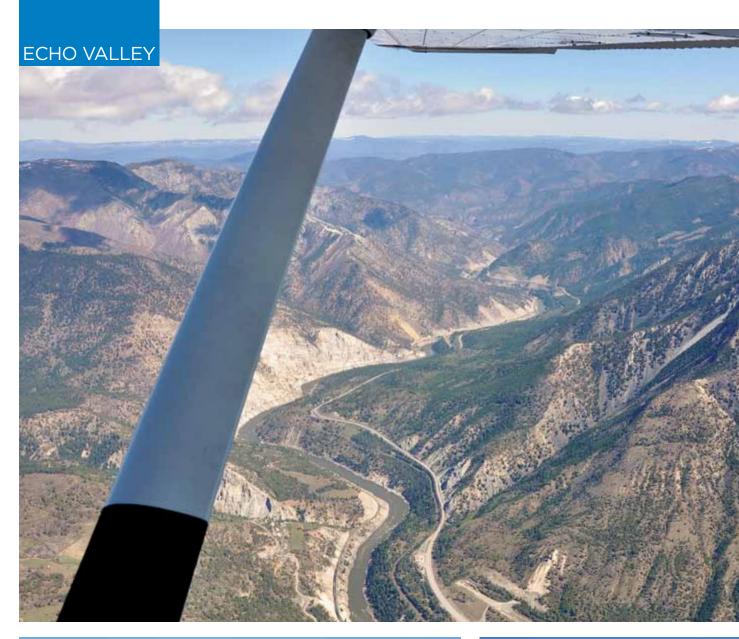
cal redundancy, Freedom Aviation manufactures a certified standby secondary alternator system with automatic failover, making a failure of the primary alternator a non-event.

The past few years have seen a trend of avionics manufacturers certifying their experimental products, resulting in reasonably priced digital technologies. TruTrak Flight Systems was founded in

1999 and by March 2000 produced their first prototypes of the DFC 250 autopilot and digital servo. Their PMA Vizion is a certified twoaxis autopilot that includes features such as bank angle select, track select, GPS navigation, GPSS roll steering commands, vertical speed select and altitude hold. Also included are select and pre-select, control wheel steering, emergency level and bank angle protection modes. The product includes the avionics, wiring harness, roll and pitch servos, installation kit and STC, and retails for \$5,100 USD (plus shipping and installation). Installation time varies from 20 to 30 hours, depending on the experience of the installation shop. TruTrak has an STC for Cessnas 172/175/177/180/182/185, Pipers PA-28/32 and is working on STCs for Mooney, Bonanza and other Cessna/Piper types. The certified version is \$3,000 USD more than their uncertified product, which has basic servos with less torque than the certified version. Since 2000, TruTrak has sold more than 10,000 autopilots and continues to innovate by bringing new products to market.

Most upgrades, at the time of the sale of the aircraft, might hold 40 percent or more of their value. The real value of investing into upgrades is safety and the pride it brings you, which are priceless.

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FLYING THE FRASER CANYON TO **ECHO** VALLEY RANCH

BY JANINE CROSS



"No human should ever venture [here]. for surely we have encountered the gates of hell." — Simon Fraser

Those were the words of explorer Simon Fraser in 1808 as he navigated through the churning gorges of the longest river in British Columbia — the Fraser Canyon section of the mighty Fraser River. A popular VFR route today, the spectacular river canyon is bordered by the towering Coast Mountains to the west and the jagged Cascade Range to the east. On the canyon's sheer walls, exposures of lava flows bespeak volcanic activity from millions of years ago. Below, the muddy green Fraser River snakes between the barren cliffs. Even from the air, the power of the river is apparent in the white froth of its rapids, especially at Hell's Gate, where it thunders through a 35metre-wide chasm at 15 million litres per second.

ECHO VALLEY







Above: The ranch owner's two pet pigs out for their daily stroll. Opposite page: Not only a ranch, the resort is a Thai-inspired spa as well, with luxurious accommodation.

WHO WAS **SIMON FRASER?**

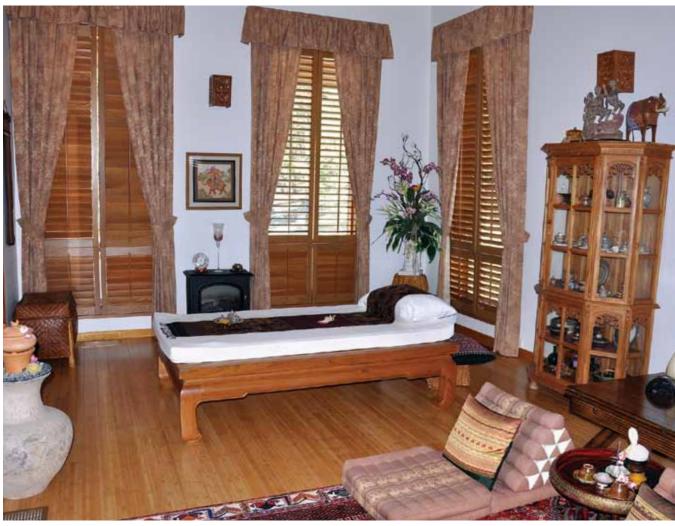
Of Scottish ancestry, Fraser was born in 1776 in the Province of New York, then part of British America. At the age of 14, Fraser continued his schooling in Montreal, where he had family connections. They introduced Fraser to the fur trade shortly after, and he joined the North West Company.

In 1805, Fraser was made responsible for the development of trading activities west of the Rockies, building on the work of colleague Alexander Mackenzie, who had found a route to the Pacific in the north-central part of what was to become British Columbia. Fraser found the much more accessible and navigable river that today bears his name.

Other than PIREPS, while flying through the Fraser Canyon there are no weather reporting systems save for the automatic one at Hope to the south (as accurate as automatics get) and Lytton to the north, (woefully and inevitably inaccurate). Turbulence, lowering cloud and poor visibility aren't uncommon flying challenges here. There are no airstrips north of Hope until Lillooet. The airstrip at Lytton has long been closed, and although it was used in the past regardless of the closure, buildings on the runway now render it completely unusable.

For its spectacular beauty, the Fraser Canyon is one of our favourite flying routes to and from the Interior of B.C. This time, we were flying it to the Echo Valley Ranch & Spa (CBJ4). Tucked away in the pine forests of the Cariboo Mountains, the horse ranch boasts its own small airstrip and is surrounded by thousands of acres of pristine mountains, all of it overlooked by a beautiful glacier on the Marble Range peaks. We phoned ahead of time to ensure that the airstrip was clear of snow and ice (it was, though the last spring snowfall had only just melted a few days before) and were warned about the flock of wild turkeys that frequent the runway.

En route, we landed in Lillooet (CYLI) for fuel, a pretty airport flanked by arid cliffs and snow-capped peaks. Because the ridge to the north of the

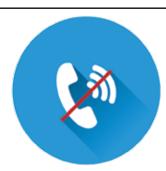


airport exceeds the climb gradient of most aircraft, after takeoff we executed a circling climb over the community of Lillooet and the stunning turquoise rivers draining from nearby Seton Lake into the Fraser River, From Lillooet, it was a 20-minute hop to Echo Valley.

Not just a horse ranch, Echo Valley is a gorgeous, extravagant resort. On final approach for Runway 07, it's hard not to gape at the impressive architecture of the resort's Royal Baan Thai building. Designed by the architect to Thailand's royal family, the spa is the only one of its kind in North America. After we shut down the plane and greeted the ranch's two 700-pound pet pigs who were being taken for their daily stroll, we toured the luxurious interior of the Baan Thai. It's as

striking inside with its teak carvings and Thai silks as the exterior. Instead of trying a Din Sow Pong mud wrap, we took fly-fishing lessons at the stocked lakes on site, ate an incredible dinner prepared by the executive chef, retired to our private cabin across from the ranch's rolling pastures, and the next day hiked one of the many trails that meander through the ranch's pine forests. If Simon Fraser thought the Fraser Canyon was the gates of hell, he would surely liken Echo Valley to heaven.

We took our leave just after ranch owner Norm Dove finished taking his Cessna 206 for a morning flight. Like Norm, we took off from Runway 25, despite a mild tailwind; Runway 07 is pretty tricky, due to a steep incline ending in trees and rising terrain.



OF NOTE TO VISITING PILOTS

There is no cellular service here the nearest tower is 30 miles away on the other side of a mountain, and a landline for closing your flight plan is available only in the main lodge, where Internet service via WiFi is available. Nearest available fuel is at Lillooet airport.

REGIONS ONTARIO

RETURN

TWO PILOTS, SEPARATED BY TWO GENERATIONS, SHARE THEIR LOVE OF FLYING BY ANNA RUSINOWSKI - @PILOTANNIE



Four years ago I tucked my pilot's licence away in a drawer and began to focus on other career prospects. I had completed my PPL six months earlier and decided to put my commercial aspirations on hold after my father was diagnosed with ALS. I knew the career trajectory I was on would take me far from home and I couldn't bear the thought of it; I was feeling deflated after giving up on my biggest dream. That is, until I met Gerald Tupper.

Mr. Tupper was looking for a safety pilot to fly with him in his 1958 Piper Tri-Pacer. His grandson, an acquain-

tance of mine, put the two of us in touch and a few weeks later we met at Courtland airfield. After each takeoff my heart felt lighter and the burdens of the world below us began to fade away. Flying with Mr. Tupper breathed new life into me. I had never seen someone's face light up in an airplane like his did. What I knew about flying at the time was that it was serious, and that I had to focus. I would repeat my training in my head as I flew along, "glide speed, pick a field, cross check," etc. What I had missed in training was that there was more to it than procedure. It could also be therapeutic, and damn good fun.

Over time, Mr. Tupper — Gerald - and I became the best of friends, bombing in and out of tiny grass strips around the province, filling our bellies with the best hundred-dollar eggs and burgers we could find. He shared with me stories about what it was like being a pilot in the golden olden days, his time flying Tiger Moths, Harvards and more. He also passed on the knowledge he had acquired over his many years of flying and helped me transition from a student pilot to a confident aviatrix.

