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Agility is key for new RCAF commander





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ON THE COVER

For new RCAF commander LGen Meininger, the priorities are people, policy, program and posture, at a time when the operational tempo remains high and much is being demanded of every resource. The CC-177 Globemaster, for example, recently delivered CH-146 Griffon helicopters for the mission in Mali. **Rich Cooper Photo**



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FACEBOOK PHOTO PICK



Canadian photographer **Derek Heyes** captured the Battle of Britain Memorial Flight Spitfire MK356 at the 2018 Royal International Air Tattoo, flying in honour of the Royal Air Force's 100th anniversary.

Have a great photo to share? We want to see it! Post your amazing aviation photography to facebook.com/skiesmag or tag it with #skiesmag on Instagram for a chance to be featured here!



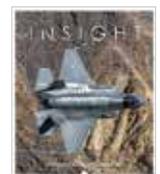
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Column

FROM THE EDITOR
BY LISA GORDON

Lisa Gordon is editor-in-chief of *Skies* magazine, Canada's largest and most-read aviation industry publication. Contact her at lisa@mhmpub.com.



Stories we love to tell

As I write this, it's almost time to go to Airshow London.

The *Skies* team will be at the show in full force all weekend, handing out magazines and selling limited-edition aviation posters featuring the stunning photography of our owner and publisher, Mike Reyno.

Our booth is front row centre, on the static line right beside the giant U.S. Air Force C-5 Galaxy. I can hardly wait to get there.

It's pretty sweet when your job involves hanging out at airshows, particularly when this one is the largest display of military air power in Canada. Once again, Airshow London organizers have assembled a jaw-dropping assortment of static aircraft and flying acts—military and civilian—that are sure to thrill the show's anticipated 30,000-plus visitors.

For those of you who don't work at all kinds of aviation events, you may find it hard to believe when I say that as cool as the London airshow promises to be, it's status quo for us.

As Canada's largest and most-read aviation and aerospace publication, our mission is to tell the many great stories found within our industry—many of them about unsung achievements and unrecognized heroes. We believe that in order to tell those stories, you simply have to get out into the field.

You may have seen us at the Canadian Business Aviation Association's annual convention earlier this year in Waterloo, Ont. Our display was set up beside another big aircraft that day, too, but that one was the legendary Avro Lancaster. Thanks to our partnership with the Canadian Warplane Heritage Museum, we were able to showcase this beautiful warbird to business aviation folks. It was a huge success!

You may have run into our team members at any number of other trade shows throughout the year, including those hosted by the Aerospace Industries Association of Canada, Air Transport Association of Canada, AME Association of Ontario, Canadian Association of Defence and Security Industries, Helicopter Association of Canada, and the massive National Business Aviation

Association show south of the border.

If you're a military member, you may have met *Skies* correspondent Chris Thatcher in Yellowknife, N.W.T., in mid-September, where he covered the major air disaster (MAJAJID) exercise incorporated into Operation Nanook 2018.

Perhaps you met Mike Reyno at the unveiling of the 2018 Demo Hornet in Cold Lake, Alta., or you may have flown with him on any number of military photo shoots over the past 25 years.

We were also at general aviation's biggest extravaganza, EAA Airventure 2018 in Oshkosh, Wis., where contributor Ken Swartz visited Canadian exhibitors to find out what new products they had in store for showgoers.

These are just a few examples that demonstrate our commitment to celebrating Canadian aviation and aerospace stories.

We are invested. Like you, aviation is our passion.

But in case there was ever any doubt, check out what Mike did to his car (below). No, your eyes do not deceive you. Yes, he had it specially wrapped to resemble a Supermarine Spitfire from the Royal Canadian Air Force's 401 Tactical Fighter Squadron.

The squadron is celebrating its 100th anniversary this year, tracing its origins back to November 1918. It is the first RCAF squadron to mark its centennial.

The car is as unique as our approach to

covering Canadian aviation and aerospace. There is virtually no chance that Mike will ever be able to fly under the radar in this car!

We're not looking to fly under *your* radar, either. This issue brings you more of our signature stories and illustrates the depth and breadth of our reach.

From the incredible luxury of private aviation interiors to the cornfield with ag operator General Airspray, and to England where we flight tested the new AW101 Norwegian search and rescue helicopter, we've covered a lot of ground (air?).

Plus, read our exclusive interview with the RCAF's new commander, LGen Al Meininger, and find out about the critical role flight dispatchers play behind the scenes.

I would be remiss if I didn't mention the most heartwarming story in this issue. Our correspondent Rob Erdos shared some precious time with Canadian Second World War ace James Francis "Stocky" Edwards in Comox, B.C.

Edwards was there to welcome home another wartime legend—the so-called "Y2K" Spitfire, lovingly restored by volunteers in Comox and at Vintage Wings of Canada in Gatineau, Que. Its transformation from rusted junkyard hulk into a soaring memorial to sacrifice is the kind of story we love to tell.

Enjoy! 🇨🇦



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Column

IN THE JUMPSEAT
BY JUDY CAMERON

Retired Capt Judy Cameron was Air Canada's first female pilot and is currently a director of the Northern Lights Aero Foundation.



Reaching for the sky

Boundless opportunities await women in aviation and aerospace

"I've never flown with a woman before!" This was too often the refrain that I heard in the 1980s, spoken by a captain in an incredulous voice.

My reply usually got a chuckle: "Well, me neither."

I was Air Canada's first female pilot, hired in 1978. Even though our first Canadian female pilot, Eileen Vollick, was licensed 90 years ago, and pioneers like Violet Milstead and Marion Orr ferried aircraft during the Second World War, it was still big news for a woman to be hired by a major Canadian airline.

Air Canada soon hired more female pilots (they have nearly 250 today) and I could no longer use that line. But fast

blazing female pilot association formed in 1929 with 99 charter members, including Amelia Earhart.

In 2008, several Canadian Ninety-Nines realized there were talented, yet unrecognized, Canadian women who could be role models for young women in aviation and aerospace, so the Northern Lights Aero Foundation was formed.

Each year, the Elsie MacGill Northern Lights Award gala is a unique and elegant evening honouring Canadian women and their impressive achievements in aviation and aerospace.

The "Elsie" award is a beautiful hand-blown glass sculpture, created in memory of Elsie MacGill.

Roberta Bondar, our first female Canadian astronaut, and Maj Dee Brasseur, one of the first two women in the world to fly a fighter, in her case the CF-188 Hornet, in an operational squadron.

Air Cadets are an integral part of the evening's ceremony and representatives from airlines and aerospace companies are in attendance. The most moving part of the gala is the moment when each award winner speaks of their personal journey. It is inspiring, uplifting and emotional.

Northern Lights aspires to educate as many young women as possible about careers in aviation and aerospace—there are so many opportunities!

By 2025, about 5,300 aircraft maintenance technicians will be required in Canada and only four per cent are female today. The numbers are better in the aerospace industry, where 25 per cent are women, and in air traffic services, where women represent 17 per cent of the workforce, but there is still much room for improvement.

In the world of STEM [science, technology, engineering and mathematics] careers, studies have shown that to successfully recruit, "Women and girls need to see female role models in the workplace that look like them—over and over and over again."*

In addition to our 10th annual gala (which was held this year on Sept. 29), Northern Lights also offers a speakers bureau and scholarships, and does outreach at career days, airshows, and other aviation events.

Networking, mentoring, role modelling: The Northern Lights Aero Foundation offers it all, and we look forward to the day when women embrace all the opportunities in aviation and aerospace.

A little girl whispered to me at a Girls Take Flight event this spring, "Did you know that in the old days, girls couldn't be pilots?"

Now we just need to spark her enthusiasm to join us in these wonderful careers!

For more information, visit www.northernlightsaerofoundation.com. 

“I WAS AIR CANADA'S FIRST FEMALE PILOT, HIRED IN 1978.”

forward to today, and only five per cent of the world's airline pilots are women.

The global pilot shortage is well documented, with 620,000 new pilots expected to be required internationally by 2036. In Canada, 7,300 new pilots will be needed by 2025, yet only 1,200 commercial licences are issued each year.

Regional carriers and flight schools are feeling the pinch, causing reduced training capabilities and cancelled flights, especially to remote regions and indigenous populations.

The obvious solution is to have a larger pool of skilled talent, and this should include the 50 per cent of the population that is under-represented in aviation: women.

I retired from Air Canada in 2015 as a 777 captain and loved my 37-year career with this great airline.

In 2016, I joined the board of the Northern Lights Aero Foundation. This non-profit organization was started by a visionary group of Ninety-Nines, the trail-

In 1929, MacGill became the first female in the world to earn a master's degree in aeronautical engineering. Tragically, at age 24, she was stricken by polio. Unable to fly herself, as she longed to do, she continued to design aircraft and fly as a flight test engineer.

This unlikely heroine wore glasses and walked with a cane, yet she earned the nickname "Queen of the Hurricanes" when her innovations made assembly line production of the Hawker Hurricane possible. The 1,400 Hurricane aircraft produced under her supervision at the Canadian Car and Foundry Plant in Fort William, Ont. (now Thunder Bay) were credited with winning the Battle of Britain and changing the course of the Second World War.

Eight Elsie awards are presented annually in the following categories: Pioneer, Flight Operations, Business, Government, Education, Engineering and two Rising Stars, for women under age 30.

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Column

VIEW FROM THE HILL
◻ BY KEN POLE

Ken Pole has had a life-long passion for aerospace, writing about all its aspects for nearly 40 years. The longest-serving continuous member of the Canadian Parliamentary Press Gallery, he's also an avid sailor.



Flight training: Government and industry on convergent courses?

As civil aviation continues to grapple with an issue which has bedeviled it for decades—the cost of training new pilots—it seems that Parliament may be on a converging course.

The House of Commons Standing Committee on Transport, Infrastructure and Communities (TRAN) is reportedly considering hearings, possibly as early as this fall, on the entire spectrum of flight training.

I kind of stumbled onto this information after reaching out to Toronto Liberal MP Judy Sgro, the former cabinet minister who chairs the all-party TRAN committee, to get a sense of what aviation-related issues the committee might work on when the House begins its fall session Sept. 17.

The response, courtesy of a staffer, was that “there might be some interest in looking at flight training schools . . . but nothing has been confirmed at this time.”

Just as that email exchange was taking place, John Tory, vice-president for corporate development and government relations at Toronto-based Air Georgian, was drafting an open letter to other industry leaders, urging them to invest in training and development “to support aspiring aviators in achieving their dreams of flight.”

Carrying nearly two million passengers annually as an Air Canada Express partner, with a fleet of 17 Bombardier CRJ 100/200s and 14 Beechcraft 1900D turboprops, Air Georgian has undeniable credibility for such a call.

Among other things, Air Georgian will be opening a new training academy near its main operations base at Pearson airport's Shell Aerocentre. The focus will be on recruitment and hiring, as well as training in a suite of classrooms, but the new facility also will house the company's human resources and other support personnel.

“Air Georgian recognizes the challenges the aviation industry is facing and has highlighted significant issues that require

the industry's combined energy and attention,” Tory wrote. Those issues, in the order he presented them, included diversity, inclusion and gender parity, as well as program funding.

On diversity and inclusion, he pointed out that Air Georgian has a workforce which is 58 per cent millennial, with 35 per cent self-identifying as members of a visible minority. Welcome to the new reality that is Canada!

As for gender parity, the company employs more than double the national and international average of female pilots. As it presses on toward full parity within the next 10 years, it has challenged the industry at large to do likewise. Again, welcome to reality.

As with many other operators, Air Georgian is not only challenged at times to find experienced pilots, but also to retain them, as Canadian aviation loses pilots to aggressive foreign recruiters. This country arguably produces the best pilots in the world, but government support could help to increase that capacity.

“Motivated by the pilot shortage and lack of funding for aspiring aviators, Air Georgian has put significant resources into programs focusing on aviation career awareness, recruitment and retention,” Tory added, extending an invitation to “a Canadian Pilot Recruitment and Development Workshop” at the new academy this fall, mostly likely in November.

“Air Georgian is looking to lead a Canadian solution to the pilot shortage.”

The challenge isn't unique to Canada. Boeing and Airbus have predicted that as many as 617,000 new pilots will be needed by 2035. Yet the number of new students has been shrinking, mainly due to the high cost of training. The full gamut from basic training through to the right-hand seat in a heavy transport can easily mushroom into six figures.

It used to be that the commercial world could draw on retiring military pilots, but air forces worldwide have been fighting to retain aviators with bonuses and career guarantees. That shifts the onus back to the dreamers who want to fly at any cost, which typically means huge loans. Even major airlines' fortunate hires can find those daunting to repay.

So, back to the Commons TRAN committee. As a rule, it tends to meet when the House is sitting, which means there are about 55 days until the year-end recess begins in mid-December. Committees don't necessarily meet every day, so the opportunities to hear from witnesses are further constrained—and yes, there are other transport concerns for the committee to consider, let alone infrastructure and municipal issues.

