



Flight

The Journal of the Canadian Owners and Pilots Association

DECEMBER 2021



A LEGACY OF AIRFIELDS

The quest to reach every
active, non-restricted BCATP
airfield in Canada

More than

40

classified ads
(p.33)

ELEMENTARY MAINTENANCE FOR PILOTS
FIRST STEPS FROM AN AME VETERAN

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INSIDE COLLINGWOOD FLYING CLUB
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JULY JUILLET	HOW TO BUILD A DRONE COMMENT CONSTRUIRE UN DRONE
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ON THE COVER: Photographer Gustavo Cojuro captures Grant Bailey on final approach into Midland, ON, with his 1956 Piper Tripacer, on September 11, 2020. **ABOVE:** Grant Bailey with his Tripacer in Pendleton, ON, in August 2021.

COPA Flight

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TRANSITIONING TO 2022



What a year it has been! When 2021 started, I'm certain most of us did not think it would turn out the way it did. With continued lockdowns, travel restrictions and vaccine rollouts, 2021 has been another unprecedented year for everyone, including COPA. Covid-19 brought forth some obvious challenges but it also gave rise to some opportunities.

With many being forced to move into the online world due to Covid, we saw an occasion to modernize certain aspects of our operations, rendering them more efficient and, more importantly, environmentally friendly. We need to do something to offset our carbon footprint and every little bit helps. By moving our membership renewals online and issuing a singular membership card, COPA has been successful in eliminating paper and plastic waste that would ultimately end up in landfills across the country. That's just a start. We will continue to explore ways to reduce our carbon footprint in 2022, all the while enhancing your membership experience.

Online videoconferencing tools became the preferred method of communication for millions of Canadians. Who could have predicted that the phrase "You're on mute" would be used by almost every Canadian in 2021. These online platforms allow us to connect in ways we never thought possible and create opportunities in a world we did not fully understand. COPA was successful in connecting

thousands of General Aviation (GA) members for coast to coast to coast through our Virtual Safety Seminar Series. Every month, thousands of GA pilots tune in to learn, refresh and ultimately better themselves. The main COPA Safety Program goal is to make our flying community safer by providing you with opportunities to learn and presenting you with the knowledge to excel. No pilot, regardless of experience, is exempt from continuous learning. We need to be better. We need to do better. It is through safety that we will strengthen many of our advocacy positions and we all play a part in that.

For those of you who were frustrated with our COPA website or Canadian Plane Trade website, you were not alone and we did something about that. If you have not yet visited the new and improved *Copanational.org* or *Canadianplantrade.ca* sites, I suggest you do. Both sites are more user friendly and, if I do say so myself, easy on the eyes. We know you use our website often – to renew your membership, consult COPA Guides, purchase COPA gear, get updates on our advocacy efforts, etc. – and we strive to create a pleasant and efficient experience. We continue to welcome your suggestions.

This year also brought with it a whole new COPA team. We said goodbye to some team members this year but recruited some amazingly skilled, motivated and passionate individuals. Sharon Cheung joined us in January as COPA's Director of National Programs. She has dedicated time and effort to bring structure to and modernize existing programs, as well creating new content for our members. Laura McLean joined COPA in May as Marketing and Communications Coordinator. She is the face behind every social media post, our marketing material and website content. Her passion for her work and our association is evident. Ruth Hackett came on board

in August as Executive Administrator and Office Manager. She is the woman behind it all and the grease that makes everything run seamlessly. Shara Fathima joined the COPA team in September as Administrative and Membership Coordinator and is now the delightfully friendly voice behind every call and email. She has exceeded all expectations and we are lucky to have her. Cynthia Murphy became COPA's Director, Aviation Operations, in October. Her operational experience combined with a vast knowledge of aviation in Canada has already proven to be invaluable. Cynthia is our resident Safety Program subject matter expert and will work hard with you and on your behalf. Our newest addition is Fadi El Masri, COPA's Director, External Relations. Fadi will work tirelessly to advocate for General Aviation at various government levels. The passion and experience he brings to this position will be evident and will solidify COPA's role as the voice of General Aviation in Canada.

I would be remiss if I did not mention our June 2021 online event. Although we couldn't see each other in person, we are proud that have been able to offer and deliver our very first Virtual National Fly In and Aviation Exhibition. Planning this event was not an easy feat, as it was unprecedented, but the COPA team's dedication made for a huge success. Start planning your visit to the beautiful city of St-Jean-sur-Richelieu in June 2022 for the first IRL (in real life) national event since the beginning of the pandemic. I look forward to meeting you!

We worked hard for you in 2021 and will continue to provide the same level of enthusiasm and dedication in 2022. On behalf of the whole COPA team, and cherished members of the COPA Board of Directors, I wish you all a safe, healthy and happy holiday season and New Year. 🇨🇦

LA TRANSITION VERS 2022

Quelle année! Lorsque 2021 a commencé, je suis certaine que la plupart d'entre nous ne pensaient pas qu'elle se déroulerait comme elle l'a fait. Avec les fermetures continues, les restrictions de voyage et les lancements de vaccins, 2021 a été une autre année sans précédent pour tout le monde, y compris la COPA. La Covid a présenté des défis évènements, mais elle a également donné lieu à des opportunités.

Alors que de nombreuses personnes ont été contraintes de passer au monde en ligne en raison de la COVID, nous avons vu l'occasion de moderniser certains aspects de nos opérations, en les rendant plus efficaces et, surtout, plus écologiques. Nous devons faire quelque chose pour compenser notre empreinte carbone et chaque petit geste compte. En renouvelant nos adhésions en ligne et en émettant une seule carte de membre, la COPA a réussi à éliminer beaucoup de déchets de papier et de plastique qui finissaient dans les décharges du pays. Ce n'est qu'un début.

Les outils de vidéoconférence en ligne sont devenus le moyen de communication préféré de millions de Canadiens. Qui aurait pu prédire que l'expression "vous êtes en sourdine" serait utilisée par presque tous les Canadiens en 2021. Ces plateformes en ligne nous ont permis de nous connecter d'une manière que nous n'aurions jamais cru possible et ont créé des opportunités dans un monde que nous ne comprenions pas entièrement. La COPA a réussi à connecter des milliers de membres de l'aviation générale (AG) d'un océan à l'autre grâce à notre série de séminaires sur la sécurité virtuels. Chaque mois, des milliers de pilotes de l'aviation générale se sont connectés pour apprendre, se mettre à jour et finalement s'améliorer. Le principal objectif du programme de sécurité de la COPA est de rendre notre communauté de pilotes plus sécuritaire en vous offrant des occasions d'apprendre et en vous présentant les connaissances nécessaires pour exceller. Aucun pilote, quelle que soit son niveau d'expérience, n'est exempté de l'apprentissage continu. Nous devons être meilleurs. Nous devons faire mieux. C'est par la sécurité que nous renforcerons bon nombre de nos positions de défense et nous avons tous un rôle à jouer à cet égard.

Pour ceux d'entre vous qui étaient frustrés par notre site Web de la COPA ou de Canadian Plane Trade, vous n'étiez pas les seuls et nous avons fait quelque chose. Si vous n'avez pas encore visité le nouveau site www.copanational.org ou www.canadianplantrade.ca, je vous suggère de le faire. Les deux sites sont maintenant plus conviviaux et, si je puis dire, plus agréables à regarder. Nous savons que vous utilisez souvent notre site Web - pour renouveler votre adhésion, consulter les guides de la COPA, acheter de la marchandise COPA, obtenir des mises à jour sur nos efforts de défense des droits, etc - et nous nous sommes efforcés de créer une expérience agréable et efficace et restons toujours ouverts à vos suggestions.

Cette année a également apporté avec elle une toute nouvelle équipe COPA. Nous avons dit au revoir à certains membres de l'équipe cette année, mais nous avons recruté des personnes étonnamment compétentes, motivées et passionnées. Sharon Cheung s'est jointe à nous en janvier en tant que directrice des programmes nationaux. Elle a consacré son temps et ses efforts à structurer et à moderniser les programmes existants et à créer de nouveaux contenus pour nos membres. Laura McLean a rejoint la COPA en mai en tant que coordinatrice du marketing et des communications. Elle est le visage derrière chaque message sur les médias sociaux, le matériel de marketing et le contenu du site Web, entre autres. Sa passion pour son travail et pour notre association est évidente. Ruth Hackett s'est jointe à nous en août en tant qu'administratrice exécutive et chef de bureau. Elle est la femme derrière le tout et fournit la graisse qui fait que tout fonctionne parfaitement. Shara Fathima s'est jointe à l'équipe de la COPA en septembre en tant que coordinatrice administrative et des adhésions. Elle a dépassé toutes les attentes et nous sommes extrêmement chanceux de l'avoir parmi nous. Cynthia Murphy est devenue la nouvelle directrice des opérations aéronautiques de la COPA en octobre. Son expérience opérationnelle combinée à sa vaste connaissance de l'aviation au Canada s'est déjà avérée inestimable. Cynthia est notre experte en matière de programme de sécurité et elle travaillera fort avec vous et en votre nom. Notre plus récent ajout est Fadi El Masri, directeur des relations extérieures de la COPA. Fadi travaillera sans relâche pour défendre les intérêts de l'aviation générale à différents niveaux de gouvernement. La passion et l'expérience qu'il apporte à ce poste seront évidentes et renforceront le rôle de la COPA en tant que la voix unique de l'aviation générale au Canada.

Je serais négligente si je ne mentionnais pas notre événement de juin. Bien que nous n'ayons pas pu nous voir en personne, nous sommes fiers d'avoir pu offrir et réaliser notre tout premier Rendez-vous aérien national et Salon d'exposition virtuel. La planification de cet événement n'a pas été facile car il était sans précédent, mais le dévouement de l'équipe de la COPA en a fait un énorme succès. Commencez à planifier votre visite dans la belle ville de St-Jean-sur-Richelieu en juin 2022 pour le premier événement national EVV (en vrai vie) depuis le début de la pandémie ! J'ai hâte de vous rencontrer !

Nous avons travaillé fort pour vous en 2021 et nous continuerons avec le même niveau d'enthousiasme et de dévouement en 2022. Au nom de toute l'équipe de la COPA et des membres du conseil d'administration de la COPA, je vous souhaite à tous de bonnes vacances, en bonne santé et en toute sécurité. 🙌

ONSPEED ENERGY DISPLAY

CANADIANS PROVE INSTRUMENTAL IN WINNING THE 2021 EAA AIRVENTURE INNOVATION AWARD

BY KEN ARMSTRONG



▲ Rob Prior (left) and Vern Little, the Victoria, BC-based developers of the OnSpeed Energy Display and huVVer-AVI electronic flight instruments.



▲ The huVVer-AVI programmable electronic flight instruments, distributed by MakerPlane in Gatineau, configured as a back-seat panel in a Harmon Rocket.

Vern Little and Rob Prior, COPA members from Victoria, BC, were part of the OnSpeed team, the winners of the Grand Championship Award for Flight Safety at this year's Oshkosh AirVenture. OnSpeed is an advanced angle of attack system based on a military system from the F4-Phantom fighter. It uses a series of stereo tones to communicate aircraft energy state and yaw information directly to the pilot during approach, landing, aerobatic or STOL maneuvers.

