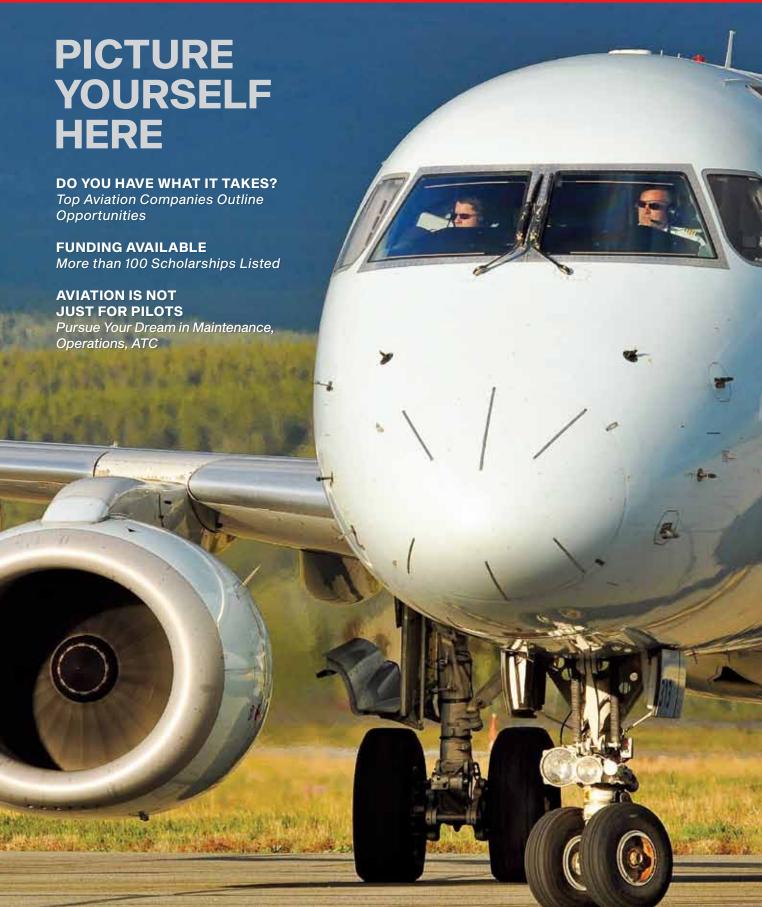
AVIATION CAREER + SCHOLARSHIP GUIDE











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Cover photo by Simon Blakesley





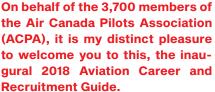


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While I may be flying with Canada's flagship carrier now, it was not so long ago that I found myself in the early days of my aviation career as an air ambulance pilot, first on turboprops and later, Learjets.

My current role representing members as Chair of ACPA's Master Elected Council gives me a unique perspective on how rewarding our chosen career can be. Our members range from those just starting on the line to those who are looking to new horizons as they approach their last flight for Canada's larg-



est airline. It may sound cliché, but, as you will learn here and elsewhere, it truly is a great time to be a pilot in Canada.

From its inception as our nation's largest single pilot group in 1995, ACPA has been a leader in advancing our profession and aviation safety at home and abroad. By representing our members on individual issues with our employer, as well as collectively through the bargaining process, we are enhancing working conditions and career prospects for our highly-trained and specialized members every day. And as advocates not only for our pilots but the travelling public, we are identifying and advancing critical industry issues with a range of key stakeholders, including government, regulatory authorities, fellow trade unions and the media.

It is because being a pilot is so great that we as a union are so vested in preserving the benefits and opportunities we have worked so hard to earn.

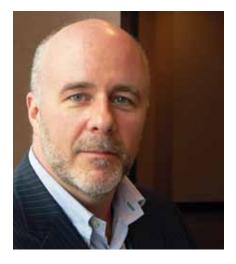
In aviation as in life, many paths can lead to your desired destination, and opportunities to help your career take flight — including the many and varied scholarships presented here — abound.

The professional aviators of the Air Canada Pilots Association wish you all the best as you embark upon the adventure that is a pilot's life. Respectfully,

Mthos

Captain Matt Hogan Master Elected Council (MEC) Chair, Air Canada Pilots Association







We are excited to be working with ACPA as the lead partner, Jazz Air and Waterloo Wellington Flight Centre as Section Leaders to provide this resource for those looking to enter the aviation industry or those looking to upgrade their existing ratings. Since 1952 COPA has been active as the voice for general aviation, representing pilots and aircraft owners in every province and territory. At the grassroots of the aviation industry, general aviation is where it all begins. COPA has a long history of connecting communities across Canada with aviation and enabling future aviators to get their start. We pride ourselves on our role in helping to shape the future



of aviation at every level. Anyone who has ever dreamed of piloting an aircraft has, at some point, walked through the front door of a flight school to begin their odyssey. Through this publication we hope to help people take that first step. To realize their dreams, and to take charge of their future. Inside, you will find detailed information on many of the scholarships and bursaries available to assist people in offsetting costs associated with their flight training at all levels, including fixed-wing, helicopters, and specialized advanced training.

We also hope that as you realize your dreams, you will give back. Each of these scholarships forms part of the legacy of a person or group who was inspired to help others pursue their passion. Many of these programs are sustained through generous donations made by those who, at some point, have benefitted and by raising awareness, we can help ensure that these same programs are there to give the same help to future generations of Canadian aviators. As you benefit from programs such as these along your career path, consider supporting the programs and organizations that helped you get your foot in the door — whether mentoring future students at your local flight school, giving youth their first airplane ride through COPA for Kids, or helping to ensure that scholarship programs are available for those who need them when the time comes.

We all have a role to play in Canada's robust aviation industry and it starts here: by enabling the next generation of Canadian pilots.

Bernard Gervais, COPA President



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The Pilot Life



Flying for pure enjoyment and a rewarding career By First Officer Miyuki Hamakawa, ACPA External Affairs Committee Member

any of us who have become commercial pilots remember the eureka! moment when we decided flying is what we wanted to do for a living. My eureka! moment came when I was in Grade 9 and struggling to find a potential career I liked.

My mother, a passenger agent for Canadian Airlines in Vancouver, put the idea in my head. She always enjoyed her work and meeting people — also the travel benefits for employees. The pilots she met seemed to enjoy their job. So I booked a familiarization flight at a local airport to see if flying planes was for me. I remember taking off in a



Cessna and looking down at all the cars and trees and buildings and thinking this was the coolest thing. The instructor let me take the controls. I loved the freedom, the maneuverability, not only left and right, but up and down as well. I thought to myself as we landed, 'Yes, this is it!'

It's a decision most pilots never regret. Being a pilot is extraordinarily different from any 9-to-5 job. Flying for Air Canada Rouge has taken me to an incredible number of faraway places including Japan, Switzerland and Hawaii. Travelling for work has enabled me to improve my Japanese language skills too!

I have used some of my 24- or 48hour layovers abroad to do some exploring and sample different cultures. I can use my employee travel benefits for extended trips. These are opportunities most other people never have.

My pathway to Air Canada began with lessons on weekends to accumulate the 50 hours of flying to earn my private pilot's licence. Then I completed a two-year aviation program at a community college, in which I added 200 hours of flying needed for my commercial license. At the time, first jobs were harder to get. I spent over a year doing flight dispatching at two small airlines before transitioning to flying at the second. Doing a ground job like flight dispatch can help a pilot get into flying because the company already knows you and you know the operation. Then again, with pilots in great demand today, many go directly from earning their commercial license to a first flying job.

And what a job it is! Unless you become an astronaut, you'll have the best view of our world, the ground below or the stars above. It never gets old.

If you are hired by a major airline, your compensation will keep increasing over the years as you move by seniority

One of my first jobs was flying turboprops from Vancouver to BC coastal and interior airports. Weather permitting, there were awesome views. Flying over the islands, you'd see boats, whales, sea lions. You're flying along the beaches and it's just amazing. I joined Air Canada in 2013 and now fly Boeing 767-300s. Crossing the Atlantic, I get to see the mountains and glaciers of Greenland, and icebergs with patches of intense blue water.



No two flights are absolutely alike. Crew pairings vary from trip to trip. There are even subtle equipment differences within the Boeing 767 fleet. Old timers like to claim that being a pilot isn't what it used to be, that modern jetliners practically fly themselves. Don't believe it. While the automated flight management systems in the flight deck are vitally Important, they are only as good as the data we input. That takes a pilot's full attention. I am an environmentalist, and pride myself when I am safely able to reduce the fuel burn on the 767 by tweaking the way we fly.

It's a good life in other ways. The power of collective bargaining has produced stronger contract and working conditions for commercial pilots at the major regional and national airlines. It's a power that ACPA, backed by the unity of its members, continues to apply judiciously to improve our economic and working conditions. If you are hired by a major airline, your compensation will keep increasing over the years as you move by seniority from the right seat (first officer) to the left (captain) and from the smallest aircraft to the largest. At



Top image: Early flying days with my mother, Mutsumi Hamakawa, who inspired me to become a pilot.

Above: Mother and daughter at Selkirk College in Castelgar, B.C. when Hamakawa was training.

Air Canada, we are well supported by the company and ACPA in our work and professional development. The union works hard to safeguard our rights and compensation so pilots can focus on doing our best. The pay and benefits afford us the possibility of a comfortable lifestyle, the prospect of a pleasant retirement and the ability to pursue outside interests and activities for a very full life. •



The airline industry wants you

It's a great time to become a commercial pilot! There is a growing global pilot shortage, the result of high passenger and cargo demand along with high retirement rates. More people than ever are travelling by air - a record 4.1 billion passengers were carried on scheduled services alone in 2017. Airline fleets are expanding. Canada, like most countries, needs more pilots to cover a wide range of missions in both the public and private sectors.