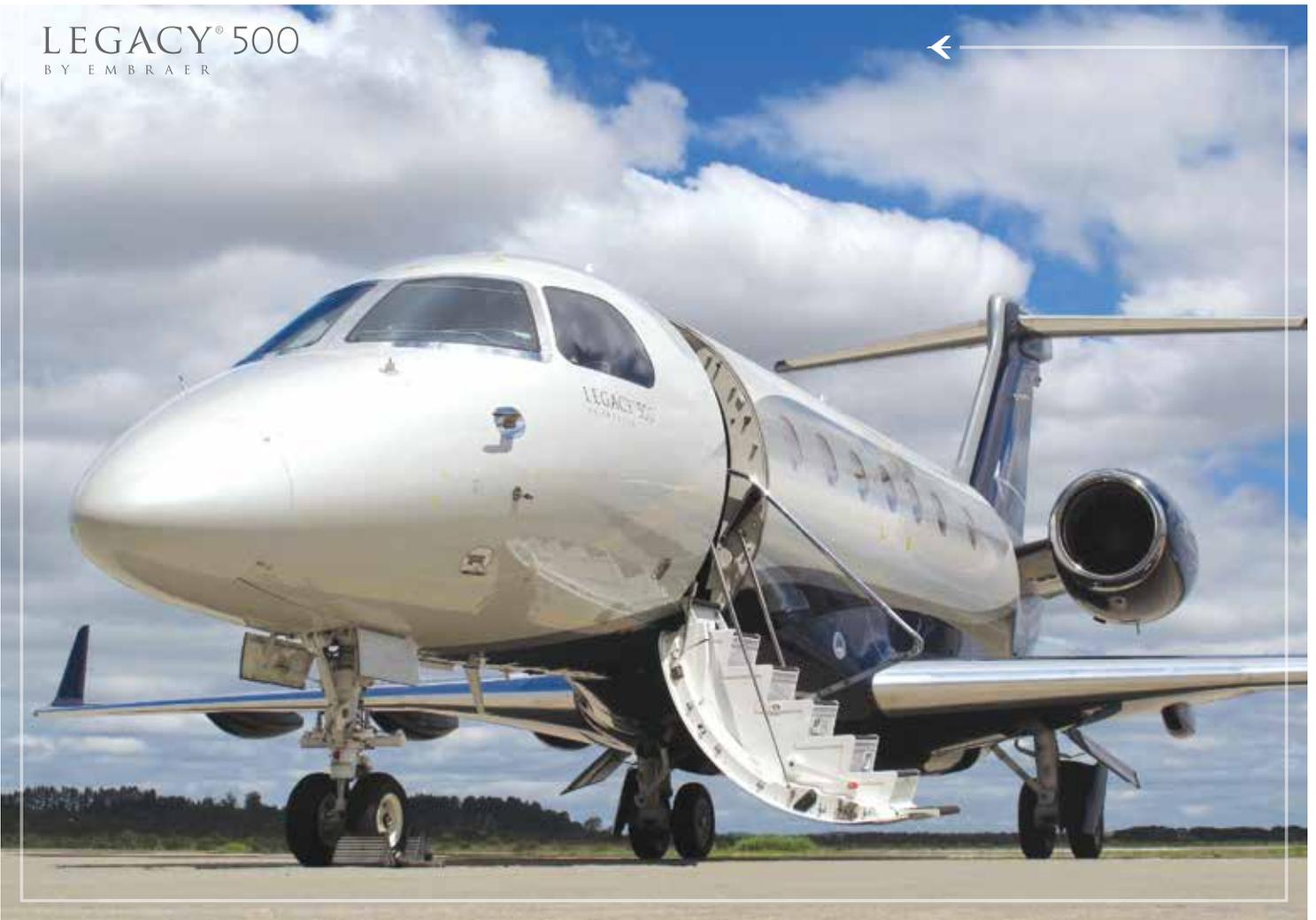
Set aside diversity, inclusion and gender parity, for now at least. There's not much a parliamentary committee can do there, except act as a sounding board and maybe recommend more industry proactivity.

Financing a pilot's education is a whole other challenge. You can expect that if the industry does get an opportunity to present its views, it will be the main focus if the committee and then the government opt to address what is clearly a mounting challenge.

Tax credits? Low- or even no-interest loans? Bursaries? Fuel tax relief for participating companies? The latter could also help the diversity/inclusion/parity situation. Those are practicable options, but whether they would be politically acceptable is another thing altogether.

Hopefully the government and opposition caucuses can put aside their often counterproductive partisan differences to support a winning strategy. It'll be interesting to see what, if anything, the committee recommends to the House if we are to sustain a well-trained and adequate cadre of pilots. ▣

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Column

FOCAL POINTS BY TONY KERN

Editor of the *Controlling Pilot Error* series, Tony Kern is one of the world's leading authorities on human factors training in aviation. A former lieutenant colonel in the U.S. Air Force (USAF), he served as chief of cockpit resource management plans and programs at the USAF Air Education and Training Command. He is author of three bestselling aviation books: *Redefining Airmanship*; *Flight Discipline*; and *Darker Shades of Blue: The Rogue Pilot*, all from McGraw-Hill.



Forging respect

These are exciting times in aviation. You can sense the energy. There is lots of movement and many opportunities for new hires, upgrades, promotions, managers, and—perhaps most importantly—new clients and customers.

But cohabitating with all this action are the social dynamics that come along with changing employers, levels of responsibility, or positions. Will they like me here? Will I like my new co-workers? What's the culture like?

We all ask ourselves these questions; and if we are honest with ourselves, we enter each new position with a bit of trepidation.

After 15 years of running my own company, I recently took on a new role as the director of safety and quality for a fascinating company called World View Enterprises in Tucson, Ariz. It's a company chock full of high performers: former astronauts, entrepreneurs, and lots of really smart engineers. It's aviation, but weird aviation: Helium and hydrogen balloons navigating the edge of space, with the goal of one day taking passengers to 100,000 feet to form a new global perspective on the world itself.

It's definitely out of my comfort zone, but it was too cool to pass up. As a social scientist, I was a bit of an oddball in this group, and I walked in on Day 1 with the same questions and challenges we all have as we enter a new position or workspace.

So let's take this challenge head-on with a single—and very meaningful word—respect. Two important insights are critical up front. First, you can be liked and not respected, but you will never be successful. Second, you can also be respected and not liked, but that can be worked on.

As the late, great Aretha Franklin sang, we all want a little respect. Here are five attributes I have found to be helpful.

- **Vocational excellence.** Nothing says

“I belong here” like knowing your job. Work to be an expert in whatever your field is. Put in the time to understand the needs of your new organization or position, and dive in head first and hard.

- **Integrity.** Respect can take a while to earn, but it can be lost in a single act of poor ethics. Follow through on your commitments. Make your word your bond. Admit your mistakes. It's here where the like versus respect question comes in. Integrity means sometimes having to deliver unpopular opinions and insights. Others may not like it, but they will always respect it.

respect those who are quick to learn. Expect to make mistakes. Own them and learn from them. Most importantly, don't react defensively or take it personally when others point them out. Thank them, and mean it.

By practicing these five elements of professionalism, you may earn the respect of others; but most importantly, you will earn self-respect. Others may not yet know you belong, but you will, and that is the essential starting point. As you gain confidence in your role, others will sense it.

The final key to earning respect is to

“AS THE LATE, GREAT ARETHA FRANKLIN SANG, WE ALL WANT A LITTLE RESPECT. HERE ARE FIVE ATTRIBUTES I HAVE FOUND TO BE HELPFUL.”

- **Work ethic.** Everyone respects a hard worker, so put in the time to produce great work. Pay attention at meetings, ask questions, and work well in teams. Pay attention to details.
- **Professional image.** How you appear around others, at work, away from work, and online, is a big deal. Carry yourself professionally. Look people in the eye. Don't engage in gossip. Watch your tone of voice and body language.
- **Fight for feedback and accept criticism gratefully.** Far too often, new hires try to keep their head down, are reluctant to ask questions, and try not to be noticed. This is a mistake. No one comes into a new position knowing everything they need to, and others

realize the door opens outward, and the best way to get respect is to first give it. Learn about your co-workers up and down the corporate structure. What are they working on, why is it important and most notably, what can you do to help them?

Respect their time by scheduling important meetings and keeping informal ones brief and on topic. And don't forget those who do the little things. From the administrative workers to the building facilities staff, respect is forged in the little things you say and do for people you may only encounter occasionally and who are not necessarily in a position to help you advance.

Forging respect is the first critical step in any new endeavour, so reject the popularity contest and do your job well. ■

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Great Slave Helicopters is granted creditor protection to reorganize.

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AVIATION INDUSTRY NEWS 

Betting on the A220

Successful airline entrepreneur selects A220-300 for next venture

A new U.S. airline has selected the Airbus A220-300, formerly the Bombardier C Series CS300, placing an order for 60 of the single-aisle jets. Deliveries are expected to begin in 2021. **Airbus Image**



Brent Jang
Airline News

David Neeleman plans to launch a new U.S. airline with Canadian-designed Airbus A220-300s, eyeing under-served markets.

The aviation entrepreneur said in July that he ordered 60 of the single-aisle A220 jets, which were rebranded by Airbus after the European plane maker acquired control of the C Series program from Montreal-based Bombardier Inc.

The deliveries are slated to begin in 2021, with plenty of planning to do in the months and years ahead. The Airbus A220-300 (former CS300) will typically seat 141 passengers, compared with 116 seats in the A220-100 (former CS100).

The planes are to be powered by fuel-efficient Pratt & Whitney geared turbofan engines.

Industry analysts say Neeleman will be looking for opportunities created by consolidation in the U.S. airline industry over the past 13 years.

US Airways Group merged with America West Holdings Corp. in 2005, long before American Airlines Group absorbed the US Airways brand in 2015.

Other examples include: Delta Air Lines Inc.'s merger with Northwest Airlines Corp. in 2008; United Airlines Inc.'s merger with Continental Airlines Inc. in 2010; Southwest Airlines Co.'s takeover of AirTran Holdings Inc. in 2011; and Alaska Air Group's acquisition of Virgin America Inc. in 2016.

Neeleman has won an early supporter in his friend, Robert Milton, who is pitching in with seed money. Milton served as Air Canada's president and chief executive officer from mid-1999 until late 2004.

Neeleman is best known as the founder of JetBlue Airways Corp., which started flying in 2000. His long list of aviation accomplishments include helping launch Morris Air Service in 1992. He served as president of Salt Lake City-based Morris Air, which was acquired by Dallas-based discounter Southwest in 1993.

The entrepreneur went on to help with the creation of Calgary-based WestJet Airlines Ltd. in 1996. His name is often mentioned in the same breath as the four co-founders of WestJet: Clive Beddoe, Mark Hill, Donald Bell and Tim Morgan.

Neeleman left the board of directors of WestJet in 1999. Never one to sit still, his entrepreneurial flight path includes being the founder of low-cost Brazilian carrier Azul SA in 2008, and a major investor in TAP Air Portugal in 2015.

A220 GETTING TRACTION

RBC Dominion Securities Inc. analyst Walter Spracklin said the A220 is garnering attention. "While control of the program is now with Airbus, the aircraft is gaining further traction," Spracklin said in a research note.

He said Neeleman's memorandum of understanding to acquire 60 of the aircraft comes on top of other good news for the

A220 program, including orders from JetBlue.

A former airline industry executive confirmed to *Skies* that the working title of the new venture is Moxy Airways.

"Neeleman is an intelligent operator," said the executive, who added that early investors include Milton and former International Lease Finance Corp. CEO Henri Courpron, as reported originally by *Airline Weekly*.

Courpron, a former president of Airbus's North American operations, has also worked as a strategic adviser to Bombardier.

"After years of U.S. airline consolidation, the conditions are improving for a new generation of U.S. airlines to emerge, focused on passenger service and satisfaction," Neeleman said in a July statement released by Airbus during the Farnborough International Airshow.

"The A220 will enable us to serve thinner routes in comfort without compromising cost, especially on longer-range missions," he added. "With deliveries starting in 2021, we will have ample time to assemble a world-class management team and another winning business model."

AltaCorp Capital Inc. estimates the deal for Moxy to buy 60 A220-300s could be worth a total of US\$5.4 billion at list prices, but the fledgling new carrier will receive large discounts.

Airbus chief commercial officer Eric Schulz praised Neeleman's order, describing it as "a testament to the passenger appeal and operating economics of this outstanding aircraft." ✨

AirSprint welcomes sixth Legacy 450

Embraer Executive Jets has delivered a fifth Legacy 450 medium cabin business jet to Calgary, Alta.-based AirSprint, Inc., a privately-held fractional aircraft ownership company.

Together with an additional leased Legacy 450 operated by the company, there is now a total of six in the fleet.

The first Legacy 450 entered AirSprint's fleet in December 2016.

A purchase agreement for up to 12 of the jets was signed in July 2016. This agreement has an estimated value of US\$198 million at the current list price, if all options are exercised.

"New

airplane days are always exciting times at AirSprint," said James Elian, president and COO of AirSprint Inc. "We just added our sixth Embraer Legacy 450, C-GASE, to the fleet.

"Since December 2016, we have flown the Legacy 450 for over 7,700 hours on 5,300 flights. The combination of comfort and performance has made the Legacy 450 very popular with our fractional owners, and we look forward to adding more aircraft in the future."

In December 2016, Embraer and AirSprint flew the Legacy 450 on its maiden voyage to Hawaii, from California, establishing two speed records on the round trip. The National Aeronautic Association (NAA) and the Fédération aéronautique internationale have confirmed each of these flights as a U.S. record and a world record, respectively. ✨



C-GASE, an Embraer Legacy 450, is the newest addition to the AirSprint fleet. **Adriana Bernal Photo**

Chrono Aviation unveils first Boeing 737-200

Quebec air charter company Chrono Aviation has unveiled its newest addition, a striking black Boeing 737-200.

The plane, which can carry around 120 passengers or various combinations of passengers and cargo, is the world's only Boeing model that can operate from 5,000-foot unpaved strips.

With this acquisition, Chrono Aviation becomes one of the few companies to offer a charter aircraft of that size. The 737 is the first airliner to be based at the Saint-Hubert airport, which has opened a new landing strip to accommodate this type of plane.

This acquisition marks a watershed moment in Chrono Aviation's history.

"The addition of this first 737-200 to our fleet marks an important step in our company's growth," said Vincent Gagnon, president of Chrono Aviation.

"After acquiring a Dash 8, a private jet and a King Air 350 in the last two years, we felt we were ready for this pivotal moment. Our company is ready to shift gears and join the big leagues of aviation.

Until recently, Chrono could carry up to 37 passengers or 8,000 pounds of passengers and cargo with its Dash 8. The 737 will meet our customers' increasing demand and enable us to carry up to 119 passengers or 30,500 pounds of cargo."

It will serve as a strategic asset for Chrono, allowing it to offer commercial jet transport to mining or construction companies that frequently travel to remote areas.

A second 737-200 is set to join the fleet this fall.

Chrono is investing more than \$12 million to completely refurbish the interiors and paint them in the company's trademark matte black.

"Whether in Quebec, Canada or the U.S., people notice our planes and talk about them," said Dany Gagnon, vice-president of Chrono Aviation.

"As you can imagine, the 737, being three times the size of the Dash 8, is going to turn a lot of heads!" ✨



Decked out in striking black livery, Chrono Aviation's Boeing 737-200 can be configured to carry various combinations of passengers and cargo. **Martin Couturier, YQB Aviation Photo**

Viking Air contemplates new CL-515 waterbomber



► **Chris Thatcher**

OEM News

This past summer saw wildfires that prompted British Columbia to declare a state of emergency, while California battled the largest wildfire in recent memory and more than a dozen European countries beat back forest fires.

Advanced firefighting equipment has never been more in demand.

With adversity comes opportunity. And, at the risk of spooking his board of directors, Dave Curtis, chairman of Longview Aviation Capital and chief executive of Viking Air, is considering the possibility of manufacturing a newer model of the CL-415 waterbomber.

“The worldwide fire situation is dire,” Curtis told the Abbotsford Aerospace, Defence and Security Expo (ADSE) in August. “With what is happening globally, [there is] significant interest for [firefighting capability].”

In 2016, Viking acquired from Bombardier the certificates for all variants of the Canadair-designed CL-215 piston-powered Scooper, including the CL-215T and the Bombardier-built 415 aircraft. In addition to assuming full responsibility for in-service support for a fleet of 170 amphibious aircraft in 11 countries, Viking also became the original equipment manufacturer, with all future design rights.