I didn't have a grandfather growing up but I like to think he would have been a lot like Gerald. Supportive,





and so proud, always beaming to his friends about my squeaky-clean landings. Gerald's favourite poem is titled 'Return', by Patrick J. Phillips. He often recites it when we are flying together. These are my favourite lines:

But here the sky becomes my friend, Inside my heart begins to mend, A sagging spirit spring to life, Far above the vexing strife.

I can't thank him enough for the relief he offered me at a difficult time in my life. I guess in a sense we gave each other wings.



Gerald Tupper is a lifelong member of COPA and an avid reader of this magazine so I would like to address this last part to him.

Gerald, I bet you never thought there would be an article about you in COPA magazine. Well, life is full of surprises and our friendship has been one of the greatest ones yet. When we saw each other last you told me that if you had people like me dropping in to visit, you reckon you could live forever. I'll pick you up next week for burgers and our next adventure.

Love you very much. Your girl, Annie 💮



REGIONS B.C. + YUKON

YOUNG MUSICIAN AWARDED FLYING SCHOLARSHIP

ONLY CANADIAN RECIPIENT AMONG THREE WINNERS

FOR FLYING MUSICIANS, GOING SOLO HAS TWO MEANINGS

The U.S.-based Flying Musicians Association (FMA) has, for the second time in its 10-year history, awarded a scholarship to a young Canadian. Of this year's three award recipients, Navya Pottumutu of Victoria, B.C. was the sole Canadian, and joins two other award recipients from Texas and Indiana.

"Every nominee came to us highly recommended by their music director and peers. All nominees are awarded student membership in the greatest pilot/musician network in the world, and each of us is ready to assist them in their future musical and aeronautical endeavors," said John Zapp, cofounder and president of the FMA.

Pottumutu immigrated from India with her family in 2012 and has successfully completed Grade 11 at Belmont High School in Langford, a suburb of Victoria. She has been playing the alto saxophone since Grade 6, as well as singing in a choir. Pottumutu, currently a licensed glider pilot, is a member of the Air Cadets and has aspirations to become a fighter pilot for the RCAF and eventually an astronaut.

The Solo Scholarship, which was awarded to Pottumutu, covers the cost of flight training through to the student-pilot's first solo, as well as assists with the purchase of training materials.

"I am very grateful for all the opportunities I has received since moving to Canada," says Pottumutu.

The FMA created the scholarship program in 2015. Music directors are invited to nominate a junior or senior high school student who excels at school and has ambition to become a pilot. Among the sponsors for the scholarships are Bose Aviation, Sporty's Pilot Shop, MYGOFLIGHT, Gleim Aviation, Hartzell Propeller, Daher TBM, Honda, ForeFlight, Sensenich Propellers, the Auen O'Shea Family Fund and FMA Denny Scalise Memorial Fund. 🕯



Navya Pottumutu passions are music and aviation



REGIONS PRAIRIES

WHO ARE YOU GOING TO CALL?

ST. ANDREWS AIRPORT CHALLENGES OTHERS TO DONATE





Manitoba's St. Andrew's airport (CYAV), a community-owned facility, has once again donated \$1,000 to COPA's Freedom To Fly fund. The cheque was handed over to Bernard Gervais, COPA's president and CEO during the Manitoba Aviation Council's annual conference in Winnipeg on April 10.

"When your local airport is in trouble because someone wants to close the aerodrome, plans to install wind turbines too close to the airport or thinks airplanes should not be flying at all (except when they fly away on holidays), who are you going to call for expert advice?" asked Jerry Roehr, chair of St. Andrews Airport Inc., the not-for-profit entity that operates the airport. The airport is owned by the Rural Municipality of St. Andrews and is located just north of Winnipeg.

According to Roehr, COPA's Freedom To Fly fund was publicly recognized at the conference.

"COPA has the expertise to be able to provide special assistance, and knowledge previously gained, to equip airports when dealing with the general public, regulators and win court battles, be they environmental hearings or the Supreme Court of Canada," said Roehr.

Roehr has put out a challenge to all aerodromes to provide a donation, large or small, to the fund. "It costs well over \$500,000 to take a court action all the way to the Supreme Court of Canada, and a \$1 million fund has to be maintained as a 'war chest' just in case", he said.

St. Andrews Airport chair Jerry Roehr presents \$1,000 donation to COPA's Bernard Gervais.

REGIONS QUEBEC

C4K IN SAINT-JEAN-SUR-RICHELIEU

COPA FLIGHT 160 EVENT A RUNAWAY SUCCESS

TEXT AND PHOTOS BY JEAN-PIERRE BONIN





The second COPA for Kids event held in Saint-Jean-sur-Richelieu (CYJN) was a total success as COPA Flight 160 took some 250 young girls and boys for a flight in a light aircraft. There were 150 people on site manning security, registration, flight line and providing entertainment at 15 information booths.

Kids and accompanying parents were able to meet with representatives from the aviation industry such as Nav Canada, enquire about aviation training for pursuits such as parachute jumping, drone piloting, ultralight and general aircraft pilot schools, as well as diploma and degree-granting institutions such as École nationale d'aérotechnique (ÉNA) and École des métiers de l'aérospatial de Montréal (ÉMAM).

COPA president Bernard Gervais was on site with two Québec directors and had some interesting talks with visitors and participants of all trades.

So what's in line for the third edition? We will see but let's bet it will be even better as they are already foreseeing upgrades and fine tuning activities to make this event a complete aviation experience including, of course, an introduction to flying in a light aircraft. 🕯







JEUNES EN VOL À SAINT-JEAN-SUR-RICHELIEU UN FRANC SUCCÈS LE CLUB COPA 160

La deuxième édition Jeunes en vol à Saint-Jean-sur-Richelieu (CYJN) a permis à quelque 250 jeunes filles et garçons de voler dans un avion de l'aviation générale (AG). 150 personnes se trouvaient sur place pour assurer la sécurité, l'enregistrement, la sécurité sur la ligne de vol et l'animation de 15 kiosques d'information.

Les enfants et les parents qui les accompagnaient pouvaient ainsi rencontrer des représentants du domaine de l'aviation, tels que Nav Canada, des écoles de formation en aéronautique allant du saut en parachute ou du pilotage de drones, au pilotage d'ultra-léger jusqu'aux écoles de pilotage d'avions, aux établissements d'enseignement plus formel telle l'École nationale d'aérotechnique (ÉNA) et l'École des métiers de l'aérospatial de Montréal (ÉMAM) et plus.

Le président de la COPA, Bernard Gervais, était sur place avec les deux directeurs auébécois et ils ont eu des entretiens intéressants avec les visiteurs et les participants de tous les domaines.

Que nous réserve la troisième édition? Nous verrons mais parions que ce sera encore mieux, car ils prévoient déjà des améliorations et tout en raffinant certaines activités pour faire de cet événement une expérience aéronautique complète, comprenant bien sûr l'initiation au vol dans un avion de l'AG. 🎡











REGIONS ATLANTIC + MARITIMES

LASER GROUNDS MILITARY FLIGHT AT GREENWOOD

RCAF HERCULES NEVER LEFT THE GROUND -PILOT INCAPACITATED



The pilot of an RCAF CC-130 Hercules aircraft had to abort his flight after being struck in the eyes by a laser beam. The incident occurred at 20:58 on May 14, with witnesses reporting that the beam appeared to be coming from somewhere south of the base. The aircraft, which was on a taxiway at the time, returned to the ramp. The RCMP were called to investigate, but were unable to find the perpetrator.

"Lasers present a serious risk to aviation. They can impair the pilots' vision, therefore putting at risk the lives of all occupants and people on the ground," Lt.-Col. Bruno Baker, deputy commander of 14 Wing Greenwood, said in a joint news release issued by the RCMP and the RCAF.

Laser attacks against pilots in aircraft continue to occur, almost on a daily basis, across the country. They often lead to temporary vison impairment, grounding the pilots until their vision has recovered. Permanent damage remains a possibility.

The Greenwood statement went on to point out some of the repercussions of grounded military flights. "Incidents involving lasers pointed

A CC-130 Hercules, similar to this one, had its mission cancelled after a laser attack

at airplanes cause the flight to be cancelled automatically for investigation and safety of the crews. In Greenwood, where search and rescue flights operate routinely, this could also affect the safety of those in need of assistance."

While most of the laser attacks against pilots occur when flying airliners, there continue to be attacks against pilots of light aircraft.





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AERONAUTICAL STUDIES AT RED RIVER COLLEGE

STUDENTS GAIN HANDS-ON EXPERIENCE ON A ZENAIR

BY MATHILDE CHAZELLE







△ College students gain real-world experience at Red River College.

Red River College is located in Winnipeg, Manitoba and is the province's largest institute of applied learning and research, with over 200 degree, diploma and certificate programs and more than 30,000 students enrolled annually.

Two of the college's programs are the Indigenous Education and ACCESS Programs whose missions are to offer students an introduction to the trades. The five-month programs accept 20 students (with two intakes per year) and give them an opportunity to up-

grade math, science, communication skills, document reading and study skills.

To raise awareness of aviation and aerospace among its students, the programs this year adopted a handson approach which helped students improve all targeted skill sets. During classes they assembled real aircraft components (control surfaces) from pre-manufactured parts using technical drawings, assembly manuals and appropriate tools.

Red River College ordered four rudder kits to have students work in groups of five on the project.

"This worked out very well," said James Slade, the program's lead instructor, "Students then organized themselves into instruction readers, drillers, filers, clampers and riveters. Each student then had the opportunity to try each tool and learn each skill."

The Canadian-made parts were supplied by Zenair Ltd. of Midland, Ontario; the parts were assembled into complete rudders for the company's STOL CH 750, a well-known all-metal kit aircraft.

"Our survey for the sheet-metal work asked students what transferable skills they had learned," said Slade. "Here are their answers:

- Teamwork
- 2 Document reading
- 3. Interpreting drawings
- 4. Measurement
- 5. Use of hand tools, such as drill, clecos and cleco pliers, rivet puller

"I actually thought they would have listed tools first but, that was not the case".

"Light aircraft design, construction/ assembly and flying can offer many varied learning opportunities," said Zenair's Michael Heintz. "The diverse activities stimulate the imagination, improve technical skills and knowledge in many areas and, yes, they even give individuals the opportunity to work on their social skills and teamwork."

Programs graduates can then further their studies in aircraft and helicopter maintenance, becoming Aircraft Maintenance Engineers (AMEs) through the college's Transport Canada-approved aeronautical courses and programs.