"The OnSpeed system is designed to save lives by helping to reduce Loss of Control accidents using audio signals," explains Little. "In early 2020, the OnSpeed team approached me to enhance their system with a visual energy display, so I designed the hardware and software to provide a custom instrument that could be mounted to an aircraft glare shield or panel.

"I asked my old friend Rob to design the mechanical enclosure," continues Little, "and together we had working prototypes ready for AirVenture 2020."

Since the AirVenture 2020 event was cancelled, the OnSpeed team spent another year refining their system and



▲ An OnSpeed energy display prototype. The white horizontal bar lines up with the two white dots to indicate the best lift-over-drag ratio, corresponding to best glide and best rate of climb angle of attack. A green dot in the centre lights up to indicate the best approach and best climb angle of attack, aka ONSPEED. The red chevrons indicate low energy and flash to indicate approaching stall.

Little and Prior converted their energy display prototype to a complete family of production-ready, sunlight-readable flight instruments. In early 2021, these were released as the open-source huVVer-AVI device family, now distributed by MakerPlane in Gatineau, Quebec.

"As open-source devices, this means that all of the software is available to the public for enhancement, support, and critical review," Little says. "Already, we have independent developers using the software to design their own instruments. Even the second-place winners of the AirVenture Innovation Award contacted me after the show to use our displays to enhance their system. We are proud that these instruments were designed in Canada, manufactured in Canada, and are market and distributed by a Canadian company."

Little is currently flying a Harmon Rocket that he built and is also building a Rans S-21. Prior is flying a Van's

RV-6. Both engineers, they have many hours flying in formation with each other, and their teamwork shows in this important flight safety project. For more information on OnSpeed, visit Flyonspeed.org.

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MARCHÉ DE L'AVIATION AU CANADA

This new site was developed with our members in mind to become the easiest and fastest way to search, buy and sell aircraft and aviation-related items.

COPA members receive an automatic 10% discount.

Ce nouveau site a été développé avec nos membres afin de devenir le moyen le plus facile et le plus rapide de rechercher, d'acheter et de vendre des avions et des articles liés à l'aviation.

Les membres de la COPA bénéficient d'une rabais automatique de 10%.



RÉCUPÉRATION D'AÉRONEFS ÉCRASÉS : UNE TÂCHE COMPLEXE

BY JULIEN B. GAUTHIER, INITIATIVE DE JOURNALISME LOCAL, LE LAC ST-JEAN

En plus d'assurer la maintenance des aéronefs, le Groupe Aviatech se spécialise dans la récupération d'avions et d'hélicoptères écrasés, tant en forêt que dans des plans d'eau.

Chaque année, Aviatech est appelée par le Bureau de la sécurité des transports du Canada (BST) et diverses compagnies d'assurance à se rendre sur les lieux d'accidents, souvent mortels.

Jusqu'à présent, elle a réalisé une cinquantaine de ces manœuvres. Pour ce faire, des employés doivent effectuer des expéditions parfois complexes, afin de récupérer la carcasse.

« J'ai actuellement un dossier d'un avion qui s'est écrasé dans un lac dans le nord. Je m'y suis rendu en hydravion. Ce sont des opérations complexes. Je devrai me tourner vers une équipe de plongeurs », explique Carl Duguay, président de l'entreprise.

Il arrive que certaines opérations soient moins agréables. « L'aviation, c'est un petit monde. J'ai parfois dû récupérer des appareils de connaissances et d'amis... »



▲ Il s'agit d'une tâche qui nécessite une grande expertise.

OPÉRATION DÉLICATE

L'équipe sur place doit aussi récupérer les morceaux tels qu'ils ont été retrouvés sur le site. « On doit attendre que l'enquête soit terminée. On place ensuite les morceaux dans des filets qui sont transportés par hélicoptère. On essaie de découper le métal le moins souvent possible. Par la suite, on peut récupérer les morceaux qui sont encore bons ».

L'hydravion de type Cessna que possède Carl Duguay a d'ailleurs été conçu à partir d'un avion qui s'est déjà abîmé dans l'eau.

AUTRES SPÉCIALISATIONS

Le Groupe Aviatech se spécialise aussi dans l'usinage de pièces mécaniques en tout genre.

En septembre 2021, l'entreprise a aussi lancé sa nouvelle division : plan et design. Que ce soit pour le design d'immeuble à logements ou commerciaux ou la conception de portes et de fenêtres, l'entreprise vient d'embaucher une spécialiste en dessin de bâtiment pour assurer ce créneau.

« On dit qu'on est une entreprise multi spécialité. C'est comme un centre d'achats! Ma vision, c'est de m'adapter là où il y a de la demande », fait valoir Carl Duguay.

Le Groupe Aviatech est en croissance constante et génère un chiffre d'affaires annuel de 2 M\$ à 4 M\$.

Par ailleurs, le président de l'entreprise souligne qu'il n'a pas de difficulté à recruter de la main-d'œuvre. « Nous n'avons pas de problème à ce niveau. Tout est une question de salaire. »

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REGIONS ONTARIO

DE HAVILLAND DHC-2 OLIVIA

PHOTOS AND TEXT BY GUSTAVO COJURO

Olivia is a de Havilland Canada DHC-2 Beaver, built in 1956, number 979 of a 1,644 airplane lot. It was registered with tailnumber C-KMMS before serving as a surplus Army Beaver for the U.S. Air Force during the Korean War.

Olivia, originally a piston-powered land Beaver, was eventually parked amid rows of retired military aircraft in Arizona at Pima Air and Space Museum. It was rescued from the desert by Viking Air and restored with upgrades by 2007 as a turbine-powered Turbo Beaver seaplane. Olivia was a highlight of 60th anniversary celebrations of the Beaver in Toronto back in 2007. 🇨🇦



▲ Kevin Elwood, COPA's Southwestern Ontario Director, on November 7 flew the storied DHC-2 Olivia to St. John Lake, home of Orillia Rama Regional Airport.



▲ Viking Air, led by Director of Aircraft Maintenance Ted Gerow, rescued Olivia from the Arizona desert.



▲ Olivia was transformed by Viking Air in Victoria after more than 5,900 hours of restoration.



▲ Docked above at St. John Lake in Ontario, Olivia was restored in 2007, after its original build in 1956.



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NEWSLINE

INCIDENTS + ACCIDENTS

These reports are taken in part from Transport Canada's CADORS website.

ONTARIO REGION

A privately registered, amateur-built Cozy Mk IV from Carp, ON (CYRP) to Arnprior, ON (CNP3) was conducting an overhead approach into CNP3 from the north, with radio call over the city of Arnprior, at 1600 feet. When the aircraft was over CNP3 at 1400 feet, they made a second radio call immediately following the Skyvan's radio call. They entered the mid-downwind for Runway 28 at 1400 feet and made the radio call accordingly. The aircraft lowered its landing gear and called base and then final. They saw a pickup truck towing a privately registered Cessna 172i on the right side of the runway (north) moving south toward the runway. The aircraft continued its approach and the truck did not stop at the edge of the runway. The truck continued across the runway approximately 1200 feet in front of the aircraft as it crossed the threshold of Runway 28. The aircraft moved a few feet to the right of the centreline to ensure no contact during braking. The truck continued on its route to the seaplane ramp and did not stop. The truck had no flashing light and did not stop and check for arriving/departing aircraft before crossing the runway. The truck did not make any radio calls on 122.7 MHz.

PRAIRIES AND NORTHERN REGION

At 1623Z, a privately registered Beech J35 on a code of 1200 entered CYR204 at N55° 20' 15" W111° 12' 45" showing an altitude of 6800 feet above mean sea level (AMSL), remaining below CYR221, until 1638Z when they began to climb. The aircraft entered CYR221 at N54°

49' 09" W111° 49' 57" and continued to climb to 10,500 feet AMSL. The aircraft exited CYR221 laterally at N54° 45' 10" W111° 54' 13" at 1640Z. The Cold Lake, AB (CYOD) Terminal Controller made multiple unsuccessful attempts to contact the aircraft on Guard Frequency. Edmonton Flight Information Centre (FIC) was notified and they were eventually able to get in contact with the aircraft, who then called CYOD Terminal. The aircraft reported that their global positioning system (GPS) had failed and they were using their cell phone's GPS to navigate.

A Cessna 170B from Fort Simpson, NT (CYFS) to Nahanni Butte, NT (CBD6) landed at CBD6 without contacting airport personnel by cellphone, as required by NOTAM due to surface maintenance being performed.

QUEBEC REGION

A privately registered Cessna 150FX from Trois-Rivières, QC (CYRQ) to Trois-Rivières, QC (CYRQ) experienced radio issues and cut off a Piper PA-23-250 from Trois-Rivières, QC (CYRQ) to Trois-Rivières, QC (CYRQ) while on final. C-FERF landed and indicated that it was backtracking up the runway to exit via Taxiway Charlie, the Cessna 150FX landed without waiting for the Piper PA-23-25 to exit, and the two aircraft ended up facing each other.

RÉGION DE L'ONTARIO

Un Cozy Mk IV d'immatriculation privée et de construction amateur effectuant un vol de Carp (CYRP), ON, à Arnprior (CNP3), ON, effectuait une approche avec survol de CNP3 à partir du nord, et a fait un appel radio à 1 600 pieds au-dessus de la ville d'Arnprior. Alors que l'aéronef survolait CNP3 à 1 400 pieds,

l'équipage a fait un deuxième appel radio immédiatement après l'appel radio du Skyvan. L'aéronef a intégré l'étape vent arrière de la piste 28 à mi-parcours à 1 400 pieds et l'équipage a effectué son appel radio en conséquence. L'aéronef a sorti son train d'atterrissage et a appelé pour indiquer qu'il se trouvait dans le circuit, puis en finale. L'équipage a vu un camionnette qui remorquait un Cessna 172I d'immatriculation privée sur le côté droit de la piste (au nord) en se dirigeant vers le sud en direction de la piste. L'aéronef a poursuivi son approche et la camionnette ne s'est pas immobilisée au bord de la piste. La camionnette a continué d'avancer en traversant la piste environ 1 200 pieds devant l'aéronef, au moment où celui-ci passait le seuil de la piste 28. L'équipage a déplacé l'aéronef quelques pieds à droite de l'axe de la piste afin d'éviter tout contact lors du freinage. La camionnette a continué son chemin sur la rampe des hydravions et ne s'est pas

arrêtée. La camionnette n'avait pas de feux clignotants et ne s'est pas immobilisée pour vérifier s'il y avait des aéronefs en train de décoller ou d'atterrir avant de traverser la piste. La camionnette n'a effectué aucun appel radio sur la fréquence 122,7 MHz.


RÉGION DU PRAIRIES ET DU NORD

À 1623Z, un Beech J35, d'immatriculation privée et portant le code 1200, est entré dans CYR204 à 55° 20' 15" N 111° 12' 45" O en affichant une altitude de 6 800 pieds au-dessus du niveau moyen de la mer (AMSL), restant sous CYR221, jusqu'à 1638Z où il a commencé à monter. L'aéronef est entré dans CYR221 à 54° 49' 09" N 111° 49' 57" O et a continué à monter jusqu'à 10 500 pieds AMSL. L'aéronef est sorti latéralement de CYR221 à 54° 45' 10" N 111° 54' 13" O à 1640Z. Le contrôleur terminal de Cold Lake (CYOD), AB, a fait plusieurs tenta-

tives infructueuses pour communiquer avec l'aéronef sur la fréquence de veille. Le centre d'information de vol d'Edmonton a été prévenu et a finalement pu communiquer avec l'aéronef, qui a ensuite communiqué avec le terminal CYOD. L'aéronef a signalé que son système de positionnement global (GPS) était en panne et qu'il utilisait le GPS de son téléphone cellulaire pour naviguer.

