

Flight



The Journal of the Canadian Owners and Pilots Association

APRIL 2021

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ON THE COVER: Collin Caneva in 2016 purchased the Cessna Skylane 182 flown by his father in the 1960s and 1970s, after his brother, who works for the FAA, found it during an accident investigation. The aircraft is now featured in a YouTube series called *The Old Green Plane*, www.oldgreenplane.com. (Photo: The Old Green Plane)

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COPA Flight

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COPA – THE CANADIAN OWNERS AND PILOTS ASSOCIATION OF MANNED AND UNMANNED AIRCRAFT

Without a doubt, Remote Piloted Aircraft Systems (RPAS), commonly known as drones, are becoming part of the Canadian airspace landscape. RPAS technology is developing at a rapid rate and safety regulations must be established as integration with the manned aircraft population is inevitable.

Drone sales are on the rise with each passing year and are no longer just for the enthusiasts, as these systems, ranging from micro to aircraft size, have penetrated the world of aerial technology and are being consumed by businesses and individuals alike. With all this attention, these unmanned aerial vehicles (UAV) are now finding more practical and innovative uses and applications.

Today, drones are being used by the military in defense as they can easily penetrate restricted airspace giving them access to critical information. RPAS are also prominent in the media and film industries, generating a wide range of new possibilities for our enter-

tainment. More noticeably, drones are being used for shipping, an idea that is revolutionary for delivering, as an example, emergency medical equipment to remote areas.

I was a survey pilot for several years and flew in parts of the world that were inhospitable. Flying 200 feet above the peaks of the Andes Mountains in South America for geological mapping came with some risks to myself, my co-pilot and the equipment on board the aircraft. Although I cherish those memories, remember them with fondness and wouldn't change a thing about that time in my life, these hazardous flights could easily be replaced, quite safely, with modern drone technology.

The benefits of RPAS are definite. However, with all these drones utilizing the same airspace as manned aircraft, regulations are required and, in some instances, need to shift from segregation to safe integration. Segregation works in some airspace, but as some of us well know, not all manned aircraft operate from aerodromes, whether

controlled or uncontrolled. COPA must be part of the conversations leading to the establishment of these new regulations governing RPAS operations. Education, on both sides, manned and unmanned operations, will be crucial to our safety.

This month, April 2021, we introduced a new membership welcoming the RPAS community to the COPA family. COPA is in an excellent position to ensure that both manned and unmanned aircraft understand the importance of diligence and attentiveness in order to operate safely, especially in areas where the pilot, whether they be in the air or manning the remote system from the ground, determines the wind, the runway and everything in between. COPA has developed seminars which are part of the COPA Safety Programs that are geared toward the RPAS pilot but should be attended by all pilots.

We will continue our mission to promote, preserve and advance our freedom to fly literally from the ground up! 🇨🇦

LA COPA, L'ASSOCIATION CANADIENNE DES PILOTES ET PROPRIÉTAIRES D'AÉRONEFS PILOTÉS ET TÉLÉPILOTÉS



Sans aucun doute, les systèmes d'aéronefs télépilotes (SATP), communément appelés "drones", font désormais partie du paysage de l'espace aérien canadien. La technologie des SATP se développe à un rythme rapide et des règlements de sécurité doivent être établis car l'intégration avec la population des avions pilotés est inévitable.

Les ventes de drones augmentent chaque année et ne sont plus réservées aux amateurs, car ces appareils, qui vont de la taille micro à celle d'un avion, ont pénétré le monde de la technologie aérienne et sont consommés autant par les entreprises que par les particuliers. Avec toute cette attention, ces véhicules aériens autopilotés (UAV) trouvent maintenant des utilisations et des applications plus pratiques et plus innovantes.

Aujourd'hui, les drones sont utilisés par les militaires dans le domaine de la défense car ils peuvent facilement pénétrer dans un espace aérien restreint en leur donnant accès à des

informations critiques. Les SATP sont également très présents dans les médias et l'industrie cinématographique, générant un large éventail de nouvelles possibilités pour nos loisirs. Plus notablement, les drones sont utilisés pour le transport de marchandises, une idée révolutionnaire pour livrer, par exemple, du matériel médical d'urgence dans des régions éloignées.

J'ai piloté pour une compagnie de surveillance aérienne pendant plusieurs années dans des coins du monde qui se disent non hospitalières. Voler à 200 pieds au-dessus des sommets des Andes en Amérique du Sud pour établir des cartes géologiques comportait certains risques pour moi, mon copilote et l'équipement à bord de l'avion. Bien que je m'en souvienne de ses expériences avec affection et que je ne changerais rien à cette époque de ma vie, ces vols dangereux pouvaient facilement être remplacés, en toute sécurité, par la nouvelle technologie des drones.

fonctionne dans certains espaces aériens, mais comme certains d'entre nous le savent, tous les aéronefs pilotés ne volent pas à partir d'un aéroport, qu'il soit contrôlé ou non. La COPA ce doit de faire partie des conversations avec le régulateur, Transport Canada, menant à la mise en place de ces nouvelles réglementations régissant les opérations des SATP. L'éducation du pilote opérant avec ou sans équipage, sera essentielle pour notre sécurité.

Ce mois-ci, en avril 2021, nous avons introduit une nouvelle adhésion accueillant ainsi la communauté des SATP au sein de la famille de la COPA. La COPA se retrouve ainsi dans une excellente position afin d'assurer que les pilotes d'aéronefs pilotés et télépilotes comprennent l'importance de la diligence et de l'attention d'opérer en toute sécurité, en particulier dans les zones où le pilote, qu'il soit dans l'air ou qu'il pilote le système à distance depuis le sol, détermine le vent, la piste et tout

La COPA se retrouve ainsi dans une excellente position afin d'assurer que les pilotes d'aéronefs pilotés et télépilotes comprennent l'importance de la diligence et de l'attention d'opérer en toute sécurité.

Les avantages d'un SATP sont évidents. Cependant, comme tous ces drones utilisent le même espace aérien que les avions pilotés, des réglementations sont nécessaires et, dans certains cas, il faut passer de la séparation à l'intégration et ce en toute sécurité. La ségrégation

ce qui se retrouve entre les deux. Nous avons par ce fait, établis certains séminaires du programme de sécurité de la COPA visant les opérations SATP.

Nous poursuivons notre mission de promouvoir, préserver et faire progresser notre liberté de voler littéralement à partir du sol! 🛩️

CALL FOR NOMINATIONS

COPA BOARD OF DIRECTORS, MARITIMES BY-ELECTION 2021

The COPA Maritimes region has two allocated Board of Director positions. Brian Pinsent holds one position and the second position has become vacant due to Debbie Brekelmans recently announcing her resignation. We would like to thank Debbie for all the hard work and attention she has given to COPA and wish her the very best on all her future endeavors.

A regional by-election must be held to fill this newly vacant position.

Any COPA member in good standing from the Maritimes region (Prince Edward Island, Nova Scotia or New Brunswick) may run for this position. If you have a passion for General Aviation and feel you have something to contribute to COPA, both on the Board and as a regional representative, please consider volunteering

for this very important work. The term of office for this election shall commence after the 2021 Annual General Meeting being held June 26, and continue until the summer Board meeting in 2024.

Nominations for this position are now being accepted.

- The deadline for receiving nominations is Friday April 30, 2021.
- Candidates will be announced May 3, 2021.
- The election will open May 3, 2021, and will close May 14, 2021.
- Ballots will be counted and results will be announced in the June *COPA Flight* magazine and on the COPA website.
- The new Director elected will be presented to the COPA membership at the Annual General Meeting in June 2021.

Candidates should:

- Have a strong belief in COPA's mission;
- Have a passion for aviation;
- Have a high standard of personal ethics
- Be forward thinking;
- Want to make a lasting contribution to general aviation;
- Be able to spend a minimum of 15 days per year on COPA business (at three Board meetings per year and at regional events); and
- Have ready access to email for Board communications.

For the nomination form and more details, please visit to www.copanational.org/en/current-elections.

Completed nomination forms must be received no later than Friday, April 30, 2021. 🇨🇦

APPEL AUX CANDIDATURES

CONSEIL D'ADMINISTRATION DE LA COPA, ÉLECTION PARTIELLE DE LA RÉGION DES MARITIMES 2021

La région des maritimes de la COPA compte deux postes de directeur au conseil d'administration. Brian Pinsent occupe l'un de ces postes et le second est maintenant libre due à la démission récente de Debbie Brekelmans. Nous tenons à remercier Debbie pour tout le travail et l'attention qu'elle a accordés à la COPA et nous lui souhaitons bonne chance dans tous ses projets futurs.

Une élection partielle régionale doit être organisée pour combler ce poste nouvellement vacant.

N'importe quel membre de la COPA en bonne et due forme de la région des Maritimes (Île-du-Prince-Édouard, Nouvelle-Écosse ou Nouveau-Brunswick) peut se présenter comme candidat. Si vous avez une passion pour l'aviation générale et que vous pensez avoir quelque chose à contribuer à la COPA, tant au conseil d'administration qu'en tant que représentant régional, veuillez envis-

ager de vous porter volontaire pour ce travail très important. Le mandat de cette élection commencera après l'assemblée générale annuelle de 2021, qui se tiendra le 26 juin 2021, et se poursuivra jusqu'à la réunion d'été du conseil d'administration en 2024.

Les candidatures poste sont maintenant acceptées.

- La date limite de réception des candidatures est le vendredi 30 avril 2021.
- Les candidats seront annoncés le 3 mai 2021.
- L'élection sera ouverte le 3 mai 2021 et se terminera le 14 mai 2021.
- Les bulletins de vote seront comptés et les résultats seront annoncés dans le magazine *COPA Flight* de juin et sur le site Web de la COPA.
- Le nouveau directeur élu sera présenté aux membres de la COPA lors de l'assemblée générale annuelle de juin 2021. Les candidats doivent :

- croire dans la mission de la COPA
- être passionnés pour l'aviation
- avoir un haut niveau d'éthique personnelle
- être une personne qui a une vision vers l'avenir
- vouloir apporter une contribution pérenne à l'aviation générale
- être en mesure de consacrer un minimum de 15 jours par année à la COPA (trois réunions du conseil d'administration par année en plus des événements régionaux)
- avoir un accès au courrier électronique pour les communications du conseil d'administration.

Pour le formulaire de nomination et plus de détails, veuillez consulter le site www.copanational.org/fr/elections-en-cours/.