Curtis said the business case for producing a new variant, the CL-515, “is still being

put together,” ergo his caveat that he did not want to get ahead of his board. But he suggested an announcement could be coming in the first quarter of 2019.

The case for a new version of the venerable CL-215, based on the turbine configuration, might not be hard to make. “You will not find a single resale of the 215,” said Curtis, noting that owners are still using the aircraft.

Bombardier stopped manufacturing the CL-415 in 2015. But while visiting customers since then, Viking has noted great interest in an upgraded aircraft.

“The demand is not only for aerial firefighting, but also maritime patrol. The aircraft has been certified for oil dispersant for oil spills, and there’s many more roles the aircraft can be deployed [for],” Curtis told *Skies* in 2017.

As a first step to meeting that customer need, Viking will convert older CL-215 aircraft to a CL-415 enhanced aerial firefighter (EAF) variant.

Longview and its subsidiary, Viking, signed an agreement with Cascade Aerospace to provide training and resource support for the conversion program. Cascade previously converted nine CL-215 aircraft to the CL-215T for the provincial governments of Alberta and Saskatchewan.

Cascade will train Viking staff on the first aircraft, slated to begin in September, at its facility in Abbotsford. The company will then support training at Viking’s facilities in Calgary for subsequent CL-415 EAF aircraft.

The program is based on the CL-215T configuration and includes two Pratt & Whitney Canada PW 123AF turboprop engines, digital avionics, upgraded power-assist flight controls, a new power distribution system, complete re-wiring and several structural changes.

“This is a complex modification and their expertise will lend itself to the development of the broader conversion program as a whole,” said Curtis.

Viking expects to hire up to 150 technical and support staff in Calgary to make the conversions.

“We want to be a partner with significant OEMs, commercial and military customers, and this is a big step forward in achieving our vision as a corporation,” said Kevin Lemke, Cascade’s executive vice-president and chief operating officer.

Curtis said the market for a CL-515 variant might be around 100 aircraft. But after successfully resurrecting the de Havilland Canada DHC-6 Twin Otter production line, Viking has gained the experience to leverage the CL-215 and 415, if the case can be made. ✦



One of Longview’s 11 Canadair CL-215 aircraft destined for CL-415EAF Enhanced Aerial Firefighter Turbine Conversion rests on the ramp at Viking Air’s facility at Victoria International Airport. **Viking Air Photo**

Bombardier offers flight deck upgrade on Learjet 75 and 70



An updated Garmin avionics suite will be offered on new Learjet 75 (shown here) and Learjet 70 business jets, with a retrofit on in-service models made available concurrently. **Bombardier Image**

Bombardier Business Aircraft and Garmin have announced a significant avionics upgrade for the Bombardier Vision flight deck aboard the Learjet 75 and Learjet 70 aircraft, which are already equipped with one of the category's most generous and advanced cockpits, powered by the Garmin G5000 avionics suite.

The upgrade, currently in flight testing, will enhance the aircraft's capabilities for customers to access the most favourable routes as well as pave the way for future technological enhancements.

The Learjet 75 aircraft is the best performing productivity business tool in the light category—and the avionics enhancement takes the aircraft to a new level of efficiency and effectiveness.

The updated avionics suite will be offered on new Learjet 75 and Learjet 70 business jets with a retrofit on in-service models made available concurrently.

The update to the popular Garmin G5000 avionics suite on the Bombardier Vision flight deck will bring workload-reducing improvements, including climb, cruise and descent vertical navigation, enhanced take-off and landing performance calculations and much more.

In addition, FANS 1/A+, which will enable customers to access the most efficient and favourable routes, will be offered as an option. It will ensure readiness for modernized airspace requirements and deliver efficiency gains that are expected to lower direct operating costs.

"Avionics is one of the fastest-evolving systems on a modern aircraft and the upgrade will make sure our Learjet 75 and Learjet 70 business jet customers remain ahead of the curve," said Peter Likoray, senior vice-president, Worldwide Sales and Marketing, Bombardier Business Aircraft. ✈

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Kito Abario Station Photo

Great Slave Helicopters to restructure under creditor protection



Great Slave Helicopters has a fleet of 51 helicopters for onshore operations, with a staff of roughly 200. **Graham Lavery Photo**



◻ **Oliver Johnson**
Rotary News

Great Slave Helicopters has been granted creditor protection to allow it to reorganize, with court documents revealing the company has been posting annual losses of more than \$5 million “for the past several years.”

The company, based in Yellowknife, N.W.T., is one of the largest onshore operators in Canada, with a fleet of 51 light, intermediate and medium helicopters, and a staff of about 200.

The protection, provided under the *Companies’ Creditors Arrangement Act*, will allow Great Slave Helicopters to continue to operate while a court-approved “monitor” begins a process to sell or restructure the company’s business or assets, or both.

In its initial application for the protection, Great Slave said it had incurred losses of about \$13.7 million over the last two fiscal years, with those losses increasing year over year, and revenue declining.

In court documents, Alasdair Martin, who has been president of Great Slave

Helicopters since June 2016, said the company’s financial difficulties were the result of “many external and internal factors,” including a downturn in the oil-and-gas and mining sectors, and the general slowdown in the helicopter industry that has affected operators around the globe.

“In addition to rising costs, [Great Slave Helicopters] has been unable to raise flying rates or boost utilization due to an oversupply of helicopters in the market,” Martin said in his affidavit.

Until recently, Great Slave Helicopters was solely owned by Discovery Air Inc., which filed for creditor protection itself on March 21, 2018, with \$127 million of debt set to mature, including \$93 million of secured debt that had been guaranteed by Great Slave Helicopters and other members of Discovery Air’s group.

Martin said Great Slave Helicopters is already in default of its existing financial obligations with creditors, and had been working with one of them “to restructure its business and operations to be viable on a long-term basis.”

However, he said the company’s “persistently difficult financial condition”

and need for more funding to continue operations meant that any restructuring or sale of its business or assets was best completed through court-supervised proceedings.

“[Great Slave Helicopters’] business is highly seasonal, with a significant percentage of its gross revenue earned in June to September of each year, while requiring ongoing significant funding for maintenance and other operating expenses throughout the entirety of the year,”

Martin said in his affidavit. “Because of its seasonality, the [company’s] business will incur losses commencing in October and will require significant funding until its next busy season, which starts next June.”

Great Slave Helicopters won several firefighting contracts from the Province of Ontario in April, along with similar contracts in Alberta and the Northwest Territories, which run until the end of September 2018. In the court documents, it said it would continue to provide these critical services until the end of the season.

The company said it was “considering its next steps” for its Chilean subsidiary, DA Chile, which employs about 55 people. ✦

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Raise the Arrow recovers delta test vehicle



► Ben Forrest

General Aviation News

In the waters of Lake Ontario, off the shores of Prince Edward County, divers loaded a crude metal fuselage, shaped like a rocket with delta wings, into a large rectangular cradle and gently raised it onto a ship full of expectant recovery workers.

The fuselage, covered in zebra mussels and faded yellow paint, is believed to be a delta test vehicle (DTV) for the ill-fated Avro CF-105 Arrow, and one of the few surviving relics of the only supersonic interceptor built in Canada.

"It's kind of like tasting first blood in a search," said Erin Gregory, assistant curator of the Canada Aviation and Space Museum (CASM), one of the supporters of the Raise the Arrow recovery project.

"These are among the last surviving pieces of that program which is so wrapped in ... Canadiana," she added. "It's such a Canadian icon that everybody's really excited about it."

CASM is certain the artifact is a DTV, and is "85 per cent sure" it's related to the Arrow program, said Gregory. Arrow DTVs would have been launched into the air to test the stability of a delta-wing configuration at transonic and supersonic speeds.

The Arrow's delta wing design was relatively new at the time it was developed and built in Malton (now Mississauga), Ont., during the 1950s. It was an engineering marvel, and one of Canadian aviation's greatest technological achievements.

The federal government's decision to cancel the Arrow program in 1959 and destroy all six full-size prototypes is seen as one of the greatest lost opportunities in Canadian aviation history.

Searchers from Raise the Arrow have been trying to recover nine free-flight test models of the Arrow that were launched from the shores of Lake Ontario.

The models are one-eighth scale replicas of the flying jet, though some are more detailed than others, and they would also have been used to test the aircraft design.

"Basically they were set up on similar launchers to what were being used to test missiles," said Gregory, whose museum is home to several other Arrow artifacts.

"The free-flight models, for sure, were using Nike rocket boosters, solid fuel rockets, that provided about 50,000 pounds of thrust for two or three seconds."

This artifact, believed to be a delta test model for the ill-fated Avro Arrow program, was recovered from Lake Ontario in the summer of 2018.

Ingenium Photo



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Both DTVs and free-flight models were instrumented, and those instruments would transmit flight data back to engineers on the ground, she said. Engineers would use the data to inform design decisions.

DTV's were an "unknown aspect" of the testing for the Arrow, and are very close to being as historically significant as the full-flight models, according to Gregory.

"It is quite possibly a very early version of what they hoped to achieve with the free-flight models," she said. "I think all of that really contributes to its historical significance, and certainly its significance as an object related to the Avro Arrow program ... there's just not a whole lot that survived."

Raise the Arrow used sonar technology to recognize shapes similar to Arrow full-flight models in a search grid developed using historical research, said Gregory.

In this case, the group sent divers down to inspect the artifact and then load it, with guidance from staff at the Canadian Conservation Institute (CCI), into a cradle custom-built for this piece, then raised the cradle onto the deck of the ship.

The ship went from the Murray Canal to 8 Wing Trenton, Ont., where the team from CCI cleared off mussels with support from 8 Wing staff, said Gregory.

Workers then loaded the artifact onto a flatbed truck and took it to CASM, where the rest of the conservation work will take place under CCI leadership.

Conservation is a long, complicated process, and Gregory couldn't offer a timeframe for its completion. If the artifact is confirmed as a DTV associated with the development of the Arrow, the museum has an internal process for acquiring it, adding it to the museum collection and ultimately putting it on display.

"There's nothing really that moves fast in this particular process, or any of the processes, really," she said. "It'll probably be a good while before it's available for public viewing, for sure."

"But we are making the effort to keep the public apprised of the various steps throughout the process."

This will include photos on social media and a blog-style website that will provide an ongoing storyboard about the conservation process.

"These prototypes really serve to tell the story about how this Canadian icon was built, and what scientific, technological, and engineering methods went into its creation," said Gregory.

"And from our perspective, being able to share that with the Canadian public—it's a wonderful opportunity to talk about the behind-the-scenes of aircraft development." ✂

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SKIES Magazine

Universal Helicopters targets expansion through acquisition

Universal Helicopters has announced the purchase of Lakelse Air of Terrace, B.C., and in the process, becomes Canada's only coast-to-coast Indigenous-owned helicopter services company.

The purchase includes the Lakelse Air fleet of 12 aircraft as well as its other assets. The purchase price was not disclosed.

Universal Helicopters president and CEO Shane Cyr said the acquisition of Lakelse Air provides Universal with a pan-Canadian footprint.

"We have operated mainly in Newfoundland and Labrador and in the Arctic," said Cyr. "This purchase firmly establishes Universal as a coast-to-coast provider of quality air services."

Lakelse will continue to operate as a separate company under its existing management and staff. A senior leadership team headed by Cyr, and comprised of Lakelse and Universal senior managers, will provide strategic direction to Lakelse.

This acquisition allows Universal to grow its business in a part of the country with great potential. Lakelse Air has significant experience and expertise in current and emerging areas of activity in northwestern British Columbia, including aerial construction and powerline activity, mining and exploration, oil and gas, and in forestry and forest fire suppression.

"There is huge mining potential in the 'Golden Triangle,' a mineral-rich area of northwestern B.C.," said Cyr. "We see opportunity in transporting people and supplies to these remote areas, as well as in supporting the construction of power lines."

Universal is Canada's largest Indigenous-owned helicopter services company.

"Indigenous groups want true partnerships that build long-term benefits for their communities," said Cyr. "Lakelse has built sound relationships with the Haisla, Nisga'a and Tahltan people. Universal strongly supports that

approach and we are anxious to explore opportunities that will result in even more beneficial ties with Indigenous groups across the country."

In September, Universal Helicopters also announced it was investing in South Coast Helicopters, headquartered in Fullerton, Calif.

Universal will acquire a 49 per cent share of South Coast, the maximum investment allowed to a foreign aviation operator under U.S. law. This is the company's first investment in the United States.

"The VFR [visual flight rules] segment is a large market internationally in the helicopter services industry," said Universal Helicopters' Cyr. "Half of the world market is in the United States. This investment opens up that potential to Universal."

South Coast Helicopters provides services to the motion picture and commercial production industries. It also services clients such as the U.S. Forest Service and NASA. ✈️



Lakelse Air will continue to operate as a separate company under its existing management and staff. **Paul Kendall Photo**

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Aviation is our passion.

Meet new CBAA president, Anthony Norejko



◦ Lisa Gordon
Business Aviation News



CBAA Photo

Anthony Norejko took the helm of the Canadian Business Aviation Association (CBAA) on Aug. 20, 2018, replacing long-time industry champion and interim president Rudy Toering.

Skies caught up with Norejko to discuss his goals in the new role, as well as the most pressing issues facing Canadian business aviation today.

Skies: Tell us about your aviation career and how your past experience applies to your new position at the CBAA.

Anthony Norejko: In terms of flying experience, I did everything from flight instruction to northwestern Ontario charter operations and business aviation, so I have a diverse background. In addition, I have entrepreneurial and business leadership experience. I think my ability to “talk the talk” as a pilot, along with navigating the boardroom, will help ensure we’re listening to and acting for our members.

Skies: What are your immediate and long-term goals in your new role?

AN: First, I want to engage, learn and connect with the staff and consultants. Next, I will be connecting with and listening to our membership; the operators and associates, but also non-members. Longer term, it’s about developing a comprehensive and strategic plan so our association’s efforts are aligned with what matters to business aviation.

Skies: What are the top three issues facing Canadian business aviation today?

AN: I’d say regulatory change and compliance is first. Operators need to stay aware of it, while engaging the association to share best practices and influence change. Second, it’s the idea of business aviation being seen as an enabler. Third, it’s important to share the great career opportunities that exist in business aviation.

Skies: How, specifically, do you plan to tackle those issues?

AN: In terms of regulatory change and compliance, I think it’s important to share the stories of operators who have developed unique ideas and best practices. Maybe others will be encouraged to look at their programs and improve themselves. Second, I want to gather data that tells the compelling story of business aviation as an enabler. Finally, business aviation is a fairly small sector of the industry, but it has so much opportunity. We need to share those stories.

Skies: What tangible value does CBAA membership bring to the business aviation operator?