RÉGION DU QUÉBEC

Un Cessna 150FX, d'immatriculation privée, de Trois-Rivières (CYRQ), QC, à Trois-Rivières (CYRQ), QC, a eu des problèmes radio et a coupé un Piper PA-23-250 de Trois-Rivières (CYRQ), QC, à Trois-Rivières (CYRQ), QC, alors en finale. Le Piper PA-23-25 a atterri et indiqué qu'il remontait la piste pour la dégager par la voie de circulation Charlie, et le Cessna 150FX a atterri sans attendre que C-FERF ait dégagé, et les deux aéronefs se sont retrouvés face à face. ✈️











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DETAILS OF CALLOUTS

HOW CASARA WORKS WITH INDUSTRY PARTNERS TO HELP LEAD THE SEARCH FOR OVERDUE AIRCRAFT

The most frequent question pilots ask about CASARA is “How often do you get callouts?” To answer that question reasonably we need to digress into annual statistics applied to actual parts of the calendar and breakdown callouts into the broad categories of searches for missing aircraft and humanitarian efforts (looking for lost boaters on a lake, for example).

We can further divide the missing aircraft category into those that are overdue and/or have a 406 Mhz ELT and those that come from older style 121.5 ELTs. There are relatively few of the former because there are fewer and fewer “accidents” (partly due to the accuracy of GPS navigation) and, if there is an accident, the 406 ELT call for help is immediately heard by the satellite system.

There are many more of the other kind of callouts, as 121.5 ELTs are still *legal* in non-commercial aircraft, but have old tech mercury G switches for activation that are notoriously unreliable, activating when they should not be – and not activating when they should. 121.5 ELTs are also no longer picked up by the satellites and rely on being heard by high flyers such as airlines.

CASARA does regularly chase down and turn off false alarm 121.5 ELTs several times a year – and remember, if it happens to you, there is no cost nor is there any enforcement action, we are just happy you’re okay, so do not try to hide it or we will be very confused.

Let’s for a moment consider what happens when there is an accident. If the airplane has a 406 ELT, through the satellite locator, we can usually go directly to within five nautical miles (NM) or less of the site. If it’s an older style ELT, we can usually get to within 10 to 15 NM once we have acquired the signal in the vicinity. But if we do not have a clue as to approximately where the site is, it can take substantial searching along the entire route to find the signal.

If there is no signal, then the search and rescue (SAR) team must systematically scour the entire area and periphery from the Last Known Position (LKP) – most often the departure airport – to the destination. Air search and rescue in Canada is the responsibility of the Royal Canadian Air Force and they have developed systems and techniques that are respected (and copied) all over the world. CASARA acts as one of the resources at the command of the Search Master, usually working through a CASARA search coordinator that has a firsthand understanding of the capability and availability of CASARA equipment and personnel.

The basics of a search include defining the areas of highest probability for the order of priority of search, then covering the



entire possible area six times at different altitudes, in different directions and at different times of the day. We also often dispatch CASARA ground vehicles with ELT homing equipment to high probability areas in case the signal is too weak for the aircraft to catch or the antenna is skewed, so the signal is travelling across the ground.

For a recent accident in the Edmonton area, all of the above was put into action in a fast maximum effort search. There were two C-130 Hercules with SAR-Techs and two helicopters from the military, which included CASARA trained civilian spotters (some working 24 hours using Night Vision Goggles). We also had available six CASARA aircraft and crews; and two ground homing vehicles and crews. This search was made much more difficult because of poor visibility in the search area due to smoke, but the site was found by a CASARA spotter on a military aircraft.

Although airplane accidents are few and far between (unlike automobiles), all accidents are good reminders for pilots to check their equipment before they leave. Check your ELT (and think about a 406 if you do not have one) and use any other locating devices you have access to, such as a PLB, a SPOT or an InReach or any other such device.

File a flight plan and amend it as you go, if needed (remember – we will be looking where you said you were going to be). Use navigation backup: GPS is fast and accurate, if it’s working and you entered the correct information, but at least check the map and confirm an initial heading. Make your GO/NO GO decision based on reality, not schedule priorities.

Give FSS position reports, which drastically reduce a search area, as well as any PIREPs as your flight progresses. Always be prepared to turn around or head for the closest airport or even do a precautionary landing in a field if the situation is creating concerns in your mind. Do a conscious, purposeful reality check regularly to determine your best way forward. 🛩️

TOP 10 PILOT TOOLS OF 2021

PILOT GEAR AND GADGETS THAT STAND OUT FROM THE REST

Although piloting an aircraft can be as simple as old-school stick and rudder skills, technology advancements always open up a Pandora's Box of products, some lifesaving, some for better situational awareness and others are, well, just fun. Most pilot flight bags share a common theme, ForeFlight, iPad, ADS-B receiver, headset, Sirius XM weather and a portable transceiver. This tech has become as ubiquitous as the paper charts, pencils and mechanical E6Bs of the 1950s. Fast forward to 2021 and things have certainly come along way.

In October, Apple introduced its newest iPad Mini (Generation 6 or G6). It is completely different than the previous version, sporting Apple's A15 Bionic CPU, Wi-Fi 6, 5G cellular and new camera technology, with a feature called Center Stage. G6 has a bigger screen (8.3 inches), but is physically smaller than the previous generation iPad Minis (older cases and mounts may not fit). The new iPad Mini has Touch ID, a USB-C port (replacing the Lightning port), ships with a USB-C to USB-C cable and USB-C 20 Watt charger.

5G models have a built-in GPS/GNSS receiver – handy, if you don't have an external GPS receiver. Wi-Fi only models do not have an onboard GPS chip. Having used the new iPad Mini, I can attest to how dramatically faster it is relative to previous models. It is akin to upgrading from a Cessna 172 into a TBM940. The iPad Mini is available in four models 64 GB, 256 GB and with or without 5G cellular, starting at \$649 (approximate retail pricing for all products). Don't forget to pick up a screen protector, extra USB-C cables and a case.



▲ Aithre's Illyrian Smart Oximeter (left) is a wearable sensor communicating mobile devices. Apple's newest iPad Mini Gen 6 (right) loaded with ForeFlight.

MyGoFlight was founded shortly after Apple introduced its first iPad, manufacturing iPad cases and mounts for aviation use. MyGoFlight has since expanded its product line to include clothing, luggage, flight bags and more. In October, MyGoFlight released new cases and screen protectors for the new iPad Mini (preorder for January 2022). New for Q4 2021, MyGoFlight introduced a iPad/Tablet Leg Mount system. Unique to MyGoFlight, the Leg Mount knee board, allows the tablet to be tilted, providing the best viewing and writing angles. Prices start at \$179. With smart device technology changing every year, USB power technology has changed from USB Type A, USB-C and USB PWD. A TSOd USB power port installed in the aircraft might be obsoleted in a few years. MyGoFlight also recently introduced its USB Infinity Power system to resolve this problem. It has two components: A Power Base Module (PBM), which is installed behind the panel, and a USB Power Module (UPM), which attaches to the PBM, displaying volts in and amps out. Infinity Power can be ordered in a bundle for \$300.

At altitude, the amount of oxygen in

the air diminishes, with a natural outcome of our blood oxygen saturation (SPO2) dropping. At sea level, for a healthy person, 98 to 99 per cent is the norm. Knowing your SPO2 when flying will help ensure that you do not fall victim to hypoxia. Companies like Nonin manufacture medical fingertip oximeters at reasonable prices. Garmin's D2 Air smartwatch (\$660) has a Pulse Oximeter sensor built in, acting as a wearable. Aithre's Illyrian Smart Oximeter is a wearable sensor communicating with its Connect App for your iPhone, iPad and Watch. SPO2 readings are obtained using a thin sensor pad worn near the ear or on the forehead, and then broadcast wirelessly using Bluetooth Low Energy to your iPhone or iPad Mini. Included in the kit is the sensor, USB power bank and headband, retailing at \$176. New for 2021, Aithre launched its own carbon fiber oxygen tanks. Its 152L bottle with a two place AVI8 smart valve and Altus Meso Bluetooth sensor is \$1,395. The system provides a pulsed oxygen delivery system that utilizes pressure altitude, respiration rate and custom user parameters to extend oxygen duration by more than four times.

Adding certified USB power ports to an aircraft can be costly, unless you're buying a brand-new aircraft. Icarus Instruments manufactures Charge on the Fly (CF), a cool Lemo Headset USB power adapter. This small box plugs into the Lemo connector on the panel, which delivers DC power to CF. Your Bose or Lightspeed Lemo headset plugs into CF. It has two USB charging ports, one USB-A and one USB-C delivering a total of 30 Watts of power. Both ports can be used simultaneously to charge or power smartphones, tablets, ADS-B IN receiver, and others. CF supports both 14- and 28-volt aircraft. Typical Lemo installations have a 1- or 2-amp circuit breaker, which is a must for CF. It retails for \$217 through Aircraft Spruce Canada.

Audio Authority has been manufacturing power components for certified and experimental aircraft for 15 years. This fall, it released a line of new White Lightning Ground Power Units (GPU) to power an aircraft's avionics systems when on the ground. This facilitates hanger flying including: updating avionics databases, avionics and aircraft systems training, pre-flight instruction, and topping up the aircraft's battery. The GPU should not be used to provide long-term charging of the ship's battery. The GPU allows the pilot to spend hours in the aircraft without the worry of running down the aircraft's battery. This is especially important during winter months, with battery capacities impacted by cold weather. The White Lightning GPUs are light weight, come in four models, and feature voltage and amp

digital displays. They have a unique aircraft power cable system to provide more flexibility. White Lightning GPUs are also available from Aircraft Spruce and start at \$606.

Sporty's re-introduced its Original Flight Gear Bag, which launched more than 30 years ago. New for 2021, Sporty's redesigned this classic leather flight bag with more pockets for pilot equipment and charts, sections to organize gear, and new protective features to keep portable electronics and headsets safe. The leather version is manufactured from black calfskin with YKK zippers and tough metal hardware. YKK zippers are high quality which self-lubricate the more you use them. The flight bag not only looks good, but can withstand harsh pilots and environments. Sporty's offers custom embroidery of your favourite aircraft and up to two lines of text (15 characters per line). The flight bag costs \$250 with custom embroidery at \$9.95.

The American Optometric Association recommends sunglasses that block ultraviolet radiation (UV) whenever you are in the sun, to protect your eyes from UV and blue light, which can cause serious eye problems. Randolph Engineering has been meticulously hand-making sunglasses and prescription frames in its Massachusetts factory since 1973. Former Royal Air Force navigator Jan Waszkiewicz and machinist Stanley Zaleski both immigrated to America with a few dollars and a dream to build the world's best sunglasses. With a background in engineering and some serious skills, they built a proprietary soldering machine and developed a 200-step process to create a single pair of Randolph sunglasses. Randolph offers both mineral glass non-polarized and polarized lenses. New for 2021, Randolph introduced its special edition Military Aviator, which includes the sunglasses, commemorative dog tag keychain, embossed military case and military inspired cleaning cloth. The sunglasses are available in either matte chrome or 23k gold frames, with polarized or non-polarized lenses. The frames are available in three sizes with the matte chrome priced at \$249 and 23k gold at \$329. The special edition Military Aviator is only available on Randolph's website. Randolph has many other frame styles, two styles of temples (bayonet and skull), two types of lenses with a choice of 13 different lens colours and a variety of coatings. The different temple styles create a different feel for the wearer. When purchasing sunglasses, like shoes, it's best to try them in the store to determine which frame provides the best fit, comfort and style.