Piloting is a stimulating job, a great career in a well-regarded and respected profession. It's a career for all, regardless of gender, race, religion, marital or family status or sexual orientation. Anyone in good health who can meet the transparent hiring and licensing criteria set out by government authorities and air operators can expect serious consideration. Today, most pilots are getting their start in college programs, flight schools and flying clubs. This COPA Scholarship Guide lists financial help and awards offered by various institutions and organization that could help you chart your own way forward.



The Airline lite

Jazz Maps Careers From High School to Cockpit Photos Courtesy Jazz Aviation

lthough it seems to many that the current aviation labour shortage is a relatively new phenomenon, it's been predicted for decades and Jazz Aviation has been preparing.

The company, which contracts with Air Canada to provide most of its regional airline feeder service across the continent, has been working directly with college and university aviation programs since 2007 to give promising graduates a pathway to the right seat of its Bombardier turboprop and regional jet airliners through its Jazz Award program.

Those efforts were rebranded in 2015 under the name Jazz Aviation Pathways Program (Jazz APP) that has expanded to now include high school students and gives them a blueprint for pursuing an aviation career.

"The Jazz APP now provides a clear pathway for high school students active in air cadets to a career with a commercial carrier," said Steve Linthwaite, Vice President, Flight Operations at Jazz. "This is made possible through our agreements with 17 aviation colleges, flight schools, universities, and industry organizations."

Jazz has agreements with the following educational institutions: Collège Air Richelieu, Algonquin College, Brampton Flight Centre, Centre québécois de formation aéronautique at Cégep de Chicoutimi, Conestoga College Institute of Technology and Advanced Learning, Confederation College, Mount Royal University, Okanagan College, OAS (Ottawa Aviation Services), Sault College, Seneca College, University of Waterloo and University of Western Ontario.

Jazz also works with the Air Cadet League of Canada, Air Canada, Bearskin Airlines and Wasaya Airways to create a comprehensive set of opportunities for young people interested in an airline career.

The agreements vary but focus on core principals of collaboration on training, curriculum and industry best standards while offering valuable scholarships to top students.

"Our agreements with the 13 aviation colleges, flight schools and universities provides an important opportunity to support the programs with operational experience and to promote safety and professionalism," said Linthwaite. "Jazz sees this benefit through a source of well-trained high quality professional graduates. The program enables Jazz to hire commercial pilots upon graduation from the school, subject to successfully completing a standards review and evaluation program that meets our high level of pilot skill, professional standards and safety credentials that are at the core of our values."

Getting future pilots through school is important but so is helping them in the period between graduation and reaching the experience levels needed to fly with the airlines. Many graduates become instructors to build time and experience and Jazz has programs to help them achieve their career goals in their first years in the job market.

"The Jazz Aviation Pathways Program includes instructor pathways for Sault College and Seneca College past gradu-



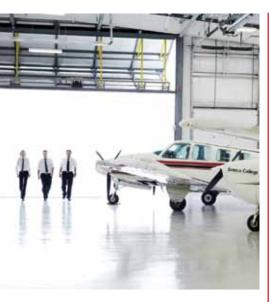
Jazz Scholarships

Through the Jazz Aviation Pathways Program, Jazz awards nearly \$80,000 in scholarships each year, in these two categories:

The Jazz Aviation Pathway Award for Professionalism. Awarded to a full-time student for outstanding contributions to safety, leadership and professionalism. The Award consists of a \$3000 scholarship and an opportunity to participate in the Jazz Aviation Pathways Program (Jazz APP) selection process. The award recipient will be selected by the program chair or designate in consultation with Jazz Aviation to ensure the criteria as outlined are respected.

The Jazz Aviation Pathway Award for Professionalism and Diversity.

Awarded to a full-time student: who has self-identified as Aboriginal, a person with a disability, a visible minority or female, for outstanding contributions to safety, leadership and professionalism. The Award consists of a \$3000 scholarship and an opportunity to participate in the Jazz Aviation Pathways Program (Jazz APP) selection process. The award recipient will be selected by the program chair or designate in consultation with Jazz Aviation to ensure the criteria as outlined are respected.



Spotlight on Seneca College

One of the premier programs within the Jazz APP is the Seneca College Jazz Cadet program.

This program was launched in 2012 and is available to the top performing Seneca students who have completed the third year of their four-year aviation

The Cadets are selected and evaluated on professionalism, discipline and both flight and academic performance during their fourth year.

Upon completion of their program, the Jazz Cadets undergo a comprehensive review and simulator evaluation at Jazz. Only those Cadets who meet the qualification and hiring standards consistent with Jazz hiring policies are offered employment opportunities.

In addition, Jazz also offers leaves of absence to their pilots in order to be flight instructors at Seneca College and share their operations experience with new candidates. This opportunity also builds their pilot-in-command experience towards higher licence qualifications.

Jazz's agreement with Seneca College also includes an instructor pathway program whereby past graduates of Seneca College's Aviation program who are currently instructors at Seneca, have an opportunity for employment with Jazz, as pilots.



ates, who are currently flight instructors with their respective aviation programs, to have an opportunity for employment with Jazz, as pilots," said Linthwaite. "To support quality flight training in Canada, Jazz recognizes the need to continue to develop pathways that encourage new pilots to become flight instructors, without affecting their opportunity to become an airline pilot, if they wish."

Candidates for the instructor program have to be at the top of their game and be recommended by the colleges. They must also meet experience criteria. Instructor pathways are an emerging priority for the Jazz APP and discussions are already underway to extend this element of the program to more institutions.

Jazz can't take all the deserving graduates so it's struck deals with other airlines to ensure that young pilots who excel within the Jazz APP environment have a wide range of opportunities to continue their advancement after graduation.

Through its agreements with Wasaya Airways and Bearskin Airlines, Jazz has a mutually beneficial arrangement that helps ensure the flight decks of all three carriers are staffed by the best and brightest young pilots.

"First, Jazz will refer to these carriers high quality graduates who have progressed through the Jazz Aviation Pathways Program at our participating aviation colleges, flight schools and universities. Those graduates would then have the opportunity to transition to first officer positions at Bearskin Airlines or Wasaya Airways." said Linthwaite. "Second, the Jazz Aviation Pathways Program will provide a direct career path opportunity for qualifying Bearskin Airlines and Wasaya Airways pilots to transition to first officer positions at Jazz."

Third, the pilots at all three airlines are represented by the Air Line Pilots Association (ALPA) and a new agreement (Oct. 11, 2017) allows pilots from Bearskin and Wasaya to bring their seniority with them to new positions at Jazz.

"This industry-leading agreement allows for high quality professional pilots to transition to pilot positions at Jazz with recognition of their airline seniority between ALPA carriers," said Linthwaite. "These pilots come with a high level of experience and quality, and are great additions to the Flight Operations team at Jazz."

Linthwaite said Bearskin and Wasaya benefit from the arrangement because it helps them recruit new pilots and adds structure to the career progression of young pilots.

"This agreement benefits Bearskin and Wasaya by strengthening their re- 🖺 cruitment efforts with each carrier's ability to provide a further enhanced career pathway for their pilots," he said. "Additionally, this agreement provides a structured program with clarity on pilots who will transition to Jazz versus normally unknown attrition rates."

Jazz also gives its own pilots the opportunity to continue the pathway to Air Canada as part of a mobility program that gives experienced Jazz pilots the opportunity to move to the mainline carrier. To date, more than 400 Jazz pilots have moved to Air Canada under the program.

"The pilot mobility option allows our Jazz Aviation Pathways Program to provide clarity for future aviation professionals to see their career path from high school and younger through to Jazz and even Air Canada," said Linthwaite. "This was our ultimate vision for creating the Jazz APP and we're very proud of the many success stories we've been a part of for the past 11 years, and counting." Linthwaite.

Drawing From Air Cadets

The Air Cadet Flying Scholarship program is often thought of as a pathway to a military career and it's true that a lot of RCAF pilots got their start at one of a dozen or so summer camps across the country.

But many air cadets don't pursue the military and leverage the flying skills they learned as cadets into civilian careers. Jazz provides a pathway for those cadets thinking of an airline career.

This agreement includes: two annual national scholarship opportunities for successful graduates of the Air Cadet League of Canada Power Flight program, continued funding of the ACLC Power Scholarships program, and ongoing support of the ACLC.

These scholarships build on the existing relationship between Jazz



and the ACLC. In 2012, Jazz began supporting the ACLC by funding one annual Power Familiarization Pilot Upgrade Scholarship valued at \$2,500. Additionally, Jazz continues their ACLC commitment to educate and enhance awareness of career opportunities for cadets and ACLC members, and encouraging Jazz employees to support their local ACLC squadron through the provision of various resources.



The B.C. Aviation Council has assembled a roster of scholarships worth a total of \$50,000 for members involved in a wide range of flight training paths. All applicants must be BCAC members and the application deadline for each is May 31 each year. Read the detailed description of each scholarship on the BCAC Website (bcaviationcouncil.org) to ensure any special conditions are met.

Anderson Family Flight Training Scholarship of \$5,000 goes to a member between the ages of 16 and 19 who must demonstrate commitment to finishing flight training. Must provide transcript of marks. Must be working toward fixed- or rotary-wing PPL. Must have completed minimum of 10 hours of flight training. Must include letter of recommendation from a PCTIA-accredited flight school. Must demonstrate need/ reasoning for financial assistance.