Red River College is not the first to offer this type of training in Canada, the U.S. or abroad. Just three in the last few years include students from Burt Township School who assembled an entire STOL CH 701 Aircraft, Central Kitsap School District (also built a CH 701 with Junior High Students under the supervision of EAA Mentors) and the Oak Valley Charter Schools whose students are also assembled a Zenair kit as a school project.

For more information on Red River College and its programs, visit www. rrc.ca; for more information on Zenair aircraft kits or how to start your own school project, visit www.zenair.com.

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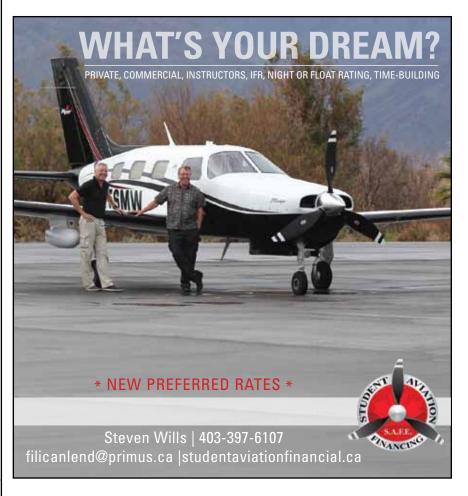
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Waterloo Wellington Flight Centre professional programs are approved as vocational programs under the Private Career Colleges Act, 2005 (PC# 105919)



UN PROGRAMME AÉRONAUTIQUE POUR LES JEUNES

LES ÉTUDIANTS ACQUIÈRENT UNE EXPÉRIENCE PRATIQUE AVEC UN ZENAIR

Le Red River College, situé à Winnipeg, au Manitoba, est l'institut le plus important d'apprentissage et de recherche appliquée de la province, avec plus de 200 programmes qui mènent à un diplôme ou à un certificat et plus de 30 000 étudiants inscrits annuellement.

Deux des programmes du collège sont les programmes d'éducation autochtone et ACCESS dont la mission est d'offrir aux étudiants une introduction aux métiers. Les programmes de cinq mois acceptent 20 étudiants (avec deux admissions par année) et leur donnent l'occasion d'améliorer leurs compétences en mathématiques, en sciences, en communication et en lecture de documents.

Afin de sensibiliser leurs étudiants à l'aviation et à l'aérospatiale, les programmes de cette année ont adopté une approche pratique qui a aidé les étudiants à améliorer toutes les compétences ciblées. Pendant les cours, ils ont assemblé de vrais composants d'avion (gouvernes) à partir de pièces préfabriquées à l'aide de dessins techniques, de manuels d'assemblage et d'outils appropriés.

Le Collège Red River a commandé quatre kits de gouvernail pour que les élèves travaillent par groupes de 5 sur le projet.

« Cela a très bien fonctionné », a déclaré James Slade, l'instructeur principal du programme. « Les élèves se sont ensuite organisés en lecteurs d'instructions, foreurs, limeurs, pinceurs et riveteurs. Chaque élève a ensuite eu l'occasion d'essayer chaque outil et d'apprendre chaque compétence. »

Les pièces, fabriquées au Canada, ont été fournies par Zenair de Midland en Ontario ; les pièces ont été assemblées en gouvernails complets de STOL CH 750, un avion en kit tout métal bien connu.

« Notre enquête sur le travail de la tôle demandait aux élèves plusieurs compétences qu'ils ont acquises », a déclaré Slade. « Voici leurs réponses :

Travail d'équipe

Lecture de documents

Interpréter les dessins

Mesure

Utilisation d'outils à main : perceuse, clecos et pinces à cleco, arracheuse de rivets.

« En fait, je pensais qu'ils auraient d'abord énuméré les outils, mais ce n'était pas le cas ».

« La conception, la construction/assemblage et le pilotage d'avions légers peuvent offrir de nombreuses possibilités d'apprentissage variées », a ajouté Michael Heintz de Zenair. « Les diverses activités stimulent l'imagination, améliorent les compétences techniques et les connaissances dans de nombreux domaines, et oui, elles donnent même aux individus l'occasion de travailler sur leurs compétences sociales et le travail d'équipe. »

Les diplômés des programmes peuvent ensuite poursuivre leurs études en entretien d'aéronefs et d'hélicoptères en devenant Technicien d'entretien d'aéronefs (TEA) dans le cadre des cours et des programmes aéronautiques approuvés par Transports Canada du collège.

Le Collège Red River n'est pas le premier à offrir ce type de formation au Canada, aux États-Unis ou à l'étranger. Au cours des dernières années, il n'y en a eu que trois, dont des élèves de l'école

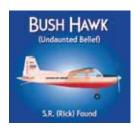


LE COLLÈGE ... A COMMANDÉ QUATRE KITS DE GOUVERNAIL

du canton de Burt qui ont assemblé un avion STOL CH 701, du district scolaire Central Kitsap (qui a aussi construit un CH 701 avec des élèves du premier cycle du secondaire sous la supervision de mentors de l'EAA) et des écoles à Charte de la vallée d'Oak, qui ont aussi monté un kit Zenair pour les élèves du projet scolaire.

Pour plus d'informations sur le Red River College et ses programmes, visitez www.rrc.ca; pour plus d'informations sur les kits d'avions Zenair ou pour savoir comment démarrer votre propre projet d'école, visitez www.zenair.com. 🐼





BUSH HAWK (UNDAUNTED BELIEF)

The famed FBA-2 known by bush pilots simply as the "Found" outlasted all of its competitors. Meet Bud Found, aptly cited for his undaunted belief in the aircraft born of his skill and imagination that would ultimately be named the Bush Hawk and bring pride to Canadians.

By S.R. (Rick) Found Price: \$34.00 (incl. shipping)



THE IMMORTAL BEAVER

Developed soon after World War II, the de Havilland Beaver has become one of the most successful and longlived designs in aviation history. The Beaver was adopted worldwide, and in certain jobs it has yet to be surpassed. This colourful retelling of the Beaver saga also captures the unforgettable characters behind the airplane.

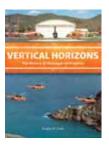
By Sean Rossiter Price: \$34.95 (incl. shipping)



HANGAR FLYING

Pilots will always have a story to tell and here on these pages from the flight deck of airliners, bush planes — whatever flies - Hangar Flying is still part of the game. Six professionals tell stories from their log books and some outstanding aviation artists illustrate with acrylic paintings and pen and ink sketches.

Author: Jack Schofield Price: \$44.00 (incl. shipping)



VERTICAL HORIZONS

Okanagan Helicopters achieved world renown from humble beginnings in British Columbia's interior by

developing a mountain flying technique that is still a fundamental of helicopter flight training. Featuring first-hand accounts, extensive research and a multitude of photographs, Vertical Horizons is the first-ever history of this company.

Author: Doug. Grant Publisher Harbour Publishing Ltd. Price: \$55.95 (incl. shipping)

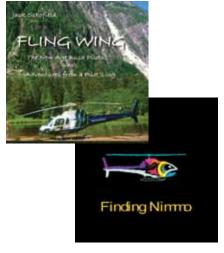


JOHNNY

Air Commodore John Fauguier, 'Johnny' was Canada's most decorated airman. He did it all during his flying career as a bush pilot, flying instruc-

tor, bomber pilot, squadron commander, pathfinder, master bomber, base commander, and finally leading the legendary 'Dambusters' squadron as they dropped 22,400 lb Grand Slam bombs on Nazi targets. Signed by the author.

By Dave Birrell Price: \$29.95 (incl. shipping)



FLING WING AND FINDING NIMMO

FLING WING and FINDING NIMMO are two different stories about the samething—Fishing the British Columbia Coast—Heli Fishing that is, an invention of Peter Baratt of West Coast Helicopters and Craig Murray of Nimmo Bay Resort. A fabulous 300 page book on Nimmo Bay Resort and 150 pages of Fling Wing or the horizontally challenged.

Finding Nimmo: \$39.00 | Fling Wing: Price: \$24.95 | Buy both for \$65.00

(incl. shipping)

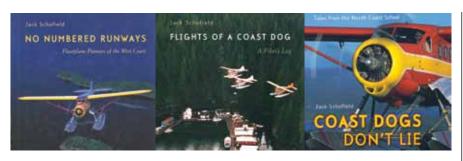


OTTER AND TWIN OTTER

The compelling tale and a beautifully illustrated homage to two of the world's greatest aircrafts and of the engineers and pilots who made the Otter and Twin Otter aviation legends.

By Sean Rossiter

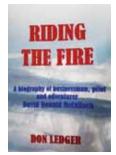
Price: \$\$19.95 (incl. shipping)



THE COAST DOG SERIES

Flights of a Coast Dog-a BC Book Award and West Coast bestseller along with its sequel, Coast Dogs Don't Lie, and some significant B.C. aviation histories in a revised edition of No Numbered Runways, make up the trio of great flying yarns with a BC Coastal flavour.

Author: Jack Schofield | Publisher: Coast Dog Press Price for the set of 3—\$93.00 (incl. shipping)

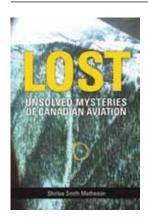


RIDING THE FIRE

Riding The Fire is the biography of businessman and pilot, David Mc-Culloch, whose adventures around the world

are covered in this book. He stacked up over 180 countries in his travels. All of his trials and tribulations are related in this biography that reads more like a novel; a rags to riches saga.

By Don Ledger Price \$28.95 (includes shipping)



LOST: UNSOLVED MYSTERIES

Lost: Unsolved Mysteries of Canadian Aviation is even more compelling than the original book Lost: True Stories of Canadian Aviation Tragedies published in 2005 and now out of print. One of the themes that runs through this book is the enigma of aircraft that disappear, sometimes within miles of busy airports and crowded cities, and cannot be found despite desperate and prolonged searches.

By Shirlee Smith Matheson Price: \$26.95 (incl. shipping)

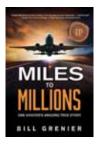


BEST SEAT IN THE **HOUSE**

Jim Griffith and Trans Canada Airlines were

both born at about the same time and grew together over the decades. Griffith experienced the history of Canada's national airline and this book tells the story of both.