AN: Here’s a good way to calculate the value of membership: Take your direct aircraft operational cost per hour and multiply that by the annual hours flown. Then, take our annual membership fee and divide it by that total. At its maximum, the membership represents one or two per cent of the yearly operating costs of that plane. So my commitment going forward is to make that membership decision a no-brainer. In the end, it’s about working creatively together to have our voices heard by the right audience. ✈️

This interview has been edited and condensed. Read the full version online at www.skiesmag.com.



Seneca student wins 2018 Webster Trophy

 **Andy Cline**
General Aviation News

A Seneca College student has won the Webster Memorial Trophy Competition yet again, taking first place in a contest that determines the top amateur pilot in Canada.

The school, which hosted the 2018 event at its Peterborough, Ont., aviation campus, has taken the top spot in four of the last five years.

The Webster Memorial Trophy Competition was created in 1932.

Dr. J.C. Webster started it off by creating a trophy in memory of his son John, who was killed in an accident while training for an aerobatic competition.

The Webster Memorial Trophy is awarded each year to a pilot who has not recently been employed in commercial aviation. Applicants are assessed on the fundamental knowledge and skills required by a visual flight rules (VFR) pilot.

Nine regional finalists from across Canada descended on Peterborough Airport for the week of Aug. 20 to 24 for an intense competition that consisted of two written tests, a Redbird flight simulator session, and a flight test. Four judges evaluated contestants in the final competition.

The nine finalists, representing the regions across Canada, included: Joo Sung (Daniel) Shim, representing British Columbia; Carolyn Spence of Alberta; Sara Voth of Saskatchewan; Mark Dizon

of Manitoba; Natalie Smith of Western Ontario; Jonathan Littler of Central Ontario; Carter Simpson of Eastern Ontario; Gregoire Carlesimo of Quebec; and Mihar Raouf for the Atlantic region.

The 2018 Webster competition celebrated several firsts. It was the first time with three finalists who were born outside Canada. As well, this year's competition had four female finalists, more than any previous year. They each received an award from the Northern Lights Aero Foundation for women in aviation.

The contest winner was Carter Simpson, a fourth-year student at Seneca College. The runner-up was Jonathan Littler, who did his flight training at Brampton Flying Club in Ontario.

All finalists received numerous prizes from sponsors, including a \$1,000 flight training grant from Moncton Flight College in New Brunswick.

The winner and runner-up each received a beautiful pilot's watch from Hamilton Watch. Simpson also won a pair of passes from Air Canada to anywhere in North America. He also took the Nav Canada Trophy for the top score on the pilot knowledge test, presented by Chris Stevens.

The event is extensively sponsored by a multitude of aviation businesses, organizations and individuals from across the country, providing not only funding for the event, but prizes for the participants.

Seneca College was honoured to host the Webster Memorial Trophy Competition,



2018 Webster Memorial Trophy winner Carter Simpson, from Seneca College, shows off the trophy and his medallion. **Andy Cline Photo**

another milestone in its 50th anniversary celebrations in 2018. The gala awards banquet was held Saturday, Aug. 25, in the Seneca hangar in Peterborough.

The 2019 competition will take place at Moncton Flight College. 🇨🇦

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WestJet's first Boeing 737 MAX 8 in the airline's new livery departs Calgary International Airport, bound for Toronto Pearson, on July 14, 2018. **Adrian Edwards Photo**



The world's most famous flying B-29 Superfortress, better known as "FIFI," flies over London International Airport during her Canadian tour this past summer. **Chad Smith Photo**



A de Havilland Canada DHC-2 Mk. I from Ahmic Air Ltd. taxis in on Back Bay, Yellowknife, N.W.T. **Stephen M. Fochuk Photo**

A “stacked departure” at Toronto’s Pearson International Airport, with an Air Canada Rouge Airbus A319 (foreground) on its way out and a Rouge Boeing 767 on its way in. **Adam Tetzlaff Photo**



MILE-HIGH *Comfort*



Today's private jet interiors are designed to be uber-functional, personalized extensions of the home and office.

► BY LISA GORDON



New United Goderich in Centralia, Ont., has delivered several complete aircraft refurbishments. The company performs in-house upholstery, cabinet and exterior finishing work. **New United Goderich Photo**

Renderings, such as this one from Platinum Jet Corporation, are a powerful tool to illustrate a proposed design to customers. They can even show details such as stitch lines and sunlight coming through the windows. **Platinum Jet Corp Photo**



Customized crystal, china and flatware inserts reduce noise in flight. **MSB Design Photo**

Everything in a private aircraft must be functional as well as beautiful. MSB Design's adjustable hi-lo conference tables check both boxes. **MSB Design Photo**



The AeroLoc magnetic flooring system from Aircraft Interior Products is watertight, lightweight and maintenance-friendly. **Platinum Jet Corp/AIP Photo**



Modern galleys are incorporating Corian countertops and new appliances, as well as layered LED lighting.
New United Goderich Photo



Flying in an airplane used to be like being suspended in a cocoon. While life happened on the ground, passengers were decidedly cut off while in transit. Wrapped in sunny seclusion high above the clouds, they were resigned to the fact that the world just had to wait.

But that was then, and it's a very different story now.

As technology has marched ever forward, aircraft have grown increasingly connected. Nowadays, the commercial business traveller need only plug in a USB cable or download an airline app to stay charged up and connected.

But in business and private aviation, where connectivity is tantamount to productivity, customers want seamless communication—even at 40,000 feet in the air.

Welcome to your flying office. Did we mention it comes with all the comforts of home?

INDIVIDUALITY IS NOT OPTIONAL

“The last thing anyone wants to hear when it comes to their business aircraft is ‘standard’ or ‘option.’ They want us to assess their needs and nice-to-haves and build around them,” said Gabor Hasko, vice-president of program management and design at Flying Colours Corp., in Peterborough, Ont.

Established in 1989, Flying Colours specializes in interior completions for brand new “green” aircraft, as well as custom refurbishment of existing cabins.

Hasko said today's business aircraft users are looking for three things: connectivity, comfort and fine dining.

“Customers want to walk from their car and onto the plane with seamless connectivity. Whether it's business or pleasure, they want multiple people to be able to walk on board and stay connected. And they want to be able to control everything in the cabin with their smartphones.”

He said Ka band satellite technology—billed as the fastest Internet connection worldwide—is the most popular option for achieving reliable in-air service that is on par with ground-based connections.

Comfort-wise, business jet interiors are leaning towards bolder, more personal touches that showcase fluid, organic lines. Textures, satin finishes and lighter woods—often offset by darker metallic embellishments—are becoming more prevalent.

“We have recently seen requests for wood in non-traditional colours, for example grey and grey-blues,” confirmed Hasko. “We are seeing a lot of

stone veneer, and some are choosing hardwood flooring versus stone flooring.”

Corporate aircraft often feature company logos etched or embossed in glassware, seats or bulkheads.

Heated floors, Corian countertops, new appliances for the galley (think convection and steam ovens instead of microwaves), layered LED cabin lighting and ultra-comfortable seating are just some of the additional trends inspired by the comforts of home.



The Next Gen VIP chair from Embraer Aero Seating Technologies features integrated heating and passive cooling.
Platinum Jet Corp/EAST Photo



ABOVE: Flying Colours Corp. reports some customers are moving toward a modern Zen look, which is reflected in grey, black and white palettes and a switch to satin, rather than gloss, wood veneer finishes.

Flying Colours Photos

CREATURE COMFORTS

When it comes to the interior design of an aircraft that will serve as the natural extension of home and office, an objective evaluation is a must.

For 15 years, Kimberly Kohnert has worked with clients from all over the world to help navigate the daunting process of refurbishing their aircraft. Today, she is president of Platinum Jet Corporation, a Clinton, Ont.-based provider of professional aviation services, including interior design as well as maintenance, avionics and paint program management.

A weekly business traveller, Kohnert firmly believes it's necessary to visit clients to accurately assess their needs.

“When a client acquires a new aircraft or wants to update the one they have, we visit them and view the aircraft to discuss their vision. What functionality and look do they want?”

From there, Kohnert’s team puts together three conceptual designs for the client to review. Technology has certainly helped this process come a long way.

“When I first started in the industry, we’d have to build a mockup which was time consuming and costly—and honestly, not very realistic,” she said. “Our design options have come a long way since then. From the approved conceptual design, we’ll digitally render the whole interior based on our ideation sketches. A lot of the business clients

want to see what they'll be getting before the completion centre starts the work, and renderings are a good way to do that.

"Nowadays, you can see extreme details, such as stitch lines and even sunlight coming through the windows. We can also do a VR (virtual reality) tour—with VR headset on in our studio."

Kohnert often works with Bombardier and Embraer aircraft, including CRJ200 and ERJ135/145 lease returns coming back from airlines.

"They make fantastic corporate and business aircraft at a fraction of the price. It's always fun to take an airliner and see the before and after photos."

Generally, she said her customers are becoming much more aware of the long-term value in completing the aircraft to the best certification standards, including fire, smoke and toxicity (FST) guidelines for all materials going into the plane.

"For some owners it doesn't seem like that big of a deal, but it's huge on the design side. If it needs to meet FST, we need to find naturally-sourced fibres and make sure a material will pass before presenting it as an option. A lot of vendors supplying materials for interior completions are now providing beautiful, textured materials that meet the FST requirements."

Kohnert said the sky's the limit in terms of choosing interior design components.

"For example, flooring is an area with fantastic new choices. I'm currently working with a company that has a magnetic flooring product that you install over a special sub-floor. It's watertight, lightweight and maintenance-friendly. The long-term value is fantastic."

She agreed that texture is becoming more prevalent, and she incorporates several different metals into her designs, in a variety of patinas. As for colour, Kohnert said owners have migrated away from browns and tans and moved toward grey tones and even light, creamy shades.

Cabinetry and flat finishes can now take on virtually any look through hydrographic water transfer technology, where 3D objects or monument panels are dipped into a printed film floating in a tank of water. Once the film adhesion process is complete, a clear coat is applied to protect the finish.

"Passengers, owners and operators are definitely looking for the creature comforts of home," said Kohnert. "Mood lighting is highly important in design—from sunrise to sunset effects—and everything in between. LED lighting technology has advanced to the point that it can be programmed to be the exact Pantone colour of a company logo.

"Interiors are definitely becoming more customized. It's all about creating that functional, yet highly personalized space."

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CREATIVE CONVERSIONS

At James T. Field Memorial Aerodrome in Centralia, Ont., New United Goderich is also reinventing the regional airliner.

Luc Massé, the head of marketing and sales, said the company’s 110 employees have delivered several complete aircraft refurbishments, performing in-house upholstery, cabinet and exterior finishing work.

“There continues to be a demand for conversions,” he said. “There has been a resurgence in the past couple of years. We are converting out of service [Bombardier] CRJs into 15-passenger VIP aircraft. We have completed two so far, with two more

in the works, where everything except the composite side panels was done in-house.”

While New United Goderich tends to be best known for its aircraft paint shop, Massé said it has much more to offer. For example, the company has also converted ERJ135 airliners into 30-seat business-class aircraft, where a completely new shell kit is installed, seats are completely refurbished, bins are removed, lavatories are revamped and a Gogo Wi-Fi system is installed.

Customers are moving away from high-gloss finishes in favour of a more satiny look. He, too, mentioned hydrographic applications for hard surfaces, adding that since the finish is essentially inked on, it

allows the material to pass smoke and heat release requirements.

Light, neutral colours are preferred and full connectivity is a must, with features from the home carried through to the aircraft.

“A lot of the customers we’ve dealt with have been more North American-based. So we’ve installed many Gogo Wi-Fi systems. Also, everyone is looking to control the whole cabin with their iPad or iPhone. We accommodate this with the installation of Honeywell’s Ovation CMS [cabin management system].”

Massé sees lots of potential in business aircraft completions and conversions, noting that “the accessibility of business aviation will continue through different ownership models, including fractional ownership and numerous charter programs, etc.”

BEYOND THE GALLEY

Montreal-based MSB Design engineers and manufactures specialty interior components for business and VIP aircraft.

The company’s uplit glass racks—first introduced at the National Business Aviation Association (NBAA) exhibition in 2017—were selected by Gulfstream for its new G500 and G600 aircraft. MSB is also well known for its custom crystal, china and flatware inserts, as well as its single, dual, or quadruple-pedestal adjustable conference tables.

Shannon Gill, managing director, said there is a huge demand for customization throughout the aircraft. The company’s designers are now stretching their creativity beyond the galley.

“One of the things we have been doing is the outfitting of the mid-cabin, where customers are looking for things that make you feel you’re in a living room,” she said. “We are seeing a trend to keep comfort closer at hand.”

MSB has been asked to design mini bars in credenzas as well as customized lavatory components. The company is also investigating adjustable coloured lighting and is continuing its work on wireless charging units embedded into conference tables, in keeping with customers’ desire to keep technology close.

Over the last eight months or so, Gill said she has also noted a shift in the preferred colour palette for business aircraft interiors.

“We used to have demand for gold; rose gold. We’re seeing a change now to black onyx, gunmetal grey and cool tones. We’re seeing more hammered metals and darker metal plating, with cooler hues.”

EXCITING FUTURE

While Platinum Jet Corporation and MSB Design indicated they have game-changing new interior products in development, others predicted exciting



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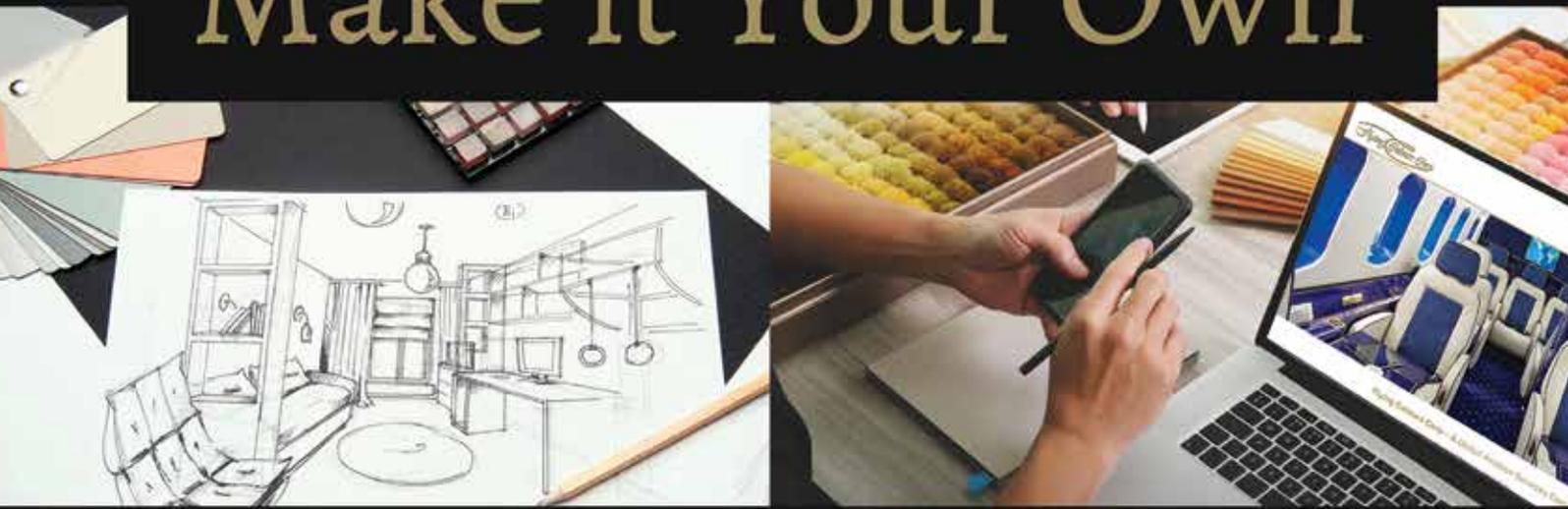
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trends for the future of private aircraft design.