Al Michaud Memorial Scholarship of \$1,000 goes to a member actively engaged in commercial pilot training. Must demonstrate commitment to continue with commercial pilot training to obtain licence in fixed or rotary-wing aircraft.

Conair Group Commercial Aviation Training Scholarship of \$3,000 goes to a member actively engaged in commercial pilot training. Must demonstrate commitment to continue with commercial pilot training to obtain licence in fixed- or rotary-wing aircraft.

Michelle Ward Memorial Scholarship of \$2,000 goes to a member actively engaged in commercial pilot training. Must demonstrate commitment to continue with commercial pilot training to obtain licence in fixed- or rotary-wing aircraft.



Harbour Air Advanced Float Plane Endorsement Scholarship of \$30,000 goes to a member actively engaged in commercial pilot training. A minimum of 150 hours must be completed or applicant must hold a commercial pilot licence (CPL). Must demonstrate commitment to pursuing a career as a commercial float plane pilot, show commitment to training, completing the program, and working as a pilot in the float industry.

Anne and Rudi Bauer Memorial Scholarship of \$1,000 goes to a member actively engaged in private pilot training or has received a PPL in current year. Must demonstrate commitment towards commercial pilot training or involvement in an industry training organization such as aviation maintenance, airport operations, or airline operations.

Mary Swain Memorial Aviation Training Scholarship of \$1,000 is open only to female members and applicants must be currently registered at a B.C. or provincially-recognized university, college, training institution, or a PCTIA accredited or registered flight school. Must demonstrate commitment to complete training in her chosen aviation field.

B.C. Aviation Council Flight Instructor Training Scholarship of \$1,000 goes to a member who is obtaining a fixedor rotary-wing Instructor Rating. Must show commitment to training and completing program.

Helijet Helicopter IFR Training Scholarship Award of \$3,500 is open to any member but the application must be supported by a BCAC member. Must show commitment to training and completing program. Flight Training — Advanced YBC BCAC Administrator info@bcaviationcouncil.org or beaviationcouncil.org.

Alexander Holburn Beaudin + Lang, Ernie Alexander Memorial Scholarship of \$2,000 is open to members and their application must be supported by a BCAC member. Must be currently enrolled in an aviation or aerospace program at a post-secondary institution in BC. Must have an academic grade average of 75 percent or higher.

B.C. Aviation Council "Career" Training Scholarship of \$1,000 goes to an applicant who has completed at least 75 percent of training. Application must be suppoorted by a BCAC member. •





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Seneca





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Ticket to Adventure

Float Training Opens New World

We're currently entering an unprecedented time in aviation when there are not enough pilots to fulfill the airlines' demands. According to one study, in North America there is an anticipated need for 117,000 new pilots over the next 20 years. So, what does it take to make it to the captain's seat? And, with so much demand, what's the best route for an aspiring pilot?

At BC-based Harbour Air, one of the largest seaplane airlines in the world, the real key to success is finding the right people who embody Harbour Air's attitude of success and its four key values: safety, service, integrity and team spirit. After 35 years in operation, the once two-plane airline now employs 54 pilots over the winter season, looking to hire at least 15 more over the spring. The path to becoming a Harbour Air pilot is either through internal mentorship and external recruitment.

Harbour Air noticed many of its ground support staff were also aspiring pilots. So, in 2016 Harbour Air tested the launch of an internal mentorship program, enabling staff to learn the business while working to attain their commercial licence.

Mike Criddle is one of two graduates from Harbour Air's mentorship



program, which launched officially in November 2017. Alongside the program, Harbour Air also created a training division that specializes in



advanced floatplane flying. Using their highly-experienced pilots, this allows Harbour Air to train the candidates fresh from school wholly under their own guidance.

For Criddle, the local airline seemed like a perfect fit to get into the industry while accruing his flying hours and keeping him close to home. After two years, a commercial licence, multi-IFR and float rating under his belt, Criddle landed a position as second officer on Harbour Air's Twin Otter.

"Harbour Air really helped kickstart my career," said Criddle, who, another two years on, with the help of experienced captains and their mentorship, is now flying as captain on the Beaver.

The new captain said his best advice for aspiring pilots is to get flying."Get your hours done as quickly as possible because people are hiring," he said.

The opportunities currently available are a stark contrast to the last 15 years. During this time, fierce competition sent pilots into remote areas tackling odd jobs and manual labour just to secure the minimum flight requirements.

After travelling as a passenger to New Brunswick on a small plane, current Harbour Air pilot Reggie Morriset had an epiphany that would launch a swift shift from his thenteaching career. Shortly thereafter, Morriset applied and attended flight school outside of Montreal. He went on to earn his commercial licence, IFR rating and eventually multi-engine rating, while accumulating his hours in Northern Manitoba, Kelowna and Ouebec.

After "earning his stripes" across the country, Morriset was able to land a coveted position on the West Coast flying float planes, working his way up

to eventually secure a position with Harbour Air in 2006.

"The opportunity for pilots to move forward is better now than it's ever been in any department of aviation," says Morriset.

For Morriset, there are pros and cons to each path. "There's a certain amount of value to paying your dues, but I think it's great that new pilots won't need to sacrifice so much to move up in the ranks."

After 11 years with the company, Morriset is a training captain and has been named one of two pilots who will fly the new Cessna Grand Caravan EX on Harbour Air's downtown Vancouver to downtown Seattle scheduled service launching in the spring of 2018.

Those interested in becoming a Harbour Air pilot can send applications to jobs@harbourair.com or visit www.HarbourAir.com



Exciting Times for ATC

New Technologies Increase Safety



Michael Oxner has been an air traffic controller for more than 26 years and has had a front row seat for the technological changes that have revolutionized the profession. There is also a labour shortage in the air traffic control facilities of the nation, including the army of technicians who keep the sophisticated equipment humming. Oxner is a Canadian Aviator columnist who described those changes in a January column.

When I first graduated from the ATC training, then done in Cornwall, Ontario, I was posted to the control tower at Halifax International Airport — now the Stanfield Airport.

In the old tower cab atop the terminal building, I worked with an analog radar. You could see the "sweep" on the screen (the technical term was the "main bang") as the radar panned across the sky, searching for targets by way of reflection (Primary Surveillance Radar) or by response to interrogation (Secondary Surveillance Radar). It displayed whatever it found and the operator had to interpret what was seen.

The radar screen back then was a TV. Literally. It was actually a "scan converted display" which showed a daylightviewable picture of the old "black radar screen." Aircraft were represented as slashes drawn perpendicular to the radius from the centre of the display. Your aircraft were highlighted as double slashes.

As I watched the next generation of radar being installed at the airport, we grew into the digital age. The analog radar signals could not be sent very far before degrading and becoming unusable. It was very restrictive and quite inefficient by comparison to what we can do with radar today. The digital radar data could be sent anywhere, allowing the Area Control Centres across the country to see in areas that were purely procedural in terms of ATC service.

With the digital radar came radar data processors that could provide us with the now-familiar data tags tied to aircraft. And with Mode C and groundspeed now displayed, gone are the days of asking for altitude reports and guessing how fast someone is moving across the sky.

I said radar was just a TV in the physical sense, but it was also just a TV in the practical sense. There was no interaction with the information displayed. It was just watched, and you directed your aircraft through experience and judgment based on what you saw.

With the power of computers added to the radar display, we could now get flight-plan data for the aircraft we were working. Other tools became available that we could use, as well. Simple things like Predicted Track Lines, showing where the aircraft will be if it continues on its current track and speed, can help show what the traffic picture might look like in the near future.

Another useful tool is the ability to draw a Range-Bearing Line on the screen and get distance and bearing information. This can be done between two geographic points, two aircraft, or one of each. It's useful for everything from gauging separation, checking a track between two points or guiding an aircraft.

As the software advanced, so did the ideas for how to use the tools. Coordination between control positions or

between ATC units also began to take shape. The radar data processor became a significant part of the system, instead of just another tool.

In Canada, the Canadian Automated Air Traffic System (CAATS) has been in use since the early 2000s, and it has developed into the central component of our equipment. It receives and sends flight-data messages, automating duties that were done in a time-consuming and error-prone fashion in decades gone by. The handling of flight data between ATC and other branches of Air Traffic Services in Canada is quite powerful now.

The radar has come a long way from something you just looked at, to something you now interact with, as flights are handed from one unit to another. This system has increased the capacity and capability of Canada's air traffic controllers, and the Canadian Air Navigation System as a whole.

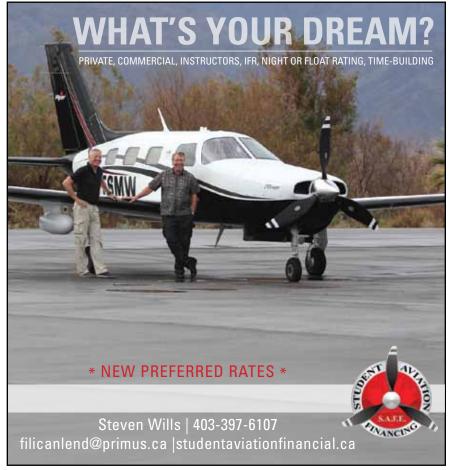
I've been excited to be involved in these changes. First in Halifax Tower, and now in Moncton Centre, I continue to enjoy watching the technology change. Now I look skyward as space-based ADS-B makes its way into the mainstream.

Aireon, a partnership between Iridium Communications, Nav Canada and other ATS providers, is launching satellites aiming to provide global ADS-B coverage. This will mean air-traffic surveillance will be available in many places where radar stations can't be built, such as in mountainous terrain, open ocean, and other remote areas.