Les formulaires de nomination dûment remplis doivent être reçus au plus tard le vendredi 30 avril 2021. 🇨🇦



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NEWSLINE

APPRECIATION AWARD FOR DAVID DUNSMORE

BY KEN ZACHKEWICH, AB/NWT DIRECTOR, WESTERN VICE CHAIR

David Dunsmore of Calgary, AB was presented with a COPA Appreciation Award by member Trekker Armstrong on January 26, 2021. Armstrong is the chair of the COPA Neil J. Armstrong Scholarship and has a long working relationship with Dunsmore on the Scholarship Selection Committee. In 2019, Armstrong nominated Dunsmore to be eligible for an award for his contributions toward this committee over several years.

Dunsmore was the inaugural winner of the COPA Neil J. Armstrong Scholarship in 1996. As the inaugural winner, he was willing to participate on the Selection Committee for future Scholarship awards. He did so for the next 16 years. Since the fund's inception in 1996, COPA has awarded 70 recipients with more than \$267,000.

The competition for these awards is always significant. Successful recipients demonstrate an interest in aviation as a career or strong interest in general aviation in Canada. They are proven self-starters who demonstrate a willingness to learn. Academic skills and community contributions are also taken into account.

The qualities character, citizenship, and responsibility have been well demonstrated by Dunsmore, making him a worthy recipient of both the first Neil J. Armstrong Scholarship and this Appreciation Award.

The Neil Armstrong Scholarship Fund was first established in April 1995 through contributions from friends of Neil Armstrong, COPA members and the Canadian aviation community.

The purpose of the fund is twofold: First, to honour one of Canada's foremost aviation members and, second, to provide flight training to worthy young people who might not otherwise be able to pursue their love of flight and



▲ David Dunsmore is recognized for contributions to COPA's Neil J. Armstrong scholarship committee.

who exemplify the fine character, optimism and love of adventure which were epitomized by Neil Armstrong.

The Armstrong family along with COPA's Selection Committee would like to thank David and extend our appreciation through this award for his contributions over the years.

In addition to his contributions on this committee, David is also active in the General Aviation community. He was a founding member of the Calgary Mosquito Aircraft Society and served for several years on its Board (www.calgarymosquitosociety.com). He is also an active member of the local chapter of the Canadian Aviation Historical Society (www.cahts.ca). Congratulations David! 🇨🇦

INCIDENTS + ACCIDENTS

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

PACIFIC REGION

A privately registered Cessna 150K from Vancouver/Boundary Bay, BC (CZBB) to Abbotsford, BC (CYXX) entered the Langley, BC (CYNJ) control zone from the southwest (SW) at 1700' and proceeded east and exited south out of the zone at 1828Z. The Cessna 150K passed as traffic to an overflight.

A privately registered Cessna 172RG from Quesnel, BC (CYQZ) to Prince George, BC (CYXS) took off from CYQZ at approximately 2120Z without contacting Williams Lake Flight Services or following "no radio" (NORDO) procedures.

A Beech B300 on a MEDEVAC flight from Grand Forks, BC (CZGF) to Kelowna, BC (CYLW) reported a green laser strike while on approach to CYLW.

The flight information centre called to advise that a Cessna 180J from Bamfield, BC (Water) (CAE9) to Tofino, BC (Water) (CAB4) would potentially be transiting from CAE9 to CAB4 without radio, with an estimate to the field of 2202Z. The aircraft was observed landing at Tofino/Long Beach (CYAZ) in the water filled ditch parallel to Runway 29.

PRAIRIES AND NORTH REGION

A Cessna 150M on a flight from Saskatoon/John G. Diefenbaker, SK (CYXE), while not in contact with air traffic control (ATC), was observed on radar squawking an emergency code. The CYXE tower received a report from the pilot, via cellphone, after 10 minutes. The aircraft had experienced an engine failure followed by forced landing on a

grid road. No injuries, no damage to aircraft, no impact to operations.

A coyote crossed near the threshold of Runway 35

as a Cessna 172N from Calgary/Springbank, AB (CYBW) to Calgary/Springbank, AB (CYBW) was short final for a touch-and-go. C-GLLV elected to conduct a go-around as a result.

ONTARIO REGION

A privately registered Cirrus SR22 on a flight to Sault Ste. Marie, ON (CYAM) landed on Runway 30 at CYAM. The aircraft blew its front tire upon landing and became disabled at the main intersection. The garage was advised and a tow was provided. The incident closed the runway for 15 minutes, causing minimum delays for local users.

A Cessna 182T on a flight to Muskoka, ON (CYQA) advised in its initial transmission that it had landed and was off of the runway. The Timmins/Victor M. Power, ON (CYTS) flight service station (FSS) inquired and found out that the aircraft was transmitting its intentions and position on 126.7 MHz instead of 122.3 MHz while on its way in.

A privately registered Piper PA-24 from Ottawa/Rockcliffe, ON (CYRO) to Ottawa/Rockcliffe, ON (CYRO) departed from CYRO, turned left and entered the Ottawa/Gatineau, QC (CYND) mandatory frequency (MF) zone without contacting the flight service station (FSS).

QUEBEC REGION

A privately registered Robinson R44 on a flight to Quebec/Neuville, QC (CNV9), on a secondary surveillance radar (SSR) code of 1200, entered Class C airspace in the Ile d'Orleans sector without authorization, and navigated



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between 1700' and 1500' in the terminal airspace to its destination of CNV9, where it landed at 2030Z.

A privately registered Cessna 150H from Joliette, QC, to Parent, QC (CYPP) appeared to be late for its arrival at CYPP. The information request (INREQ) phase was initiated. At 1702Z, the aircraft informed the flight information centre (FIC) that it had a cell phone problem and was unable to report being on the ground as planned.

ATLANTIC REGION

A Cessna 172M on a transborder flight from Presque Ile, ME (KPQI) to Grand Falls, NB (CCK3) called at 1725Z to close its flight plan, which had an estimated time of departure (ETD) of 1700Z. The flight plan was not activated because the departure time was never transmitted by the agency responsible for KPQI. The aircraft did not have an alerting service or a valid flight plan to cross the border.

A Beech 1900D from Goose Bay, NL (CYYR) to St. John's, NL (CYYT) reported a laser strike while on short final for Runway 16. A green laser was observed off of the aircraft's right side. The police and the Gander (YQX) area control centre (ACC) shift manager were advised.

A Diamond DA 20-C1 from Moncton/Romeo LeBlanc, NB (CYQM) to Moncton/Romeo LeBlanc, NB (CYQM) reported laser strikes from the north end of Moncton.

RÉGION DU PACIFIQUE

Un Cessna 150K, d'immatriculation privée, de Vancouver/Boundary Bay (CZBB), BC, à Abbotsford (CYXX), BC, est entré dans la zone de contrôle de Langley (CYNJ), BC, depuis le sud-ouest (SW) à 1 700 pi et a poursuivi vers l'est et est sorti au sud de la zone à 1828Z. Information sur le Cessna 150K transmise à un survol.

Un Cessna 172RG, d'immatriculation privée, de Quesnel (CYQZ), BC, à Prince George (CYXS), BC, a décollé de CYQZ vers 2120Z sans contacter les services de vol de Williams Lake et sans suivre les procédures « sans radio » (NORDO).

Un Beech B300 effectuant un vol MEDEVAC de Grand Forks (CZGF), BC, à Kelowna (CYLW), BC, a signalé une attaque au laser vert en approche pour CYLW.

Le centre d'information de vol a appelé pour signaler qu'un Cessna 180J de Bamfield (hydroaérodrome) (CAE9), BC, à Tofino (hydroaérodrome) (CAB4),

BC, pourrait transiter de CAE9 à CAB4 sans radio, avec une estimée à l'aérodrome à 2202Z. L'aéronef a été vu qui amerrissait à Tofino/Long Beach, BC (CYAZ) dans le fossé rempli d'eau qui est parallèle à la piste 29.

RÉGION DU PRAIRIES ET DU NORD

Un Cessna 150M sur un vol au départ de Saskatoon/John G. Diefenbaker (CYXE), SK, alors qu'il n'était pas en contact avec le contrôle de la circulation aérienne (ATC), a été observé sur le radar émettant un code d'urgence. La tour de CYXE a reçu un rapport du pilote, par téléphone portable, après 10 minutes. L'aéronef avait subi une panne moteur suivie d'un atterrissage forcé sur une route en grille. Aucun blessé, aucun dommage à l'aéronef, aucun impact sur l'exploitation.

Un coyote a traversé près du seuil de la piste 35 alors qu'un Cessna 172N de Calgary/Springbank (CYBW), AB, à Calgary/Springbank (CYBW), AB, était en courte finale pour un posé-décollé. C-GLLV a par conséquent décidé de remettre les gaz.

RÉGION DE L'ONTARIO

Un Cirrus SR22, d'immatriculation privée, effectuant un vol à destination de Sault Ste. Marie (CYAM), ON, a at-

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terri piste 30 à CYAM. Le pneu avant de l'aéronef a éclaté à l'atterrissage et l'aéronef s'est immobilisé au niveau de la principale intersection. Le garage a été informé et un remorquage a été fourni. La piste a été fermée pendant 15 minutes à cause de l'incident, ce qui a occasionné des retards minimes pour les usagers locaux.

Un Cessna 182T effectuant un vol à destination de Muskoka (CYQA), ON, a indiqué lors de sa transmission initiale qu'il avait atterri et dégagé la piste. La station d'information de vol (FSS) de Timmins/Victor M. Power (CYTS), ON, s'est renseignée et a constaté que l'aviation transmettait ses intentions et sa position sur 126,7 MHz au lieu de 122,3 MHz alors qu'il était en route.


Un Piper PA-24, d'immatriculation privée, d'Ottawa/Rockliffe (CYRO), ON, à Ottawa/Rockliffe (CYRO), ON, a décollé de CYRO, a tourné à gauche et est entré dans la zone d'utilisation de fréquence obligatoire (MF) d'Ottawa/Gatineau (CYND), QC, sans contacter la station d'information de vol (FSS).

RÉGION DU QUÉBEC

Un Robinson R44, d'immatriculation privée, effectuant un vol à destination de Québec/Neuveville (CNV9), QC, affichant un code radar secondaire de surveillance (SSR) de 1200, est entré sans autorisation dans l'espace aérien de classe C dans le secteur de l'Île d'Orléans, et a volé entre 1700 et 1500 pi dans l'espace aérien terminal jusqu'à sa destination de CNV9, où il a atterri à 2030Z.