“I read recently that windowless fuselages or cabins could be a future trend, where you can select panoramic views via your smartphone. Similarly, like a sunroof in a car, passengers could be sitting down and looking at a virtual sky or otherwise on the headline,” said Flying Colours’ Hasko.

Voice-activated devices, lit flooring, and window shades that darken by touch

(already found on commercial aircraft) may all be coming to a private jet near you, as technology continues to enable even the wildest possibilities.

ENHANCING THE “OWNERSHIP EXPERIENCE”

Even well-known names like Versace, Armani and Mercedes Benz are designing private aircraft interiors, with each taking

the uber-luxury concept to new heights. And their innovations aren’t limited to fixed-wing aircraft.

Airbus Helicopters Canada of Fort Erie, Ont., collaborates with Mercedes Benz and Hermès to develop customized luxury interiors for its new H125, H130, H135, H145, H160 and H175 helicopter models. The manufacturer’s corporate helicopter division has launched a customized

“ownership experience” program that addresses even the smallest detail.

“Designing an interior solution for private business aviation is a very personalized experience,” said Nicolas Pignol, head of Aircraft Operation/ Program, Airbus Helicopters Canada.

“As a result, we have had some really beautiful leather interiors crafted at the Airbus Helicopters facility in Fort Erie. We have also had the opportunity to deliver multiple private aircraft that have been outfitted with an interior mirroring a customer’s luxury vehicle.”

He said some of the most popular helicopter interior options include high-visibility windows, cargo pods for additional storage capacity, and customizable seat configurations.

Private helicopter owners are also looking for the latest in cockpit technology.

“Our private customers are always extremely pleased to learn that the avionics packages that come standard in our aircraft are fitted with the latest technology available,” continued Pignol. “One of the more popular safety features that increasingly interests our private customers is the traffic advisory system (TAS), designed to improve flight safety by assisting pilots in detecting and avoiding aircraft intersecting their flight path.

“This, in addition to the increasingly popular integration of the Bose sound system, makes for an exceedingly pleasant flying experience.”

The National Business Aviation Association (NBAA) annual convention and exhibition—held this year in Orlando, Fla., from Oct. 16 to 18—is often the launching ground for the latest and greatest business aviation innovations. With 1,100 exhibitors, 100 aircraft on static display, and more than 25,000 industry professionals expected to attend, it’s a good place to look for the newest innovations in private jet interior design. 🇺🇸

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FIELD OF



Agricultural spraying is a small, specialized profession most pilots never get to experience. But it's both a passion and a way of life for General Airspray of Lucan, Ont.

BY BEN FORREST | PHOTOS BY ERIC DUMIGAN

In the hour or so after sunrise on a foggy, humid day in mid-July, Saugeen Municipal Airport in rural southwestern Ontario, near the small town of Hanover, was an oasis of calm.

Birds chirped intermittently and insects hummed as dew clung to the shiny fuselage

of a twin-engine Diamond DA-42-TDI, the only aircraft parked within striking distance of the 4,500-foot asphalt runway.

This is farm country, where 50-acre plots of corn—the kind destined for animal feed and ethanol production—spring up from some of the most fertile soil in the province, in gently-rolling

fields bordered by thick woodlots.

Over the next 45 minutes, the airport comes to life.

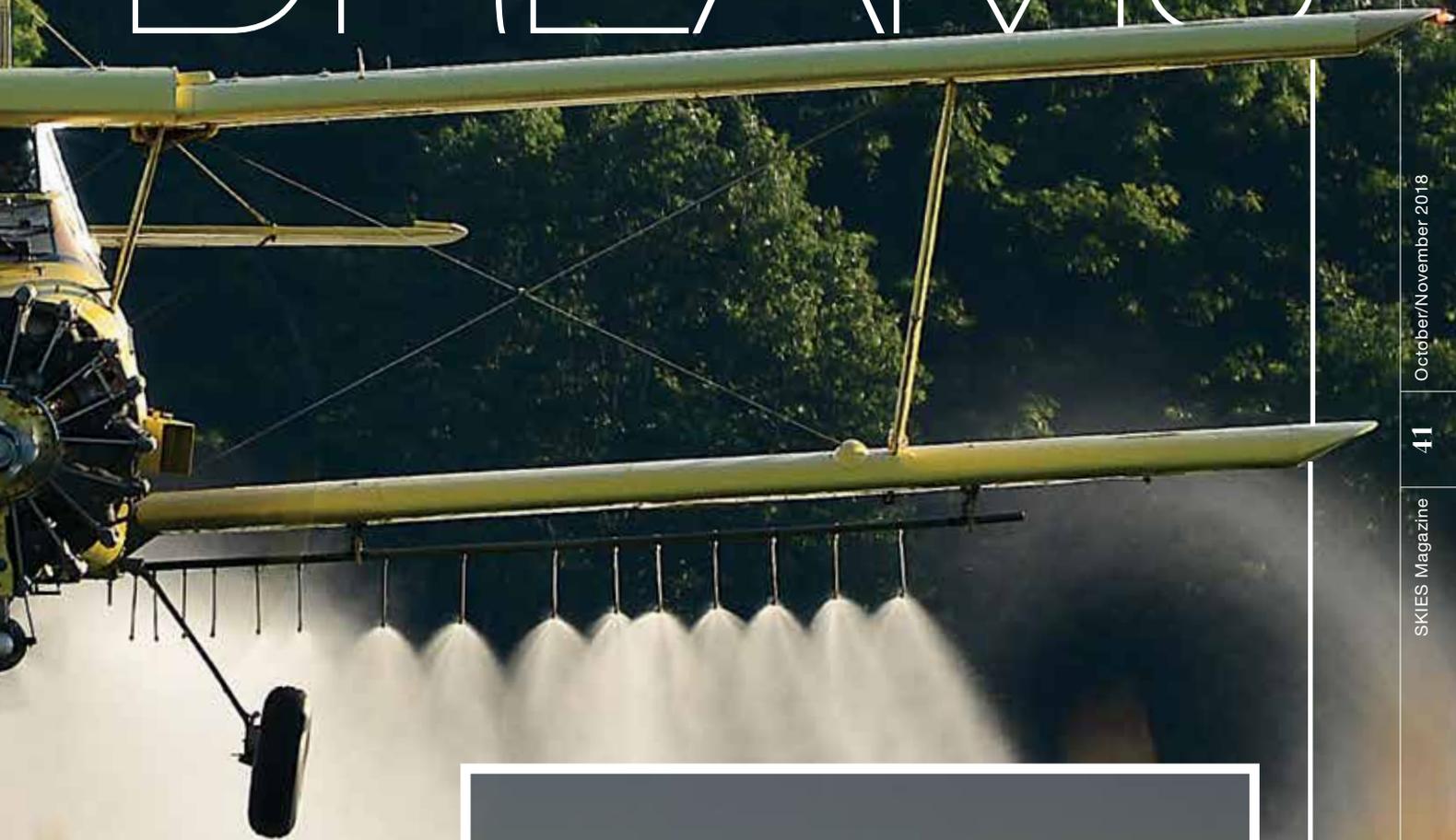
A DA-42 pilot arrives, goes through pre-flight checks, starts the engines, taxis and takes off. Cars begin to fill the parking lot, and staff in the terminal restaurant serve their first customers of the day.



DOWNLOAD THE WALLPAPER!

A Grumman G-164 Ag-Cat biplane from General Airspray of Lucan, Ont., dips low over a field. The company has four Ag-Cats in its fleet.

DREAMS



WATCH THE VIDEO!



At 8:36 a.m., the activity builds to a steady buzz.

David Hodgins, a pilot and aircraft maintenance engineer (AME) for General Airspray, one of the top agricultural spraying companies in Ontario, touches down in a white single-engine Piper PA-18 Super Cub, and quickly sets to work.

Dressed in bright orange and yellow coveralls, clear safety goggles and a faded ball cap, he exits the plane and walks to a pair of transport trucks parked at the end of the taxiway, one hauling a trailer filled with fungicide and another supporting 14,000-litre tanks of water and 4,500 litres of avgas.

Minutes later, two more General Airspray pilots touched down in Grumman G-164 Ag-Cat biplanes, iconic crop-spraying aircraft that date to the late 1950s and still serve as the workhorses of the General Airspray fleet.

The Ag-Cats, mustard yellow with grey-brown stripes that bear the General Airspray logo, taxi toward the trucks and Hodgins begins hauling hoses toward them, mixing fungicide with water and quickly filling their 330-gallon (1,250-litre) tanks.

He fills one Ag-Cat, then the other, and they launch into the sky, flying low and slow over hundreds of acres of corn, releasing the fungicide mixture in a gentle mist.

Hodgins suddenly finds himself in a bit of a lull, with little to fill it until the Ag-Cats finish spraying and return to the airport for another load.

He's been up since 4 a.m., already logged several hours of planning and flying, and his day won't finish until late in the evening.

This is the nature of the work, and he enjoys it. But, as it would with most people, the physical stress takes its toll.

"The early hours are not for everyone, that's for sure," he said.

"Getting up in the morning and then working till dark and then getting up again in the morning can be pretty strenuous.

"You kind of get used to it, I guess—a bit."

RURAL ROUTE

Based in a small rural compound with three aircraft hangars and its own 3,000-foot grass strip near Lucan, Ont., a town of 2,500 people just north of London, General Airspray is simultaneously impressive and low-key.

The company operates four Grumman Ag-Cats, four Piper Super Cubs and one Thrush 510P turbine aircraft, covering thousands of acres over the busy summer crop spraying season.

There are few other agricultural spaying companies in this part of the province, where corn, soybeans, white beans and wheat are staple crops that dominate a landscape dotted with small towns near the shores of Lake Huron and Lake Erie.

General Airspray covers thousands more acres during the spring and fall. It uses the Super Cubs to plant Jack Pine and Black Spruce trees in northern Ontario, New Brunswick, Saskatchewan and Quebec, reforesting harvested and fire-scarred woodlots using a Brohm broadcast seeding device.

The company also plants about 2,000 acres of cover crops every year, using aircraft to plant rye

and oats in corn and soybean fields to replenish them with nitrogen and prevent soil erosion.

General Airspray crews and maintains the Thrush, a 2014 model acquired last year, on behalf of another spray company that has a contract in Quebec spraying for spruce budworm, an insect that defoliates coniferous plantations.

"It's actually a bacteria that we spray, the caterpillar eats the spray, and it gives them an ulcer," explained Paul Hodgins, owner of General Airspray and David's father.

"So it'll stop feeding on the tree, and then eventually it'll die. But if a bird comes along to eat that dead caterpillar, it won't affect the bird. It only affects the caterpillar. So it's a very specific product, and then within seven to 10 days it naturally degrades."

All this with a full-time workforce of three people—David, Paul and Stephen Hogg, a long-time pilot who is apprenticing to be an AME—and a seasonal crew of three additional pilots.

"It's a precision job," said Paul. "It's a nice fit with forestry seeding in the winter/spring time, and then back in the shop getting aircraft ready for budworm and then the spraying season starts... by the end of the season you're anxious to get back into the shop."

HUMBLE BEGINNINGS

General Airspray traces its roots back to 1962, when the late Roscoe Hodgins—Paul's father—and his partner, the late Doug Worgan, bought out the spraying business of Leavens Brothers, a Toronto-based company



later known as Leavens Aviation.

Roscoe and Worgan bought four Boeing-Stearman Model 75 biplanes from Leavens Brothers, focusing mainly on forestry and agricultural spraying, and operated from St. Thomas Municipal Airport until 1971.

They bought a farm near Lucan that year that previously belonged to Harvey Hodgins, Roscoe's father, and built their first aircraft hangar later that year.

Worgan retired around 1985 and Roscoe bought a 100 per cent stake in the company, operating it with Paul's help until Paul purchased the company in the early 2000s.

Paul grew up around the family business, rarely flying but always in close proximity to aircraft. He trained as an AME at Confederation College in Thunder Bay in the late 1970s and apprenticed at a helicopter company in Calgary in the early 1980s before switching over to fixed-wing maintenance.

He returned to Ontario in the fall of 1983 and trained to become a private pilot at the London Flying Club the next year, receiving his commercial pilot's licence in 1986.

A year later, he started flying the Super Cub for General Airspray, focusing on broadcast tree seeding for three seasons before starting agricultural spraying with the Ag-Cats.



The Ag-Cat is an iconic aircraft—it's the first designed specifically for agricultural spraying.



General Airspray has just three full-time employees, but it hires several seasonal pilots who help with agricultural spraying during the summer.



General Airspray uses a flat-bed truck with a massive water tank to load its spraying aircraft with liquid. Water is mixed with fungicide to improve corn yields during the summer growing season.



General Airspray crews and maintains this Thrusch 510P on behalf of another spray company. While faster than the company's Ag-Cat biplanes, its single wing requires a bit more runway to lift off.



A General Airspray employee rotates the propeller on an Ag-Cat to ensure the lower cylinders of the radial engine haven't filled with oil. If such accumulation isn't caught, a hydraulic action on startup can damage the internal cylinder parts or bend connecting rods.

General Airspray acquired its first Ag-Cat in 1969, a second in 1975, then retired the last of its Stearmans the same year. In 1976 it acquired another Ag-Cat, adding the fourth and final aircraft of that type to its fleet in 1981.

"They're a good short-field machine," said Paul, referring to the Ag-Cat. "They can get in and out of a farmer's grass strip, [and] still take a load.