Separation now provided in an inefficient manner, relying on position reports, can be provided in a radar-like environment, allowing the safe reduction in spacing between aircraft. This will greatly increase efficiency for aircraft operators and passengers.

These are exciting times. While I like to think back to the way things were, I'm glad we're advancing. I'm happy to have seen and worked with some of the older equipment, but the new developments promise so much, it's hard to think back on the old days as the glory days. The best is yet to come. •







fter decades of riding the flight training roller coaster as the head of one of Canada's largest independent schools, Bob Connors thought he'd seen it all.

"The world has changed in a couple of years," said Connors, who is the CEO of Waterloo-Wellington Flight Centre at the namesake airport in Breslau, Ontario, near Kitchener.

Never has there been so much opportunity for even the freshest graduates of his school's well-respected commercial pilot courses.

With a perfect storm of retirementrelated vacancies and a rapidly expanding industry, pilot jobs that used to be a distant dream for those with fresh ink on their CPLs are going begging and possibly for the first time in the history of commercial aviation, new graduates are able to exert considerable control over their career paths.

"The opportunities are incredible," said Connors. Recent graduates are flying medevacs up north, well on their way to regional airline jobs and finding employment in every nook and cranny of a labour-starved industry that's voraciously gobbling up anyone with the credentials, experience and attitude to fly their aircraft.

While he's pleased to see the grads take off on their careers, it's created some operational headaches that are universal in the flight training industry and will have to be addressed to keep the pipeline of new pilots full.

"It's a pretty volatile situation. Last year we had a 50 percent turnover in instructor staff," he said. A few years ago, a young pilot building experience as an instructor could expect to spend three or more years in the right seat while pounding the pavement looking for that coveted first bush or small cargo job. Now, small operations are hiring instructors directly from the schools as they lose pilots to larger carriers who, in turn, are seeing huge turnover themselves.

It's an unsustainable cycle that is being addressed by the Air Transport Association of Canada, of which Conners is a key member helping to establish a new framework for training and recruiting pilots for the foreseeable future.

"This doesn't feel like a bubble," he said. "This is going to last awhile."

In the meantime, he and his colleagues in the training industry are getting creative in attracting and maintaining instructor staff, including bringing people out of retirement to fill those roles. Even those in their 40s and 50s who have regained currency are in demand. "They're highly marketable," he said.

Meanwhile, the market conditions have fundamentally changed the way commercial pilots train. The days of accumulating ratings one at a time over a period of years as students could afford it are gone for most new trainees.

"Most of it is through structured programs," he said. That means flight schools like his have major partnerships with post-secondary institutions to provide the flight operations segment of four-year degree aviation programs.

In some cases, regional airlines are taking these graduates directly into their own focused first officer programs.

Connors said Grade 10 high school students interested in flying should be picking their Grade 11 and 12 courses to meet the requirements for the university programs and plan on being on their way to airline careers by the time they're in their early to mid 20s.

"The timing couldn't be better," he said.



Student Loans Inadequate

Waterloo-Wellington Flight Centre General Manager Bob Connors says one of the biggest hurdles for young people considering flight training is the lack of financial opportunity.

Flight training costs much more than most types of post secondary education but traditional student loans have caps that don't even come close to the money required to obtain a commercial multi-IFR level that is the acknowledged starting point for most air carrier jobs.

He said a new flight training effort of the Air Transport Association of Canada addresses the financial issues facing future pilots and presentations will be made to government to get the funding structures in place to rapidly train for the already growing backlog of pilot vacancies.

The Canada Student Loan Program offers a maximum of 60 percent funding and a maximum of \$210 a week. which wouldn't even cover an hour of instruction in a light twin.

Second Career A Dream Job

Early Retiree Revives Youthful Ambitions

Rui Pinto's timing couldn't have been worse. He dreamed of being a professional pilot and worked hard toward that goal and then 9/11 happened.

"There were no jobs," said Pinto. There were, however, hungry mouths to feed and a roof to be maintained over the heads of his family so when an aviation-related job opened up in his hometown of Kitchener-Waterloo, he considered himself lucky.

He spent the next 14 years in operations at WestJet's small base in Kitchener and then the world turned upside down.

WestJet trimmed jobs in its Southern Ontario operations at the same time op-

portunities exploded in the fields he abandoned as a young man. He took a buyout from WestJet, effectively retired at the age of 43 and dusted off his old ratings.

He's now what his boss Bob Connors calls a "mid-life career change" and a valuable member of Waterloo-Wellington Flight Centre's instructor corps.

"I'm very blessed to be back in this," said Pinto. "I get paid to do something that doesn't feel like work."

He said that even though it's a seller's market for young people getting into aviation, the passion for flying still has to be there for new pilots entering the market.

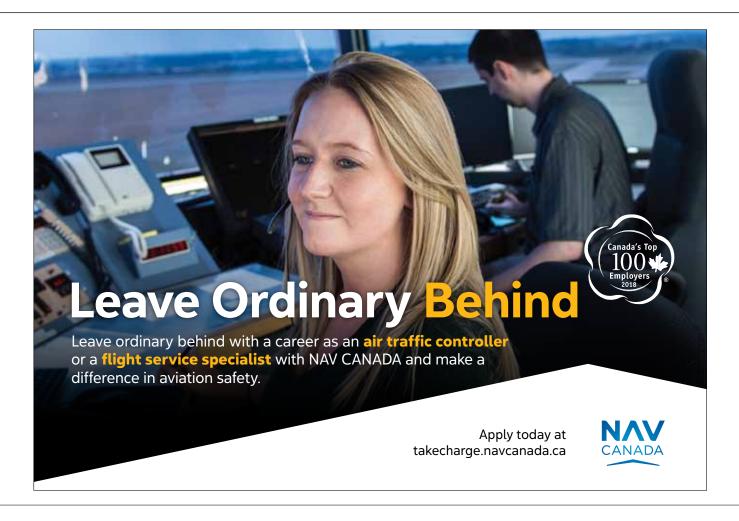
Fortunately for them, Pinto and the smattering of second-career instructors now showing up on the nation's flightlines have enough to inspire legions of youth.

"I enjoy every day," he said.

The older folks with interrupted careers have a different viewpoint for the cavalcade of changes in the industry and they'll be helping to change the way flight training and aviation careers are promoted and filled.

At the centre of it all is that passion that underscores every word he says.

"I don't think we're harnessing it correctly." •



Different Goals, Similar Paths

Young Pilots Fanning Out Through Aviation

For many career-oriented pilots, training has become relatively uniform and they enter the job market ready for anything. That's a good thing because the world has opened up for young pilots and they are embracing the many career choices ahead of them.

As a student at Seneca College's aviation program, Yandle competed in the prestigious Webster Trophy competition for the title of Canada's best amateur pilot. Just qualifying for the title put him in the upper echelons of pilots who had not yet earned any money by flying. So there is some irony that the ambitious young pilot's first paying job in aviation involved pilotless aircraft.

After graduation from Seneca, Yandle went to work with Transport Canada in drone certification. It's a growing area of aviation but the stint with TC was a means to an end. "It was easier to transition to instructing and take care of some student debt," said Yandle, who is now an instructor at Waterloo Wellington Flight Centre.

For while instructing used to be simply a way for some new pilots to build hours before taking the first steps in an aviation career, instructing is now that first step.

"The timing couldn't be better," he said. "It's never been like this before. It's absolutely phenomenal."

Yandle said he enjoys his time with new students and the knowledge he is gaining as an instructor will be invaluable as his career proceeds.

"I'm more prepared for things," he said. "I'm getting a lot of opportunity to do cockpit resource management."

Yandle said he intends to keep in-

structing for a year or two but because of the many opportunities available, he hasn't set a career path yet. "I eventually do want to make it a career. I'm pretty much up for anything."

Katryna Stemmler was heading into medicine in 2013 but heard a higher calling. She got her private licence and went on to a degree program that led to her landing an instructor job at Waterloo Wellington.

While she enjoyed the challenges and rewards of instructing, by 2017, she was ready to advance as a pilot. Although she could have likely headed for an airline job, she went north, joining Keewatin Air as King Air pilot doing mainly medevac work.

She and her fiance do two weeks on, living in employee quarters in Nunavut, and two weeks off, at home in Kitchener, flying King Airs.

Although Stemmler had more than a year of professional flying experience when she joined Keewatin, the market has changed drastically in the last year.

"They're now hiring people straight out of flight school," she said.

Stemmler said she believes the time spent as an instructor was invaluable but she was ready to move on to the challenges of the bigger, more capable turboprop and isn't sure what the future holds after Keewatin.

"We want to go to Africa," she said. "Our end goals are not necessarily the airlines."

Because the market has opened up so much for young pilots, Stemmler said those thinking of a flying career should do a lot of research and "ask a lot of questions.

"There are just so many opportunities available." •



LIFT Scholarship

The LIFT Scholarship was created to assist student pilots. Training to be a pilot is costly and most aviation students are not eligible for OSAP, or other financial support. In 2017, WWFC established the WWFC Golf Tournament to raise funds for student pilot scholarships. The tournament raised \$4,000, which was then matched by the WWFC Board of Directors to provide a total of \$8,000 for student scholarships.

The school said LIFT was chosen as the name for the scholarship because it is a familiar aviation term, as well as a perfect representation of what the scholarship sets out to do - give student pilots a lift in their flight training both in terms of financial assistance, as well as confidence.

High school students applying to either the Conestoga College Aviation General Arts & Science or to one of the University of Waterloo Aviation programs can apply for entrance scholarships through the respective schools. Students currently in either of these post-secondary programs can browse through the many scholarship and bursary opportunities on the school's website.