Red Canoe Brand clothing, a Canadian company, has been manufacturing aviator clothing and accessories since 2002. Just in time for the Canadian winter, Red Canoe's line of aviator inspired cardigans, sweaters and hats are made from cotton or wool. Its winter hats include a wool toque and wool caps, some of which have hidden pull down ear coverings (the Cord Cap), perfect for early morning January walk-arounds. To accessorize your clothing, Red Canoe has a variety of kit bags, shoulder bags, toiletry cases, iPad slip cases, helmet bags, and patches available in a variety of logos, from RCAF to Boeing. I really like the Curtis P-40

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Warhawk inspired helmet bag, hats and shirts. New for 2021 are Vought F4U Corsair inspired products. Don't forget the COPA member 15 per cent discount on all regularly priced items in Red Canoe's online store.

During Canadian winter, engine pre-heating is an absolute must to prolong an engine's life. As urban legend has it, starting a cold soaked engine is akin to 500 hours of normal usage. Many pilot/owners are concerned about leaving an aircraft engine preheater plugged in all winter long. Tanis Aircraft Products just launched its SwitcheOn remote switches (PreHeatRemote.com) to the Canadian market. SwitcheOn is a cellular-enabled, app-controlled power switch, which allows a pilot to remotely turn on and off the power to their engine and aircraft preheaters. This approach of turning the preheater on three to five hours before your flight helps ensure that the engine components do not corrode. The pilot can simply use the SwitcheOn App to turn on a power outlet for a specific period of time. The SwitcheOn hardware is available in three models: four outlet, 20 amp; two outlet, 15 amp; and four outlet, 14 amp. Prices start at \$349, including the first year of Telus LPWA data services and shipping (ground). After the first year, the annual cost of the cellular data service is \$99. Consider contacting Telus or Tanis to ensure your location is supported by Telus' LPWA cellular network, with its data service available in all Canadian provinces except Saskatchewan.

Transport Canada recency (CARs 421.05) requires that pilots meet certain criteria every two years. Many pilots complete a self-administered assessment or attend a Transport Canada safety seminar to meet the recency requirements. A Biannual Flight Review (BFR) with a certified instructor not only meets the recency requirements, but provides a practical way to brush the rust off your flying skills, while learning new skills. A typical BFR is comprised of ground instruction and one to two hours of air work. The Brampton Flying Club (BFC) has taken

a unique approach to keeping its members safe and current. Beginning in 2016, BFC mandated that all pilot members who fly its aircraft are required to have a BFR. Its Refresher Flight Program (RFP) goal is to ensure ongoing safety for all rental flights via pilot proficiency. Putting safety first, the BFC chose to waive the instructor's fees as part of the RFP, but the renter pays for the aircraft rental.

A typical BFR instructor cost ranges from \$200 to \$225 (plus the aircraft rental).

Finally, Canadian General Aviation has until Nov 2025 to comply with Transport Canada's 406 MHz ELT. Why not replace your aging 121.5 MHz ELT now and avoid the rush. Don't forget to share this article with your family and friends as we prepare for the holiday season. 🛩️



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COPA SAFETY PROGRAM

THE PROGRESS OF PROMOTING SAFER SKIES FOR GENERAL AVIATION

The COPA Safety Program was introduced in late 2020 with the purpose of mitigating risks in General Aviation. It is designed to support the development of skills and knowledge required of the GA community to safely operate across Canada. The program includes online seminars, magazine articles, weekly e-newsletters, reference materials, guest speakers and recordings, with the main component being a free monthly online safety seminar. So far this year, COPA Safety Program seminars have attracted more than 6,000 attendees.

Four of the seminars met Transport Canada Pilot Recurrent Training Program (PRTP) requirements for traditional aviation, as well as two seminars for RPAS. COPA was able to not only provide knowledge on safety topics for the aviation community, but it also helped pilots keep their license current.

Attendance in 2021 started strong and hardly wavered. COPA covered a variety of safety topics such as Winter, Spring and Summer Flying, Surviving the Unplanned Landing, Pilot Decision Making, and Float and Mountain flying. Our most popular seminar, Enroute CFIT and Post Lockdown Flying was attended by 1,125 people. We talked about drones and how to buy your first aircraft. Safety is part of every aspect of flying. Comments from attendees from the various seminars include:

- “Very good session; well-presented and pertinent to safety.”
- “Greatly appreciate this initiative. In the past, I have had to rely on EAA Webinars. Thank you, a much-needed additional outreach to the services COPA provides to the aviation community.”
- “Thanks for all the good work at COPA and for the Safety Seminar series. I have attended all of them except the recent Float Plane one and really enjoyed them.”
- “Very well-organized program. I like that COPA is running these. I learn something new every time but a lot of it is also a good refresher of things I learned years ago.”

The COPA team’s hard work and diligence have been instrumental to its success. Sharon Cheung, COPA’s Director of National Programming, says, “Although the pandemic has created some challenges for the flying community, the popularity of COPA’s online seminars clearly indicates how commitment to safety and enthusiasm for flying has not wavered during this time.

“Thank you to our members and the greater General Aviation community for your participation, for your feedback and for sharing these sessions with other pilots,” continues Cheung. “This past year energized us and, as we look to future years of this program, we’ll continue making learning accessible, covering the most pressing issues in GA and connecting you with



▲ COPA’s most popular seminar, Enroute CFIT and Post Lockdown Flying, was attended by 1,125 people.

qualified experts. Regardless of your location and schedule, a range of training options will be made available to you – our members – including mandatory 2-year Transport Canada Pilot Recurrent Training. Keep an eye out as we continue re-imagining safety training for General Aviation pilots in Canada.”

Obtaining your pilot’s license may feel like a finish line, but it is merely a starting point to learn. Whether you have a newly minted PPL or a 15,000-hour ATPL, the goal of every pilot should be to continue to improve their overall safety. The Transport Canada Pilot Recurrent Training program requirement is a minimum standard to ensure all pilots attend a safety seminar, complete the self-paced study program, complete a flight review with an instructor, write an exam or complete a flight test. But safety shouldn’t end with the minimum requirements. The COPA Safety Program has a goal of not only keeping pilots current but also bringing forth topics for improved overall awareness, skill and knowledge. We will strive for your continued participation in the COPA Safety Program seminars and the COPA team will continue its commitment to provide relevant material, for the seminars as well as in all other aspects of the program.

The COPA Safety Program is fully funded by the COPA Flight Safety Foundation, COPA’s registered charitable organization, and relies 100 per cent on donations. Please visit the COPA Website to learn about how to make your donation and receive a 2021 tax receipt.

Stay tuned for new and exciting seminars planned for 2022, including: Ultralight and Grass Operations, Building Your Own Airplane and Drone, Weather Briefings, and more. 🙌

LE PROGRAMME DE SÉCURITÉ 2021 DE LA COPA

RETOUR SUR LES PROGRÈS DE LA PROMOTION D'UN CIEL SÛR

Le programme de sécurité de la COPA a été lancé au fin 2020, dans le but d'atténuer les risques dans l'aviation générale tout en soutenant le développement des compétences et des connaissances nécessaires à la communauté de l'AG pour opérer en toute sécurité à travers le Canada. Le programme de sécurité de la COPA comprend des séminaires en ligne, des articles de magazine, des bulletins électroniques hebdomadaires, des documents de référence, des conférenciers invités et des enregistrements, la composante principale étant un séminaire de sécurité mensuel en ligne. Jusqu'à présent cette année, plus de 6000 personnes ont participé aux séminaires du programme de sécurité.

Avec quatre séminaires comptant pour la formation périodique des pilotes, ainsi qu'un séminaire pour la formation périodique des pilotes de SATP, la COPA a pu non seulement apporter des connaissances et des informations sur des sujets de sécurité à la communauté aéronautique, mais aussi aider les pilotes à maintenir leur licence à jour.

La participation en 2021 a commencé fort et n'a pas faibli. La COPA a couvert une variété de sujets liés à la sécurité, tels que le vol en hiver, au printemps et en été, la survie en cas d'atterrissage imprévu, la prise de décision du pilote, le vol sur flotteurs et en montagne. Notre séminaire le plus populaire, le CFIT en route et le vol après lockdown, a été suivi par 1 125 apprenants. Nous avons parlé des drones et de la façon d'acheter votre premier avion. La sécurité fait partie de tous les aspects du vol.

Le travail acharné et la diligence de l'équipe de la COPA ont contribué à ce

succès. Sharon Cheung, directrice de la programmation nationale de la COPA, déclare : « Bien que la pandémie ait créé certains défis pour la communauté des pilotes, la popularité des séminaires en ligne de la COPA indique clairement que l'engagement envers la sécurité et l'enthousiasme pour le vol n'a pas faibli pendant cette période.

*JUSQU'À PRÉSENT
CETTE ANNÉE, PLUS
DE 6000 PERSONNES
ONT PARTICIPÉ AUX
SÉMINAIRES DU
PROGRAMME DE
SÉCURITÉ.*

« Merci à nos membres et à l'ensemble de la communauté de l'aviation générale pour votre participation, pour vos commentaires et pour avoir partagé ces séances avec d'autres pilotes. L'année dernière nous a donné de l'énergie et, alors que nous nous tournons vers les années futures de ce programme, nous continuerons à rendre l'apprentissage accessible, à couvrir les questions les plus urgentes en matière de AG et à vous mettre en contact avec des experts qualifiés. Quels que soient votre lieu et votre emploi du temps, un large éventail d'options de formation sera mis à votre disposition - nos membres - y compris la formation périodique obligatoire de deux ans pour les pilotes de Transports Canada. Gardez l'œil ouvert, car nous continuons à réimaginer la formation à la sécurité pour les pi-

lotes de loisir au Canada. »

Que vous soyez titulaire d'une nouvelle licence de pilote professionnel ou d'une licence de pilote de ligne de 15 000 heures, l'objectif de tout pilote devrait être de continuer à améliorer la sécurité générale de ses vols. L'exigence du programme de formation périodique des pilotes de Transports Canada, d'une durée de 24 mois, est une norme minimale pour s'assurer que tous les pilotes assistent à un séminaire sur la sécurité, suivent le programme d'étude à rythme libre, effectuent une révision en vol avec un instructeur, passent un examen ou effectuent un test en vol. Mais la sécurité ne devrait pas s'arrêter aux exigences minimales. Le programme de sécurité de la COPA a pour but non seulement de maintenir les pilotes à jour, mais aussi de proposer des sujets permettant d'améliorer la sensibilisation, les compétences et les connaissances générales. En ajoutant aux connaissances de l'aviation générale, le programme de sécurité de la COPA est un outil disponible pour tous les membres afin d'apprendre de nouvelles choses, d'être rafraîchi et de gagner en perspicacité.