Un Cessna 150H de Joliette, QC, à Parent (CYPP), QC, était en retard par rapport à son arrivée à CYPP. Déclenchement de la phase de demande de renseignements (INREQ). À 1702Z, l'aéronef a indiqué au centre d'information de vol (FIC) qu'il avait eu un problème de téléphone cellulaire et qu'il n'avait pu signaler qu'il avait atterri tel que prévu.

REGION DE L'ATLANTIQUE

Un Cessna 172M de Presque Ile (KPQI), ME, à Grand Falls (CCK3), NB, a appelé à 1725Z pour fermer son plan de vol. Le plan de vol n'a pas été activé, car l'heure de départ n'a jamais été transmise par l'organisme responsable de KPQI. L'aéronef n'a pas eu de service d'alerte ou de plan de vol valide pour traverser la frontière. 



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Inside view of a Diamond Doors bi-fold door.

THE RIGHT DOOR

From off-grid buildings to commercial airport hangars, Diamond Doors delivers custom bi-fold doors to its clients by Carroll McCormick



The Cessna taxis in and pauses in front of the hangar. The pilot sends a signal to a control box. Locks disengage, a gearbox hums, cables tighten and a wide, hinged door begins to fold up. Less than a minute later, a limit switch stops the door's motion. The pilot rolls the plane into the spotless hangar, taps the remote again and the door unfolds to make a tight seal against the building. The pilot keys in an alarm code, slips outside through a pedestrian door in the bi-fold door and locks engage, securing the plane inside.

It's been another fine day in the sky and Winker, Manitoba-based Diamond Doors has helped make the flight a little easier.

Diamond Doors has been designing and fabricating custom aircraft hangar doors since 1998 under the lead-

ership of founder and pilot Dick Suderman. His drive for quality, simplicity and convenience, and a competitive approach to innovation and service, quickly caught the attention of other pilots. Before long, the company's project list would include bi-fold doors for arch-roofed Quonset huts, older wooden structures, and commercial airport and GA hangars.

A spectacular, and nearly the largest example of the company's work, is the 118-foot by 38-foot bi-fold door installed this January at the new Royal Aviation Museum of Western Canada at the Winnipeg James Armstrong International Airport. When it is not keeping out the weather, it raises out of the way so the museum can connect with outdoor events on the Aviation Plaza.

Commercial airport installations include multiple doors at the Mirabel International Airport, the Iqaluit



Bi-fold doors put less strain on buildings.

Airport, and an upcoming 100-foot installation at the Vancouver International Airport.

Suderman flew crop dusters for 25 years before founding Diamond Doors. Eight of his 52 employees have their private pilot licences and Suderman keeps a plane available for staff to build flight time or work toward their licences. As he sees it, “Background knowledge and learned experience is highly beneficial when serving your customers. We understand the aviators’ unique needs because we have been where they have.”

Diamond Doors uses material and components that exceed industry standards, such as a high-strength steel frame, greaseless hinges and cantilevered rollers. The lift cables have a 10X safety factor. A unique CSA-approved electrical box and control panel permit remote troubleshooting, among other features. The industrial-quality enclosed gearboxes, which are oil bath lubricated for long life, are sized to each door.

Every door is custom made. One building might require that the door be built to fit in the opening and be flush with the building. Another building might have a smaller opening or top corners partially built in. Here, the door can be mounted outside the opening so it will raise to an open position above the frame. Too, the doors are designed so customers can install them themselves.

This design flexibility is key to successful retrofits, explains Samantha Wiebe, Marketing Manager, Diamond Doors.

“Retrofit doors, which are installed in an existing building, are a

“WE OPERATE ON THE VALUES OF HONESTY, INTEGRITY AND EXCELLENCE. WE ARE COMMITTED TO MANUFACTURING A GREAT PRODUCT AND SERVING CUSTOMERS LONG AFTER A SALE IS MADE.” – Dick Suderman, Founder

popular application. We work with our customers to offer the best solution for their building, might that be using the self-supporting header, having mitered corners to allow for roof overhang, or extending the door frame past the roofline.”

Many key features come with every door, but customers can also choose options such as a pedestrian door, custom trim colours, cladding to match the building, windows, insulation, and the remote and wireless keypad. “This is one of the most convenient features. The remote allows pilots to open their doors from inside their aircraft, much like a car garage,” Wiebe says.

How to ensure the safety of both plane and owner has been well thought out. Photoelectric safety sensors are standard and prevent the door from closing if they sense an obstacle. Multiple sensors can be installed to create a photo curtain for more asset protection.

If a door stops partway through the opening sequence, the electric drive can restart the door from any position. “This is a unique thing about the Diamond bi-fold door system. So for example if you open your door halfway, pull your plane into the hangar and then realize you did not open it enough to allow for the tail to fit through, you can continue to open the door. We also have an electric brake on the door, so if the power is cut to the building the brake is automatically on and your door will not come down,” Suderman explains.

Speaking of power, for pilots with hangars having no access to the grid, Diamond Doors also supplies the operator and batteries (the charging method is for the customer to decide) for solar charging systems. “It is common in remote locations when getting grid power to the hangar is not feasible,” Wiebe says. “The door can cycle quite a few times on one charge. We tested one and it ran over 20 times (that number would vary by door size) on one charge consistently opening and closing it.”

What do customers think of Diamond Doors? Wiebe offers this testimonial from Maurice Baril, one of the company’s Ontario customers, who says that his bi-fold door has allowed him to continue his hobby now that he no longer need struggle with large awkward doors. “This door has extended my flying hobby for many years, not having to wrestle with a large door every time I use my airplane.”



Diamond Doors founder Dick Suderman.

MY FIRST SKI FLIGHT

DEVELOPING NEW SKILLS AND LASTING ADVENTURES IN FLIGHT

I powered back in the Piper Pacer and began my first decent onto a snowy lake in Western Ontario. With the yoke all the way back, I gently landed and hardly noticed when the skis touched the snow-covered ice. With no runway below me, and a big lake in front, I was overwhelmed by the feeling of possibility. There are a lot of things to consider before going ski flying, but once you're there it is the most peaceful and reassuring flying I have ever experienced. My good friend, and local CNY3 kid, Nate Couchman was happy to show me the ropes. Nate, a second-generation pilot, first became interested in aviation after watching a ski flying video on YouTube. The potential for having better outdoor experiences motivated him to take up flying, following a passion of his father.

We began our day with a ground briefing on ski operations. Having flown the Piper Pacer before, I was confident I could fly the thing but I was a lot less certain about take-off and landing. Nate and I discussed the importance of checking the landing gear, inspecting the bungee cables, and making sure all the linkages are attached and not fraying, paying particular attention to the aft cable. A winter essentials kit, survival kit, snow shoes, and snacks, were packed away behind the pilot's seat and tied down securely. When the weather closes in and you find a nice lake to land, it's no use if you don't have the right equipment to get you through the night or whatever amount of time you might need to wait out the weather.

Lake operations in winter are similar to hard water float flying, in that you need to be conscientious of the lake conditions. "The lake is ever-changing," said Nate. "Snow conditions, ice conditions, as well as water in-between snow and the ice, are all factors to consider when you're going into a place and deciding if it will be a suitable landing site. Just like a lot of off-airport operations, you have to exercise good decision making." Not having much float flying experience myself, I found this advice to be incredibly important and knew I would hear it ringing in my ears on future ski flying adventures.

Taxiing to the runway was a fun adventure on its own. With the ski dogs on and the engine running, Nate walked alongside the wing as I slowly taxied through the hangar rows. Ski planes with fixed skis have no brakes and sometimes need a little bit of encouragement on the struts when making sharp turns. When I made it to the runway, I stopped and Nate jumped back in the airplane. When starting the run-up beside an active runway, it's important to remember that your airplane will likely start moving, especially at high-power settings. Coordinating your run-up when clear of traffic is



▲ Annie Rusinowski, with the support of Nate Couchman, learns how to fly on skies with a Piper Pacer at CNY3.

important so that you can do what you need to on the go and prepare for take-off.

The snow on the runway was deep but, with the momentum we gained from turning the aircraft from our backtrack, we were able to use that inertia to help propel us into the sky. We left the circuit and made our way to Orr Lake where I would have lots of space to practice with less traffic. My downwind checks remained the same and my approach speed had a little more power than normal. I held the aircraft off the snow and landed so softly I had a hard time gauging when to push the control column forward to remove pressure from the tail wheel and move it toward the nose. The snow was heavy and a little wet, so after doing a bunch of touch-and-goes we departed Orr Lake and made our way to Penetanguishene Harbour.

The inlet in Penetanguishene Harbour was packed down from snowmobile traffic, so we had no trouble landing there and stopping for lunch. The locals loved watching the aircraft land and were eager to come by and say hello. Ice fishing huts sat along the shoreline and families gathered around small fires taking in the sights on this perfect Canadian winter day. Landing on that ice and pulling up next to town was a profound experience. It felt so foreign but most of all liberating. After spending most of my time landing on airport, it was so refreshing to come to this place and enjoy a sandwich along the docks with the airplane in the distance. It was a feeling I won't soon forget and one I have developed a taste for. I'm looking forward to more ski flying adventures in the future and I think every pilot should give this great Canadian experience a try. 🇨🇦

RECONNAÎTRE LES CONTRIBUTIONS

LES GRANDS JOUEURS COMMUNAUTAIRES QUI SOUTIENNENT NOS MEMBRES

Après avoir traversé le Canada, les États-Unis et les Caraïbes à plusieurs reprises au fil des ans, j'ai été invariablement frappé par l'amitié et la camaraderie instantanées qui se créent lorsqu'on atterrit dans un aéroport inconnu... surtout si vous avez un problème. Cela prend toute sorte de formes : de la bouteille d'eau froide tendue généreusement, à la remise de clés d'une voiture, de l'utilisation d'un hangar pour une réparation, de l'accueil à la maison pour la nuit à cause d'une tempête de neige dans les montagnes. C'est aussi un TEA qui lâche tout ce qu'il fait, qui retire le chargeur du moteur qu'il remontait pour que je puisse continuer mon vol en moins de deux heures.