By Jim Griffith | \$34.00 (incl. shipping)



MILES TO **MILLIONS**

The pull of aviation can be strong but nothing illustrates that better than Bill Grenier's remarkable career. The senior

captain for Air Canada showed up for every flight even as he built a real estate empire worth a billion dollars. Grenier's ready wit and the many twists and turns of a penniless 19-year-old commercial pilot's career built on perseverance and the willingness to take risks takes readers on an unusual journey, even for the the aviation industry.

By Bill Grenier Price: \$35.95 (incl. shipping)



FARM **BOY TO** FLY BOY

Fascinating and insightful, this book will appeal to those who are fascinated by the military and flying as

well as those who are simply seeking a first-person account of what life was really like for the men and women who served in the RCAF throughout one of the most pivotal periods of twentiethcentury history.

By: Col [Ret] G. Brennand Price: \$24.75 (includes shipping)



AMAZING FLIGHTS AND **FLYERS**

A collection of true aviation stories that

graphically demonstrate the almost super-human endurance and tenacity of aviators in life-or-death situations — including mid-winter medical evacuation flights; CASARA members searching for lost people and planes; and the determination of aviation pioneers.

All are remarkable stories, and most are little-known.

By Shirlee Smith Matheson Price: \$24.95 (incl. shipping)

PHOTOS: GUSTAVO CORUJO

ON THE HORIZON



EVENTS ON THE HORIZON

JULY 6 (7TH RAIN DATE)

Grimsby, ON (CNZ8) EAA Chapter 65 Fly-in and BBQ Celebrating their 60th birthday, 10:00 - 14:00. Please RSVP to info@eaa65. org and mention how many plan to attend.

JULY 6

Oliver, BC (CAU3) Flight 158 Annual Fly-in-Breakfast 08:00 - 11:00 Coffee, fruit, juice and breakfast \$10.00, everyone welcome. More info: 250-488-5710, sofc.oliver@gmail.com

JULY 6

Windsor, ON (CYQG) 75th Anniversary Fly-in. We are hoping for 75 airplanes for a photo shoot. Room's available at Windsor Casino. All proceeds to support flight training scholarships, More info: 519-969-1320, 75@windsorflyingclub.com.

JULY 6 (RAIN DATE JULY 7)

Canadian Rockies 99s Selfie Poker Run Airports: Vernon (back by 14:30), Salmon Arm, Kelowna, Penticton, Oliver, Osoyoos, Merritt, Kamloops, Revelstoke and your home airport. All proceeds go to support scholarships and education. More info: rdrinkwater@telus.net or 250-309-4315

JULY 7

Bancroft, ON (CNW3) Flight 119 Annual Fly-in Pancake Breakfast, 08:00 - 12:00. Joint event with the Town of Bancroft's annual Water, Wheels and Wings weekend. Town festivities all weekend. Static Displays, Vintage Cars. Jet A and 100LL available with VISA. Camping available. More info: gary@abs.aero.

JULY 7 (21ST RAIN DATE)

Portage la Prairie, MB (CJZ2) Flight 210 Fly-in/Drive-in BBQ, 11:00 - 14:00. More info georgesteph@hotmail.com, 204-856-9126

JULY 12 - 14

Yellowknife, NT (YZF) Flight 108 The Midnight Sun Fly-in Fly out picnic, live entertainment, dockside dinners, pancake breakfast, memorial fly past, and more. More info: midnightsunflyin.com, floatplaneflyin@gmail.com

JULY 13

Estevan, SK (CYEN) COPA For Kids Fly-in 13:00 - 16:00 More info: 306 421 1421, c2000@sasktel.net

JULY 13 - 14

Fairmont Hot Springs BC (CYCZ) 8th Annual Fly-in Hot springs pool passes and shuttle. Discounts on fuel, resorts, golf. Free BBQ and pancake breakfast, 50/50 charity draw. All monies raised are for the Chris Rose Therapy Center for Autism. Camping available. More info and discount codes: 250-345-2121 or sjestley@fhsr.com

JULY 13

Midland/Huronia, ON (CYEE) Annual RAGA Northern Regional Fly-in hosted by Midland RAA chapter. Starts at 10:00. An attendance fee required to help cover the costs. Breakfast and lunch available. More info: 705-795-3857, 705-717-2399, 705-526-8086 or huroniaairport.com

Port Elgin, ON (CNL4) Flight 172 COPA for Kids Registration 08:30 and flying starts 09:00 -13:00. More info: steve.mcd@bmts.com

JULY 14

Dawson Creek, BC (CYDQ) Flight 183 Fly-in Breakfast, 08:00 - 10:00. Free shuttle to the 25th Annual car show in northern BC will be provided. More info: osventures@live.com

JULY 14

Winnipeg, MB (CKJ7) Gliding Club Open House Fly-in Media event from 09: 00 - 11:00. Airport open for visitors 10:30 - 16:00. Follow procedures in CFS. Glider flights available, burgers and drinks available on the deck. Rain or shine. More info: 204 831 8746, mmaskell4@shaw.ca, wgc.mb.ca

JULY 20

Nelson, BC (CZNL) Flight 87 Nelson Pilots Annual Fly-in/Drive-in Breakfast 8:00 - 11:00, Seaplanes and landplanes welcome. Including those en route to Oshkosh: 100 LL available and accommodations are convenient to airport.

JULY 19-21

BC floatplane Association AGM (CYKA) Flight 72 10:00 Guest speakers, Saturday lunch and dinner, progressive air services tour, wine tour. Saturday evening entertainment. More info: 250-319-0772, ps6oo@hotmail.com

JULY 21

Iroquois, ON (CNP7) The Iroquois Flying Club's 53rd Annual Fly-in Breakfast beside the beautiful St. Lawrence 8:00 - 11:30. Seaplane dock near the airport. More info: 613-657-1646

Bancroft, ON (CNW3) Flight 119 2nd Annual Fly- In Golf Tournament. The Bancroft Community Airport is next door to the Bancroft Ridge Golf Course. We will transport you from tie down to tee off. Golfing fun with fellow aviation enthusiast. More info and to register bancroftflyingclub.ca/Fly-in-golf.html, gary@abs.aero.

AUGUST 3

Lachute, QC (CSE4) Flight 118 Fly-in Celebrating 100 years of aviation in Lachute! Come for Lunch and stay for live music at the Aviator's Flea Market Fly-In and Lunch from 10:00 to 14:00. Hosted by the members of APPAL and COPA Flight 118. More info: RVA-Lachute@videotron.ca

On célèbre 100 ans d'aviation à Lachute! Venez pour le lunch 10:00 - 14:00 et restez-y pour la musique à la célébration. Organisé par les membres de l'APPAL et Club COPA 118 Plus d'info : RVA-Lachute@videotron.ca.

AUGUST 4

Cold Lake, AB Flight annual fly-in breakfast BBQ, 10:00 - 14:00 \$5 adults, \$2 kids.



It will correspond with The Aqua Days festivities at the beach. Bouncy castles and free water sports rentals as well as the car show. Updates available via Facebook page Cold Lake Flyers More info: 780-290-0181, cen5regional@gmail.com

AUGUST 4

Goderich, ON (CYGD) Flight 45 and Huron Crime Stoppers welcome you to our Runway Classic to view you favourite plane or vehicle See you on the runway!

AUGUST 9 (10TH RAIN DATE)

Wiarton-Georgian Bluffs, ON (CYVV) Flight 68 Hosting the 99s at 10:00 as they celebrate Canada's first licensed female pilot, Eileen Vollick. Potluck luncheon. More info: copaflight68@outlook.com

AUGUST 10 (11TH RAIN DATE)

Edenvale Classic Aircraft Foundation 31st annual Gathering of the Classics, 10:00 – 16:00 10\$ admission, no registration required. It is Canada's largest Classic aircraft and classic car gathering. All Classic, vintage and homebuilt aircraft and cars are welcome. Public is welcome to attend. More info: info@classicaircraft.ca

AUGUST 10-11

Havelock, NB (CCS5) Flight 27 Annual Fly-in /Open House Breakfast and lunch served Sat and Sun Auction Saturday at 14:00 followed by a steak BBQ at 17:00. Breakfast and lunch served Sat and Sun. Looking forward to seeing you. More info: www.havelockflyingclub.ca

AUGUST 17

Maple Creek, SK (CYQ4) Flight 208 Fly-in Breakfast Day starts with a breakfast, then moving down town for a car show, street dancing, live entertainment and events from local merchants and restaurants. Help us celebrate our new membership with COPA. More info: mcflying@mail.com

AUGUST 17

Moose Jaw, SK (CJS4) Flight 4 Fly-in/ Drive-in Breakfast, 08:00 - 11:00 more info: cfudu@hotmail.com

AUGUST 17

St. Stephen, NB (CCS3) Annual Seafood Chowder and Blueberry Pie Fly-in, 10:00 -14:00 the St Croix Valley Flying Club 3000 ft. paved runway with lots of parking and avgas on site. More info: afbastow@nb.aibn.com

SEPTEMBER 2

Nevis, Ab - Flight 135 Annual Fly-in Labour Day Pancake Breakfast, 08:00 - 11:00. All you can eat. More info: cameronandres@gmail.com

SEPTEMBER 8

Brockville, ON (CNL3) Flight 111 "Old Fashioned" Fly-in Breakfast Grand Parents Day 08:00 - 11:00 Helicopter rides provided by KURI'S KOPTERS Inc. fly1000islands.ca. More info brockvilleflyingclub.info

SEPTEMBER 15

Stirling, ON (CPJ5) Flight 53 Fly- in Lunch 11:00 - 14:00. Hosted by the Oak Hills Flying Club. *stirlingairport.ca*, 613-395-2360

SEPTEMBER 29

Carp, ON (CYRP) Annual EAA Chapter 245 Fly-in/Drive-in Breakfast.
Adults \$ 8.00, children under ten \$ 5.00. Come see some amateur built and certified airplanes. Classic car display. The Carp Fair will be in full swing just down the road. More info: 613-791-6267, treasurer@eaa245.org, info@eaa245.org

REGULARLY HELD EVENTS

Airdrie, AB (CEF4)

Flight 134 - Monthly meeting, first Thursday 19:30, *airdrieflyingclub.ca*

Arnprior, ON

Flight 33 - Monthly meeting on the 2nd Wednesday at 19:00

Bancroft, ON (CNW3)

Flight 119 - Bancroft Flying Club monthly meeting last Monday, 19:00, except Jul, Aug & Dec.