Le programme de sécurité de la COPA est entièrement financé par la Fondation de la sécurité des vols, l'organisme de bienfaisance enregistré de la COPA et dépend à 100% des dons. Veuillez consulter le site web de la COPA pour savoir comment faire votre don et recevoir votre reçu fiscal pour 2021.

Restez à l'affût des nouveaux séminaires passionnants prévus pour 2022, y compris les opérations ultralégères et sur gazon, la construction de votre propre avion et drone, les exposés météorologiques et plus encore ! 🇨🇦

PILOTS AND MATTERS OF MAINTENANCE

A NEW SERIES FOR PILOTS TO BETTER UNDERSTND HOW TO SAFELY MAINTAIN THEIR AIRCRAFT

In the mid-80s, when I had just started my career in aviation as an Aircraft Maintenance Engineer (AME), I observed an unusual occurrence that has played an essential lesson throughout my career. From the window at a Cessna Citation Service centre, overlooking the FBO ramp, I observed a pilot doing a somewhat routine walk-around on a Hawker Siddeley 125-700. Nothing unusual about that, until he pulled out a screwdriver and walked under the wing.

In less than 30 seconds, the pilot was drenched in fuel, which was being discharged at an alarming rate. I and another AME ran out the door to see if we could offer assistance. Fortunately, with a bit of luck, the pilot was able to undo the mistake and stop the fuel shower.

The cause of the fuel leak was quickly determined. Instead of draining any water from the quick fuel drain, the pilot mistakenly started unscrewing a plug that should only be used during maintenance. Its purpose is to drain the unusable fuel once the entire wing is emptied of usable fuel. When this plug was released, the force and flow was not what the pilot expected. It is equivalent to drinking water from a fire hose. Visibly shaken and soaking wet from fuel, the pilot crawled out from under the wing and said, "Think I undid the wrong plug." As the pilot walked away, the AME I was with, who was much older and way more experienced than I, shook his head and said, "Dave, remember this: The most dangerous thing at an airport is a pilot with a screwdriver." By the way, the HS125-700 holds approximately 10,000 pounds of fuel, 5,000 pounds per wing.

Back then, on that particular day, I couldn't agree more. As I gained experi-



▲ Proper Elementary Maintenance can save pilots money and provide safety, instead of making unapproved modifications that render the aircraft unairworthy.

ence and advanced to a Chief Engineer's position, however, it became part of my job to certify our pilots to conduct elementary maintenance on the aircraft we were operating. I never forgot that saying I heard many years ago, about the most dangerous thing at the airport. But I use a slightly modified version: "The most dangerous thing at an airport is an untrained pilot with a screwdriver."

So, from this story, it begs the question, What exactly is *Elementary Maintenance for Pilots*? What type of operations does it apply to? Private operators? Commercial operators? And what kind of aircraft does it include? Piston engine only? Single engine? Multi-engine? What do the Canadian Aviation Regulations (CARs) say about elementary maintenance for pilots? The questions are actually immense and important; and I hope

to answer them and many more questions you might have within the pages of COPA Flight, as we kick off with a series of articles on this topic.

Elementary maintenance for pilots is a complex subject. There is no surprise here; CARs and the CARs Standards are very grey in this area. Many people get it wrong. Case in point: from 2012 to 2015, I worked for a company based out of Australia, performing audits on fixed-wing and rotary-wing aircraft in North and South America. On average, I conducted close to 60 audits per year, ranging from Aerial Work and Air Taxi operators (702 and 703) to commuter and airline operators (704 and 705). More times than I care to remember, elementary maintenance was an area in which I had a good chance of finding discrepancies. For those unfamiliar with the CARs, the fine

for unapproved elementary maintenance practices is \$5,000 for a private operator and \$25,000 for a commercial operator. (See CARs Subsection 571.02(1)) Not only that, unapproved maintenance renders your aircraft's Airworthiness Certificate null and void.

It is imperative for you to understand that if you completed elementary maintenance not in conformance with the CARs, you are flying illegally. If you were unfortunate enough to be in an incident or accident, no matter how small, your insurance is invalid.

As an example, a few weeks ago, I was led to an online aviation chat site that many of you may be familiar with, and I happened to observe the following conversation,

As posted by a Cessna 172 Owner: "Hey, I would like to do my own oil changes on my 172N with the good ol' O-320-H2AD engine. I also understand that I can do a reoccurring AD that tells me I need to cut open the oil filter and check for metal. I have the proper tool to cut the filter open to inspect the filter for ferrous metal. However, I am wondering if the regulations allow me to make that inspection or not. Oil changes are performed every 50 hours or sooner. I may have to have an oil filter cut open every 100 hours by an AME to be legal. What do you guys think?"

Reply from another 172 Owner: "IMHO change the oil, cut open the filter, make the entries in the logs. That's it!"

As I followed the conversation further, it was clear that this poor individual actually did do as suggested on the chat site and described the logbook entry they made after, which was also incorrect. Needless to say, from the time this pilot performed the work on the aircraft, they were flying an non-airworthy aircraft.

After I hit my head on the wall a couple of times in disbelief, a few questions kept coming to me. First, why would this individual go to a chat site rather than call Transport Canada? Secondly, why would you not make sure that the individual giving you the advice was someone reputable?

We will return to this conversation in a future article, and I think you will be surprised by how many errors you can find in such a short conversation.

In fairness to that unfortunate Cessna 172 owner, it is not just private aircraft owners who get themselves into trouble. Licenced aircraft operators (who should know better) can be just as delinquent in their understanding of the CARs. Even worse are the operators who know the CARs and flat out refuse to follow them.

IN LESS THAN 30 SECONDS, THE PILOT WAS DRENCHED IN FUEL WHICH WAS BEING DISCHARGED AT AN ALARMING RATE.

Most of the audits I performed were non-eventful other than the usual suspects. But now and then, you would come across a really ripe one that would leave you gasping for air. You always remember the bad ones who cause you to wake up in the middle of the night in a cold sweat.

There was an operator, who will remain anonymous, that had a fleet of two single Otters, a handful of Beavers, and the old and always famously slow Britten-Norman Islander. There were so many things wrong with this operation that I do not have the space to go into them all in this article, so I'll just stick to the Islander because it fits well with discussions of Elementary Maintenance. My first thought as I entered the cockpit to inspect the aircraft was, "Is someone playing some sick joke on me? If so, it's not very funny." In the first 30 seconds of being in the cockpit, I was overwhelmed with the numerous unapproved modifications. From the hotwired GPS that looked like it was bought on sale at the local Home Hardware store, the 45-gallon fuel barrel strapped to the floor behind the passenger seats with hardware that looked like

the kind you would purchase at Princess Auto, to the flight manual, which showed the latest revision of 1974 (the year of the audit was 2014). When I inquired with the owner if the fuel barrel strap bolted to the cabin floor was an approved modification, and asked if they were aware that the aircraft flight manual is not to the latest revision, the owner quickly replied, "Do you think I'm going to pay some AME to do something I can do myself; and why would I pay \$170 every year to have the latest flight manual when the aircraft fly's the same anyway? Plus, I'm allowed to use my own strapping strap in the cargo bay under elementary maintenance"

Needless to say, the audit quickly digressed to the point of me being told to leave the premises and that I would be hearing from their lawyer for failing them on this audit. It was a big deal because they would lose a \$3 million contract with a local mining company without passing my audit. My standard answer to people who question my findings is, "I tell you what, if you can get a letter from Transport Canada informing me that I was incorrect in my assessment, then I'll gladly retract my discrepancies." In all the audits I've performed, I have never received such a letter from Transport Canada.

After watching the previously mentioned online chat conversation, these described experiences, and the questions raised after my headbanging session, it motivated me to ask COPA if I could write a three- to four-part series on Elementary Maintenance for Pilots. As mentioned, the CARs are grey on this matter. However, there is a lot of leeway given to pilots to perform work on their aircraft and still keep their airworthiness certificate valid; and at the same time save a lot of money. It all comes down to training and a good understanding of the CARs. By the end of my series of articles, I hope to save those interested from making some serious and possibly deadly mistakes. Saving some money on your aircraft maintenance also never hurt anyone. 🙏

New COPA Scholarships Coming in 2022

TWO ADVANCED FLIGHT TRAINING AWARDS NOW AVAILABLE,
ALONG WITH SUPPORT FOR DRONE PILOTS

BY SHARON CHEUNG

In the New Year, COPA will be introducing two new scholarship opportunities dedicated to advancing our members' flying goals. Applications must be submitted between January 4 and March 1, 2022, via the COPA website under the Scholarships and Awards menu. COPA's three scholarships, valued at a total of \$24,500, will support flight training for seven well-deserving individuals. Full guidelines are available on the COPA website.

Scholarships will be awarded during the upcoming COPA National Fly-In and Aviation Exhibition in Saint-Jean-sur-Richelieu, Quebec, taking place from June 23 to 26, 2022. To verify your membership status, log into the members-only section of Copanational.org.

NEIL J. ARMSTRONG AB-INITIO SCHOLARSHIP | 1 AWARD, VALUED AT \$14,000

Since 1995, the COPA Neil J. Armstrong Scholarship has financially supported the development of young pilots aged between 16 and 21. This longstanding scholarship was created in honour of Canadian Aviation Hall of Fame inductee Neil J. Armstrong. This award comes with a free one-year COPA Student membership.

Applicants are assessed on their demonstrated interest in aviation, community involvement, academic achievements, ability to set and achieve goals, and commitment to completing flight training. A COPA membership is not necessary.

NEW* COPA ADVANCED FLIGHT TRAINING SCHOLARSHIP

| 3 AWARDS, VALUED AT \$2,500 EACH

The COPA Advanced Flight Training Scholarship supports



▲ Ron Cooke presents the 2021 Neil J. Armstrong Scholarship to recipient Emilie Perron in North Bay.

COPA members interested in pursuing advanced flight training. Through the generous contributions of the WestJet Pilot Association, this new scholarship helps to remove some of the financial burden for COPA members to obtain an advanced pilot license or additional flight ratings.

To qualify, applicants must be 18 or older and have completed their PPL. Recipients are chosen based on merit, including career or personal aspirations, contributions toward the advancement of General Aviation.

Successful applicants for this scholarship award must also demonstrate their commitment to promoting flight safety through advanced flight training.

NEW* COPA DRONE PILOT SCHOLARSHIP | 3 AWARDS, VALUED AT \$1,000 EACH

COPA believes the sky is for everyone and is committed to supporting safer drone operations. Through the new COPA Drone Pilot Scholarship, three COPA members aged 18 and older will receive training to obtain their Advanced RPAS Pilot Certificate. The scholarship includes access to RPAS ground school, flight reviews and exam expenses (conditions apply). Recipients will be chosen based on involvement and participation in General Aviation activities, events, or organizations.

Visit Copanational.org to learn more.

Interested in contributing to the future of general aviation? Consider volunteering your time as a member of one of our scholarship subcommittees. Contact us at programs@copanational.org to express interest in reviewing applications and in supporting a new generation of pilots. 🇺🇸

Nouvelles bourses de la COPA disponibles en 2022

PLUSIEURS PRIX POUR DE LA FORMATION EN PILOTAGE
D'AÉRONEFS ET DE DRONES
PAR SHARON CHEUNG

Au cours de la nouvelle année, la COPA lancera deux nouvelles bourses d'études destinées à faire progresser les objectifs de vol de nos membres. Les demandes doivent être soumises entre le 4 janvier et le 1er mars 2022 sur le site Web de la COPA, sous le menu Bourses d'études et prix.