Nous savons tous à quel point il est courant, après l'arrivée en avion dans un aéroport inconnu, que le temps d'une tasse de café ou d'un hamburger, nous soyons entourés de « nouveaux » amis perdus de vue. Tous les aéroclubs semblent vibrer sur la même longueur d'onde. Les discussions gravitent autour des sujets les plus variés : la plus récente pièce d'avionique, les soins médicaux, le prix du carburant et parfois même votre dernier atterrissage « pas si en douceur que ça ». Nous pourrions avoir tendance à tenir pour acquis ce lien de confiance que nous partageons si naturellement dans notre milieu, et qui est malheureusement de plus en plus rare dans le monde aujourd'hui.

Un aéroclub qui fonctionne bien dissimule beaucoup d'efforts. De nombreuses personnes dévouées prennent à leur charge la tenue des livres, l'entretien du terrain et l'organisation d'activités comme la tenue d'un autre barbecue.



▲ La COPA a revisité sa politique dans le but de reconnaître la contribution de plus d'individus par région.

C'est grâce à ces personnes spéciales et bénévoles qui acceptent d'assumer ces obligations supplémentaires que nous pouvons jouir de toutes ces formidables valeurs ajoutées à notre milieu de vol libre. Lors d'une discussion avec le président de la COPA, Bill Mahoney, l'année dernière, nous avons estimé que nous n'avions pas suffisamment pris le temps de remercier tant de personnes méritantes au sein des membres de notre organisation. Cette négligence devait être corrigée.

Voilà, entre autres, pourquoi nous avons réorganisé la politique de la COPA l'année dernière. Nous avons à cœur de reconnaître davantage de personnes spéciales, tant parmi nos membres que dans la communauté. Ce faisant, ces modifications de notre politique nous

ont permis de reconnaître 31 groupes et individus.

Tout d'abord, nous avons ajouté le prix John Bogie Memorial (du nom du cofondateur de la COPA). Le premier lauréat a été la Fondation Vimy 2017. Cette organisation de bénévoles a construit et apporté plusieurs répliques de biplans de la Première Guerre mondiale en France. D'anciens pilotes de la Marine et de l'Aviation canadiennes les ont fait survoler le site où avait lieu la cérémonie commémorative du centenaire de la bataille de Vimy. À quel point pouvez-vous devenir emblématique? Bien que la COPA décerne toujours son prix du président, elle a ajouté le prix du chef du conseil d'administration ainsi que les prix des directeurs. Plus précisément, un seul prix du président et un seul prix du chef de conseil d'administration sont remis chaque année, mais tous les directeurs de la COPA peuvent honorer un membre de leur région.

Nous recommandons à nos membres de faire des suggestions au membre du conseil d'administration concerné pour l'un de ces prix. Vous pouvez également proposer des membres de la COPA qui ont contribué à améliorer votre milieu de vol de façon notable pour un prix de mérite. Il existe aussi un prix d'appréciation qui vise à reconnaître l'apport de membres et de non-membres à l'organisation de la COPA. Pour proposer une candidature à nos prix 2021, nous vous invitons à visiter le site Internet de la COPA sous l'onglet « À propos », suivi de « Prix pour bénévoles ». Nous sommes impatients de vous remercier cette année encore pour les efforts inestimables qui sont déployés au profit de la communauté aéronautique canadienne. ✈️

SURVIVAL TECH

BUILDING EFFECTIVE SURVIVAL KITS FOR A POSSIBLE OFF-AIRPORT LANDING

Many pilots are glass half full, Type A personalities who launch into a flight with the perspective that the flight will end without incident. As our flight hours grow, we can get lulled into a false sense of security, thinking that the next flight will be like the last. Having the necessary survival equipment, however, helps safeguard body and soul after an off-airport landing, while awaiting search and rescue (SAR).

Preparation and training are key to surviving an off-airport landing. Smartpilot.ca has a nationwide directory of companies offering wilderness survival courses.

The International Canadian School of Survival (ICSOS) has two survival courses tailored for aviators, with an emphasis on wilderness training. ICSOS was founded by Dave MacDonald, a retired RCAF search and rescue technician (SARTech). With 25 years of military service, including training SARTechs, MacDonald retired and founded ICSOS. He promotes the personal safety triangle: Navigation; first aid; and survival. The Level One aviator course spends one day in the classroom and one day outdoors and costs \$300 (plus tax). The Level Two course is three days long, with one day in the classroom, two days and one night outdoors and costs \$450 (plus tax). Group rates are available.

A basic survival kit has three basic categories: First aid;



▲ There are two approaches to having a survival kit in your aircraft: Find a list of gear and go shopping at Canadian Tire or purchase a survival kit.

camping equipment; and food and water. Key to survival is warmth, calories, medical attention and a positive mental attitude. Camping components provide the necessities to create a shelter, start a fire and get out of the weather. Conserving body heat is critical to ensure that hypothermia does not set in. With the on-set of hypothermia, your cognitive skills become impacted, creating a spiral dive into deeper hypothermia symptoms, if left untreated, resulting in mortality. To maintain a positive mental outlook, consider a two-way satellite communicator, like SpotX or Garmin's inReach, to keep you in touch with SAR personnel. Don't forget to test

your fire-starting skills - it can be trickier than you think.

There are two approaches to having a survival kit in your aircraft, find a list of gear and go shopping at Canadian Tire or purchase a survival kit. Some commercial survival kits have their components vacuum packaged, in water-tight cases, reducing the size of the kit. A small axe should be securely added into your aircraft, making gathering firewood easier.

Clean water is critical to survival. Survivor Filter (www.survivorfilter.com) offers a variety of filters from straws to pump filters. The Survivor Filter Pro has a filtration level to 0.01 microns, the highest level available on the market today for any portable water filter, protecting against tested virus, bacteria, parasites, while reducing most heavy metals and improving water taste.

PHOTO: CRASHKIT INTERNATIONAL

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Crashkit International was founded 20 years ago by Curtis Peters, a flight instructor teaching mountain flying in Springbank, Alberta (CYBW), after his instructor friend, while conducting mountain flying instruction, flew into a mountain side in 2004. This prompted Peters to create a kit for his personal requirements. Through word of mouth, he began supplying pilot friends with survival kits, leading to survival-kit business.

Crashkit has three different types of products: Personal Flight Series; Professional Flight Series; and first aid kits (a new product offering). The personal kits have enough food and water for a single person and are designed to be carried by the pilot in their flight bag, perfect for renters. The professional kits are designed to stay in the aircraft and are sold based upon the number of people in the airplane. The contents of the kit are vacuum sealed, allowing the smallest case to be used. For those who are curious about the contents of the case, it's best to check out Crashkit's website. Once the case is opened, the contents will not fit back into the case.

Crashkit's Personal Flight Series is comprised of its Bravo and Charlie kits. Bravo has 76 essential survival items and weighs 1.6 kg, while Charlie has 106 items and weighs 1.85 kg., both exceeding the minimum Transport Canada requirements. Both kits include Crashkit's FireCord which has multiple additional strands, including a hemp jute fire starter, cotton sewing thread along with a green fishing line.

The Charlie kit includes Aquatabs Water Purification, Spark-Lite Flint/Tinder kit, to name a few. It is packed with ready-to-eat Mainstay Food Rations containing 400 calorie individualized portions. Charlie is packed in a water-tight Pelican 1120 case, measuring 8.12" x 6.56" x 3.56" and is priced at \$406.37 (plus shipping and taxes). The Bravo kit is \$316.94. Crashkit offers COPA members a 15 per cent discount. Pelican no longer supplies its 1120 case without the foam insert, which has caused Crashkit to re-evaluate the manufacturer of a water-tight case. Crashkit will be offering the Charlie and Bravo kits in a soft case, which should reduce the price and weight of the kits.



▲ Crashkit's Personal Flight Series includes the Bravo kit, with 76 items, and Charlie kit, with 106 items.

Survival kits have time expiry based products such as food, acetaminophen, hot chocolate mix, tea bags, Aquatabs and hand warmers, which varies depending on the product. For example, all food and water products have a five-year shelf life, while most medical supplies (acetaminophen, benzalkonium chloride, sting-stop, etc.) need to be replaced every year. Aquatabs are five years, while hand warmers are good for four years. Crashkit has a standard recertification cost for each kit, plus a packaging cost of \$25. For example, re-certifying a Charlie would cost \$45 (plus shipping and taxes). Crashkit recommends that its kits be re-certified every two years or based upon compliance to your aircraft's maintenance standards.

New on the horizon from Crashkit is a line of first aid kits and two and four person survival kits. The new survival kits will be available as full or lite kits. The full kits will have all the basics plus nice to have components, whereas the lite kits will have the must have items. More to come as Crashkit finalizes the designs and costs of the new kits.

As they say, an ounce of prevention is worth a pound of cure. The best addition to any flight bag is good judgment, which is learned over time, experience and is priceless. Checkout my PlaneTalk podcast interviews of Curtis Peters and Dave MacDonald on Apple, Google, Spotify, YouTube and at www.PlaneTalk.ca.

PHOTO: CRASHKIT INTERNATIONAL



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THE POTENTIAL OF ELECTRIC AIRPLANES

OPPORTUNITIES AND CHALLENGES THAT WILL HELP DETERMINE
WHEN E-PLANES BECOME A REALITY IN CANADA

BY PETER CAMPBELL

For my fourth submission, I thought it was time to take a serious look into our ability to reduce our carbon footprint when we go flying. Yes, dear readers we are going to look at the state of e-planes also known as all-electric airplanes, as opposed to legacy air-cooled internal combustion engine (ICE) aircraft. The airplanes we are looking at will need a plug to recharge them, not to take the chill off of their ICE, between flights in our Canadian skies.

Talking and thinking about all-electric airplanes requires us to change our terminology as we move from horsepower to kilowatt-hours. With the growing debate on reducing carbon (and lead) footprints, we also need to realize that the relative thermal and power efficiencies of the ICE-configured aircraft we use are much lower than with all-electric configurations. The ICE thermal and mechanical efficiency never gets better than about 25 per cent. We are wasting more than half of every gallon we consume. This is good news for the all-electric airplane motors that can easily reach mechanical efficiencies of almost 95 per cent. Score a win for all-electric aircraft! And that electric motor is smaller, lighter, simpler and vastly easier and cheaper to run and maintain. Like one Pipistrel test pilot said, “Flip four switches and we’re ready for take-off.”