SOAR With Air Georgian

Program Leads Instructors to Airline Jobs



When Air Georgian, which provides regional airline service for Air Canada in Ontario and Alberta under the name of Air Canada Express, saw how the pilot shortage threatened its business, it took proactive action by creating a nationwide pipeline of new recruits to the right seats of its Beech 1900D aircraft.

The program welcomed Sault College as its 14th flight school partner in a unique program that grooms flight instructors for first officer positions with the regional carrier.

"Sault College is honoured to partner with Air Georgian Limited and become a member of its SOAR program," said Greg Mapp, Chief Flight Instructor and Chair at Sault College. "This partnership has incredible benefits for our College, it provides our graduates a pathway into the industry while simultaneously assisting our instructor recruitment and retention efforts."

"We are excited to have another aviation college join SOAR," said Jeslene Bryant, SOAR Coordinator at Air Georgian. "The post-secondary education Sault College's School of Aviation provides to graduates prepares them for the next phase of their aviation career at Air Georgian."

A significant number of instructors who build time flying for Air Georgian will have a chance to fly for Air Canada through the Pilot Mobility Arrangement that essentially allows a structured career progression for young pilots as they gain knowledge and experience.

"SOAR provides partnered operators and flight schools with predictable pilot attrition and advance notice of hires. It also gives employees and students of partners visibility regarding career progression and an entry point into the Air Canada system," said Bryant.

The SOAR program also carries out recruitment campaigns in high schools and works with 703 and 704 carriers to recruit pilots through them.

Partners in the SOAR program include Brampton Flight Centre, Montair, Max Aviation, Harv's Air, OrngeReady,Set Fly,Sky Care, Seneca College, Coastal Pacific Aviation, Transwest Air, Mitchinson Flight Centre, Waterloo Wellington Flight Centre, Sault College, Cargair, and Alkan Air.

Flying Demands Proficiency

Challenge Yourself By Taking Advanced Training By Jodi Rueger



Aviation is a unique community filled with passionate individuals who simply love flying. We invest thousands of dollars to learn and hundreds of hours to studying and, at the end of this process, we join the less than 0.1 percent of the world's population who possess the privilege of a pilot licence. The learning doesn't stop there either as we thrive in a dynamic environment where we can't hope to understand all there is to know about flying, but we can try.

A great pilot and friend Scott Holmes once said, "Bob Hoover wasn't worshipped because he could grease landings in a stable airplane." The point being that your grandmother could fly straight and level in a well trimmed plane. The true measure of a pilot is how he or she reacts when things don't go as planned.

One of the ways to uncover the mysteries of flying and make yourself the most proficient and safest pilot possible is to remove the fear of the unknown by exploring it. The leading cause of fatalities in general aviation remains loss of control in flight (LOC-I). We as pilots can improve our stick and rudder skills and prevent LOC-I accidents through a wide variety of fun flying by taking advanced training in aerobatics, float flying, tailwheel, gliding and so much more.

Aerobatic training in particular is a great way to understand the fullest extent of the flight envelope and think three-dimensionally. Once pilots understand how the theory of flight applies to an aircraft in all attitudes and can assess and manage the aircraft's energy, they can truly begin to understand the LOC-I events that occur. Recognition and avoidance is the best preventative plan, and prompt recovery is a close second. When unusual attitudes become usual to a pilot, they can maintain composure and have, for lack of a better term, bandwidth to maintain situational awareness.

Learning advanced skills doesn't just save our bacon when we're in a pinch, though. As pilots, we have the ability to go places and see things the average person can only dream of. Some of the most fun I've ever had in my life, let alone in an airplane, has stemmed from aerobatic, float, taildragger, off-airport and formation flying. Landing on the beach for a picnic, or on salt flats that go on for miles, to camp under my plane wing watching the most intense meteor shower the Earth has ever seen, away from the light pollution far from any city. Flying in a tight formation with a wingman you trust for a long cross country doesn't just create friendships for life but can make multi-day cross-country missions go by in the blink of an eye. Rather than staring at my watch and a magenta line for hours on end, I've found myself fascinated by the geography of my lead's wingtip-to-spinner angle for days and hardly noticed a minute go by.

No matter what type of flying you're into or what your risk tolerance is, there are always more skills to be mastered and knowledge to be gained. You are one of the few people in the world who can know how comfortable it is to be in the sky, on or off an improved runway, on the water, or three feet from someone's wing. We thrive in an environment that demands proficiency to mitigate risk. Advanced training, such as aerobatics, provides a path to fulfil that demand. I would encourage every pilot out there to take some form of advanced training where they see the opportunity and form memories that will last a lifetime. •

Jodi Rueger is a Q400 pilot and aerobatic flight instructor.

Educator Tackles Aviation Labour Crunch

By James Jackson



Kearns knows hand the passion that comes with flying. The 38-year-old grew up near the airport in the small Ontario town of Wiarton, on the southern coast of Georgian Bay. She joined the Air Cadets in her youth, started flying lessons at the age of 15, did her first solo flight on her 16th birthday, and had her private pilot fixed- and rotary-wing certificates signed off on her 17th birthday.

"I know what it's like to be the kid looking up in the sky and seeing the planes flying overhead and say, 'one day I'll do that'," she said.

That passion for flight is what has Kearns so concerned for the future of the industry. Numerous reports in recent years have highlighted a looming shortage not just in commercial aviation pilots, but almost every ancillary career associated with the industry - from air traffic control to maintenance crews.

And it's why the University of Waterloo professor spent nearly a year of her life, in conjunction with the International Civil Aviation Organization (ICAO), developing a free online e-learning program to help inform anyone interested in the industry about the wide array of careers available.

"The way we traditionally teach in aviation is we teach very narrowly; one profession in one country, so you learn how to be a pilot in Canada," said Kearns, a faculty member in the University of Waterloo aviation program.

"My idea was what if we flipped it upside down; instead of starting with one job in one country, what if we introduce them to the entire field of aviation on an international scale? If you do that, maybe they'll make an informed decision for their career that aligns with what they want."

The commercially licensed airplane and helicopter pilot holds a Helicopter Flight Training diploma, a Bachelor of Science degree in Aeronautical Science, a Master of Science degree in Human Factors and Systems Engineering, and a PhD in Education. She has been at the University of Waterloo for about 18 months, and was a faculty member at the University of Western Ontario for 12 years prior.

She is also an accomplished author, and wrote Canadian Aviation (2009), e-Learning in Aviation (2010) and Competency-Based Education in Aviation (2016).

In an effort to recruit more aviation professionals into the industry, ICAO (a branch of the United Nations) formed the Next Generation of Aviation Professionals (NGAP) committee, and Kearns is vice-chair of that committee. ICAO asked her if she could develop a free online program that combined her experience as a pilot with her expertise in e-learning and education.

Geared toward aspiring aviation professionals and professionals transitioning into aviation, the new course contains nine modules covering air law, aircraft, operations, navigation, airports, security, the environment, accidents, and safety. Trainees will have the option to complete

the course free of charge, or to pay the \$100 USD exam fee to earn a course certificate.

A combination of imagery, videos, interactive cases and problem solving explore sector-related matters, and they range in length from about 45 minutes to 90 minutes. They can be completed anywhere and on any schedule.

"My PhD is in instructional design for online learning so I care about it being done well," said Kearns. "It's not just Powerpoint [slides]. There are problems to solve and quizzes. It's not passive."

She said the hope is because it's free, that will lower the barrier to entry for anyone interested in the field. And the hope is the people who do decide to pay the exam fee will cover the costs of the program for everyone else.

In a press release, ICAO Secretary General Dr. Fang Liu said, "Providing greater access to affordable quality training is key to attracting, educating and retaining the next generation of skilled aviation professionals."

It's not just aimed at aspiring pilots or maintenance professionals, though, Kearns said.

"Maybe you worked in finance and now you work in finance aviation but don't know anything about aviation, this helps with the transition of professionals to give them a way of showing they're taking an effort to learn about aviation," she said. It could also help with post-secondary admissions to show a true interest in aviation.

The industry has recognized the need for skilled aviation experts in the coming years, but Kearns said the problem exists today. The Air Transport Association of Canada estimates a shortage of approximately 6,000 pilots over the next 20 years, due to lower wages for new pilots and high training costs,

coupled with the rapid expansion of the industry.

Globally, the numbers are even more concerning. According to a June 2017 report by CAE, which trains new pilots, the global airline industry will require more than a quarter of a million new airline pilots over the next 10 years to sustain the predicted growth in the sector. There's also a need to transition nearly 200,000 first officers into airline captains, the most ever.

Total passenger trips are expected to increase by 50 per cent, from 3.2 billion to 4.8 billion in the next decade, and an estimated 105,000 pilots are expected to retire or leave the industry over that same period.

"These numbers mean that over 50 per cent of the pilots who will fly the world's commercial aircraft in 10 years have not yet started to train," according to the report, available online http://

www.cae.com/uploadedFiles/Content/BusinessUnit/Civil_Aviation/CAE-Airline-Pilot-Demand-Outlook-Spread.pdf.

Boeing has a more comprehensive report online that examines not just pilots but other careers in the aviation industry, http://www.boeing.com/commercial/market/ pilot-technician-outlook/. They predict that about 2 million new commercial airline pilots, maintenance technicians, and cabin crew will be needed by 2036.

That includes 637,000 new commercial airline pilots, 648,000 new maintenance technicians, and 839,000 new cabin crew.

Kearns said much of that growth is located in the Asian markets, where a burgeoning middle class with more disposable income is set to spur the airline industry over the coming decades. The need for skilled aviation experts is far outstripping our capacity to train them, she added.