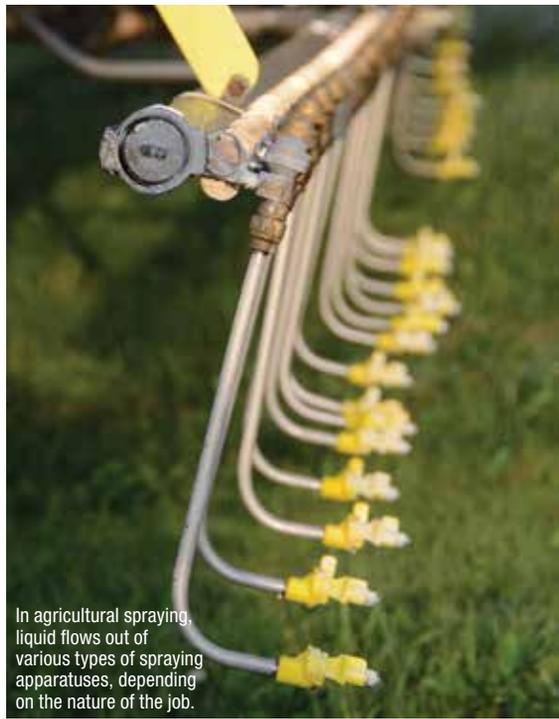
"The new Thrush that we're operating and maintaining for another company—it's faster, but with a single wing it takes a little more runway to get off. So it's a little bit better suited for a paved strip."

Ag-Cats were the first aircraft specifically designed by a major OEM for agricultural use, and they are considered one of the most successful models in the genre, with nearly 2,700 built since Grumman introduced them in 1957.

While standard Ag-Cats have a 300-U.S. gallon (1,135-litre) hopper for liquid and seed, General Airspray models have a slight bulge on the top of the tank that provides an additional 30 gallons (113 litres).



General Airspray also operates four Piper Super Cubs.



In agricultural spraying, liquid flows out of various types of spraying apparatuses, depending on the nature of the job.

“GRUMMAN G-164 AG-CAT BIPLANES, ICONIC CROP-SPRAYING AIRCRAFT THAT DATE TO THE LATE 1950s, STILL SERVE AS THE WORKHORSES OF THE GENERAL AIRSPRAY FLEET.”



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General Airspray's simple livery is both eye-catching and unassuming, often turning heads when it appears over farmers' fields in southern Ontario.

Agricultural spraying involves long days in summer. Employees rise before dawn and often work into the evening to finish the time-sensitive work.



“GENERAL AIRSPRAY'S BUSINESS MODEL DEPENDS IN PART ON THE ECONOMIC HEALTH OF THE FARMING COMMUNITY.”

The aircraft have 600-horsepower Pratt & Whitney R-1340 radial engines, overhauled at 1,000- to 1,400-hour intervals at Tulsa Aircraft Engines in Tulsa, Okla. Hope Aero of Mississauga, Ont., overhauls the Ag-Cats' propellers.

“It's very easy on the controls,” said Hogg, a veteran pilot who has flown everything from the Pilatus PC-12 to the Cessna Caravan and Beech 1900 at various other companies over the last 10 years.

“I don't feel like I'm muscling the airplane around, like I'm using a lot of effort, especially in the one airplane ... it's extremely

easy on the controls. It has servos on all the flight control surfaces, but it was just easy to fly. It was very docile.”

At six-foot-three, Hogg said it can be difficult to get in and out of the Ag-Cat.

“It's pretty tight for a tall guy like me,” he said. “But I wouldn't say I've had any challenges flying it.”

ICONIC AIRCRAFT

With a 750-horsepower Pratt & Whitney turbine engine, the Thrush 510P is significantly faster and more efficient than the venerable Ag-Cats.



Turbine aircraft from Thrush (pictured) and Air Tractor are quickly becoming the new standard in agricultural spraying.

Its working speed is 135 to 145 miles per hour (217 to 233 km/h), compared with the 105 to 110 mph (169 to 177 km/h) pace of the Ag-Cats.

The Thrush has a 510-gallon (1,930-litre) hopper, dispensing liquid for the budworm contract with six rotary atomizers compared to four in the Ag-Cats, allowing it to spread over wider swaths of field with each pass.

“It has air conditioning, so you stay nice and cool on the hot summer days,” said Hogg. “I could fly all day long in that, and I wouldn't get too tired.”

While the Ag-Cat was iconic for its era, turbine aircraft from Thrush and Air Tractor have since become the industry standard.

“But you have to be 10 steps ahead of it,” said Hogg, referring to the Thrush. “It's a fast airplane.”

The Super Cub is equally revered, and perhaps Hogg's favourite in the fleet.

The rugged, two-seat monoplane has a single 150 horsepower Lycoming engine and an 80-kilogram seed tank that can treat up to 1,000 acres with a single tank load.

“My first year, we went up to do herbicide work out of Dryden [Ontario], and Paul asked me what I wanted to fly,” said Hogg.

He remembers responding with: “If I can fly the Cub, I'll fly the Cub all day long.”

“It's just very iconic,” he said. “A lot of people will say, ‘If you can fly a Cub, you can fly—this airplane,’ if they're talking about another airplane.”



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CHALLENGES

Aerial spraying is a way of protecting the huge investment farmers put into their fields each spring, helping them avoid yield loss believed to be caused by soil compaction and crop trampling when tractors tow ground sprayers through the field.

“When we put the fungicide on, the main thing is plant health,” said Paul Hodgins. “It keeps the plant greener longer, and it’s a stronger plant to stand through the fall. If they get the timely rains during the season, then they are going to get a yield boost.”

It’s also a more efficient way of spraying fields, but in lean years it’s an expense some

farmers may avoid. That’s one of the key challenges facing General Airspray, whose business model depends in part on the economic health of the farming community.

“We’re at the whim of the commodity prices ... as far as the agricultural work,” said Paul. “And the forestry, still, is based on the economy, too.”

During the recession that began in 2008, companies that tilled the ground to prepare it for aerial tree reforestation closed up, creating a significant challenge for General Airspray.

“Now that the [reforestation] work has come back, there’s less of those companies doing that work,” said Paul. “So we don’t get

enough ground prepared for us to be able to treat. So the last couple of years our numbers have been up and down, just because they haven’t been able to get their ground tilled.”

It’s also difficult to find experienced pilots, given General Airspray has all tail-wheel aircraft and performs specialty aerial application work.

While the pilot shortage has not yet affected the company, Paul predicts it eventually will.

“We’re all getting older,” he said.

NOT OLD YET

It’s worth noting that, as he filled the Ag-Cats with fungicide near Hanover that muggy morning in mid-July, David Hodgins was still a few months short of his 25th birthday.

While everyone in General Airspray’s small cadre of pilots and maintainers is getting older, it will be decades before most of them are old.

And for his part, David’s plan is to stick around.

“That’s my main goal,” he said. “Hopefully next year, I’ll be doing some of the spraying.”

General Airspray is its own approved maintenance organization (AMO), caring for its fleet and nearly a dozen additional private aircraft over the winter.

“We stay fairly busy in the off-season,” said David.

Paul’s hope is to sustain the level of forestry and agricultural spraying the company has now, perhaps increasing it slightly, while also increasing the amount of maintenance work it takes on.

“It’s been five or six years since we’ve had all four Super Cubs operating in the winter time, just with the level of work,” said Paul. “But it would be nice to get all four working again.”

As for David, who grew up around the family business, the variety of work and chance to travel seem to overshadow the early mornings and long hours.

“It’s kind of always been in my blood,” he said as he waited for the Ag-Cats to return to Saugeen airport for their second load of the day.

“I would say I’m more of a morning person, so I don’t mind getting up.

“But I will say that after two weeks of getting up at four o’clock in the morning and working 16-hour days—four o’clock gets pretty tiring, sometimes.”



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APPOINTMENT NOTICE

Mr. Neil R. Wilson, President and Chief Executive Officer of NAV CANADA, is pleased to announce the following executive appointments:



Ben Girard | Vice President, Operational Support

As Vice President, Operational Support, Mr. Girard provides strategic leadership by leading the development and implementation of programs and practices including: ATS Standards and Procedures, Flight Operations, Aeronautical Information Management (AIM), Navigation and Airspace, and ATS Systems Integration. In addition, he maintains responsibility for the coordination of space-based ADS-B deployment.

Mr. Girard started his career as an Air Traffic Controller in 1989. From 2004 through to 2018, he occupied various positions within NAV CANADA Operations’ management including Director of Standards and Procedures, General Manager of the Montreal Flight Information Region, Assistant Vice President, Operational Support, and most recently Assistant Vice President, Operational Support - Program Implementation, Space-Based ADS-B Aircon.



Trevor Johnson | Vice President, ATS Service Delivery

As Vice President, ATS Service Delivery, Mr. Johnson is responsible for the delivery of NAV CANADA’s ATS services with a focus on customers. He provides strategic leadership regarding the Operations service delivery model and ensures that business initiatives are aligned with the corporate objectives and integrated to deliver value to NAV CANADA’s customers.

Mr. Johnson began training as a Flight Service Specialist in 1988 and then as an Air Traffic Controller, working in both specialties for more than a decade. In 2000, Mr. Johnson became Vice President of the Canadian Air Traffic Controllers Association (CATCA) Pacific Region. From 2005 through 2018, he occupied various positions within Operations management, including Manager of Area Control Centre Operations for the Vancouver Area Control Centre, General Manager of the Vancouver Flight Information Region, and Assistant Vice President, Service Delivery.



BEN FORREST

Ben Forrest is editor of *Insight Magazine* and assistant editor of *Skies*. He is a graduate of Western University’s Master of Arts in Journalism program.



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The latest AW101 variant benefits from more than 30 years of design maturation.

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BY ROBERT ERDOS
PHOTOS BY LLOYD HORGAN

Investment Capability

With Canada looking to upgrade its CH-149 Cormorants, *Skies* test pilot Robert Erdos discovered a significant capability increase in the new AW101-612.



Leonardo test pilot Russ Grant demonstrated the AW101's handling for the cameras.



If you're planning to become hopelessly lost, my advice is to do it in Norway.

That was the author's conclusion after *Skies* was invited to the Leonardo Helicopters facility in Yeovil, England, to fly the latest variant of the AW101 search and rescue (SAR) helicopter.

The machine was brand new, pending delivery to Norway, but represented a configuration that Leonardo has proposed to the Royal Canadian Air Force (RCAF) as an upgrade for Canada's fleet of CH-149 Cormorant SAR helicopters.

AN OPPORTUNITY FOR THE RCAF

The CH-149 Cormorant entered RCAF service in 2002. While not an old airframe by Canadian standards, the subsequent evolution of the model has left our version somewhat dated, and Leonardo maintains that obsolescence issues are beginning to adversely affect operational availability.

Team Cormorant is an industry consortium composed of Leonardo Helicopters, IMP Aerospace & Defence, CAE, GE Canada and Rockwell Collins Canada.

The group's unsolicited proposal to the Air Force is intended to guard against creeping obsolescence and ultimately to reduce the

cost of operating the helicopter. Under Team Cormorant's proposal, the RCAF would also acquire a training facility with a modern full-mission simulator, likely to be installed at 19 Wing Comox, B.C.

The machine on offer to Canada is an extensively upgraded version of the RCAF's existing airframe, based upon the AW101-612 configuration; 16 of which are destined for Norway under its Norwegian All-Weather SAR Helicopter (NAWSARH) program.

Team Cormorant's proposal to Canada also seeks to take advantage of nine former VH-71 Kestrel airframes from the cancelled U.S. presidential helicopter program, acquired by the RCAF in 2011. These would be used to augment the Cormorant fleet from the current 14—widely acknowledged as inadequate for Canadian SAR requirements—up to potentially 21 machines.

Enhanced fleet size would allow the RCAF to base the Cormorant at 8 Wing Trenton, Ont.; a move that would improve SAR capability in the vast Trenton SAR region.

Compared to in-service CH-149 Cormorants, the upgrades on offer include new, more powerful, full-authority digital electronic-controlled (FADEC) General Electric CT7-8E turboshaft engines; a more modern Rockwell Collins cockpit and avionics suite;

improved aircraft management system; and a newly designed, four-axis dual-duplex digital automatic flight control system (AFCS).

The sensor package promises the biggest capability upgrade, and includes an electro-optical surveillance system; a multi-mode active electronically-scanned array (AESA) radar; cell phone detection and tracking system; and marine automatic identification system (AIS) transponder receiver.

AN OPPORTUNITY FOR COMPARISON

In 2016, *Skies* dispatched me to fly the CH-149 Cormorant with RCAF's 442 Squadron at CFB Comox. It was an opportunity for this former Air Force CH-113/A Labrador SAR pilot to see first-hand how the Cormorant had changed the job I did decades ago in those same mountains.

I recall that the Cormorant brought a lot of new technology to the SAR business, but the basic mission, like the mountains around us, was unchanged.

After that flight, I reported: "Flying SAR was still a matter of cautious and skillful flying, using maps and looking out the window." That experience left me with great regard for Air Force SAR crews and for the

Rapid dispatch can be facilitated by starting the auxiliary power unit while strapping in.



Leonardo is offering Canada an extensively upgraded version of the RCAF's existing airframe, based upon the AW101-612 configuration.



Richard "Russ" Grant, Leonardo senior test pilot (foreground), with chief AW101 FTE Andy Cotton.



Look! No hands! Demonstrating the autoflight systems was a key part of understanding the machine's capabilities.



A trained sensor operator in the cabin proved invaluable.



operational capability of the Cormorant, but also bemused to find that the business of searching still basically relied upon the “Mark 1 eyeball.”

A flight in the latest variant of the AW101 was a terrific opportunity for a more contemporary comparison. The experience would demonstrate that leading-edge systems—particularly electro-optic sensor technologies—offer SAR capabilities that are as much a generational improvement over the current Cormorant as the Cormorant was over my beloved ol’ Labrador.

A CANADIAN FLIES A NORWEGIAN HELICOPTER IN ENGLAND

Leonardo Helicopters test pilot Richard “Russ” Grant kindly offered me the right seat for our demonstration flight. Veteran flight test engineer (FTE) Andy Cotton served as sensor operator. Conditions were ideal, under a clear sky with a warm (24 C) gentle

breeze along the century-old former-Westlands grass runway.

Our test helicopter was the sixth production machine destined for Norway, operated by Leonardo under U.K. Ministry of Defence registration ZZ015. The helicopter’s empty weight was 11,039 kilograms with much of its SAR interior yet to be fitted. Adding 2,000 kilograms of fuel (roughly half its 4,150-kilogram capacity) and three crewmembers brought the takeoff mass to 13,517 kilograms, which was well below the maximum allowable gross weight of 15,600 kilograms.

The Cormorant that *Skies* flew with RCAF’s 442 Squadron, although fully equipped for SAR with a standard fuel load of 2,400 kilograms and a crew of six, had a gross takeoff mass of 13,800 kilograms, which was below the maximum allowable gross weight of 14,600 kilograms. Direct comparison is difficult to establish, but the Norwegian machine is both heavier with installed systems and has more installed

power than the CH-149, so the net result may be expected to be about the same operational power margin.