Les trois bourses de la COPA, d'une valeur totale de 24 500 \$, permettront à sept personnes méritantes de suivre une formation en vol. Les directives complètes sont disponibles sur le site Web de la COPA, sous la rubrique Bourses d'études et prix.

Les bourses d'études seront remises lors du prochain rendez-vous aérien national de la COPA à Saint-Jean-sur-Richelieu, qui aura lieu du 23 au 26 juin 2022. Pour vérifier votre statut de membre, connectez-vous à la section réservée aux membres du site Copanational.org.

BOURSE D'ÉTUDES AB-INITIO NEIL J. ARMSTRONG

**| 1 BOURSE D'UNE VALEUR
DE 14 000 \$**

Depuis 1995, la bourse d'études Neil J. Armstrong de la COPA soutient financièrement le développement de jeunes pilotes âgés de 16 à 21 ans. Cette bourse de longue date a été créée en l'honneur de Neil J. Armstrong, intronisé au temple de la renommée de l'aviation canadienne. Cette bourse est accompagnée d'une adhésion gratuite d'un an à la

COPA pour les étudiants.

Les candidats seront évalués en fonction de leur intérêt manifeste pour l'aviation, de leur engagement communautaire, de leurs résultats scolaires, de leur capacité à se fixer et à atteindre des objectifs et de leur engagement à suivre une formation au pilotage. Il n'est pas nécessaire d'être membre de la COPA.

*LA COPA CROIT QUE LE
CIEL EST POUR TOUT LE
MONDE.*

NOUVELLE* BOURSE COPA DE FORMATION AU PILOTAGE AVANCÉE

**| 3 PRIX D'UNE VALEUR
DE 2 500 \$ CHACUN**

La bourse de formation avancée en vol de la COPA soutient les membres de la COPA qui souhaitent suivre une formation avancée en vol. Grâce aux généreuses contributions de l'Association des pilotes de WestJet, cette nouvelle bourse d'études aide à alléger le fardeau financier des membres de la COPA qui souhaitent obtenir une licence de pilote avancée ou des qualifications de vol supplémentaires.


Pour se qualifier, les candidats doivent avoir 18 ans ou plus, être en possession de leur PPL et être inscrits à un programme de formation au pilotage commercial. Les lauréats seront choisis en fonction de

leur mérite, notamment de leurs aspirations professionnelles ou personnelles, de leur contribution à l'avancement de l'aviation générale ainsi que de leur engagement manifeste à promouvoir la sécurité des vols par une formation avancée.

NOUVEAU* BOURSE DE PILOTE DE DRONE COPA | 3 PRIX D'UNE VALEUR DE 1000 \$ CHACUN

La COPA croit que le ciel est pour tout le monde et s'engage à soutenir des opérations de drones plus sûres. Grâce à la nouvelle bourse d'études de la COPA pour les pilotes de drones, trois membres de la COPA âgés de 18 ans et plus recevront une formation pour obtenir leur certificat avancé de SATP. La bourse comprend l'accès à l'école au sol SATP, des examens de vol et la prise en charge des frais d'examen (certaines conditions s'appliquent). Les bénéficiaires seront choisis en fonction de leur implication et de leur participation à des activités, événements ou organisations d'aviation générale.

Visitez Copanational.org pour en savoir plus.

Vous souhaitez contribuer à l'avenir de l'aviation générale ? Envisagez de donner de votre temps en tant que membre de l'un de nos sous-comités des bourses. Contactez-nous à programmes@copanational.org pour exprimer votre intérêt à examiner les candidatures et à soutenir une nouvelle génération de pilotes. 

A LOOK INSIDE COLLINGWOOD

APPROACHING 25 YEARS, HOW A GROUP OF AVIATION ENTHUSIASTS
MAINTAIN THEIR FLYING CLUB SUCCESS

BY PETER GLEN

Interestingly, it is said that of every person who has ever existed, all have shared in the exhilarating experience of personal flight; if only during their dreams. It is a somewhat smaller and exclusive segment of humankind, however, who have realized the actual euphoria of flying as a pilot... and that euphoric passion for flying is no more prevalent, than at the Collingwood Flying Club (CFC).

Inaugurated in 1998, by recently retired member Barry Parker, the CFC remains as a prime example of how a group of enthusiast pilots have continued to successfully enable and promote their passion for personal recreational flying. Structured as a not for profit corporation, the club currently includes 12 members, all of diverse ages and backgrounds, each of whom own an equity share.

At present, the club owns and operates a 1968 C-177 Cessna Cardinal, C-GGNP, sporting 180 horsepower with a constant speed prop, housed in the club's large hangar based at Collingwood airport, in Southern Ontario (CNY3). Although Covid caused a recent crimp in the club's activities, GGNP averages more than 250 hours air time per year.

Jeff Parton, one of the original members of the CFC, a past President and still an active flyer, credits the combination of a shared passion for aviation, with establishment of strong club governance, as guiding principles to the club's continued success. "I've always appreciated that we remain pretty buttoned down in terms of both operational and budgetary management," says Parton. "We have monthly meetings and our finances are quite solid. And when anything needs to be fixed, it's done immediately."

Parton also points the area within which the club operates. "Located in Collingwood, we have the luxury of flying above some of the most beautiful geography in Ontario, in the Southern Georgian Bay Region and in air space that's perfect for recreational aviation," he continues. "Plus, there are a host of local airports within an hour's flight or slightly more, many offering a local restaurant or eatery worthy of a culinary visit."

Meanwhile, General Aviation continues to experience headwinds on many levels, currently exemplified by a federal de-



▲ Clockwise from left: David Marks (standing), George Daniels, Marsha Ramage, Gerrit Van Den Hurk, Robert Choquette, Jeff Parton, Peter Glen, Dave Garner and Neil Mellor. (Absent are Don Gallinger, Mike Ireland, George McCullagh)

cline in funded aviation services and, locally, by threatened closures of neighbouring airports, although both Owen Sound and Wiarton were both sold this fall. For CFC members, home base at Collingwood Airport remains as a bright spot, following its own recent change in airport ownership. New investment has contributed to a growing variety of locally based aircraft and socially involved pilot/owners. In turn, this is all contributing to improved facilities and monthly advances in Collingwood traffic movements.

Immediate past President of the club and current, sole woman member, Marsha Ramage has her own perspective on the continued success of the CFC: "The club is a great opportunity that allows aviation to be affordable. Our members have a wealth of knowledge and experience to share, which is a huge asset to our group and from whom I've learned so much, on

PHOTO: PIC BY PART. JEFF PARTON PHOTOGRAPHY

a personal level. We meet regularly and we work collectively, from washing the aircraft to presenting our own safety seminars. And we particularly look forward to our summer and winter social events that are also shared with member's families."

Another long time club member, David Marks, also a past President, is currently responsible for the airplane maintenance portfolio for the club. "From the beginning, we've only owned Cessna Cardinals," he explains. "Our first one was an A model with 160 horsepower, very comfortable and dependable but edging up towards 9,000 hours Total Time. Our latest Cardinal, purchased two years ago, is much better equipped and only approaching 4,000 hours, with a half time engine. And while we've had our share of normal mechanical snags, GNP is a very solid performer." Having a Commercial rating to his license, Marks also has the ability to provide flight currency check-outs to club members.

With a 25-year club anniversary now on the horizon, another long-term, commercially rated member George Daniels - who incidentally is an octogenarian - not only remains excited about prospects for the future, but also, for the past. "As the most senior member of our group, I'm probably the most qualified to express appreciation for the *vintage* nature of our 1968 Cardinal. While we'd love to have the latest Cirrus in our

hangar, we're pleasantly surprised by recent industry introductions of whole new ranges of more affordable digital avionics, now available to update our *classic* aircraft."

No doubt, fundamental changes are occurring everywhere throughout the General Aviation sector. Those changes not only include massive technology inputs to navigation, related instrumentation, and flight management systems, but also to manufacturing practices and aircraft classifications. Add to that, the rapid development of piloted and autonomous drones and VTOL vehicles, including air taxis. All of the advances present unique challenges to the General Aviation landscape, which, on a fundamental basis, have potential to impact our continued Freedom To Fly.

"With an upcoming 25th anniversary, our club is looking for opportunities to reach out, to cooperate and work with fellow flying clubs across Canada, particularly, those groups who emphasize flying over training," says Current CFC club President, Neil Mellor. "Prospectively, we could help establish a network by which to exchange ideas and activities, to the wider benefit of recreational aviation. Most certainly, as the Collingwood Flying Club remains a steadfast COPA member, we also see the potential for a more direct and personal exchange of ideas and activities amongst our fellow flying clubs." 



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AIRPLANE REPO, 1976

IF YOU EVER FIND YOURSELF IN THE AIRPLANE REPOSSESSION
BUSINESS, HERE'S WHAT TO DO

BY DR. G. ALAN HEPBURN

This story is taken from my book *The Flying Scot*. In consideration for some of the content, it seemed it might be a good idea to allow some time to pass before making it public. In the spring of 1976, I was trying to sell my Mooney M20C. A flying buddy, Roy, introduced me to Mike, a potential buyer whom he had met at Burlington Airpark.

I met Mike at the airport for a demonstration flight one evening. He said he'd like to go to Cumberland, West Virginia. I indicated that the U.S. was a bit far for a demo flight, not to mention that customs would pose some difficulties at that time of day. "Aw, screw customs," was Mike's response. We compromised by going to Kingston and back. Mike decided he wanted the airplane, and a price of \$20,000 was agreed.

The date of the sale would be a couple of weeks hence. A few days before the agreed date, Mike called to say that he had a potential partner who had backed out of the deal, and asked if I would take back a mortgage for 50 per cent of the purchase price for six months to allow him to get his finances straightened out. I consulted my lawyer, who didn't see any problem, and we drew up a chattel mortgage for \$10,000.

On the day of the sale, Mike showed up with \$10,000 in used twenties in a brown paper bag. But money was money, so the deal went through. The Mooney sat at Burlington for several weeks, then disappeared.

A few weeks later, my wife and I



were back in our previous base at Port Elgin when the airport manager, Dick, said he'd seen quite a bit of my old airplane. This was certainly interesting. The airplane, it seemed, was now based at a private strip at Stoney Creek, just east of Hamilton. There was a trailer park adjacent to the Port Elgin Airport where Mike had a trailer.

I went out to Stoney Creek, and sure enough, there was the Mooney. By this time, the end of the six-month mortgage period was approaching, and I sent Mike a registered letter saying that I would expect payment in full on the due date, and that an extension would

▲ Alan Hepburn prepares his Mooney M20C for a flight with family and friends.

not be considered. The letter came back "Not known at this address."

I contacted my lawyer, a fellow pilot, who confirmed my suspicion that there was nothing I could do until the mortgage due date arrived. He also mentioned that the chattel mortgage was only valid in Ontario.

If I wanted to repossess the aircraft in another province, I would have to re-register the mortgage in that province; and if I wanted to get it in the U.S.,

the only way would be to technically steal the airplane. I also contacted a bank manager friend, who advised me to grab the airplane and fight it out in court. I compromised by going out to Stoney Creek the night before the mortgage expired, sticking a notice on the Mooney's window, and chaining the propeller to the nosewheel. That night, it was seriously foggy. Visibility was around 200 metres. Next morning, I went out to Stoney Creek to repossess the airplane.