Beaverlodge, AB (CYQU)

Flight 184 - Monthly meeting 3rd Tuesday September to April 19:30, Terminal Building second floor boardroom, wpaa@telus.net

Bonnyville, AB (CYBF)

Flight 90 - Monthly meeting last Monday 19:00, Terminal building facebook.com/bonnyvilleflyingclub

Borden, ON (CNV8)

Flight 84 - Borden Flying Club monthly meeting 3rd Saturday 10:00 bordenflyingclub.com

Boundary Bay, BC (CAK3)

Flight 5 - Boundary Bay Flying Club monthly meeting, 2nd Wednesday 19:30 copa5.wordpress.com

Brantford, ON (CYFD)

Flight 148-Brantford Flying Club monthly meeting, 3rd Wednesday 19:00 Clubhouse copa148.com

Calgary, AB (CYBW)

Flight 114 - Monthly meeting, 2nd Wednesday, Hangar Flight Museum crufc.ca

Carleton Place, ON (CNR6)

Flight 121 - monthly meeting last Saturday 10:00, ctwinter@gmail.com

Charlottetown, PEI (CYYG)

Flight 57 - PEI Flying Association members' breakfast, every Saturday Razzy's Roadhouse 08:00. 902-626-6963 or pound@pei.sympatico.ca

Chatham-Kent, ON (CYCK)

Flight 203 - COPA YCK monthly meeting 2nd Monday 19:00, tim@schinkels.ca

Clarence-Rockland, ON

Flight 132 - Monthly meeting 1st Thursday 20:00, 3984 Indian Creek Road crmartel45@gmail.com







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Cold Lake, AB (CEN5)

Flight 205 - Monthly meeting bi-weekly Thursday 16:30, Terminal building iavconlin@hotmail.com

Cornwall, ON (CYCC)

Flight 59 - Monthly meeting 2nd Saturday 09:00, earfran@bell.net

Dawson Creek, BC (CYDQ)

Flight 183 - Mile Zero Flying Club monthly meeting last Thursday. rfolster@pris.ca

Drayton Valley (CER3)

Flight 186 - Monthly meeting 2nd Thursday 19:00, Break July and August. praa.clubinfo@gmail.com

Edmonton, AB

Flight 176 - Monthly meeting 1st Thursday 19:30, Alberta Aviation Museum treasurer@copaedmonton.ca

Estevan, SK (CYEN)

Flight 3 - Monthly meeting 2nd Tuesday of every 2nd month 19:30, main terminal building, Nealandnadine@hotmail.com

Fredericton, NB

Flight 2 - Monthly meeting 19:00 2nd Tuesday, Bloor St. Church, raystl@nbnet.nb.ca

Goderich, ON (CYGD)

Flight 45 - Monthly meeting 19:30 Clubhouse or terminal check copa45.com for updates

Grand Falls-Windsor, NL

Flight 195 - Monthly meeting 19:00 3rd Tuesday community room, IBEX Fuels wallypennell@hotmail.com

Guelph, ON (CNC4)

Flight 1 - Monthly meeting 19:30 1st Tuesday, Guelph Air Park Café brianoates@hotmail.com

Hanover, ON (CYHS)

Flight 54 - Monthly meeting 09:30 - 10:30 2nd Saturday, CYHS SMA Boardroom barrytschirhart@wightman.ca

Havelock, NB (CCS5)

Flight 27 - Havelock Flying Club weekly Fly-in/drive-in breakfast, 08:00 - 10:00 every Sunday, havelockflyingclub.ca

Hawkesbury East, ON (CPG5)

Flight 131 - Monthly breakfast meeting 08:30 1st Saturday Club 131 - Déjeuner mensuel 08h30 1er samedi, flight131.copanatonal.org

Hinton, AB (EE4)

Flight 126 - Monthly meeting 19:00 2nd Wednesday Clubhouse/Terminal building

Innisfail, AB (CEM4)

Flight 130 - Innisfail Flying Club monthly meeting 19:30 3rd Thursday, Terminal building, heaton.bd@gmail.com

Iron Creek, AB (CEK6)

Flight 157 - Monthly Fly-in for coffee and goodies, 09:00 - 13:00 3rd Saturday shelley@cciwireless.ca

Kamloops, BC (CYKA)

Flight 82 - Kamloops Flying Club monthly meeting 19:00 1st Monday clubhouse, *kamloopsflyingclub.com*

Kelowna, BC (CYLW)

Flight 36 - Kelowna Flying Club monthly meeting 19:00 1st Tuesday, *kelownaflyingclub.* com

Kingston, ON (CCE6)

Flight 109 - Monthly meeting 09:30 1st Sunday, Camden east airfield voucanreachusat@hotmail.com

Kitchener, ON (CYKF)

Flight 26 - Breslau Flyers monthly meeting 19:00 2nd Tuesday, upstairs classroom Waterloo - Wellington Flight Centre copaflight26.com

Lac La Biche, AB (CYLB)

Flight 165 - Monthly meeting 3rd Monday at 19:00, Terminal building laclabicheflyingclub.ca

Lethbridge, AB (CYQL)

Flight 24 - Lethbridge Sport Flyers weekly breakfast, 07:30 every Saturday lethbridgesportflyers.com

Lindsay, ON (CNF4)

Flight 101 - Kawartha Lakes Flying Club monthly meeting, 19:00 1st Wednesday at LCVI high school, *klfc.ca*

Maple Creek, SK (CYQ4)

Flight 208 - Maple Creek Flying Club monthly meeting, 19:00 1st Thursday of every month. Maple Creek Airport Club House mcflying@mail.com

Medicine Hat, AB (CYXH)

Flight 171 - Gas City Aviators monthly meeting 19:00 last Thursday lclarkso@telus.net

Miramichi, MB (CYCH)

Flight 39 - Monthly meeting 19:30 1st Wednesday, clubhouse nbdbrown@nbnet.nb.ca or 506-625-5788

Nanaimo, BC (CYCD)

Flight 91 - Nanaimo Flying Club monthly



meeting 09:30 3rd Sunday nanaimoflyingclub.org

Nelson, BC (CZNL)

Flight 87 - Nelson Pilots Association monthly meeting, 18:00 3rd Wednesday, terminal building, *nelsonpilots.ca*

North Bay, ON (CYYB)

Flight 23 - Monthly meeting 19:00 2nd Monday, *flyingnorthbay.ca*

Olds Didsbury (CEA3)

Flight 142 - Monthly meeting 2nd Saturday Coffee and donuts and discounted fuel

Okotoks, AB (CFX2)

Flight 81 - Monthly meeting 19:30 last Monday, Okotoks Elks Hall foothillsflyingclub.com

Olds-Didsbury, AB (CEA3)

Flight 142 - Old Didsbury Flying Club monthly meeting , 19:30 1st Tuesday 403-701-1600

Oshawa, ON (CYOO)

Flight 70 - Monthly meeting 19:30 1st Thursday, copa70.com

Ponoka, AB (CEH3)

Flight 187 - Monthly meeting 19:00 1st Monday, airport terminal drew@flyingwatsons.ca

Penticton, BC (CYYF)

Flight 50 - Penticton Flying Club monthly meeting 19:00 2nd Tuesday ronjohnson@telus.net or 250-493-0441

Peterborough, ON (CYPQ)

Flight 34 - Monthly meeting 19:00 2nd Wednesday, tommoore@live.ca

Picton, ON (CNT7)

Flight 53 - Breakfast 8\$ at the Prince Edward Flying Club, 08:00 2nd Sunday April to November (except June) 613-471-1868

Pitt Meadows, BC (CYPK)

Flight 16 - Aero Club of BC monthly meeting 19:30 1st Wednesday, aeroclubofbc.ca

Pontiac, QC

Flight 169 - Monthly breakfast meeting at restaurant Aylmer, 1st Saturday Club 169 - Déjeuner mensuel a restaurant Aylmer, 1er samedi, 819-360-0706 ou 812-329-2830

Prince George, BC (CYXS)

Flight 79 - Monthly meeting 19:30 2nd Wednesday, pilotpg@telus.net

Qualicum Beach, BC (CAT4)

Flight 76 - Parksville - Qualicum Aero Club monthly meeting, 19:00 1st Tuesday of odd numbered months at QBFC clubhouse portal.clubrunner.ca/100860

Quebec, QC

Flight 168 - Monthly meeting, various locations 19:30 3rd Monday Club 168 - Rencontres mensuel, lieux varies 19h30 3ieme lundi. 418-889-9023

Red Deer, AB (CYQF)

Flight 92 - Red Deer Flying Club Monthly Meeting 19:30 3rd Monday Flying club building, 403-350-5511

Russell, MB (CJW5)

Flight 138 - Monthly meeting 20:00 1st Wednesday, Russell Flying Club clubhouse, wrwile@gmail.com

LIST YOUR EVENT IN COPA FLIGHT

Email your events to *membership@* copanational.org for inclusion in COPA Flight's On The Horizon section. Deadline is the first day of the month prior to publication.