The other issue that differentiates ICE aircraft from all-electric aircraft is the energy density of the “fuel” we burn for motive power. The energy density of AVGAS is a much greater than what we can get from lithium-ion (LI) batteries. AVGAS has a density of about 12.3 kwh/kg versus about 0.2 kwh/kg for the best LI configurations. The ICE aircraft is superior with a 50 to 1 energy density ratio. In other words, the 1,375 pound (611 kg) battery in a Tesla S is the equivalent energy density of 2.1 gallons (7 – 8 litres) of AVGAS. While electrical engine efficiency is great, the energy in the battery won’t propel us very far. Energy density of current battery technology is the Achil-



▲ The Harbour Air ePlane in late-2019 takes its first flight over the Fraser River in Richmond, BC; powered by the magniX magni500, a 750-horsepower electric propulsion system.

les heel of the electric airplane. All-electric airplanes are not going transcontinental without major improvements in battery storage and energy density. Please – no jokes about longer extension cords or not flying on cloudy days.

Let’s not give up on electric airplanes just yet, but, given the current technology and systems limits, we do not really need long-distance electric airplanes just yet. Our current ICE aircraft are most efficient at cruise on long flights. Nearly 50 per cent of commercial flights within North America are short duration and over short distances, typically less than one hour long and less than 200 miles (320 km) in length.

Many IFR-capable GA airports sit underutilized because of the high cost associated with flying ICE aircraft on these short-haul routes that would radiate out of feeder airports. Many training flights are being done at flight training units in

ICE aircraft that can be replaced by an electric trainer aircraft that could operate for 1.5 to two hours. Just imagine the savings in maintenance, AVGAS and JET A fuels.

We have two choices to join the all-electric aircraft revolution. Retrofit an electric motor into a currently certified aircraft or we build a new light-weight aircraft to maximize efficiencies inherent in electric motors; and to house the required batteries for our zero emission flights. Before we continue, allow me a retrospective moment.

The first manned free flight by an electrically powered aircraft was the Austrian Militky MB-E1, a modified motor-glider. The October 23, 1973, flight lasted 12 minutes and achieved an altitude of 380 metres AGL. The 10 kw Bosch KM77 motor provided motive power with a NiCad battery pack. Let's not forget the epic, around-the-world flight of SOLAR IMPULSE 2 that took sixteen and a half months to complete due to significant technical challenges and weather delays.


Given the entrepreneurial spirit in aviation it should not surprise the reader that there are several projects of both types in various locations around the world. With a Canadian perspective we will focus on our national situation and highlight a few very notable international projects.

Partnering with the Washington state company Magnix Aero, using its magni500 750 hp equivalent electric motor, Harbour Air electrified newswires when it flew a modified ePlane for the first time on December 10, 2019. This was a major worldwide accomplishment. The first commercial seaplane to fly with an electric motor, in this case a 750 HP electric motor retrofitted into a De Havilland DHC-2 Beaver floatplane, flew for about 30 minutes over the Fraser River in Richmond, BC. The 560 kw motor that provided thrust weighs 297 pounds (132 kgs), which allowed for a weight reduction of 158 kgs. This success has also spawned a similar project in Australia with the same engine being

retrofitted to a Cessna 208 Caravan.

The eCaravan flew in Australia on May 28, 2020. Clearly the Magnix electric motor company is onto something. The Magnix series of engines are now featured in an all-new electric commercial aircraft. The Israeli-based Eivation Alice Commuter nine-passenger aircraft uses three Magnix motors. This sleek aircraft should be certified for flight in 2023. This carbon-fibre aircraft is efficient and fast, advertising a range of at least 400 nm at a cruising speed of 220 knots. Take that ICE-motored executive aircraft!

But what about GA? Good news - I am sure you have heard of the Slovenia-based aircraft maker Pipistrel. It had a presence in Canada for several years and there are three dealers in Canada. Pipistrel has been churning out beautiful high-tech AULA/LSA ICE aircraft from its European factory for several years. Pipistrel is taking the electrification of its fleet very seriously and have converted two models to all-electric. Currently, it offers the Alpha Electro and the Velis Electro. The Velis was originally the Virus SW and it is the first aircraft to receive the much-coveted EASA C of A. The FAA recognize it as an LSA.

Canada recognizes it as an AULA, as it joins the Alpha Electro. There is at least one of these flying in BC. This international recognition opens the door to commercial use of electric aircraft in Canada and beyond. The Pipistrel USA aircraft Website has detailed specifications and pricing on both aircraft that use the same 58 kw liquid-cooled motor and a sophisticated propeller that can provide some regeneration (recharging) in flight. In Canada, these AULAs are being acquired by users and flight training schools in BC, Ontario, Quebec and elsewhere. You can buy one today and put yourself in command of a high-quality aircraft that exudes world-class design and performance. And it will never need to take an ounce of AVGAS or a drop of 15W-50 motor oil. 



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L'AVENIR DES AVIONS ÉLECTRIQUES

PERSPECTIVE DES AÉRONEFS ÉLECTRIQUES AU CANADA
- ENTRE LE RÊVE ET LA RÉALITÉ
PAR PETER CAMPBELL

Aujourd'hui, j'ai le goût d'aborder sérieusement les possibilités que nous avons de réduire notre empreinte carbone lorsque nous volons. Nous nous pencherons donc sur le cas des « avions électriques », également appelés avions tout électriques, par opposition aux aéronefs traditionnels à moteur à combustion interne (MCI) refroidis à l'air. Les avions que nous examinons auront besoin d'une borne de recharge, qui aura une autre fonction que celle de dissiper le froid de leur MCI entre les vols dans l'espace aérien canadien.

Penser et parler des avions tout électriques nous oblige à changer notre terminologie, alors que la puissance se calcule en kilowattheure (kWh) au lieu d'en horse-power (HP). Si plusieurs débats tournent autour de la réduction de l'empreinte carbone (et de plomb), un autre sujet mérite aussi notre attention, et c'est celui que les rendements thermiques et énergétiques des aéronefs équipés d'un MCI sont bien inférieurs à ceux des aéronefs tout électriques. En effet, l'effi-

cacité thermique et mécanique des moteurs à combustion interne ne dépasse jamais 25 % environ. Plus de la moitié de chaque litre de carburant consommé est gaspillé. C'est une bonne nouvelle pour les moteurs d'avion tout électriques qui peuvent facilement atteindre des rendements mécaniques de près de 95 %. Un point pour eux! Et ce moteur électrique s'avère plus petit, plus léger, plus simple et beaucoup plus facile et moins cher à faire fonctionner et à entretenir! Comme l'a dit le pilote d'essai de Pipistrel : « basculez quatre interrupteurs et vous êtes prêts à décoller »!

Une autre différence marquante entre les aéronefs équipés d'un MCI et ceux équipés d'un moteur tout électrique réside dans la densité énergétique du « carburant » transformé en force motrice. La densité énergétique de l'essence d'aviation (AVGAS) est bien supérieure à ce que nous pouvons obtenir avec des batteries lithium-ion (LI). En effet, l'AVGAS a une densité d'environ 12,3 kWh/kg, contre environ 0,2 kWh/kg dans les meilleures configurations de batterie LI. Le rapport de densité énergétique d'un

▲ Le biplace Velis Electro de Pipistrel peut accommoder un poids maximum de 600 kg au décollage.

aéronef avec MCI s'élève à environ 50 contre 1. En d'autres termes, la densité énergétique d'une batterie de 1375 lb (611 kg) dans une Tesla S équivaut à 2,1 gallons (7 à 8 litres) d'AVGAS. Bien que l'efficacité du moteur électrique soit excellente, l'énergie de la batterie ne nous propulsera pas très loin. En fait, la densité énergétique de la technologie actuelle des batteries se révèle le talon d'Achille de l'avion électrique. Les avions tout électriques ne feront pas de vols transcontinentaux sans améliorations majeures du stockage des batteries et de la densité énergétique. Et s'il vous plaît, pas de blagues sur des rallonges plus longues ou sur le vol par couverture nuageuse!

Néanmoins, ne laissons pas tomber tout de suite les avions électriques. Le fait est que nous n'avons pas encore vraiment besoin d'avions électriques pour les long-courriers. Nos avions avec MCI actuels s'avèrent plus efficaces sur

les vols couvrant de grandes distances. Pourtant, près de 50 % des vols commerciaux en Amérique du Nord sont de courte durée et couvrent de courtes distances, généralement moins d'une heure et moins de 200 miles (320 km). De nombreux aéroports d'aviation générale (AG) pouvant accueillir des vols aux instruments (IFR) se révèlent sous-utilisés en raison du coût élevé associé à l'utilisation des avions à MCI sur ces routes court-courriers qui rayonneraient hors des aéroports « de correspondance ». De nombreux vols d'entraînement sont effectués dans des unités de formation au pilotage avec des aéronefs à MCI qui pourraient être remplacés par un aéronef d'entraînement électrique en mesure de fonctionner pendant 1,5 à 2 heures. Imaginez les économies réalisées sur l'entretien, les carburants AV-GAS et JET A!

Convaincu? Deux choix se présentent à nous pour joindre la « révolution » des avions tout électriques. Installer un moteur électrique dans un avion actuellement certifié ou construire un nouvel avion léger spécialement conçu pour maximiser l'efficacité inhérente aux moteurs électriques et pour loger les batteries nécessaires pour les vols zéro émission. Avant de continuer, permettez-moi un bref point d'histoire.

Le premier vol libre habité d'un avion à propulsion électrique a été réalisé par le motoplaner à moteur modifié autrichien Militky MB-E1. Le vol, qui a eu lieu le 23 octobre 1973, a duré 12 minutes à une altitude de 380 mètres AGL. La puissance motrice du moteur Bosch KM77 de 10 kW était assurée par une batterie NiCad. N'oublions pas le vol épique autour du monde de SOLAR IMPULSE 2 qui a duré seize mois et demi en raison de défis techniques importants et de retards météorologiques.

Compte tenu de l'esprit d'entreprise rencontré dans l'aviation, le lecteur ne doit pas être surpris qu'il existe plusieurs projets comme ceux cités ci-haut dans plusieurs endroits à travers le monde. Dans une perspective canadienne, nous

nous concentrerons sur les réalisations d'ici et nous soulignerons quelques projets internationaux remarquables.