One worrisome trend is larger airlines that are in such desperate need for pilots they are now recruiting new graduates. While it's a great opportunity for them, Kearns noted, it leaves smaller, regional airlines struggling to find talent and is leading to shortages at flight schools, where new pilots had typically gained much-needed flight hours as instructors.

"Now the need is so great, we have students going right from graduating to the right seat of a 737 with Sunwing, for example. They're 22-year-old kids and they're well trained and everything, but the progression is faster than it's ever been before," said Kearns.

"They say the industry is eating its seed crop."

The program was officially unveiled at the ICAO NGAP Global Summit in Montreal on Nov. 27 and 28, 2017. •



Flying and Financing

S.A.F.E. Offers Targeted Training Loans



For those who want to fly but can't afford the training costs and can't find conventional financing, there is at least one private lender ready to help.

Student Aviation Financial Enterprises (S.A.F.E.) is one such company and was founded in 2013 in Calgary with the express purpose of providing financial aid to those aspiring pilots wishing to obtain a pilot licence or endorsements in Canada. The two principals of the company are both pilots and are thrilled to be able to provide to others the financial ability to earn their wings.

S.A.F.E. has recognized that there are few, if any, financial loan options available in Canada for flight training. Government supported loans may be available for some but not all. This is the niche S.A.F.E fill. The company will provide a line of credit to qualified applicants of up to \$10,000 in order

for them to earn or complete their PPL, CPL, IFR, Night or Instructor's ratings or build flight time.

Students need to fly as much as possible and learn as fast as able as financial interruptions can actually make the training cost more because remedial lessons might be needed. With a reliable source of funding, students achieve their goals sooner and more cost efficiently.

The line of credit program is simple and targeted. S.A.F.E will provides an account at a flight training institution of the student's choice with an available balance of up to \$10,000. The applicant will draw from this account as he or she progresses through the training program and interest will only be charged on the amount that is drawn. If, at any time, the applicant decides not to pursue his/her training, only that cash amount actually used will be subject to interest charges and repayment

to S.A.F.E. These loan programs are designed to be most cost efficient for those who fly often so as to earn their license in the quickest timeframe.

In most instances, S.A.F.E. will evaluate an applicant and provide a loan within 48 hours. The loans are available to prospective pilots from coast to coast in Canada and S.A.F.E is the only company that provides this financial service. The application form for the line of credit program is on their web site.

The company's website, studentaviationfinancial.ca, provides more details on the line of credit program, how the line of credit is issued and repaid and the F.A.Q. section will answer most applicants' questions. For additional information, contact S.A.F.E directly by email at filicanlend@primus.ca or give them a call at 1-403-397-6107. •

COPA Neil Armstrong Scholarships

\$10,000 Ab Initio, \$5,000 Advanced Training



COPA's Neil Armstrong Scholarship Fund promotes Canadian pilot development by providing annual scholarships to student pilots in both ab-initio and advanced flight training programs.

Created to honour one of Canada's foremost aviators, the scholarship has helped many Canadian pilots get their start. Since the Neil Armstrong Scholarship Fund was created in 1996, 57 students have received more than

Since the Neil Armstrong Scholarship Fund was created in 1996, 57 students have received more than \$196,000

\$196,000 in scholarship funding.

The Neil Armstrong Scholarship consists of two awards, \$10,000 for ab-initio and \$5,000 for advanced flight training.

Training must be conducted at a Canadian Flight Training Unit approved by COPA. Recipients must agree to maintain a current COPA membership for the period of their training. To be eligible to apply for the advanced award, the applicant must be a current member of COPA.

Tuition costs are eligible for specific programs offered by secondary or postsecondary schools, including colleges and universities, that provide flight training.

Applications are due no later than March 1 of each year. For complete details and to submit an application, visit copanational.org/en/scholarship. •



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Scholarships Across the Country

COPA Flights, GA Organizations Feed the Passion

Dennis O'Brien/John Iverson Memorial Scholarship/Saskatchewan Aviation Council of \$1,000. Application deadline Nov. 1. Must have PPL and be working toward CPL Flight Training. saskaviationcouncil.ca

COPA Flight 177 Jeremy Mason Memorial Youth Flying Scholarship of \$2,400 goes to a well-rounded individual with a demonstrated and keen interest in aviation. Candidate must be working towards but not yet attained RPP or PPL. Must be aged 14-21. Application deadline Oct. Contact copaexeter. ca/wordpress/fly-the-dream-scholarship-2/

Broadening Horizon Scholarships/99s Manitoba Chapter is open to females only. Must be a member of the Manitoba 99s and hold PPL or higher. The scholarships award familiarization flights on a wide variety of planes, simulators and workshops, including: float plane, ski plane, plane with retractable gear and a variable pitch prop, plane equipped with glass cockpit (G1000), tail dragger, homebuilt, C150, C172, turbine engine, IFR, night flying, ATC, aircraft maintenance, to name just a few. This list is incomplete. Applicants are encouraged to identify the type of flying in which they would like training. The Broadening Horizons Scholarship is open to members of the Manitoba Chapter of the 99's who hold a Private Pilot License or higher. Scholarship awards are arranged directly with the aircraft/flight sim/workshop owner/ presenter and are to be used within the appropriate season of the current application year.

C-FLUG Scholarships/99s Manitoba Chapter are open to females only. Must be a member of the Manitoba 99s and hold PPL or higher. Apply through manitoba99s.wordpress.com.

The C-FLUG (Club Plane) Scholarship is for 10 or 20 hours of flight time on the club plane, C150 C-FLUG, for the purpose of building hours towards an advanced rating. This scholarship is open to female residents of Manitoba who are members of the Manitoba Chapter of the 99's, and hold a Private Pilot License or higher. Scholarship payments will be made directly to the recipient's C-FLUG account, and are to be used by 1 July of the same year it is awarded. The scholarship committee will be assessing all applications received by email or postmarked prior to Jan. 21 each year. Final selection will be based on: current on type, career goals, experience and involvement in aviation. The C-FLUG (Club Plane) Scholarship award(s) will be presented each spring at the Manitoba Aviation Council convention.

Rosella Bjornson Scholarship/99s Manitoba Chapter of \$1,500 is open to females only. Must be a member of the Manitoba 99s and hold PPL or higher. Apply through manitoba99s.wordpress. com. The flight training scholarship is typically \$1500 and is to be used for advanced flight training. Solo time or time building hours do not qualify. The scholarship is open to female residents of Manitoba or a member of the Manitoba Chapter of the 99's, and hold a Private Pilot License or higher. Scholarship payments will be made to the flight school or flying club directly and is to be used within a 12 month period. Complete the application form, and include a letter of intent, a flight instructor's recommendation and verification of flight record.

99s Airport Accommodation Scholarship /99s Manitoba Chapter is open to women working on flight training or building hours who would benefit by having accommodations adjacent to an airport. The due date is Jan. 21 each year, however, applications throughout the year are accepted as well.

Amelia Earhart Memorial Scholarship for Women Pilots/Canadian 99s. Application deadline Dec. 20. Must be a current pilot with the appropriate medical certificate and must be approaching the flight time requirement for the rating or certificate, if any. Fully paid scholarship to complete an additional pilot certificate or rating or pilot training course. Examples: Multiengine rating, commercial certificate, King Air competency or qualification training or Boeing 737 type rating. Requirements: Must be a current pilot with the appropriate medical certificate, and must be approaching the flight time requirement for the rating or certificate, if any. Jet Type Rating Requirements: Must have a current First Class medical certificate, or non-U.S. equivalent, and at least 100 hours multi-engine flight time or combined multi-engine and turbine time.

Amelia Earhart Memorial Scholarship for Women Pilots Emergency Maneuver Training/Canadian 99s. Application deadline Dec. 20. Open to any licensed pilot member of the 99s. Fully paid scholarship to provide emergency manoeuvre and spin training in addition to an introduction to aerobatics. In memory of 99 Vicki Cruse, this scholarship is available to any licensed pilot member of The 99s without regard to existing ratings, financial need or length of membership.

West Canada 99s Scholarship of \$1,500. Application deadline July 31. Open to females only. Must hold a minimum of a valid PPL at time of application. Open to residents of BC, AB, SK, MB, YT, NWT.

Fly Now Award/Ninety Nines/Amelia Earhart Memorial Scholarship Foundation of up to \$6000. Application deadlines of Mar 15 and Sept 15 for two annual awards. Must be an official student pilot member of the 99s at least one month prior to the submission deadline. Must have a current medical certificate. The FLY NOW Award is a progressive award given to Student Pilot Members with a need for financial assistance to become licensed pilots. The award provides up to \$6000 toward completion of the Recreational Pilot, Sport Pilot, Private Pilot certificate, or non-U.S. equivalent in any aircraft category. This award will be given progressively to winners after they complete eligible milestones in their training. Applicant must be an official student pilot member of The 99s at least one month prior to the submission deadline. Must have a current medical certificate, if it is required for the pilot certificate sought. Applicant need not have soloed or passed the knowledge test. Each applicant who belongs to a Chapter needs to request a recommendation from her Chapter Amelia Earhart Memorial Scholarship Chairman. Each applicant in a Section without Chapters needs to request a recommendation from her Section Amelia Earhart Memorial Scholarship Chairman. In addition, each applicant must have a Mentor, a 99 who will support her through the training process. Apply through *flynow@ninety-nines.org* https://www.ninety-nines.org/userfiles/file/ AEMSF/FlyNowInstructions030518.pdf

Flying Musicians Association Solo **Program.** High school junior or senior music student in good standing. Student must be nominated by his/her music director. Must be at least 16 years

old. Proof of citizenship in country of training. Able to obtain a Cat 3 Aviation medical or equivalent. Parental approval if under age 18. Apply through www. fmasolo.org

The FMA Solo program was established by pilots who are musicians, spanning the globe, proficiency levels, and genres. The skills required to play an instrument and fly an aircraft have marked similarities, from precision and multitasking to listening and fine motor skills. By pointing out and building on these common attributes, we hope to further interest in both aviation and music. Our goal is to share our passions in order to inspire, educate, and encourage others by creating enthusiasm while promoting personal growth through aviation and music. Musician is defined as a person who writes, sings, or plays music. The attributes of concentration, practice, crew and resource management, and precision performances are traits essential in music, and particularly in a group of musicians. They lead to success in many areas of life, but none more so than in flying an aircraft. FMA hopes to expand the horizons of students who have been taught the right stuff through their music training while encouraging them to continue music for life.