Saskatoon, SK (CYXE)

Flight 10 - Monthly meeting 19:00 2nd Tuesday, SK Aviation Museum classroom, copasaskatoonraa.com

Sarnia, ON

Flight 7 - Monthly meeting 4th Monday 19:00, Naval Association 403 Wing jkwood 99@yahoo.com

Sedgewick, AB (CEK6)

Flight 157-Iron Creek Flying Club monthly meeting, 2nd Thursday 19:30 shelley@cciwireless.ca

Shoal Lake, MB (CKL5)

Flight 162 - Shoal Lake Flying Club monthly meeting, 19:30 2nd Tuesday of every 2nd month, terminal building, slflyingclub.com

Sundre, AB (CFN7)

Flight 146 - Sundre Flying Club monthly meeting 19:30 2nd Thursday 403-638-7370 or winnmy@telusplanet.net

Tisdale, SK (CJY3)

Flight 93 - Monthly meeting 3rd Monday Sep-Jun 19:30 - 21:00, Terminal building, tisdaleaviation.ca

Val D'Or, QC (CYVO)

Flight 192 - Monthly meeting 18:00 2nd Tuesday, Hangar Q-60, copaflight192@yahoo.ca

Vernon, BC (CYVK)

Flight 65 - Vernon Flying Club monthly meeting 19:00 3rd Tuesday, VFC Clubhouse, flyingclubvernon@gmail.com Flight 65 - Vernon Flying Club monthly pancake breakfast, 09:00 4th Sunday starting January 27th, 2019, fly-in, drive-in, or walk in. Everyone is welcome flyingclubvernon@gmail.com



Vermillion, AB (CYVG)

Flight 204 - Monthly meeting 2nd Wednesday, vrflyingclub@gmail.com

Victoria, BC (CYYJ)

Flight 6 - Victoria Flying Club monthly meeting 19:00 1st Tuesday. copaflight6@gmail.com

Welland, ON (CNQ3)

Flight 149 - Monthly meeting 19:00, 3rd Tuesday. verburgam@aol.com

Westlock, AB (CES4)

Flight 139 - Westlock Flying Club monthly meeting, 19:30 3rd Thursday, terminal building. dan@syz.com or 780-961-2213

Wetaskiwin, AB (CEX3)

Flight 51 - Wetaskiwin Flying Club monthly meeting, 1st Tuesday, terminal building, scottcoggan@hotmail.com

Wetaskiwin, AB

Flight 51 - Flying Club monthly Fly-in 09:00 - 11:00, 4th Saturday starting January 26th until December 28th. Coffee and treats will be served.

Wiarton-Georgian Bluffs, ON (CYVV)

Flight 68 - Monthly meeting 09:30 1st Saturday, terminal building copaflight68@outlook.com

Whitecourt, AB (CYZU)

Flight 185 - Monthly meeting various locations 19:00 3rd Tuesday. 780-778-0854

Woodstock, NB (CCD3)

Flight 86 - Woodstock Flying Association monthly Fly-in and meeting, 08:00 - 1st Saturday, clubhouse, 506-356-5025





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MOONEY M20K ENCORE 1,241.8 hrs TT; 150 hrs STOH. The only true Encore on the market! Considered by many as the best Mooney ever built! The Encore personifies high performance and high economy. ADS-B compliant, GTN-650, WAAS, TIS-B Traffic, Aspen glass panel, much more! U\$217,000. Aviation Unlimited 905-477-0107 x 225 (2247.18125)



ZENITH CH750 STOL The Limit!" This advanced 2011 Zenith CH750 Ultra-light is the perfect plane for going fishing, camping, gold panning, or for exploring anywhere off the beaten path! Jabiru 3300 engine, Sensenich propeller, Lowrance avionics, dual throttles, strobe lights, custom seats and much more! Like new..less than 200 hours...always kept in a hangar. \$65,000. 250-367-7425 (Bill) (3587.18827)



PORTABLE **FOLDING** WWW.PORTA-BOTE.COM Great for fishing and hunting. Take it anywhere you can go. Be safe with the lightest, durable and stable folding boat. Gilles Berthiaume 514-592-4186 gberthiaume@alpha-vico.com (3135.18816)



1973 BONANZA V35B 2443 TTSN. 194 SEM Firewall Forward, NDH, Always Hangared, All Logs, King Silver Crown thru KNS-80, Century-3, Gem-3, Oxygen, Fifth Seat, February 2019 Annual, Beautiful IFR Airplane, Extras. \$135K USD



1946 T-CRAFT BC-12D A-65, 3425 TT, 228 SMOH, rebuilt 1999, slick mags, no electrics, skis, OM, hangared. \$16,500obo. Email: d.litke@yahoo.com or 780-941-2127 (3513.18828)



CESSNA T206G 1979 AMPHIBIAN on Wipaire 3730 amphibs For Sale, New Garmin Avionics, A/P, RSTOL, 0 Prop SMOH, many options, very clean. Low time Contact: Wilson Aircraft Ph: (647)227-6996



2007 CIRRUS SR22-G2 TURBO 705 hrs TT; 43.5 Hrs SPOH; one owner, Service Center maintained, CAPS done in 2016, WAAS upgrade, GTS fully loaded with XM, CMAX, EMAX, TKS, complete logs, always hangared! \$299,500USD Aviation Unlimited 905-(2247.18136)



1980 PIPER P28B-236 DAKOTA 696SMOH, immaculate interior, always hangared, reassembled painted 2014, Collins Micro-Line, COM251/NAV351,ADF 650A, DME 451, TDR 950, Autocontrol IIIB, Storm Scope. Useful 1178 lbs. Located CYFD. \$149,900. alan@bell.net or 289-440-4568



AMPHIB floats, VGs, Flint Tip tanks w/ fuel extra, RH crew door, Full King IFR radio options with IFR GPS, moving Apollo map system, land gear, NDH. Ken Wilson, Wilson Aircraft, 647-227-6996 kenwilsonac@gmail.com (586.18798)



SMOH, Polstra rebuild, basic panel, Garmin GPS, KY97, transponder with mode C, 0320 Lycoming, empty weight 960. Dual Brakes \$45,000



1978 CESSNA TURBO 210M 4413 TTSN, 758 SMOH, Dual Garmin 430 GPS. STEC55X AP w/GPSS. Full Delce and 3-blade prop! Hangared! Based In Muskoka, ON. \$150,000US Apex Aircraft Sales 905-477-7900, www.apexaircraft.com



1981 CESSNA 414A RAMVII, 4925 TT, 1204 SRAM, 530/430 w/EX500 MFD/ WX & STEC55X. Known Ice, hangared, low time aircraft! \$399,900USD. Apex Aircraft Sales, 905-477-7900 www. apexaircraft com (2245 18175)



The New C-172s • C-182s • C-206s



CALL US ABOUT THE NEW CESSNA 182 SKYLANE!

2013 Partneavia P.68R. 493 TTSN. GarminGFC950 and Full Delce. Like New! \$650.000 USD
1
2012 T206H Amphib w/WheelGear! 600TT,G1000/GFC700,Loaded!\$ \$625,000USD
2012 Turbo Skylane 182T, G1000/GFC700 AP, Active Traffi c/SVT! \$262K/Half Share CYKZ!
2005 Ovation, 580TT, FIKI, Weather, Traffic, STEC55X AP! \$257,000 USD
2004 Turbo 182T, 740 TTAE, G1000 Avionics
2002 Piper Super Cub Replica, 187 TTAE, Amphibs/Wh Gear! Reduced to \$74,900 USD
1992 Bonanza F33A, 12977 TT 603 SM, King SC, Seneca College Trainer! Exc Cond! \$106,500 USD
1983 Mooney231,3136TT,390SMOH,Thunderbird Conv w/'MB'Engine! \$129,900 USD
1982 Mooney Rocket 305, 3170TTSN, CONT TS10520
1981 Cessna 414A, 4925TT, 1204 SM, RAMVII, Garmin530/430!
1981 Chieftan Panther, 7679 TT, 1124 SM, Corporate!
1981 Duke B60, 4507TT, 1092 L&R, G530W, KFC-250 IFCS, Winglets!
1980 A185F Amphib, 3645/545SNEW/10550/Aerocet3400, GTN750! \$329,000 USD
1979 T210N, 2190 TT, 603 SM, Flint Tips! Loaded!
1979 C185F Amphib, 2849TT, 849SM, GarminPanel,NEWWhip3000AmphFloats! \$CALL
1979 C152, 19692TT, 890SM, Commercial Flight Training Aircraft\$40,000 CAD

1979 Seminole,10631TT, 1625/1159SMOH,Garmin GNS430 GPS/NAV/COM,Commer	rcial . \$80,000 USD
1978 Turbo C210M, 4413TT, 758SM, G430W, STEC50 AP, FullDelce! 3BLProp(2017)!	\$150,000 USD
1977 C172N Floatplane,9417TT,834SM,GNC250XL,CAP2000, Commercial	\$75,800 USD
1976 Grumman Tiger, Only 1471 TTAE, King/Narco, All Logs!	\$52,000 USD
1974 414 6905TT, 1118SM, Full De-Ice	
1974 Chieftan, 12749TT/1956/826SM, Commercial Aircraft!	
1971 Navajo310, 7511TT, 796SM, FullDelce, VG's!	
1973 C172M, 14575TT,158SM,KingAvionics,G2EngMonitor!	
1969 Cherokee 235, 5124TT, 680 SMOH, ApolloGX55GPS, MX20 MFD	
1968 C185 Amph,1696TT,637SM,G500/GTN750,GTS800Traffic,Whip3730's!	
1968 C177 Cardinal, 2918TT, 51SMOH(2016), New Prop (2016), Price Reduced to .	
1966 C337A Skymaster, 3184TT,628/148SM, CurrentCofA,PropsDue!	
1965 Twin Comanche, 5582 TT, 527/665 SM, Garmin 430WAAS	
1946 J3 CUB,w/PA11 STC's, 5450TT, 550SMOH,	
1943 Grumman G44 'Widgeon'8929TT,418SM,GTN750, Summer Ready!	,
Decathlon8KCAB, CallForPictures/Details!	\$50,000 USD



1973 (ERO TAR 50) TISN 5180, LE-564, HE 1022 SPOH 105 (2016), Garmin NS530/430, GMA340, Insight strikefinder, Insight graphic engine monitor, Monroy ATD-300 traffic watch, HSI, ADF, engine heaters, passenger DVD player, over 200 knot cruise, NDH, always hangared, May 2018 annual, C\$125,000 (2798.18000)



BEAUTIFUL 1960 COMANCHE 250 Great family hauler for short and long trips. 150 knots cruise. 4060 TTSN, 1550 SMOH, new "Aussie horn", complete logs, Currently hangared at YBW. 39,500USD Call 403-287-7721 or email asuss@telusplanet.net (3494.18751)



2006 VANS RV7A Canadian immediately Registered, available for \$84,000CDN. Located at CYPK. Completed 2006, second owners, always hangared, 1132 hours, Dynon EFIS-D10A/EMS-D10, Icom IC-210 Comm, Garmin GTX327 Transponder, Garmin 296 GPS, ACK-E04 406 ELT. Lycoming O-320B 160 HP, good compression, Sensenich 70 CM FP prop. 1 Slick Mag 1 Lightspeed Plasma II CDI. Tip up canopy, floor carpeting, Koger Sunshade, canopy cover. Emaii: kjd172@hotmail.com or (604)729-5835