No Mooney, but Mike's car was in the parking lot. At that point, I was in the airplane repo business. Apparently, he'd cut the chain with a set of bolt cutters and taken off into the murk. No doubt, he found the full-time wing leveller with which the Mooney was equipped proved useful, as Mike was not instrument rated.

Somehow, I was able to contact Mike's mother, who told me he was using the airplane to ferry real estate clients around the U.S. She also said that Mike's brother had been asked to drive a car down to South Carolina for Mike. I put South Carolina and real estate together and, on a hunch, called the Flight Service Station at Myrtle Beach. "Sure," they said, we gave them a briefing yesterday for a flight to Boston. Two guys and two girls."

Next, I called Boston Flight Service, who were equally forthcoming. "We briefed them at 10:00 o'clock for a flight from Boston to Hamilton, Ontario, departing 3:00 pm."

That would put them in to Hamilton around 5:00 pm Remembering Mike's "Screw customs" remark, I called the RCMP and said I had reason to believe that there would be an airplane arriving at Stoney Creek around at 5:00 pm without clearing customs.

Then I went out to Stoney Creek and hid in the bushes. Sure enough, just after five, the Mooney roared over the field about 200 feet off the deck and landed. As he taxied in, there was a cruiser off each wingtip. Mike had a chat with the officers for about half an

hour, then they all left. I jumped in the Mooney, flew it to a hangar at Toronto International, and removed the propeller.

The following morning, Mike called. "That was a pretty dirty trick you pulled on me," he said. "What dirty trick was that, Mike?" "Chaining the nosewheel to the propeller." "If you think that was a dirty trick, you'd better go out to the airfield."

Mike was seriously pissed off. He said he had friends in the mafia, and would arrange to have me dumped in Hamilton Bay with concrete boots. That prompted a call to the Halton Regional Police, alleging threatening phone calls. On a couple of occasions, my wife did spot a suspicious car driving slowly past our house, but nothing came of the mafia threat.

Meanwhile, I had arranged for Roy to buy the Mooney for the bargain price of \$10,000. However, my lawyer informed me I had to give Mike the right of first refusal. Mike came up with a certified cheque for \$10,000, and that was that, more or less. A couple of weeks later, I got a call from the Toronto Dominion Bank. They thought I still had a lien against the airplane. In these days, before data communication by phone was available, a creditor would call the credit card company for authorization if a charge exceeded a certain threshold, say \$50.

It seemed that Mike had been travelling all over North America, charging gas for the airplane and accommodation to his credit card, but always keeping the charge just below the level where a call would have been required, or simply flying off without paying. His credit card was maxed out. I informed them that, thankfully, I no longer had an interest in the airplane, and pointed out that an airplane is a very mobile asset.

When we were back in Port Elgin, we learned that Mike had failed to pay for his trailer rental spot, so they chained the trailer to the fence. You know what happened to that arrangement. Bolt cutters again.

At the time, it never occurred to me that the flight from Stoney Creek to Toronto International might not have been covered by insurance.

I recently contacted my insurance broker and he informed me that, if any incident had occurred on that flight that resulted in a liability claim, the insurance company who covered my present aircraft would probably have covered that claim, as the lack of coverage would probably be recognized as an unintentional oversight, but that I would have had to pay for any damage to the aircraft itself.

What I should have done was to call my broker and get coverage for the Mooney which I by then owed, since I had re-possessed it. At the time, however, neither I, my bank manager, nor my lawyer thought about this. So, if you ever find yourself in the airplane repo business, you will now know. 🙄



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FOREIGN AIRCRAFT OWNERSHIP

FAA COMPLEXITIES AND POTENTIAL BENEFITS OF KEEPING AN AIRCRAFT ON THE UNITED STATES REGISTRY

BY PHIL LIGHTSTONE

The new Canadian Luxury Tax is scheduled to come into effect on January 1, 2022. COPA, in discussions with the Canadian Revenue Agency has been advised that the tax will apply to aircraft manufactured after 2018. With as much as 11.3 per cent of the acquisition cost of the aircraft in additional tax (depending upon the province or territory), aircraft buyers are considering mechanisms to limit their taxation burden.

Some Canadian pilots are swayed by social media commentary touting the lower costs of operating a U.S. registered aircraft. Insurance, maintenance, owner produced parts and hanger costs can be significantly lower than in Canada. While Garmin's auto-land technology has been approved by the FAA, Transport Canada has yet to approve the technology for installation in Canadian registered aircraft. For those pilot owners on a budget, it could be financially attractive to keep that newly acquired aircraft on the U.S. registry. Both the FAA and Transport Canada (TC), however, have regulatory compliance requirements to ensure their interests and the interests of their country are maintained.

From a Canadian perspective, the Canadian Revenue Agency (CRA) is only concerned about collecting the appropriate taxes of a newly acquired aircraft either upon entry or at time of import. In other words, if you as the new owner of the aircraft, and for simplicity sake, not held by a U.S. corporation,

▲ A foreign aircraft is restricted to be in Canadian airspace for no more than 90 days during the previous 12 months.

then when you make your declaration to the Canada Border Services Agency, and when asked, "What did you buy while in the US", you must report the aircraft acquisition and pay the appropriate duties and taxes. Failure to do so could attract future fines and penalties.

From a TC perspective, if a foreign registered aircraft is owned by a Canadian citizen (or permanent resident), then the aircraft is restricted to be in Canadian airspace for no more than 90 days during the previous 12 months (CARs 202.42(1)). This rule was created to provide time for the importation process to be executed by the new owners and to also encourage aircraft to be registered in Canada. From a cost perspective, a foreign registered aircraft, while flown in Canadian airspace will attract air navigation fees from NAV CANADA. These fees include terminal services, enroute services and daily charges at specified international airports, to name a few. See NAV CANADA's website for the fees associated with foreign aircraft operations in Canadian airspace. For those pilot owners who decide to breach the 90 day, fines and penalties could be levied by TC when they eventually catch up to you.

With regard to the FAA, an N registered aircraft can only be owned by a U.S. citizen or entity like a corporation; an individual citizen of a foreign country lawfully admitted for permanent

residence in the U.S.; a U.S. governmental unit or subdivision; or a non-U.S. corporation organized and doing business under the laws of the U.S., as long as the aircraft is based and primarily used in the U.S. (60 per cent of all flight hours must be within the U.S.). The FAA, however, stipulates that the U.S. Entity must: be owned by U.S. citizens; the president is a U.S. citizen; two thirds of the board of directors and other managing officers are U.S. citizens; or at least 75 per cent of the voting interests is owned or controlled by persons that are U.S. citizens. In the case of a Canadian citizen, they would be precluded from owning an N registered aircraft.

To facilitate N registered aircraft, owned by foreign individuals, trust companies are utilized to ensure that the FAA's regulatory requirements are met. From a General Aviation perspective, this approach is common in Europe where the cost of regulatory compliance to the European Union Aviation Safety Agency (EASA) is quite high. A number of companies such as Valiair Ltd. offer professional services to create and manage U.S. trust entities. The creation of a trust not only incurs one-time fees, but also annual fees and brings you under the scrutiny of American state tax authorities. With the trust company owning the aircraft, the beneficiary contracts an operating dry lease with the trust, with the trust incurring the costs and collecting revenue from the beneficiary. Before setting up an aircraft trust with a third party, consider engaging aviation tax and legal professionals.

The FAA has no time restrictions for a Canadian-registered aircraft, to be operating in the U.S. for extended periods of time. For example, a Canadian snowbird may choose to take their Canadian registered aircraft with them to their U.S. winter home; or a Canadian citizen moving for an extended period of time to the U.S. due to their employment requirements. While the Canadian aircraft is in the U.S., it will fall under TC and FAA regulatory compliance requirements. As an outcome of the 9/11 terrorist attacks, pilots, airport management, local law enforcement and FBO staff have been advised to report any suspicious activities. AOPA has created an Airport Watch Security pro-

gram with a 866-GA-SECURE phone number for members to report suspicious activity. The Department of Homeland Security's Transportation Security Administration's (TSA) Security Guidelines for General Aviation Airports provides municipalities, owners, operators, sponsors and other entities charged with oversight of General Aviation airports with a set of federally endorsed recommendations to help keep airports safe. Foreign registered aircraft, frequently operating out of U.S. airports may be reported to the TSA and FAA. Eventually, that foreign registered aircraft will be ramp checked by the FAA. Regional FSDOs routinely ramp check aircraft on a suspicious aircraft list. For further guidance, contact the FAA's international field offices, with lists available at Faa.gov.

The impact of a Canadian-registered aircraft being ramp checked by the FAA not only relates to the aircraft but also the pilot conforming to FAA requirements. An example would be FAA requirements for bi-annual flight reviews. The aircraft must have all of its documentation on hand to pass unscathed through a ramp check. For example, the 100-hour inspection must be signed off by an AME holding Canadian inspection authority. This could be challenging to find in Florida. The aircraft would be required to conform to FAA requirements, such as 12-inch registration letters and numbers. There are five key documents that you must be able to produce to the FAA, including: Pilot's certificate, medical certificate, government issued photo ID, aircraft's airworthiness certificate, and aircraft registration - for all classes of aircraft. For Parts 121 and 135 aircraft, other documentation may be required: POH, weight and balance, and logbook. An inspector may also inspect your aircraft, looking for small violations, such as compass correction card not posted.

As with many opportunities to save money, the devil is in the details. Registering an aircraft in the Canadian registry saves time and reduces complexity, but keeping a newly acquired aircraft on the U.S. registry can hold non-tangible benefits. Check-out my exclusive podcast interview of Christine Gervais on Apple, Google, Spotify, YouTube and at www.PlaneTalk.ca. 🇨🇦



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A LEGACY OF AIRFIELDS

THE QUEST TO LAND AT ALL OF THE ACTIVE,
NON-RESTRICTED BCATP AIRFIELDS ACROSS CANADA
BY GRANT BAILEY

With the passing of time, public awareness of one of Canada's most significant achievements, the British Commonwealth Air Training Plan, has been fading. BCATP was a scheme devised by the Commonwealth nations to train aircrew for the Allied forces in the Second World War. The agreement covering the creation of BCATP was signed by Prime Minister Mackenzie King and the leaders of other Commonwealth Nations on December 17, 1939. The training would occur in Canada, which assumed full control over the program. Thus commenced a massive nationwide undertaking of constructing airfields and associated infrastructure, procuring aircraft and equipment, and setting up the substantial organization needed to train thousands of air crew. As described by Prime Minister King in an address to the nation, BCATP was a cooperative undertaking of "great magnitude". Between 1940 and 1943, 176 airfields were constructed or improved in every province of the country (Newfoundland had not yet joined Confederation). This was a major civil engineering accomplishment in and of itself and BCATP has been recognized as a National Historic Civil Engineering Project by the Canadian Society for Civil

▲ Grant Bailey above Picton's magnificent BCATP airfield.

Engineering. By the program's conclusion in 1945, more than 131,000 air crew had been trained. BCATP was one of Canada's greatest contributions to the war effort and most certainly had a major impact on the outcome of the war. What remains now is a legacy of airports serving all facets of aviation in Canada.