Vernon Flying Club Len Neufeld Memorial Scholarship of \$500 and a one-year membership in the Vernon Flying Club. Open to any student completing a Flight Instruction program in the Vernon, BC area. Application deadline Jan. 15.

First presented in 2009, the scholarship was raised by the members of the Vernon Flying Club / COPA Flight 65 to honour the memory of Len Neufeld, a respected member who "passed the fix outbound" for the last time in November of 2008. A retired airline Captain, Len remained active in the aviation world by participating in COPA for Kids, volunteering for the Civil Air Search and Rescue Association and supporting the VFC in an executive role. •



Ready Set Fly (RSF) is a not-for-profit organization that specializes in educating high school students about careers in aviation. RSF focuses its efforts in three main areas:

- 1) Creating awareness of career opportunities
- 2) Highlighting the skills and education needed to achieve a specific career; and
- 3) Building an industry network to connect students and aviation organizations.

RSF communicates these points via career presentations at high schools throughout Ontario. RSF looks to expand nation wide and become the premier aviation educator for high school students in Canada.

The aviation industry is growing at a very rapid pace, which has led to significant shortfalls in the supply of aviation professionals. Ready Set Fly is positioned to bridge this gap.

Ready Set Fly looks forward to working with aviation industry partners, to educate and build up Canada's future aviation professionals.

If you would like for RSF to visit your school, contact info@readysetfly.ca and check out www.readysetfly.ca



SCHOLARSHIP LISTINGS WELCOME

This first issue of the Career and Scholarship Guide lists more than 100 scholarships available to Canadians interested in aviation careers but we suspect we've missed some.

If your company, organization or educational institution provides financial help to eligible Canadians pursuing aviation careers please send the information to russ@copaflight.ca





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lthough it was originally invented in Germany and perfected in the U.S., Canada can legitimately lay claim to the foundational beginnings of the modern helicopter industry.

With a vast wilderness brimming with resources, Canadians have used aviation since its inception to gain access to, and in some cases, extract those resources.

In the 1950s Canadian entrepreneurs embraced aircraft that didn't need long runways or a lot of ground facilities to take people to the resources and determine how they would be used.

Along the way, the fertile minds of Canadian aviators discovered amaz-

ing ways to use the aircraft as tools for construction, safety and surveillance. Technologies developed in the wilds of Canada are now in common use all over the world, from offshore oil facilities to mining, to emergency services.

Because helicopters are most useful where regular aircraft aren't practical, it follows that a lot of career opportunities in the business exist in far-flung places.

Becoming a helicopter pilot is much the same as learning to fly fixed-wing aircraft. Indeed, some people get a regular licence first and then take helicopter training but it's becoming increasingly popular to skip the Cessnas and take all training on rotorcraft.

Helicopters require much more

maintenance and are generally more expensive than fixed-wing aircraft of similar capacity so training is more expensive. But the payoff at the other end is that experienced helicopter pilots can command some of the best salaries in commercial aviation.

There are dozens of accredited helicopter training schools in Canada and numerous scholarships and funding assistance methods are available. For female pilots, who are even more underrepresented than in other forms of aviation, the Whirly-Girls, an international association of female helicopter pilots, have assembled an impressive list of scholarships from some of the most respected operators in the world. •

One of the most prolific scholarship sources among aviation organizations is the Whirly-Girls, an international group of 1,700 female helicopter pilots from 44 countries. Its scholarships are open to members in good standing who joined the group no later than Sept. 21 of the year in which the scholarship is being awarded and the deadline for all scholarship applications is Oct. 15 of that year.

Phelan International and Doris Mullen Flight Training Scholarship of \$8,000.00 is for basic rotary wing training and is sponsored the Whirly Girls and combines the Phelan International and Doris Mullen Flight Training Scholarships. This scholarship is given in memory of founder Jean Phelan and her husband Jim, along with the memory of Doris Mullen who lost her life in a fixed wing accident in 1968.

Helicopter Add-on Flight Training Scholarship of \$8,000 is for licenced female pilot who does not currently have a helicopter rating and provides funds to be applied toward earning her addon helicopter rating. Must have intent to work in the helicopter industry.

Advanced Mountain Flight Training Scholarship of \$6,500 is for helicopter pilots with at least 250 rotorcraft hours.

Flight Training — Advanced (Rotary Wing) is provided in memory of Keiko Minakata, WG #1339. The scholarship gives a deserving Whirly-Girl the skills to cope with turbulence, rugged terrain, and landing zone selection in mountainous and canyon areas, with special emphasis placed on decision making. It also provides the skill needed to fly all sorts of private and commercial helicopter missions that require off-airport landings anywhere in the country,



regardless of altitude or terrain. It's a real confidence-builder, especially if the pilot has very little experience in off-road operations. It includes a half day extensive ground school with five hours of flight time. Training will be at Western Helicopters Inc. at the Riverside Municipal Airport, California, USA.

Airbus Flight Training Scholarship of \$14,000 is sponsored by Airbus and will give a Whirly-Girl the opportunity to attend an AS350 Turbine Transition Course at the Airbus Factory School in Grand Prairie, Texas, USA. This is a five-day course that provides both ground school and flight training for the AS350.

Antipodean Aviation and Embry-Riddle Wire and Obstacle Environment Awareness Course Scholarship of \$220 is awarded to a Whirly-Girl who wishes to increase her knowledge in how to conduct safe operations in the low-level environment. This course, provided by Antipodean Aviation and

Embry-Riddle Aeronautical University is a self-guided online course. The course is relevant to all operating areas around the world, but discusses specifically FAA, CASA, and EASA/JAA regulatory requirements in relation to low-level flight operations.

Embry-Riddle Commercial Helicopter Pilot Ground School Course Scholarship of \$950 is awarded to a Whirly-Girl who is seeking to achieve her Commercial Pilot Helicopter certificate. This 15-week advanced online instructor-facilitated course is offered by Embry-Riddle Aeronautical University and will provide the necessary information to prepare a Whirly-Girl for the FAA Commercial Pilot — Helicopter Knowledge Exam.

Erickson Vertical Reference/External Load Scholarship of \$6,000 is awarded to a career-minded Whirly-Girl who needs a vertical reference/external load endorsement for a flight position. This course will be awarded to a Whirly-Girl who has 300 hours of total flight time, and she need not be turbine qualified. Training can be completed at any flight school in the world that provides longline training.

FlightSafety International Bell 206 Scholarship of \$10,000.00 is awarded to a Whirly-Girl who possesses at least a Private Pilot Helicopter certificate and has landing currency in helicopters. This training program includes initial type training, recurrent training, and inadvertent IMC training using the world's first Bell 206 FAA Level 7 qualified Flight Training Device. This fiveday course consists of academic training and 6 hours in the FTD. Training will be available at FlightSafety's Helicopter Learning Center of Excellence in Lafayette, Louisiana, USA.

ForeFlight Pro Plus scholarship of \$199.99 for two members to obtain Pro Plus Plan one-year subscriptions, including a 30-minute one-on-one training session at HAI HELI-EXPO in Las Vegas next year. Founded in 2007, Fore-Flight is devoted to giving pilots the best possible mobile flight planning tools. Pilots depend on the ForeFlight application for flight planning, briefing, charts, weather, airport information, flight logging, document management, hazard awareness, and more. The product is backed by their support program, Fanatical Pilot Support.

Garmin GTN & G500/600 Course Scholarship of \$795 will go to two Whirly-Girls who wish to improve their knowledge in how to maximize the benefits of Garmin equipment capabilities and increase their confidence in the use and integration of Garmin equipment as part of their flight operations. Each course is valued at \$795. Location of the Garmin course is dependent on the course date attended by each recipient.

Oregon Aero CRM/AMRM Instructor Training Scholarship of \$2,000 is a fiveday, 40-hour crew resource management instructor (CRMI) course, spon-

sored by Oregon Aero's Randy Mains, Chief CRM/AMRM Safety Instructor, that will be provided to a deserving Whirly-Girl. The CRMI course and will take place on Vancouver Island in January of each year. It follows the recommendations of the FAA, Transport Canada, EU-OPS, JAR ICAO, EASA UK CAA, and CAMTS and will assist the recipient in becoming a CRM Instructor within her organization. Preferred applicants will have a CFI and have had some exposure to CRM that is, have taken a class.

Robinson Helicopter R22/R44 Safety Course valued at \$3,000 provides a Whirly-Girl currently flying Robinsons the opportunity to attend the R22/R44 Safety Course and build either R22 or R44 time. RHC provides this 3.5-day course in Torrance, CA, USA, which includes an hour of flight with a safety instructor and sponsors an additional 4 hours of either R22 or R44 flight time (5 total hours). The course includes 3.5 days of classroom instruction in the following subject areas: accident review, causes of fatal accidents, awareness training, SFAR 73, and Pilot's Operating Handbook (POH) review. One day is devoted to maintenance, pre-flight inspections, and flying with an experienced RHC safety pilot. A tour of the Robinson Factory is also included. The course is open to any rated helicopter pilot who has at least three hours in the R22 or R44 helicopter, one hour of which was flown within 30 days prior to attending the course. This course is required by most insurance companies and serves as a CFI refresher.