(3551.18832)

PIPER COMANCHE CGSER. TTSN 3776.8 hrs engine: SMO 644.7 hrs Lycoming prop: SN 644.7 hrs Hartzell. Annual inspection May 2019. GTN 650 Garmin. Plane is well equipped, buyer will not be disappointed. \$110,000USD. Formally N9367P Call/email 613-875-0977 email keith@triplek.ca. Plane located in Ottawa ON. (3596.18880)



CESSNA 172RG TTSN 4016, 0-360, 105 since new. Prop 200 since new. 430w, KX-165, KX-155, UBG-16, flow, PMA-8000b, ME-406, new flt custom 3. Well maintained. Rosen visors, numerous other items. \$90,000USD Email: kgross@telus.net (3510.18822)



2008 AMPHIBIOUS CHALLENGER II LW Registered as Amateur Built. TTAE 154, Rotax 503, Puddlejumber floats, Turbulence seats, Interior, Full Transponder, Comtronics Intercom/Headsets, Icom A6 Radio. Build amphibious fixed wing time at 4.5 gals/hr. \$29,950 dtisdelle@gmail.com



8GCBC. 5 011. 2006 Wipline 2100A Amphibs, Gear advisory, Lycoming O-360-CIG, 180hp. 2007 MT 80 2-blade CS prop, full gyro panel, JPI EDM700-4, Garmin 430/106A nav head, 327 Transponder, GMA340 Audio. Kannad ELT406, 850 x 6 mains, Scott tail wheel, \$125,000US.



PA28R-180 Eng. TT 67hrs, Prop 70hrs, 2970 AFTT. Annual Aug 2018, 2 coms MAC1700, 2VOR gs, 4-place headsets. AC completely rebuilt, paint hardcoat, hoses, brakes many extras. Int-10, ext-8 Asking \$69,000 CDN. OBO Contact: lennypk2@gmail.com or 506-622-0105 (3423.18863)

> Post online anytime at canadianplanetrade.ca

or e-mail

admin@copaflight.ca for assistance



FREE RFID PASSPORT PILOT'S LEATHER WALLET with a Q SET Aviator headset \$685 or Helmet (Summer special) ANR Bluetooth carbonfiber, super strong and light. Optional Lemo controller allows use of aircraft power. aviationheadsets.ca Ph 204-726-4221 (3052.18810)



PIPER J3 CUB WAG AERO 2013 replica by Wag Aero. TT Airframe 135 hours. Zero time C 90 rebuilt by Aerotec engines. Rebuilt landing gear. New Cleveland brakes, wheels and tires.Recovered wings. New Certified Wag Aero sealed wing struts. New Custom exhaust. All new glass. New 406 ELT. New electrical system. Float attachments. All new Randolph paint with Ranthane finish. \$79,500.00 Cdn. Brewer Aviation 902-626-5262 or ibrewer@eastlink.ca. (2564.18905)



CESSNA 180F 3834.5 hr moteur P.Ponk 285 hp. 727.0 hrs SMO. Helice trois pales 106hrs SMO. Flotteur aeroset 3500 L wings extention horton stoll, reservoir 80 gal. radio GNS430, 155,000\$ Louis: 514-247-1203, Marilou: 514-909-4124

(3504.18900)



AVIAT HUSKY A-1C-200 Flawless. Clean, hangared. 475 TT. IFR. Lycoming IO-360-A1D6. MT Prop. AB 31" mains. AB 3200/3224A tailwheel. Micro VG"s. LED landing/taxi/ pulse recognition lights. Tanis oil sump preheat pad. Inertia shoulder harness front and rear. Garmin GNS 530W. Garmin GTX330 transponder. Garmin GMA340 audio panel. VM-1000 engine monitor. New 406 ELT. JPI OAT. Davtron M800 chrono. New annual 03-19. Uploaded Logs and photos available. \$169,000 USD. Greg; 1-306-577-7636. gcmaher285@gmail.com (3533.18767)

www.csplane.com



1953 DHC-2 TT 7421 AFOH 943HRS, SMOH 943, SPOH 234 (2015)EDO 4930'S **REBUILT IN 2005, CABIN** WATER 285K USD

1964 PA-18-150 350

SMOH 617 SPOH WIP 2100 AMPH, C-2300 WHEEL SKI INCLUDED



1977 C-182Q TTAF 2349, SMOH 252 IO-550, SPOH 14 HRS. KMA24, KX155, KN64, GT327, S-TEC 60,

50 Canadian Singles, Twins and Floatplanes



1981 PA-32R-301T TURBO SARATOGA 10 SMOH 120 SPOH, JPI 9000, S-TEC A/P, GDU 620, GTN 750, GNS 430 W. DE-ICE, OXYGEN. PLEASE CALL

2000 208B TTAF 5441, SMOH 736, SPOH 0. GARMIN 530, KMS 24-H AUDIO PANEL, RDR-2000 1.14M USD ON WHEELS



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NORSEMAN MK VI TTSN: 4065 hrs. Engine 4 hrs, prop 10 hrs. Recent overhaul. 7170 Edo floats. Very good wood struccture. Recent annual. Hangared winter months. Asking \$260,000Cdn. ramltd@mymts.net or Gary @ 204-482-3270.



TUZBO TWIN COMANCHE w/Miller conversion. 200 HP, half-time engines. Robertson STOL, 8 fuel tanks, colour radar, speed brakes, Avidyne 540, Insight engine analyzer, hangared, \$119K USD (2564.18685)



2005 FLIGHT DESIGN CTSW Well equipped and maintained, low time Flight Design CTSW AULA hangared TTSN 250 hrs at Carp, Ontario. on 100 hp Rotax 912ULS. Includes Dynon EFIS D10A, Avmap GPS, Garmin radio/intercom/transponder, ballistic chute, Neuform adjustable prop, all leather interior and composite construction. Recent annual, 10/10. High performance and outstanding for cross country. Cruise 113 kts, 1,000 nm range on 5 gph mogas. \$74,000. taduxbury@gmail.com or 613-832-4696 (2473.18760)



CH300 TT all 200hrs. O-320 certified rebuild. Dig CHT, EGT, fuel flow oil filter, 4-place Cessna seats. Garmin encoding transponder, GPS. Always 780-853-0237 hangared. \$22,000. (2387.18748)



HOMEBUILT ON AMPHIB TTSN 1331 TT on factory new 0360 241 hours McCauly ip235 prop TT574. Professionally Built. \$69,900 obo Email: ross_mandeville@hotmail.com or call 250-809-7112 (3539 18901)



CESSNA 172M TURBO DIESEL 135 HP, fuel burn 5 GPH, cruising 115 kts, Cessna 172M 1974, Very low airframe time - 2695.0, Engine - TAE 125-02-99 Diesel aircraft engine, FADEC controlled engine. MT propeller MTV-6-A, Engine time SMOH 651.9 hrs on a TBO 2400.0 hours, Propeller time - 251.6 hours TTSO. Equipment: KX 155 NAV-COM, Garmin 250XL GPS-COM, Garmin GTX 327 transponder mode C, Audio Panel KING KA 134 TSO, 4-place intercom system. All ADs complied with. All maintenance up to date, Canadian AMO. Maintained in CZBB \$85,000 Contact: Ken Smith (604) 991-4300 (3463.18909)



1974 CESSNA 172M SKYHAWK Rare low-time one-owner aircraft. 1503 TTAE Hangared for 40 years. NDH Original paint & interior. LR tanks. FGP w/ MK12D, MX300 etc Headsets & Garmin 296 \$59,000 CDN.



CESSNA A185F 4900 TTAF, 900 SMOH, 1050 SPOH - due Mar. 2020. Bubble Windows, 2960 Floats, Sportsman STOL, Mode C, Bench and bush seats, on wheels. Drop box photos available. \$125,000 CDN Call: 250-488-9534 (3251.18769)



1972 PIPER CHEROKE ... 28-140, 150HP 5072 ITSN, 1326 MOH, ragishorn canel, ramshorn older cowie, Quadrant Newer yoke, (not throttle and residue controls, Leather interior. Newer carpets, Compression 78/78/77/77, Mogas STC, VHF, VOR, ADF, Transponder Mode-C, Intercom, 196 Garmin GPS on panel bracket, Plus Icom handheld wired into intercom w/ separate external antenna, Nice clean 8 in and out, Owned for 19 years, well maintained, Kincardine Ontario CYKM \$32 500 (3567.18717)



PA12-150 TTSN 2775, TSOH 385, new cyls 16, flaps, PA18 gear, 1935 Gross, seaplane doors, recent fabric, booster tips, extended baggage, Edo 2000, skiis minus tailski, spring annual included, \$110K CDN, 705-261-1012 (3517.18902)



REPUBLIC SEABEE FOSTER Home built Foster 001 GM Engine, Robinson gearbox. TT 53 hrs since construction. GW3800 \$95,000 CDN. Roger 819-336-4181 after 6pm ET (3144.18865)



SA100 STARDUSTER TT250 0290-D2 all chrome, refurbished 2007, tube/ wood/fabric, grove gear, cleveland wheels/brakes. Len Kennedy, 506-622-0105. lennypk2@gmail.com (3423.18877)



CESSNA 150L 4738.4 TT. Valcom 760 radio. New cylinders, paint, windows, carpeting, seatbelts and may other new parts. In Ontario. \$30,000. Call Ken (613) 264-9410 (3566.18887)

Buyers are encouraged to check with original manufacturers to ensure structural and airworthiness requirements are met.



1962 BEECH BARON 55

Great weekend getaway airplane. Lots of range at great speed. Low time engines and props. Too many options to list.

1982 CJ6A NANCHANG

Low time Airframe and engine. New Prop. Garmin VHF/GPS. Awesome for aerobatic and formation flying. A lot of Bang for the Bucks.

1959 RARE FWP149D **GERMAN MILITARY TRAINER**

Only two in Canada. Easy to fly and maintained. Low time engine and prop. A true sport Four seater. Good range and speed.



1959 PILATUS P3 SWISS **MILITARY TRAINER**

Only example in Canada. Awesome to fly. Low maintenance, works like a Swiss watch. New engine and Mt prop.