En partenariat avec la compagnie Magnix Aero de l'État de Washington – mettant à profit le moteur électrique magni500 équivalent à 750 HP – la compagnie Harbour Air a fait un malheur sur les fils de presse quand elle a fait voler son « e-Beaver » modifié pour la première fois le 10 décembre 2019. C'était une réalisation majeure : le premier hydravion commercial à voler avec un moteur électrique, en l'occurrence un moteur électrique de 750 HP installé sur un hydravion DE Havilland DHC-2 Beaver. L'avion a survolé le port de Vancouver pendant une trentaine de minutes. Le moteur de 560 kW pesait 297 lb (132 kg), ce qui a permis une réduction de poids de 348 lb (158 kg) sur l'aéronef. Ce succès a également engendré un projet similaire en Australie avec le même moteur installé sur un Cessna 208 Caravan.

En effet, l'efficacité thermique et mécanique des moteurs à combustion interne ne dépasse jamais 25 % environ. Plus de la moitié de chaque litre de carburant consommé est gaspillé.

Ce « eCaravan » a volé en Australie le 28 mai 2020. Il est clair que l'entreprise de moteurs électriques Magnix touche quelque chose. La série de moteurs Magnix se retrouve maintenant dans un tout nouvel aéronef commercial électrique : l'avion Alice Commuter de 9 passagers d'Évation basée en Israël qui utilise trois moteurs Magnix. Cet avion élégant en fibre de carbone – qui devrait être certifié pour le vol en 2023 – s'avère efficace et rapide, affichant une autonomie d'au moins 400 miles marins à une vitesse de croisière de 220 nœuds.

Mais qu'en est-il de l'aviation générale? Bonnes nouvelles. Je suis sûr que vous avez entendu parler du constructeur

aéronautique slovène Pipistrel. Il est présent au Canada depuis plusieurs années. Il y a trois concessionnaires Pipistrel au Canada. Ce fabricant produit depuis longtemps de magnifiques avions avec MCI de type ultraléger évolué et léger sportif de haute technologie depuis son usine européenne. Pipistrel prend très au sérieux l'électrification de sa flotte, et a converti deux modèles au tout électrique. Actuellement, le fabricant propose les modèles Alpha Electro et Velis Electro. À l'origine, le Velis portait le nom de Virus SW, et a été le premier avion à recevoir le très convoité certificat de navigabilité C of A de l'ÉASA. La FAA le reconnaît comme un avion léger sportif.

Au Canada, il est reconnu comme un avion ultraléger de type évolué. Il rejoint l'Alpha Electro. Au moins un de ces avions vole en Colombie-Britannique. Cette reconnaissance internationale ouvre la porte à l'utilisation commerciale des aéronefs électriques au Canada et ail-

leurs. Le site Internet de Pipistrel USA présente des spécifications détaillées et les prix de ces deux avions, lesquels utilisent le même moteur refroidi par liquide de 58 kW et une hélice sophistiquée qui peut générer une certaine recharge en vol. Au Canada, ces avions ultralégers de type évolué sont acquis par des utilisateurs et des écoles de formation au pilotage au Québec, en Ontario, en Colombie-Britannique et ailleurs. Vous pouvez en acheter un aujourd'hui, et vous mettre aux commandes d'un avion de haute qualité à l'allure et aux performances de classe mondiale. Et il ne prendra jamais un millilitre d'AVGAS ni une goutte d'huile à moteur 15W-50. 🇨🇦



BUYING YOUR FIRST AIRCRAFT

CRITICAL FACTORS TO CONSIDER WHEN BUYING AN AIRPLANE
TO FULFILL YOUR AVIATION MISSION

BY PHIL LIGHTSTONE

A journey into aircraft ownership begins with selecting an aircraft that meets your mission, VFR or IFR, useful load, number of seats, fuel consumption, powerplant, service ceiling, avionics, condition of the paint and interior and length of ownership before upgrading, among a vast range of possibilities.

With large price gaps within the same make and model of aircraft, knowing your mission at the beginning will help reduce the number of target aircraft. There are many factors to consider, such as high wing, low wing, constant speed, retractable, steam gauges versus glass panel and ergonomics. How do you feel and fit in the aircraft.

Christine Gervais, CEO of COPA, reports, "I recently started my first aircraft purchase journey by defining my needs that included the cost of insurance, which in turn drove me to a few different makes and models. During my search, I spoke with many COPA members who have guided me through this process, helping me refine my aircraft list."

The Cessna Skyhawk is one of the most popular General Aviation aircraft with over 43,000 produced. A 2021

Skyhawk retails for US\$432,000 (plus taxes), while a 1959 version can be purchased for as little as US\$34,500. With so few Skyhawks manufactured since 1997 (Cessna manufactures annually approximately 40 aircraft of all models), newer Skyhawks have retained their value. Anna Pangrazzi, President of Apex Aircraft Sales (Cessna's exclusive Canadian sales organization), sold a 2015 Skyhawk in 2018 within one week of listing, at 95 per cent of the original purchase price, a reflection of the industry's supply and demand.

Key in selecting a specific aircraft is budget (both purchase and operating costs) and insurability. Check out the *Total Cost of Ownership* article in the February edition of *COPA Flight*. Do you buy a fixer upper and invest in the paint, interior, engine, avionics and time; or do you buy an aircraft upgraded by the previous owner; or a brand new aircraft? Should you consider a partnership to double or triple your capital while reducing your operating expense? Older aircraft require that the owner invests into on-going maintenance.

The hunt for that just right aircraft

▲ Shows such as Sun 'n Fun and AirVenture are some of the best places to look at a range of available aircraft you might consider buying.

begins with education. Online shopping tools like Canadian Plane Trade, Trade-A-Plane, Controller, as well as local brokers and airframe manufacturers like Cessna, Diamond and Piper are a starting point. Critical to picking the right aircraft is to take a test flight. Aviation expos like Sun 'n Fun and AirVenture are great venues to see many aircraft. As with buying a car, it's not desirable to purchase a used aircraft sight unseen. Here's where a broker can help you with the purchase, remembering that the seller is the broker's customer (most of the time). Purchasing an aircraft close to home simplifies the process and reduces some out of pocket costs. Pangrazzi explains, "My challenge with first-time buyers is not to throw water on their dreams, but provide insightful guidance about flying and aircraft ownership for low-time pilots." Flight Simple offers a fee for service owner assisted aircraft acquisition service.

Insurability will also guide you in your aircraft decision. A call to an insurance



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Once you've test flown the aircraft, ideally with an instructor who can give you an unbiased opinion as to the flight characteristics, a Conditional Offer to Purchase (COP) and a pre-purchase inspection (PPI) are musts. The objective of the PPI is to provide an unbiased mechanical assessment of the aircraft and the costs associated with remediating any issues with the aircraft and a GO/NO-GO decision. The mechanics conducting the PPI should provide you with a written report, containing cost estimates (parts and labour). These should fall into three categories: Mandatory airworthiness directives and broken components; Civil Aviation Safety Alerts and service bulletins recommended by the aircraft/avionics/engine manufacturer; cosmetics (chipped paint, yellowed landing light covers, etc.) and nice to have upgrades.

Ideally the PPI should be conducted by mechanics who are experienced with the make/model and be at your home airport. When assessing an aircraft, consider the cost of improvements, 406 ELT, ADS-B Out, USB power ports, covers, and engine pre-heater for winter operations, among others. With a remediation budget, you can enter into negotiations with the seller to determine the final purchase price of the aircraft. As with most negotiations, the process should be fair and equitable for both parties. From an aircraft valuation perspective, an aircraft with all the logbooks is more valuable than one that is missing logbooks, as is the case with damage history.

For aircraft located far from your home, or for inexperienced buyers, consider engaging Savvy Aviation who offer a managed pre-purchase service

(SavvyPreBuy). For a single engine piston aircraft, the service costs US\$750, plus the cost of the mechanic's time to perform the PPI. Savvy has represented more than 700 buyers over the past seven years in purchasing GA aircraft. The service follows a well thoughtout progressive process designed to make a GO/NO-GO decision early during the process. Using a three phased approach, phase one (at no cost) focuses the buyer on finding the right aircraft out of a number of candidates through performing a preliminary logbook review.

Once the aircraft is on a COP, phase two delivers a firewall forward review of the aircraft and log books to provide an unbiased view to the condition of the powerplant and history of the aircraft. If phase two is successful, phase three begins, focusing on the airframe. This approach is designed to provide a fair assessment of the aircraft, including repair costs with the goal of providing accurate information and guidance as to who should pay for which repairs.

"As a rule, the pre-buy must be done by a shop experienced with make and model and who does not have a prior relationship with the seller and broker," says Mike Busch, President, Savvy. "We have found a first-time buyer phenomenon, where the buyer falls in love with the aircraft, picturing in their mind that they already own the aircraft, but knows that a pre-buy is needed."

Ron DeConcily, President of Air Partners Inc. reports that their maintenance shop's time for typical pre-buy for a C-172 is roughly \$1,000 (plus any parts, taxes and travel).


Once you've found an aircraft, is the aircraft Canadian registered or will it be imported into Canada? Importation will add more cost and complexity to the purchase. An imported aircraft will be required to comply with Transport Canada standards. A great example is the propeller. In Canada, we have a regulatory requirement to inspect/overhaul a propeller every 10 years. A good budgetary amount is \$3,000 per blade, assuming that it can be overhauled. If not

over-haulable, a new propeller will have to be purchased and could cost \$10,000 (for a C172). Additional costs include ferrying, removal of N number, addition of the C registration (some owners will use paint, while others use decals), 406 ELT compliance, and so on.

Paperwork is critical to a good purchase experience. Consider executing a COP with the seller and provide a refundable deposit. Ideally, the transaction would be facilitated through an aviation broker or escrow service, who would hold the deposit in trust, which is released to the seller when the transaction closes. The COP would outline the specifics of the aircraft (make, model, serial number, engine, avionics, additions, etc.), when and where the pre-purchase will be conducted, and who is responsible for ferrying the aircraft and other pertinent details. If the purchase price of the aircraft is substantial, consider the services of an aviation lawyer to review the contracts. While the aircraft is under contract, ensure that the seller has the aircraft insured. In your budgets, don't forget about taxes and delivery costs.

During the process, you'll need to find a home for your new bird. Call local airports to determine parking availability and costs. Typically, grass tie downs are the least expensive, while cold storage hanger and heated hangers are more expensive. Some airports offer T-hangers, solely for your aircraft, but requires you to move the aircraft in and out.

There are a number of resources for first-time buyer including: AOPA's online course on Buying an Airplane; a mentors at local flying clubs or COPA Flights; and online aircraft clubs. COPA membership includes access to the VREF pricing tool which provides a valuation of an aircraft. COPA also has a number of online guides.