Robinson Helicopter R66 Safety Course Scholarship of \$4,500 provides a Whirly-Girl currently flying Robinsons the opportunity to attend the R66 Safety Course and build R66 time. RHC provides this 3.5-day course in Torrance, CA, USA, which includes an hour of flight with a safety instructor and sponsors an additional four hours of R66 flight time (5 hours total R66 flight time). The course includes 3.5 days of classroom instruction in the following subject areas: accident review, causes of fatal accidents, awareness training, SFAR 73, Pilot's Operating Handbook (POH) review, R66 systems, and the Rolls Royce engine. One day is devoted to maintenance, pre-flight inspections, and flying with an experienced RHC safety pilot. A tour of the Robinson Factory is also included. The course is open to any rated helicopter pilot who has at least three hours in any type of Robinson helicopter model, one hour of which was flown within 30 days prior to attending the course. A Robinson safety course is required by most insurance companies and serves as a CFI refresher.

Survival Systems USA Aircraft Ditching Course Scholarship of \$1,400 will go to two deserving Whirly-Girls to learn the knowledge and skills to react in an aircraft-ditching emergency, care for themselves in a sea survival situation, and to participate to the maximum extent in their rescue. These two scholarships, each valued at \$1,400, are provided by Survival Systems USA and The pilots taking this course should have at least a Private Pilot Helicopter certificate and are required to have no physical limitations that would prevent them from participating in strenuous physical training. Training will take place at Survival Systems USA in Groton, Connecticut, USA.

The Thurn-Herr Annual Advanced Training Scholarship of \$11,000 is fully sponsored by Edward Thurn and Ellen Herr who kindly wish to assist the Whirly-Girls in their mission of advancing women in helicopter aviation. This scholarship provides \$11,000 to any Whirly-Girl to be applied toward upgrading her current helicopter rating. It may be applied toward Commercial, Instrument, Flight Instructor, Airline Transport Pilot (ATP), Night Vision Goggle (NVG) or Turbine Transition Training to advance a candidate's career. Applicants must specify how the money will be used to advance the applicant's career.



sk a pilot who the most important people in the vast infrastructure that supports aviation operations and chances are he or she will say the aircraft maintenance engineer is certainly among them.

Even the smallest light aircraft are complex devices that rely on the complex interaction of myriad systems and their components to complete their missions safely and reliably. It's not only a highly skilled profession, it's an enormous responsibility and one that is taken really seriously in aviation.

Aircraft maintenance engineers (AME) undergo a combination of formal training and practical experience to earn their certification, which gives them the legal authority to repair, inspect and release certified aircraft for flight.

As might be expected, AMEs earn good salaries for their fundamental role in the aviation system and many spend years in training to specialize in the repair and maintenance of some of the most sophisticated devices ever contrived by mankind. Others are more generally qualified to work on most parts of the airplane and some set up their own businesses looking after the maintenance and repair needs of aircraft operators.

Whatever the career path, in most cases it begins with a highly structured course at a recognized post-secondary institution where the basic AME curriculum is learned.

It's likely there that a new AME will specialize in one general aspect of aviation maintenance. On graduation they will have credentials under the M (maintenance), E (avionics) and S (structures) specialties. The M licence is the most generalized and involves everything from control systems to engines.

As with virtually all aspects of the aviation industry, there is a major shortage of qualified people to carry out these vital jobs. Without the signature of AME, nothing moves in aviation.

Anyone who is mechanically inclined, detail oriented and committed to best practices and safety can become an AME and the opportunities are as varied as the aircraft that need them.

To help finance the school portion of the training, a number of organizations and individuals have offered scholarships to those entering the field. •

Aviation Maintenance Scholarships



Dennis O'Brien/John Iverson Memorial Scholarship/Saskatchewan Aviation Council award of \$1,000 goes to a student in at least Year 2 of SIIT or established in an apprenticeship path of training. Contact saskaviationcouncil.ca

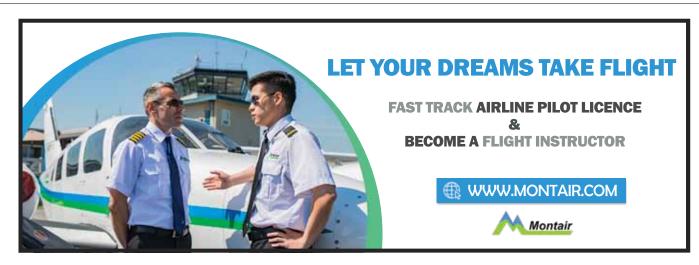
B.C. Aviation Council/Alexander Holburn Beaudin and Lang LLP \$2,000 scholarship goes to a BCAC member currently enrolled in an aviation or aerospace program at a post-secondary institution in B.C. Must have an academic grade average of 75 percent or higher. Application must be supported by a BCACB member. Application is due by May 31 to BCAC Administrator at info@bcaviationcouncil.org. More information at bcaviationcouncil.org.

BC Aviation Council "Career" Training Scholarship of \$1,000 goes to a BCAC member who has completed at least 75 percent of their area of training. Application must be supported by a BCAC member. Application is due by May 31 to BCAC Administrator at info@bcaviationcouncil.org. More information at bcaviationcouncil.org.

Mary Swain Memorial Aviation Training Scholarship/BC Aviation Council of \$1,000 is open to female candidates only. Must be a member of BCAC. Application must be supported by a BCAC or COPA member in good standing. Must be currently registered at a BC or provincially recognized university, college, training institution, or a PCTIA accredited or registered flight school. Must demonstrate commitment to complete training in her chosen aviation field. Deadline May 31. More information available from BCAC Administrator at info@bcaviationcouncil.org and at bcaviationcouncil.org.

Barry and Jim Aviation Maintenance Scholarship/BC Council of \$3,000 goes to a BCAC Member who is a recent graduate from an AME program in B.C. Application must be supported by a BCAC member. Deadline May 31. More information from BCAC Administrator at info@bcaviationcouncil.org and beaviation council.org.

Vernon Flying Club — COPA Flight 65/John Olsen scholarship of \$500X2 is open to any student enrolled in the AME-M training program at the Okanagan College Vernon Campus. Deadline Jan. 15. More information at Vernon Flying Club: flyingclubvernon@gmail.com, vernonflyingclub.org.



Behind the Scenes

It Takes Thousands to Make One Airplane Fly



There are literally thousands of different jobs in aviation and those that don't involve fixing or flying are put in the general category of "operations."

Now, while it may not be the most exciting sounding part of aviation, operations jobs are literally what keep the system operating.

From scheduling aircraft and crew, to servicing aircraft on the ground to loading baggage on the carts, it take hundreds of individuals to do thousands of different tasks before the first switch is thrown in the cockpit.

Many schools with aviation curriculums offer programs in aviation operations, particularly in scheduling and dispatching. There's also the airport operations aspect of the industry which is, of course, an essential part of the picture.

Again, attention to detail and keeping things moving are vital parts of all those various jobs and there are numerous specialities, too.

Keeping Things Moving

Scholarships for Operations Training

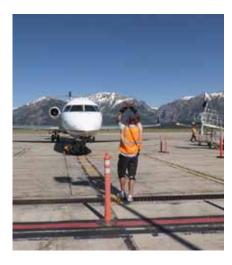
Schedulers and Dispatchers Scholarship/Canadian Business Aviation Association Air Service Hawaii, Air Sprint, Flight Safety, Jet Aviation, Million Air, NBAA, SheltAir, Signature, Skyplan, WorldFuel up to \$10,000. Application deadline May 1. Must be Canadian citizen or permanent resident and employed by a CBAA member company or registered student at an educational training member of CBAA. More information acconnor@cbaa.ca and cbaa-acaa.ca

BCAC Airports Committee Airport Operations/Management Training Scholarship/B.C. Aviation Council of \$2,000X2. Deadline May 31. Must be a BCAC member. Application must be supported by a BCAC member. Must have completed at least one year (or equivalent) at an educational institution in the discipline and have at least one more year to complete the training course. More information at BCAC Administrator, info@bcaviationcouncil.org or caviationcouncil.org.

William Templeton Airport Operations

Management Training Scholarship/B.C. Aviation Council of \$1,000. Deadline May 31. Must be a BCAC member. Application must be supported by a BCAC member. Must have completed at least one year (or equivalent) at an educational institution in the discipline and have at least one more year to complete the training course. More information from BCAC Administrator info@bcaviationcouncil.org or bcaviationcouncil.org

Alexander Holburn Beaudin and Lang, Ernie Alexander Memorial Scholarship/ B.C. Aviation Council of \$2,000. Deadline May 31. Must be a BCAC member. Application must be supported by a BCAC member. Must be currently enrolled in an Aviation or Aerospace program at a postsecondary institution in BC. Must have an academic grade average of 75 percent or higher. Information from BCAC Administrator info@bcaviationcouncil.org or bcaviationcouncil.org.



B.C. Aviation Council "Career" Training Scholarship of \$1,000. Deadline May 31. Must be a member of BCAC. Application must be supported by a BCAC member. Must have completed at least 75 percent of their area of training Aviation Operations. More information from BCAC Administrator at info@bcaviationcouncil.org or beaviation council.org. •

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