Rapid dispatch can be facilitated by starting the auxiliary power unit (APU) while strapping in. Grant talked me through the engine starting procedure from memory. Air Force crews will use a checklist, but the procedure was quick and straightforward.

Engine controls consisted of three rotary knobs on the overhead panel in place of engine condition levers. I monitored the start, but Grant advised that in the event of a start-up malfunction the FADEC would shut down the engine faster than the pilots could react. We started the No. 1 engine first to power the accessory drive, providing hydraulic and electric power and bleed air. Starts of engines No. 2 and No. 3 were done simultaneously. Pre-flight checks and initialization of the aircraft management system (AMS, but think “master computer”) took Grant only minutes.

Despite the functional similarity of the cockpit to the CH-149, the impression that I was amidst unfamiliar new technology was immediate. As ground crews pulled the chocks and busied themselves around the helicopter, the onboard Obstacle Proximity LIDAR System (OPLS, where LIDAR is light detection and ranging, since I needed

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“AN UPGRADED RCAF CORMORANT WOULD BE A MORE SYSTEMS- AND SENSORS-INTENSIVE CORMORANT, WITH CONSEQUENTIALLY ADDITIONAL DUTIES AND WORKLOAD FOR THE CREW.”

to ask, too) annunciated their presence around the turning rotors.

This system, which Grant described as being like the parking sensors in a car, provided a pop-up display and discretely-pitched audio cues depicting the range and azimuth to obstacles around the helicopter. Having come from a generation where we squinted into a landing light beam to guesstimate rotor clearance from obstacles, all I can say is, I want one!

The Norwegian AW101 flies identically to the Cormorant. With its new AFCS, the flight controls are slightly heavier, but I know that only because Grant told me.

We tried all the flight control modes, with the only surprise being how pleasantly it manoeuvred for such a large machine. I spent most of my time in the hover alternating between attitude mode and the impressive automated hover mode.

By depressing a button on the cyclic, a hover mode would lock the helicopter in place using a four-axis hold function, maintaining velocity, heading and radar altimeter height. Each click on the cyclic-mounted switch smoothly varied the selected velocity by one knot. A switch on the collective trimmed the reference heading. Hovering could only get easier if I unrolled a cot and took a nap.

Cotton demonstrated his ability to command the hover mode using the flight engineer's hoist controller. His precision was evident in the cockpit through the video feed from the hoist, displayed on the multifunction display. Times have changed, indeed.

The cockpit is a significant upgrade from the current CH-149. The AFCS is far more capable, and the cockpit systems are—with a few exceptions—actually integrated into a singular cohesive system.

Nobody could say that about the legacy Cormorant. Monochrome screens, a clunky AMS interface, and limited systems integration combine to give the CH-149 cockpit a feeling I can only describe as “very 1990s.”

By comparison, the NAW SARH, configured with a five-screen Rockwell Collins avionics suite, including a modern AMS with a trackball interface, represented the state-of-the-art.

SAR IN THE CANADIAN CONTEXT

An upgraded RCAF Cormorant would be a more systems- and sensors-intensive Cormorant, with consequentially additional duties and workload for the crew. The RCAF may find it necessary to adapt how it conducts SAR.

For Norwegian service, the machine is configured with a mission console for a dedicated systems operator, who serves as the mission commander. Biased by my prior experience, I was dismissive of the idea until we flew—but the crew was already quite busy enough, in my opinion, and a dedicated systems operator proved invaluable.

The systems operator requires considerable skill and training, however. The RCAF will find that someone will be required to work the new sensors, and that “someone” must be trained and proficient in the use of radar and electro-optical search techniques.



The demonstration flight proved that an upgraded Cormorant would be a more capable Cormorant.



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SENSORS MAKE THE DIFFERENCE

Every SAR mission is unique, so at the risk of oversimplifying, a good SAR helicopter needs to do three things: get to the scene, find the victim(s), and effect a rescue. While the upgraded AW101 is overall more capable, it was sensor technology, and its promise of substantively enhancing SAR capability in the search phase, that were most impressive.

Departing southbound from Yeovil, Grant selected a digital map overlay of the marine autonomous identification system (AIS) transponder network off England's

busy south coast. More than 200 vessels were visible to the system, with the names and particulars for each vessel being available with a "right click" on the cursor over the vessel icon. A further click was sufficient to activate the selected vessel as an AMS waypoint. It didn't require much explanation to see how AIS would be helpful in a marine rescue.

In lieu of rescuing someone against their will from an actual vessel, Grant selected a feature on the shoreline to demonstrate a coupled approach. It took Grant one click with the trackball to activate an autopilot-coupled approach.

While the helicopter performed a

procedure turn into the wind in preparation for descent, Grant used AESA radar data, overlaid upon the primary flight display, to supplement the GPS navigation. The AW101 actually had two radars onboard: a simple weather radar solely for the "front end" crew, and Leonardo's own "Osprey"—a gee-whiz, electronically-scanned, multi-mode search radar.

While the radar backed up the GPS, Cotton scanned the location for obstacles from the cabin with the electro-optical sensor, alternating between a well-stabilized daylight television image and an infrared image for best resolution. Later, eager to demonstrate that the sensor could see things that our eyes could not, Cotton pointed out a feature on the screen. "France," he explained, at a range of 108 kilometres. "I've got it on radar, too," he furthered. Nice.

En route back to Yeovil, Cotton demonstrated the onboard cellular telephone tracking system. There were understandably quite a few cell phones in use in the U.K. at the time, but the company's particular "Nokia e51" phone was quickly "rescued" from where they had hidden it for my benefit off the factory site.

While only minimally integrated into the avionics, the system provided a bearing pointer and range to the phone through a pop-up window on the multi-function display. In most cases, the phone will obligingly transmit its coordinates, and can exchange both text and voice messages with the helicopter. The operational value of such capability needs little elaboration.

INVESTING IN PRIORITIES

While the CH-149 Cormorant has proven capable, it was never an inexpensive helicopter to operate. That cost reflects the commitment by the RCAF to SAR as a core capability.

If an investment in that capability is warranted, what better investment than taking a proven, existing airframe and leveraging it to deliver more capability at a reduced operating cost?

The RCAF is on the right track. ■



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ROBERT ERDOS

Robert Erdos is a contributing editor for *Skies* magazine. He is a graduate of the U.S. Naval Test Pilot School and a retired professional test pilot. Also an aviation enthusiast, his spare time activities include displaying vintage airplanes and flying his RV-6 kitplane.

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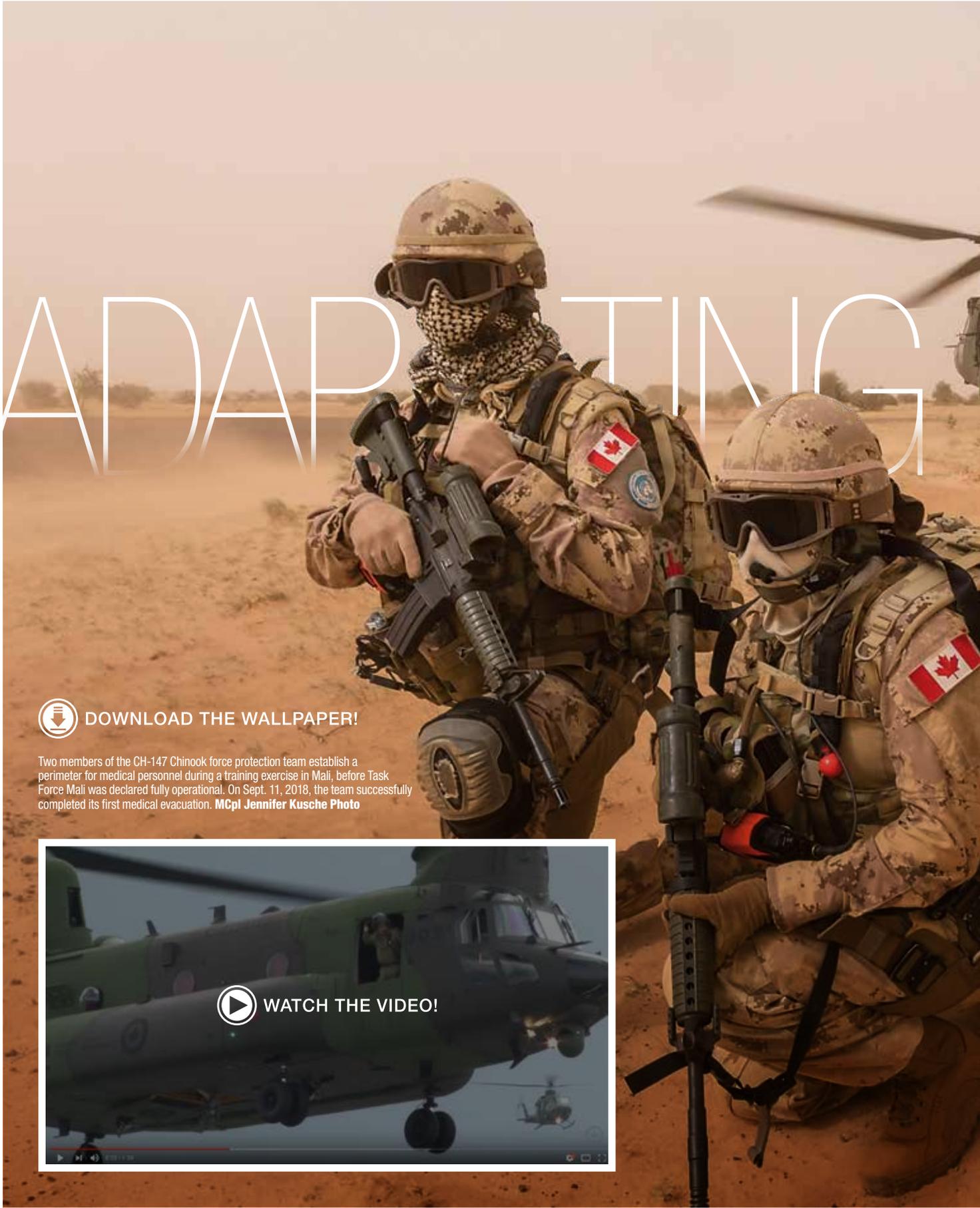


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ADAPTING



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Two members of the CH-147 Chinook force protection team establish a perimeter for medical personnel during a training exercise in Mali, before Task Force Mali was declared fully operational. On Sept. 11, 2018, the team successfully completed its first medical evacuation. **MCpl Jennifer Kusche Photo**



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ON THE FLY

Agility is key as the Royal Canadian Air Force moves forward under new commander LGen Al Meinzinger.

BY CHRIS THATCHER

Agility. It's a word LGen Al Meinzinger returns to frequently in any discussion about the capabilities of the Royal Canadian Air Force (RCAF).

It may be part of an organization maxim—AIR Power (Agile, Integrated, Reach and Power)—through which the Air Force views itself, but from his earliest days as a young helicopter pilot to his current position as RCAF commander, Meinzinger has seen time and again the Air Force's ability to adapt to changing circumstances on the fly.

And it's a talent he wants to strengthen.

As commander of the Air Wing deployed to Kandahar, Afghanistan, in 2011, Meinzinger became convinced the Canadian Armed Forces (CAF), and especially the RCAF, approach to operations offers "a turning radius" few allies can match.

In the months since he assumed command on May 4, that same adaptive response has been evident in the deployment of new forward aeromedical evacuation capability for Mali, a soon-to-be second tactical aviation detachment for Iraq (the current detachment in Erbil led by 430 Tactical Helicopter Squadron will transfer to 427 Special Operations Aviation Squadron, which was the first helicopter squadron to deploy to Iraq in 2016),

a five-pack of CF-188 Hornets for NATO air policing in Romania, and an overall high operational tempo.

"We talk of agility being one of the keystones of the Air Force and we show this time and time again," he said. "I think we grow very solid leaders in the RCAF and when we place them in operational circumstances, they are able to get the job done in a very agile and effective way.

"In Afghanistan, it was the ability of the Air Wing units to accept tasks on the fly. We would adjust mission objectives, even within a particular sortie. Our Chinooks would do multiple tasks on one trip. Our UAV [unmanned aerial vehicle] would be servicing dozens of customers' requirements on one sortie.

"But we could be flexible. If there was something more urgent to be accomplished, we would re-task on the fly. As such, we were the go-to nation in many cases, and that made us very distinct in that specific operational milieu. I think it is this agile and nimble quality we need to continue to acknowledge and to inspire within our personnel."

Meinzinger is the 20th commander of the RCAF since the unification of the Canadian Armed Forces and very much a product of its professional development system. His father was a chief warrant officer and he often jokes that he was born into Air Force blue diapers in Trenton, Ont.



Meinzinger visited Canadian troops in Mali on Sept. 6, 2018. Cpl Ken Beliwicz Photo

“The RCAF kind of runs through my blood,” he said.

As the first commander from the tactical aviation community since LGen Ken Pennie in 2003, though, Meinzinger’s approach to leadership is shaped, in part, by his formative years working shoulder to shoulder with the Canadian Army as a CH-135 Twin Huey and CH-146 Griffon pilot.

He did two tours with both 408 Tactical Helicopter Squadron and 403 Helicopter Operational Training Squadron, the schoolhouse for the CH-146 Griffon, and attended the Army staff college, a core component of Canadian Army officer development.

“Tactical aviation is by its definition a supporting effort, delivering effects largely in support of our Canadian Army, fostering a joint mindset. You learn that success comes

by virtue of the team effort,” he said. “The Air Force was at one point a very siloed organization, but today we build strength by working together.”

Meinzinger came into the job with his finger firmly on the pulse of the organization, having previously served as Deputy Commander of the Air Force and, most recently, as the CAF Director of the Strategic Joint Staff. But in the months since he took command, he’s met with the NATO air chiefs, the air chiefs of the Americas, and attended the Royal Air Force 100th anniversary celebrations, a gathering of about 80 air chiefs, to “get an appreciation for how other air forces are seeing the world, how they see contemporary challenges and how they see the future.”

As with RCAF commanders before him, he has a responsibility to generate the



People are the backbone of the Canadian Armed Forces. Meinzinger wants to roll out a “raft” of initiatives designed to attract young people to the Air Force. Cpl Ken Beliwicz Photo

No project is more visible than the future fighter selection process. Other departments will determine which aircraft will replace the CF-188 Hornet, but Meinzinger wants to ensure the Air Force is ready, even as it prepares to receive 18 “stopgap” Australian F/A-18A/B Hornets in early 2019. Mike Reyno Photo



A projected global pilot shortage is causing concern in the Air Force, as pilots are increasingly pulled to the civilian sector. Retention programs will play a crucial role in keeping trained military aircrew. Derek Heyes Photo



people and capabilities for the Air Force of the future, a timeframe out beyond 2025. But it's a mandate that often demands his attention in the here and now.