GORGEOUS 1973 CESSNA 421B

Low time engines and prop. Avidvne IFD540 WAAS Garmin 430 ADS-B compliant, WX Radar Full De-Ice and much more.

FOR MORE DETAILS PLEASE VISIT: AIRPLANESALE.CA



8/10 SCALE BUCKER JUNGMEISTER Aerobatic +10G -6G. Lycoming 0-290G. 100 hrs SMOH. Inverted fuel & oil system. Extra long-range fuel tank. GNC250XL Garmin Radio/GPS. Individual hydraulic toe brakes & steerable tail wheel. C\$19,000 OBO. lindenhrb22@gmail.com or 780-910-6562 (3535.18781)



TURBO LANCE 1978 **PIPER** PA32RT300T 3770TT 300SMOH 0SPOH 160 knots 6 seats, Always hangared, Leather interior, Speed mods GAMI injectors Tannis heater autopilot IFR certified Airnav \$120K US gilbertdru@hotmail.ca (506) 546-3355



2017 CAVALON AUTOGYRO 110hrs TT A&E. Rotax 914. Electric IvoProp. ELT, Kannad AF-406. Transponder, Mode S; F.U.N.K.E. TRT800H. Radio F.U.N.K.E. ATR 833-11. Dynon SkyView 10. Card Compass. "AutoGyro's" 31/8" ALT & ASI with GS. Four point harness. Heated leather seats. Pneumatic lumber support. Two axis trim. Cabin heating & Defogging. O/H pleated Sun Shade. Cockpit lighting, Nav Lights & Strobes. \$150,000 Contacts: Gordon Hindle, hanne.gordon@shaw. 778-351-1343 or David Sigier, 418-580-8912. info@airprogyro.com

(3569.18915)



RESTORED M4 MAULE 1964 M4 1632 TTSN 32 SMOH New paint, covering, glass etc. Call for full list of work done. Have float gear and lotus floats. Owner maintenance Will take trade \$74,000 306-746-7609 or jedimond@gmail.com

(3540.18790)



CHRISTAVIA MK1 85 HP CONT ICOM 200 90 hrs since new. Reason for selling - lost medical. Based Charlottetown CYYG. \$17,000obo Contact: dunnjoe80@gmail.com or 902-393-1314 (3211.18759)



1979 PA 33-112 TTAF 3310, SMOH 310(2013), Prop OH 201, STC's for 125HP, Oil cooler, prop re-pitch, LED, canopy cover, winter cowl cover crankcase heater, NDH, MX170B, 406 ELT. Ann 10/19, \$30,000 (3544 18650)

For a list of common abbreviations used in Classified advertising please see page 55



1980 BONANZA A36TC 4224 TT, 357 SMOH, Gami's, 220 NEW Prop, GNS430, KX155, Garmin 696, KING HSI, 650a ADF, Collins DME, KFC200, Built in 02 and Intercom, Osborne Tips, Rosin Visors, Always Hangared, \$186,500US. Ph: 306-921-7721 or keith752@sasktel.net (3564.18875)



NFW LARGER HIGHLANDER Buy now and be the first to own the Extended Highlander. 160 HP Lycoming with Electronic Ignition. The photo shows the paint scheme on our demo plane. Contact John jbrewer@eastlink.ca or 902-626-5262 (2564.18907)

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AWA / W4H maintains a fleet of aircraft that provides medivac flights,

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1964 CESSNA 150D 5321TT, Engine log Continental 0200A, 1080 SMOH, Radio ICA 210, Transponder/Encoder, manual flaps, Paint 2004, Annual Nov. 2018. Excellent condition, \$22,000 Jeanclaude jcfromain@yahoo.ca or 514-382-0988.



1946 7AC BCM CONVERSION CHAMP 2800 TTSN, 50 Hrs TTS Rebuild, Metal spars by Millman Eng. New prop, New 0 time engine. NO Electrics, HH Icom, New ELT. Always hangared \$35,000CAD Tom: larrabeemt@gmail.com or 250-342-0740 (3577.18758)



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1957 CESSNA 180 ON FLOATS O-470 engine, 500 hrs left. 4 cylinders just redone, new C of A. 2870 Edo floats, wheels, Emron paint, interior 8/10. Bush seat. Never been used commercially. \$95,000. Contact: 204-941-3700, 204-256-0154, or 204-369-(3529.18922)



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1967 ALON A2 AIRCOUPE Excellent condition, 2846 TT, 262.5 SMOH, 90 HP Cont. 1 comm, Mode C, GPS. One of the nicest Aircoupes/Ercoupes on the coast. \$30,000. larry.beaudry@hotmail.com



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AVIATION ABBREVIATIONS

The following are common abbreviations used in Canadian Plane Trade classified

advertising. When counting an ad for insertion charges, each abbreviation is one word. When more than one

abbreviation is shown first given is preferred.

AC air condition

A/C aircraft AD Airworthiness Directive

ADF automatic direction finder A&E airframe & engine

alc..... alcohol (as in alc. prop) AP..... auto(matic) pilot

ATS automatic throttle system ASI airspeed indicator

360CH 360 channel radio 720CH 720 channel radio CG centre of gravity

CHT cylinder head temperature Comm/com communications

Cont Continental (engine) CS constant speed propeller

DG directional gyro

DME..... distance measuring equipment EGT exhaust gas temperature

ELT..... emergency locator transmitter Enc Alt encoding altimeter

FBO fixed base operation FD. flight director

FREMAN,

FREM.... factory remanufacture GEM..... graphic engine monitoring

GPH..... gallons per hour GR glide ratio

GS Glideslope HP horsepower

HSI..... horizontal situation indicator IFR instrument flight rules

ILS instrument landing system 3LMB/MB. . 3 light marker beacon

LOC localizer

LRF long range fuel (capacity) Lyc Lycoming (engine)

MB See 3LMB MK Mark (model of equipment)

MPH..... miles per hour NAV navigation

NAV/COM . navigation/communications NDB non-directional beacon

NDH no damage history OAT outside air temperature

 $\mathsf{OBO}.\dots.$ or best offer O/Oxy.... oxygen

P&W..... Pratt & Whitney (engine) RMI..... radio magnetic indicator

RNAV area navigation SCTOH . . . since chrome top overhaul

SCMOH... since chrome major overhaul SFREMAN/

SFRM.... since factory remanufacture SMOH since major overhaul

SPOH.... since prop overhaul STC supplemental type certificate STOH.... since top overhaul

STOL short take off & landing

T&B turn & bank TBI turn & bank indicator

TBO time between overhauls TT..... total time

TTAE or

TTE total time aircraft engine TTAF or

TTA. total time aircraft frame TTSN total time since new

VFR visual flight rules VHF very high frequency VOR..... very high frequency

Omni-Range xpdr transponder





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1946 AERONCA CHIEF ON FLOATS TTSN 2470 SMOH395 Prop 120 Skytech 720 Ch KX 99 AT50A + ELT 406. Skis and wheels encoder (no brakes) Best offer. Ph: 819-822-1683. normandgingues@videotron.ca. (3133.18720)

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BEAUTIFUL LIKE-NEW 1975 CESSNA 180J floats only (EDO2960) 1580 TTSN; 8 SMOH (O-470s) brand new paint and Airtex interior (2019). Hangared NO corrosion! Many STC's: Price: negotiable sheimbu@hotmail. com Vancouver area. View at http:// brandnewCessna180 ca (3213.18885)

1961 CESSNA 182D 7465 TTSN 1924 SMOH Horton stall kit. New fuel bladders and much more. Major annual just finished. Email for info pkg. Shayne 250-688-1760 smporath@gmail.com (2570.18836)

1957 CESSNA 180A NDH, TT 5250, 1442 SMOH, 31 SPOH Edo 2960 floats, wheel gear. Last annual Sep 2017, prop due Sep 2019. \$52,000. 705-279-3742. (3589.18857)

1969 CESSNA A185E \$130,000US 5400TT, 300TTE, 300TT 3-blade, long range tanks, Sportmen STOL, Attlee bush seats, Edo 2960 Floats, 2nd set Edo 2960, Flylite 4000 wheel-skis, Located CAQ4, b.w.fischer@t-online.de (3575.18756)

1967 CESSNA 150F TAILWHEEL 6888.4 TT, Lycoming 160HP Engine 1076 SMOH. Long range tanks 38US Gal. Federal skis 2000 w/teflon bottom. Edo 1450 floats. Price on request. Roger @ 819-336-4181 after 6PM. (3144.18866)

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1975 CESSNA 421B 4,911 TTSN, 25 /1,065 SMOH, 0 SPOH L&R, GMA 347 Audio, 430 WAAS GPS, KX 155 NavCom, GTX 327 Xponder, DME, dual ADF, radar altimiter, colour radar, autopilot, NDH, de-ice. \$189,000 USD sales@transglobalav.net (3602.18920)

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1967 CESSNA 172 H FLOATPLANE 3630 TTSN 180 HP \$79,000, 250-392-6181, 250-267-6377 (3588.18830)

1966 CESSNA 150F 77963 Engine hrs 2016. Located at Storford Airport, ON \$15,000 (3534.18631)

1977 C172N 7527 TT 1747 SMOH 160HP. New leather seats, sun roof, hangared. Mode C, ADF C\$69,000 Contact: 780-991-5407 or pierre.berube@shaw.ca (3599.18893)

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1978 MARANDA Woody & fabric w/ Lycoming O-290-D2B. 920 TTSN, ICOM 210 radio, transponder. Same owner 18+ years. \$25,000. Located at Brampton Airport, Call Peter 905-884-8598. www.MarandaForSale.com. (3555,18921)

125 – MURPHY

MURPHY 1996 REBEL Lycoming. 665 hrs. Macauley prop, Nav-com, GPS. Always hangared. Fresh water use only. 709-546-2159 marcellahillyard2@gmail.com email: (3523.18783)

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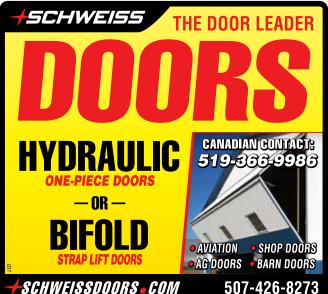
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