Critical to acquiring your first aircraft is to have a grounded knowledge of your needs, mission and budgets. Let's face it, flying the airlines is usually much less expensive than flying *Air Me*. The experience of flying to that long distance destination with family and friends, however, is priceless. 

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TRIP OF A LIFETIME

REALIZING A DECADES LONG DREAM TO FLY A FLOAT ACROSS THE ROCKIES

BY DAVE BODNER

The initial phases of this trip started some 30-plus years ago. I was flying a King Air and Cessna 414 out of Goderich, Ont., and Glen Lynch was the manager of Central Airways in Toronto Island. We kept meeting and throughout the following years kept in touch on a friendship and business relationship.

During our numerous flights together on the Hawker 4000 and the Challenger 605, the subject of buying a plane and which plane to purchase took up most of the boring hours. He reached the decision that a 1958/59 Cessna 182 on straight EDO 2870 floats would satisfy his flying needs around the summer home and to various local lakes. The plane in question was in Quennell, BC, (CBQ9); the registration was CF-JYP. The fly home date was late May 2019.

Now the planning began. Where do I stop for gas in the prairies? The job was made a little easier as the IO-470R engine had the MOGAS modification. Any service station, marina, or seaplane base about 2.5 hours apart would satisfy our fuel needs while we depleted our tanks. With Google Earth providing a layout of the marina, floatplane base, ForeFlight flight planning documents and aviation charts, and the Internet for contact information, locating places to stop is a lot easier than in the past. But it still took me the better part of a couple weeks to arrange all of the stops.

PREPARING FOR THE ROCKIES

Glen and I took airlines westward: Montreal -> Minneapolis (MSP) -> Seattle (SEA); then a midnight arrival into Van-



▲ Dave Bodner (left) and Glen Lynch at the start of their trip in British Columbia.

couver. After a short night sleep, we took a Seair Beaver from the YVR South Terminal to Nanaimo. My first time in a Beaver since Sudbury (CF-FHP/CF-JKT) and Timmins in 1974/75; and I did not remember how noisy they were.

The first day was spent completing many trips to Canadian Tire purchasing items needed for the trip east: jerry cans (we bought four, filled two); rags; ropes; life vests; etc. Once finished with the shopping detail, an increasingly filling plane replaced the emptying backseat and trunk of the car. Some of the snags had not been completed when we arrived, but by the end of the day the plane was ready for a test flight. It went well and the plane was refuelled for an early morning departure. This delay was for the better as Calgary was reporting 5/8miles in smoke. In this case, our op-

tion would be to take it to Salmon Arm and wait for the winds and weather to push the smoke east.

Heading east from Vancouver over the Rocks is a nothing feat for those planes that contently cruise at FL390+, but it's a little different when the cruising at 7,500' and when the tops of the snowy sedimentary mountains and their frozen lakes are above your wings.

My preference was the north VFR route out of Vancouver: Chilliwack, Hope, Ashcroft, Kamloops, Salmon Arm, Revelstoke, Golden, Banff, and then into the prairies; as I had flown this route at these altitudes in the past. We could make it through the Rocks with only one fuel stop - Captain's Cove Marina (Sunnybrae) just NE of Salmon Arm; and this marina was about halfway between the ocean and east of Calgary.

There was an alternative route following the south VFR corridor through Oliver; Midway; Grand Forks; Castlgar; Nelson; Creston; Cranbrook; and then following the VFR route to Fort Mcleod. This would have meant at least three fuel stops in the Rocks before getting to the open prairies and about 150 nautical miles further. Also, it would have forced us to head north once we got out of the Rockies to pick up a more favourable easterly route. Weather along the southern route basically eliminated this route once we were ready to depart.

The next morning we woke to calm winds and bright blue sky. JYP spent the previous couple years on land and the caulking in the floats had not swelled enough to stop the lake water from forming their own lakes in the bottom of the float compartments. Pumping took a little longer than expected, but in the end they were relatively dry. And at eight pounds per gallon of water, the plane was a lot lighter once we finished the pump out. This would be a common physical exercise workout after each refuelling stop.

Our first departure from Quennell Lake was aborted in part to a generator fail light illuminating during the take-off run and a headwind that changed to a tailwind half way down the lake. This light is common at low-power settings but not at take-off power. One more attempt to see if it reappeared - and it did: back to the dock. By now, one of the mechanics arrived and he spent the better part of the morning dealing with the generator. Noon Saturday on Vancouver Island was not the time or the place to get aviation parts. Once he felt that he did as much as he could, the generator was reinstalled, and a power run was completed. The generator behaved as it should have, showing proper voltage. Floats pumped, gas tanks topped up, back in the water for the start of the trip.

The official takeoff was better. The wind was brisk, there were little waves on the water, and the plane performed well with us and our load. My next prob-

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CROSS COUNTRY TRIP

lem was getting us through Vancouver airspace. I confessed to ATC that I was from the east and not 100 per cent familiar with their procedures, so they patiently provided vectors around those big silver birds and landscapes with long concrete runways. A short time later, we were east of Vancouver and climbing to our cruising altitude of 7,500'. We were high enough to have great views of the Rocks and lakes, as well as having cell coverage; enabling us to text the marinas or float bases with expected arrival times. Modern technology - gotta love it. This was Glen's first low level trip through the Rocks.

THROUGH THE ROCKIES

Flying through the Rockies is spectacular with the snow-capped hills above the wings and raging water below. We had the routing plotted out with ForeFlight on the iPad; and with great visibility - it could not get any better than this. Heading north out of Hope, we kept the Fraser River on the left side as we flew up the valley toward Ashcroft. Approaching Spences Bridge, our altitude would put us above the hills, so we proceeded direct Kamloops then to Captain Cove Marina at Sunnybrae. The marina crew was waiting for us and provided a great stop with fuel and services.

For a flight planning note, I wanted to stop at Chestermere Lake for gas, food, and possible lodging. I found out in conversations with people that some lakes



▲ Glen Lynch flying the 1958 Cessna 182 home after painting, just south of Sudbury along the north shore of Georgian Bay at an altitude of 5,500 feet.

around Calgary are not public and are owned/controlled by the various water districts. Chestermere was controlled by the Western Irrigation District and I was refused landing permission. Another option was Eagle Lake at Strathmore, but overnighting and refuelling would be cumbersome.

The next suitable lake further east was Lake Newell Reservoir, just south of Brooks. Since this plane was going east and had no access to Zebra Mussels, I was granted permission (after many calls and explanations) by the Eastern Irrigation District manager. If we were taking the plane west from an Ontario lake, we would have been refused permission to land. How they would stop us in the event of an emergency, I don't know.

Of note: very low water eliminated Ghost Lake (west of Calgary) from con-

sideration. Fast running water (runoff) forced us to overfly Kamloops and Revelstoke. Golden could be used for an emergency. Banff is just a grass strip. In short, not a lot of good useable water landing places in the Rockies for a floatplane.

I filed for the next leg to Lake Newell Reservoir via the VFR north Corridor. The weather was severe VFR through the Rockies, Revelstoke, Golden, Banff, south of Calgary, and into the Brooks area. Even with the time change, we landed about an hour prior to sunset. We still had to tie the plane up to the dock, hire a cab to take us to town, unload the luggage, have supper and sleep. We dipped the tanks only to find out that the left tank was empty and the right contained about one hour worth of fuel. Flying time from Sunnybrae was three hours. We now knew our limit.



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INTO THE PRAIRIES AND ONTARIO

Our next stage of flight planning was completed at the Brooks hotel, so the only thing that remained when we got to the plane was packing, pumping, and gassing. We arrived at the resort about the same time as huge mosquitoes - my hearing is not great and even I could hear them swarming us, but didn't want to kill any of them 'cause I needed their lifting power. The severe clear VFR weather would continue except for a 100 or so miles east SK/western MB where the visibility decreased to 25 miles in smoke. The takeoff run at Lake Newell was as long as we thought. Elevation was around the 3,200 ASL with little wind. The lake was 13KM long and we used about 1/10 of the available water. Needed a couple more mosquitoes to help. Next stop Elbow, SK.

Although the prairies are considered flat and dry, I planned a routing that had us following the major rivers. Elbow is located at the junction of the South Saskatchewan and Saskatchewan Rivers. The water was low. A week later, the docks would have been eight feet higher due to the mountain melt water.

After refilling with a hose from the boat dock, lunch at the local golf course, float pump out, we departed for our next destination - Shoal Lake (CKB9). Another great stop by the staff at the Shoal Lake Flying Club. They brought their truck with a tank on the back to the dock, hooked up the pump to the truck's battery and promptly refueled

with their hose. With the promise to e-transfer the monies, and after pumping out the floats, we continued our trip toward Kenora. We tried our best to take photos of the prairies but had to admit that the Rockies produced better photo opportunities.

Because of something going on in the Winnipeg terminal, we went direct to Selkirk then straight into Kenora. Again, with the time change, we landed about two hours prior to sunset. There were a few places to dock in Kenora: the floatplane base, the town docks, or at the hotel on the water. The gates were locked at the floatplane base, thereby we couldn't get outside to get to the hotel for the night. The town docks were unsecured and we thought that wasn't a good idea. The hotel was the next option and Glen negotiated to get us a couple rooms and a dock for the night.

I once worked out of Kenora back in the '70s and landed at the airport multiple times after - a bit of a home coming.

A short sleep, lobby flight planning, and a 6:00 am check-out gave us time to taxi over to the floatplane base for gas and coffee. We were airborne just after 7:00 am for Nipigon Marina and to our destination at Bar River. The early morning showers stopped by the time we got to Dryden and again another severe VFR weather day for flying across northern Ontario and Lake Superior. We looked at the Highway 17 (TransCanada Highway) bridge at Nipigon. This is the

only bridge joining eastern Canada with the west.

Our last landing at CNE5 was Glen's most challenging. A very narrow water runway (ditch actually) exists just west of the main paved runway. The 20 knot wind that increased our ground speed now turned into a gusty crosswind created by the 30' trees just a few feet from the landing area. Glen did a great job of getting the plane down and stopped. A couple of geese provided their verbal objections to this intrusion of their protected domain as we taxied the plane to the ramp. The lift truck was waiting for us and, within a couple minutes, the plane was pulled out and securely tied down to the ramp. Since this was a paint shop, various schemes were discussed and the finished product envisioned.

We were flown to the Sault St. Marie airport via the company's Malibu - a very short flight. After a short wait, and I think there was a beer sometime during the wait, we boarded a Jazz Dash 8 to Toronto; an Airbus got us to Montreal; then the one hour, 45 minute drive home.