In 1980, when I was 23 years old, I purchased an aging Cessna 140 in Summerside, PEI, and undertook a solo flight across the country. The previous owner had kept the airplane in an old BCATP hangar in Summerside and gave me tail-wheel training at the now abandoned BCATP airfield in Mt. Pleasant, PEI. While not intentional, I landed at many former BCATP airfields on that 1980 adventure flying across the country. I was intrigued by the triangular airfields that still dotted the landscape and the large WWII era hangars that were obviously constructed to a standard plan for a specific purpose. Despite the geography spanned by BCATP airfields, there was a high degree of uniformity in their designs and how they were operated.

In 1983, I was temporarily assigned to a position in Rivers, Manitoba. I took my airplane with me and used the aban-



▲ Grant Bailey with his Tripacer in Pendleton, Ontario, on August 14, 2021.

doned BCATP airfield in Rivers as a personal airfield. Very rarely does one have the privilege of having a complete abandoned air force base to themselves. This early exposure to BCATP airfields sparked a personal interest in the Plan that has remained with me to this day.

Several years ago, in pursuit of my passion for recreational flight and interest in BCATP, I set a goal to fly into every active, non-restricted BCATP airfield across the nation. What a great way to see the country and to pay tribute to this great Canadian achievement. In researching the locations of the primary and relief airfields, I have been able to identify the 176 airfields that were constructed for or used by BCATP. Of these, at least 78 are still active airports. Six are operated by the Department of National Defense for military purposes, several have become major international airports, and others operate as local and regional airports, some maintaining their original runway configurations. The inactive airfields are just as interesting. Many of these abandoned airfields are still recognizable from the air and/or satellite imagery. Slowly they are being repurposed, removed, or simply deteriorating and being swallowed by the landscape. In many cases, it is hard to imagine that these airfields were once beehives of activity, contributing to the economic prosperity and lifeblood of the communities where they were located.

In my quest to land at all of the active, nonrestricted BCATP airfields, I have had many amazing cross-country flights in the various light aircraft that I have owned through the years. I started with the Cessna 140, then progressed through a Lake Amphibian, Mooney M20F, Taylorcraft 19, Cessna 150C, and finally to my current aircraft, a 1956 Piper Tripacer and a 1946 Aeronca Champion. The flights have ranged from simple day trips to longer multi-day cross-country journeys. The three most recent longer journeys were to the Saguenay and Miramichi regions in 2019, Southern Ontario in 2020, and the Maritimes in 2021. All three trips were spectacular, experiencing the amazing and varied landscape that this country has to offer and the friendly people that you invariably meet at each location. The airports cover a whole spectrum of use from quiet local fields to vital inter-



▲ Checking out the Ghost of Gananoque, PBV1A Canso, in September 2017.

national airports. As examples, the airport in Grand Bend, ON, maintains skeleton operations with just one of the original three runways, the other runways now being used for car racing. Tillsonburg, ON, is busier and has all three runways active with one runway extended and improved and the others now converted to turf. At Tillsonburg, the Canadian Harvard Aircraft Association offers flights in Harvards, with a mission to acquire, preserve, restore, maintain, display and demonstrate the Harvard and other training aircraft that were associated with the British Commonwealth Air Training Plan. Picton, ON,

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▲ Grant Baily in Tyendinaga, ON, in front of a former BCATP hangar.



▲ The author's Cessna 140 on the day of purchase in March, 1980, housed in a former BCATP hangar in Summerside, PEI.



▲ The newly repainted 140 at the former BCATP airfield in Rivers, MB, in October 1983.

is perhaps the best remaining example of a BCATP airfield, with the original triangular runway configuration intact and most of the hangars and barracks still existing. It will be interesting to see what the future brings for Picton as the airport and properties have recently been sold to a new owner. Whatever the future holds, there is no doubt that Picton is currently a national treasure, worthy of status as a national historic site. St. Hubert and St. Jean, QC, have both evolved into busy and vital GA airports. Malton, Uplands and Dorval are now major international airports, named after Pearson, Macdonald/Cartier and Pierre Elliot Trudeau respectively. Many of the airports in the Maritimes continue to serve General Aviation and their communities, with varying levels of activity. I had the pleasure of visiting Stanley, Debert, Yarmouth, Charlottetown and Summerside on my most recent excursion to the Maritimes with my son. It was also interesting to fly

over many of the abandoned airfields. I made a point of flying over Mt. Pleasant, where I learned to fly a taildragger some 41 years earlier. Dunnville, ON, is a prime example of a BCATP airfield that has been repurposed. It is now closed and serves as an autodrome and windfarm despite having what appears to be a very good runway. Dunnville is also home to the No. 6 RCAF Dunnville Museum, apparently an impressive museum that preserves artifacts and training aircraft from BCATP.

Each airfield of BCATP has its own interesting characteristics, stories, people and history. It is difficult to cover them all in a magazine article, but I will mention special experiences I had in Gananoque, ON, and Pendleton, ON. Both of these airfields are home to active gliding clubs and are used extensively for soaring. They each retain much of the atmosphere and feel of airports from a different era. In Gananoque, I was amazed to find a PBV1A

Canso buried in the back of the original BCATP hangar, the Canadian built version of the PB5A Catalina. To some, the airplane is known as the "Ghost of Gananoque". Despite what it may be called, the aircraft appears to be in remarkably good condition. In Pendleton, I was greeted by a friendly crowd of aviators who were just wrapping up a day of soaring. Roger Hildesheim graciously showed me around the airport, pointing out interior wall panels in the vintage hangar where some of the original Pendleton trainees had scribed their names and dates on the walls. I was also shown how the hangar doors work as good today as when they were hung close to 80 years ago.

With the completion of my trip to the Maritimes in the summer of 2021, I have now landed at all of the active, nonrestricted former BCATP airfields in Eastern Canada. Next year my attention turns to Western Canada, where I have 20 airfields still on my list. I look forward to once again flying across the prairies and mountains and continuing in my quest to recognize and honour BCATP.

As an interesting side note, on the third anniversary of the British Commonwealth Air Training Program, U.S. President Franklin D. Roosevelt sent an impressive congratulatory note to Prime Minister King, where he coined Canada as the "Aerodrome of Democracy". It is little known that the individual who actually crafted the note for the President was one Lester B. Pearson, future Prime Minister of Canada. 🇨🇦



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1963 Mooney M20C 3355hr TT, Engine O360 A1A rebuilt oct 2019 50hrs, AirWolf remote oil filter, King KX155 Nav/com, narco 810, king transponder, Garmin 660, aerospace logic rpm, mp and fp gauges, electronics international super clock. Prop new in 2006 and overhauled in 2017. \$59,000 Canadian. Call 613-204-3140.



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The Tragedy of Canada's Northernmost Lancaster

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BY STAN STANCLIFFE

This year marks the 80th anniversary of the first flight of the Avro 683 Lancaster. A total of 430 of these iconic heavy bombers were built in Malton, Ontario, from 1943 to 1945, with many being flown over to England to assist in the war effort. After the armistice, many remaining planes were flown back to Canada and parked on a number of airfields in Southern Alberta. These planes were made ready for storage and, in some instances, sold to local farmers.

The Canadian government in 1946, however, changed its mind after seeing the need for a maritime patrol aircraft, a role that could be filled by modified Lancasters. Approximately 70 planes were converted for Mk 10 Maritime Reconnaissance and Patrol status; and then reintroduced into East and West Coast RCAF squadrons. The planes were used to hunt Soviet submarines, active around the coasts of Canada, and for surveying sea-ice conditions and supplying weather stations. The timing was fortunate because, in 1946, it was determined five ground stations would be built in the high Arctic, following an idea championed by Charles Hubbard of the U.S. Weather Bureau. Alert - noted as the northernmost continuously inhabited place in the world, and now part of Nunavut - was chosen as one such location (Latitude 82.5 North, Longitude -62.35 West) for the Joint Arctic Weather Station (JAWS), as it could be accessed by sea and sat only 508 miles from the North Pole. On April 9, 1950, 12 people arrived at the location and immediately started the construction of an ice runway before a permanent all-season runway could be built. Before completion of the latter, supplies were delivered by parachute from long-range aircraft such as the Lancaster.

One such plane used for these supply missions was KB965, construction number 37266, which was part of 405 Squadron, based in Greenwood, NS. This Lancaster had previously been assigned to 664 Wing, Tiger Force, before conversion to the Mk 10 MR/MP standard, which specialized in anti-submarine warfare. The plane was repainted with markings of AG-965 applied. Modifications involved the installation of radar and sonobuoy operators' positions, removal of the rear and mid-upper gun turrets, installation of a 400-gallon fuel tank in the bomb bay to increase patrol range, upgraded electronics, radar and instrumentation, and a cooking stove in the centre section.

The plane was on a resupply operation on July 30, 1950, carrying a load of mail, fresh meat and parts to fix a broken tractor.



▲ The flight crew and two passengers of Lancaster 965 pose for a photo just prior to their fatal crash near the runway of CFS Alert in July 1950.

The crew consisted of seven airman and two passengers. Approaching from the Northeast at 1300 hours, and flying below an overcast at an estimated height reported as 1,000 feet, two parachute drops were attempted. Most RCAF parachute supply drops were made through the large rear personnel exit on the plane's starboard side. This was standard procedure, although it was not an approved method used by the RAF. The accident review of KB965's ill-fated flight on July 30 states that a parachute fouled the right elevator, with the chute draped over the top and the packet below. Another report states it was the port elevator, but both elevators survived, although the starboard rudder is missing. The plane immediately went out of control, crashed and burst into flames just south of the present runway threshold, creating a debris trail with little remaining of the central fuselage and wings. Nine bodies were recovered and it was decided to bury the remains with full military honours at Alert.

Every year on the anniversary of the crash, a simple ceremony is held by base personnel at a plinth marking the crash site. Parts of the plane remain today, due in part to very dry Arctic air found at such high latitudes, along with Alert's isolated location and military restrictions. Recent pictures reveal the presence of the tail section along with Merlin engine remains and the debris field lying on the permafrost. They serve as a fitting tribute to the Lancaster's activity in the far north of Canada during the 1950s and the sacrifice of the KB965 crew. 🇨🇦

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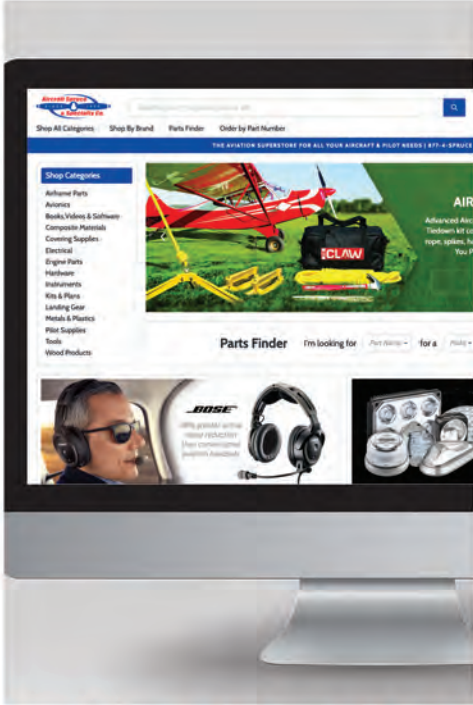
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