A very ambitious, successful five days completed. In short, here are the flight times: Quennell Lake to Sunnybrae - 2.5 hrs; Lake Newell - 3 hrs; Elbow, SK - 2 hrs; Shoal Lake - 2.3 hrs; Kenora - 2.3 hrs; Nipigon - 2.3; and Bar River 2.0 hrs. Total distance - 1,745 nmis completed in 7 legs with 7 takeoffs (all textbook perfect) and 7 landings (no doubles). 🛩️



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SEASTAR/SUPER PETREL, Rotax 912 ULS, 100 hp, Warp Drive 3 blade prop, Grand Rapids Sport EFIS, Icom A210 with intercom, Garmin GTX 327 Xponder mode C, 100 mph cruise, \$59,000. Contact Lynn Steadman 780-384-2215 or crosscity@hotmail.com.



SUPERB LAND FOR SALE (private or commercial) at Lachute airport with a fence and sliding access gate directly on Bradford Boulevard. Front 101.7 feet X 177.16 feet depth. Culvert to access asphalt taxiway 85 000 CAD. Daniel 514-916-6045.



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ZENITH CH750 FLYING SURFACES FOR SALE - \$9,500. Kit registered with the MD-RA service. Wings completed and open for MD-RA inspection, including Dynon AOA heated pitot, remote ADHRS and OAT probe, dual 12-gallon fuel tanks, Viking fuel pumps and pressure restrictors plumbed into the wings. The wings are complete with Powerburst Plus nav/position/strobe lights from Aveo engineering and Vega TLR underwing landing lights also from Aveo Engineering, also included are the Red Cube flow sensors. Flaperon and slat kits are started not yet complete. Horizontal stabilizer is complete with electric trim tab installed. Rudder is complete. Complete drawings and full set of Homebuilt help videos included. Everything listed above prices out at \$26,000.00 Canadian from Zenith, looking for \$9500.00, time to clean up the shop!! Contact 780-519-0857.



1977 MAULE M5-235C - Price in USD. Amazing STOL performance with a useful load of 999 lbs. TTAF 2005.0 hrs, airframe restored 2008. Up-gross 2500 lbs, empty weight 1501 lbs, 66 USG total fuel, VGs, observer doors with flip-up window, Strobe lights, Nav lights and dual landing lights. Lyco O-540 J1A5D, 235 hp, TTSN 2005.0 hrs, TTSMOH 997.0 hrs with 6 new cylinders on Feb 2000, JPI 700. McCauley 3-blades, Prop TTSOH 101.7 hrs Jun 2016. STEC-30 a/p, 4-place intercom, King KT76A Trxd mode C. Canadian registered since new. All logbooks and manuals, Based in CST3, QC, Canada Reason for sale: moved to aerobatic flying. • Contact Georges Bertrand , Owner - located Vaudreuil, QC Canada • Telephone: 1-438-368-9442



1978 CESSNA 414A, 6192TT, 10/990 Since RAM1V (325HP), Garmin GTN750 WAAS GPS, ADS-B Out! RAM Winglet! Known Ice! 2047# Useful Load! \$290,000 USD. Contact Apex Aircraft, www.apexaircraft.com or 905-477-7900.



MAGNO GYRO M24 ORION 2014 - Rotax 914 - Always hangared, TT227h, Excellent condition, Annual November 2020, Funkwerk radio and transponder, Avmap Ultra EFIS, Ipad panel mount, Additional Landing light, Cabin Heat, Glovebox, Cabin cover, Lachute Airport (CSE4). Contact: Eric 450-623-6016.



CAP 2000 FLOATS certified with Citabria 7GCBC rigging and mounting brackets - Tail fins , could be rigged for home built use . In excellent condition. Located in North Bay ON \$8500 CDN. Contact mileraviation@vianet.ca.



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1948 TAYLORCRAFT BC 12D, Owner/Maintenance, TT 1340.9, 48.2 hrs on O-290-D2 with 150hp conversion, EDO 2,000 floats, 1,800lb gross, 476lb useful, wingtip strobes, sealed struts, flaps, 32 gallons fuel, cosmetically needs some TLC, annual inspection completed Aug 15/20, Super Cub performance at 1/2 the price! \$39,900 CDN. Ph 250-723-2960 or email martinvanhumbeck@gmail.com



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1955 CESSNA 180 7819.8 TT, 0-470-K engine 1170 TTSOH (2011), C-203 Propeller 309.2 TTSOH (2017), EDO 2870, Commercially registered, good shape. \$107,000. Contact viking@vikingoutpost.com or 807-727-3461



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- A/C aircraft
- AD Airworthiness Directive
- ADF automatic direction finder
- A&E airframe & engine
- alc. alcohol (as in alc. prop)
- AP auto(matic) pilot
- ATS automatic throttle system
- ASI airspeed indicator
- 360CH 360 channel radio
- 720CH 720 channel radio
- CG centre of gravity
- CHT cylinder head temperature
- Comm/com communications
- Cont Continental (engine)
- CS constant speed propeller
- DG directional gyro
- DME distance measuring equipment
- EGT exhaust gas temperature
- ELT emergency locator transmitter
- Enc Alt encoding altimeter
- FBO fixed base operation
- FD flight director
- FREMAN,
- FREM factory remanufacture
- GEM graphic engine monitoring
- GPH gallons per hour
- GR glide ratio
- GS Glideslope
- HP horsepower
- HSI horizontal situation indicator
- IFR instrument flight rules
- ILS instrument landing system
- 3LMB/MB . . . 3 light marker beacon
- LOC localizer
- LRF long range fuel (capacity)
- Lyc Lycoming (engine)
- MB See 3LMB
- MK Mark (model of equipment)
- MPH miles per hour
- NAV navigation
- NAV/COM . . . navigation/communications
- NDB non-directional beacon
- NDH no damage history
- OAT outside air temperature
- OBO or best offer
- O/Oxy oxygen
- P&W Pratt & Whitney (engine)
- RMI radio magnetic indicator
- RNAV area navigation
- SCTOH since chrome top overhaul
- SCMOH . . . since chrome major overhaul
- SFREMAN/
- SFRM since factory remanufacture
- SMOH since major overhaul
- SPOH since prop overhaul
- STC supplemental type certificate
- STOH since top overhaul
- STOL short take off & landing
- T&B turn & bank
- TBI turn & bank indicator
- TBO time between overhauls
- TT total time
- TTAE or
- TTE total time aircraft engine
- TTAF or
- TTA total time aircraft frame
- TTSN total time since new
- VFR visual flight rules
- VHF very high frequency
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So as COPA members attend these events, they make lots of friends in different sections of the aviation community. The older one gets, the more aviation friends we have.

This was driven home to me when I got out of bed on Valentine's Day 2021, looked out my back window onto frozen Lake Scugog, and saw a brilliant yellow Rans S-6 Coyote on skis, practically sitting in my backyard. Its owner Dave Woodhouse is a Rans dealer who operates from the seaplane base, "Charlies Landing - CHS4" on Lake Scugog.

Dave is a friend who I met during the early 1980s when he was an instructor with High Perspective Ultralights and taught me how to fly a Quicksilver MX-2. I had my private licence at that time but wasn't flying many hours because of the high cost of renting certified aircraft. Ironically, Dave lives close to me, but we hadn't connected for quite a while.

It didn't take long to get reacquainted, talk over old times, and receive an invitation for a flight around the lake.

The first thing I noticed about the Coyote is how far the seats recline, which was exaggerated because this particular aircraft is a tail dragger. (Ski equipped tail-wheel aircraft are considered easier to handle on the ground than a tricycle gear.)

The engine is a 100 hp Rotax 912S and at -8 degrees C it produces more power than is really needed. We were able to taxi through deep snow at less than half power with the occasional burst to get us over ski-doo ridges.

Once well clear of the shoreline, and away from ice fishermen and ski-doo traffic, Dave opened up the throttle and the tail came up. I can't say how long it was up before we were airborne, because I was mesmerized by what I was seeing out the windscreen.

All pilots know that the most unfriendly piece of real estate in the world is the end of a runway. Whether you are landing or taking off, if you are not clear of the ground by then or not



▲ Dave Woodhouse covers his Rans S6 Coyote to keep the heat in the engine so it will start easier in the cold.

at a complete stop, you are going to have a bad day!

But what I was looking at in front of us, as we lifted off, was a flat, white, snow-covered surface. This is the joy of ski flying. The length of runways here are measured in miles not feet. You are always into the wind and it doesn't have to be a lake. Any snow-covered field or large river offers a safe landing site.

We circled the lake but stayed below 1,500 ft AGL, because school aircraft from Oshawa, Lindsay and Peterborough were also in the area doing air work at well over 3,000 ft AGL. When it was time to come down, I learned another lesson about ski flying. When pilots of ski planes are setting up for a landing, they face the same challenges that seaplane pilots face when making a glassy water landing. The flat white surfaces provide very little depth perception.

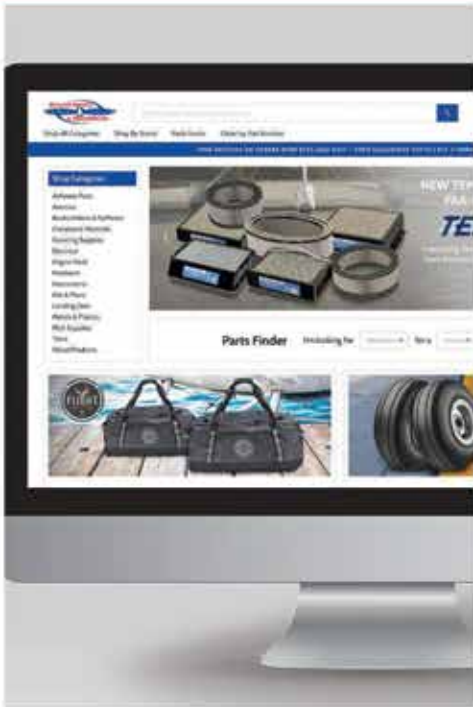
On this flight, we had a bit of an advantage by landing parallel to the shoreline so the height of trees helped Dave gauge his height above the ground.

Earlier that day Dave's friend, Richard, had shown up flying, of all things, a Trike. Dave had promised him a ride in the Coyote, so it was time to thank Dave and let someone else experience the joys of ski flying, but this time in a warm cockpit. 🐾



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