For organizational purposes, he's grouped his immediate priorities around what he calls the four Ps: people, policy, program and posture.

All are significant areas of focus, but *primus inter pares* (first among equals) is personnel—members and their families are the reason for success. The RCAF consists of about 12,500 regular, 2,000 reserve and 1,500 civilian members, a modest force that historically has rarely reached full manning.

The RCAF carefully monitors and manages the delta between the established number of positions and the actual workforce, increasing retention and recruitment efforts when a trade slips below 85 per cent staffing levels.

Meinzingler acknowledged that while the CAF is developing Forces-wide recruitment and retention strategies, a critical part of his job will be developing supporting Air Force specific programs.

"Our amazing personnel underwrite everything we do," he said. "There are a raft of initiatives and ideas that I want to roll out during my command. We have to continue to attract young Canadians that want to join the Air Force. And, on the other end, we need to retain as much of that talent as possible."

One area of particular concern is pilots. He noted recent surveys that suggest exponential growth in passenger traffic in China, and International Air Transport Association figures projecting 7.2 billion passengers to travel in 2035, all of which is expected to put pressure on pilot retention. While trends can

be cyclical and forecasts not always as alarming as they might initially sound—he noted that aircraft sales and increased aircraft manufacturing tell two different stories—his discussions with air chief counterparts confirm "there is a huge pull to the civilian sector."

The CAF retention strategy includes ideas such as reducing provincial barriers for military members and their families by, for example, allowing the transfer of a spouse's professional credentials or a common driver's licence to mitigate some of the stress and costs of moving.

But Meinzingler wants Air Force-tailored initiatives as well.

"Within my domain there are things we can do that will make the job of being in the RCAF that much more gratifying," he said, such as greater flexibility in career paths to reduce the number of moves. Already, he's



“AS WITH RCAF COMMANDERS BEFORE HIM, MEINZINGER HAS A RESPONSIBILITY TO GENERATE THE PEOPLE AND CAPABILITIES FOR THE AIR FORCE OF THE FUTURE.”



To rejuvenate and advance antisubmarine warfare skills among long-range patrol aircrews, the detachment of two CP-140 Auroras was withdrawn from Operation Impact last fall. **DND Photo**

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SKIES Magazine

reached out to at least one captain at 8 Wing Trenton to understand his decision to make a career change.

The Air Force also faces a significant demand for skilled people as it introduces remotely piloted aircraft, strives to manage the vast streams of data from ever more aircraft sensors, and transitions from legacy to new or upgraded platforms.

To do that, the Air Force will have to grow capacity. Meinzinger wouldn't specify a number but he acknowledged "the challenge will be to get the bodies that sit in those seats as we build these new capabilities."

One example of shoring up a key capability can be found in the CAF decision to pull the CP-140 Aurora from its intelligence, surveillance and reconnaissance (ISR) role in Operation Impact over Iraq and Syria after conducting 881 missions over about three years.

"That was done recognizing the employment of the long-range patrol capability was focused very much on overland ISR, but what was happening was we were atrophying our antisubmarine warfare (ASW) skill sets because the Aurora crew force was fixed on continuous manning for this operation," he said. "We recognized the importance of our ASW capability, so a decision was made at the appropriate time, mindful of coalition requirements to repatriate the Aurora and give the crew force an opportunity to build the ASW skill set back up."

The RCAF has also carefully managed the transition from the CH-124 Sea King to the CH-148 Cyclone maritime helicopter by reducing the number of helicopter air detachments available to Royal Canadian Navy frigates as aircrews and maintainers are trained on the new aircraft. The first Cyclone embarked on HMCS *Ville de Quebec* this



The CH-149 Cormorant Mid-Life Upgrade program is proceeding. Canada's primary search and rescue helicopter fleet will receive a comprehensive upgrade package from manufacturer Leonardo and fellow team members IMP Aerospace and Defence, CAE, Rockwell Collins Canada and GE Canada. The fleet of 14 will also be expanded to as many as 21 helicopters. **Mike Reyno Photo**



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The CH-124 Sea King, seen here during hoisting drills in Smithers, B.C., has supported the Canadian Armed Forces' firefighting efforts this summer. The type will be officially retired by the end of the year. **Sgt Andrew Davis Photo**

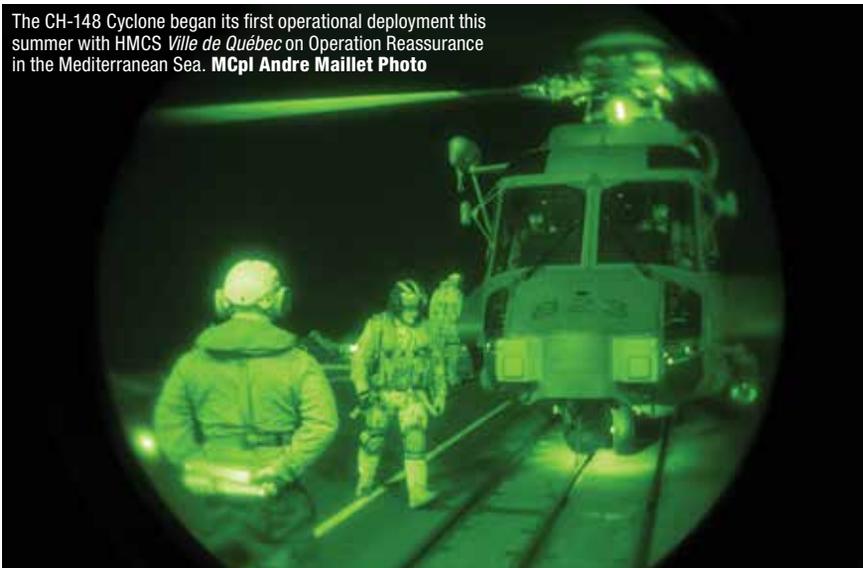


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The CH-148 Cyclone began its first operational deployment this summer with HMCS *Ville de Québec* on Operation Reassurance in the Mediterranean Sea. **MCpl Andre Maillet Photo**



summer and flew about 85 hours in its first month, “a great milestone for the program,” he said, and more helicopter air detachments are being returned to support the Navy.

But that “dip” in operational output isn’t an option on the fixed-wing search and rescue (FWSAR) aircraft program. To take delivery of the CC-295 as the CC-115 Buffalo and CC-130H model Hercules are retired from service, while maintaining 24/7 availability of aircraft and crews, “we have

built a very elaborate implementation plan to ensure we can sustain our critical SAR posture across the country. This implementation plan sees a very detailed mapping of individuals as they transition and are trained on the new aircraft,” said Meinzinger.

Crews from the Hercules will help bridge the transition, but will leave the Air Force reliant on the CC-150 Polaris strategic tanker fleet for about five years. “There will be a period of time where we’ve only got

the single tanker in the fold, and domestic operations will remain primordial as we go through that transition,” he said.

To increase the “bench strength” in many trades, Meinzinger aims to leverage Reserve forces. He has set a notional growth target of 400 additional class A and B reservists, either through new recruits or by encouraging those leaving the Regular Force to remain with the Reserves.

“In my experience, we would not have been able to sustain the effects delivered by the Air Wing in Afghanistan be it not for the strength of our Air Reserve. In the Air Force model, they are fully integrated into day-to-day operations. We need to capitalize on their talent where we can to increase our operational capacity moving ahead.”

POLICY, PROGRAM AND POSTURE

The Liberal government’s 2017 defence policy contained 13 directives for the Air Force on air- and space-based capabilities. To ensure alignment with the policy, Meinzinger has instructed his senior team—from the early concepts development work at the RCAF Aerospace Warfare Centre (RAWC) to project requirements at the Directorate of Air Requirements and capabilities considerations at Air Force Development—to view everything “through the lens of the policy document . . . to ensure we stay focused on the objectives.



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“If we are doing something that is not directly related to the policy, we need to ask if we should be doing this,” he said.

At present, the Air Force has about two dozen projects in the identification or options analysis phases of the procurement process. Ensuring each one meets its timeline is a key priority.

“We have to hit the mark,” he said. “The money in the defence policy is very much booked year by year, so I want to be able to hit the targets and not be the reason we’re having to re-profile funds within the fiscal framework.”

No project is more visible, or more politically charged, than future fighter capability. While other departments play large roles in

determining which fighter jet will eventually replace the CF-188 Hornet, Meinzinger is determined that the Air Force hold up its end.

“I do not want any slippage in the timelines to be the consequence of our inability to get the work done,” he said.

A draft request for proposal (RFP) is slated for this fall and the final document to bidders should be issued in the spring of 2019, with contract award to follow in late 2021 or early 2022.

At the same time, the Air Force is preparing to receive the first of 18 Australian F/A-18A/B Hornets in early 2019 to provide additional aircraft capacity to support the current NORAD and NATO commitments.

After modifications to bring them up to a similar standard as the Canadian Hornets, they will be integrated into the fleet at the two main operating bases in Bagotville, Que., and Cold Lake, Alta.; seven other F/A-18A Hornets will be used for spare parts.

The RCAF is also balancing the sequencing of a range of other projects that overlap the fighter file, including replacements for the CC-150 Polaris tankers, the fighter lead-in training jet, and even the iconic CT-114 Tutor, which serves with the Canadian Forces Snowbirds demonstration team.

Future aircrew training (FAcT), which will combine pilot, air combat systems officer and airborne electronic sensor operator training in one comprehensive program, will be the next major decision in the pipeline; an RFP is expected in 2019 and contract award by 2021.

Meinzinger said that while the future fighter and FAcT are distinct efforts, the eventual solutions for both will significantly influence decisions about the other overlapping programs.

The new defence policy also outlines a host of operations the government expects the CAF to be able to deliver concurrently, if required, ranging from NORAD and NATO obligations, to short-term domestic operations, and longer-term complex international engagements.

For Meinzinger, all of that speaks to posture and readiness.

“As I consider the deductions from this new reality, I realize that the Air Force is going to need more capacity to enable operational output,” he said. “This capacity will come from new projects and greater bench strength within the RCAF.”

INNOVATIVE CULTURE

Squadrons and tactical-level units are “the lifeblood of the RCAF,” said Meinzinger at his change of command ceremony in May. Like his predecessor, LGen Mike Hood, he’s keen to pursue an innovation agenda that encourages new thinking and new ideas to rise throughout the ranks. But he also wants to clearly understand the implications of any new changes at that tactical level.

“When I make decisions, I want to weigh the impact of those decisions from a bottom-up perspective. What does a change truly mean to the members of the RCAF at the tactical level squadrons and units?” he said. “It’s a bit of a nuance, I suppose, [but] I want to stay focused on this level of the Air Force because it is our team at this level that ultimately delivers the effect.”

Hood introduced several initiatives to foster an innovative culture and an entrepreneurial mindset in the Air Force, including seconding officers to technology companies and to

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Communitech, a tech start-up and support hub in Waterloo, Ont. He also launched a way for all members of the Air Force to pitch ideas directly to senior leadership, modeled on the popular TV show, *Dragons' Den*.

Meinzingler intends to continue those initiatives, but perhaps with his own twist. "I always thought we should be underwriting these ideas," he said. "We should have a bag of money on the table, and if the idea is sound, and they typically are, we would seed some money" for proof of concept.

Changing elements of an orderly military culture that is hardwired to think in hierarchical and linear terms will be a challenge, but he recognizes that the generation he's seeking to recruit has a different way of approaching problems.

"The Millennials who join the Air Force are already there. They are inquisitive. They rightfully challenge the status quo when the status quo clearly doesn't make much sense," he said.

"There is a great deal we can gain from them. We don't want to stifle any good idea because of a lack of confidence that it is just not going to fly or a worry that it's not going to be received well by senior RCAF leadership."

With robotics, autonomy, artificial intelligence, quantum computing and other disruptive technologies about to become more prominent in Air Force capability, he knows a change of mindset is required.

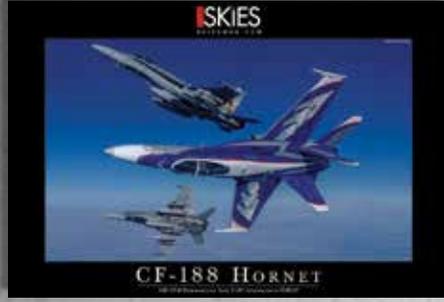
"We need to accept the idea of failing fast. We generally avoid failing as military officers. [But] if you are trying things out, you might as well figure out if it is going to work very quickly and then move on to the next good idea."

As a former commander of an operational training unit and the commandant of the Royal Military College of Canada (RMC) in Kingston, Ont., Meinzingler has seen firsthand what can be learned from Millennials.

"I've got kids and I see how they approach problems. At RMC, I was exposed to a thousand inspiring cadets on any given day, and I was always trying to understand, why is it that they are seeing things in a particular way? It's because they are approaching it from a different perspective. If we can capitalize on the diversity of perspective in the RCAF, I think we can be a better organization. That diversity is just going to add value, potency and greater agility within our great Air Force." ■

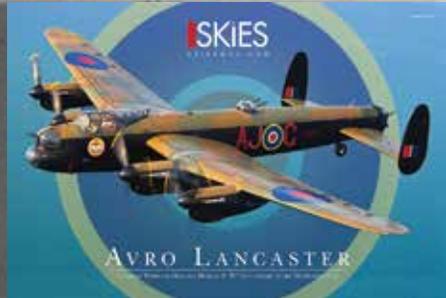
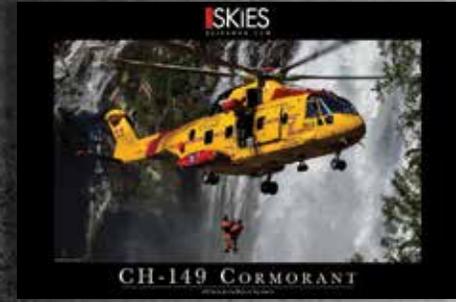


CHRIS THATCHER
Chris Thatcher is an aerospace, defence and technology writer and a regular contributor to Skies.



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Skies spent some rare and treasured moments with legendary Canadian fighter pilot Stocky Edwards, who was at 19 Wing Comox to welcome a Spitfire home.

► BY ROBERT ERDOS

James Francis "Stocky" Edwards on the ramp at Comox, B.C., with the recently restored Vintage Wings Spitfire Mk. IX. Restoration of the fighter was initially undertaken in the 1990s by a dedicated group of volunteers in Comox, before the torch was passed to Vintage Wings of Canada in Gatineau, Que. This past July, the aircraft embarked on a triumphant journey to revisit its West Coast roots. **Heath Moffatt Photo**

Stocky strode in, and with a firm handshake the interview got started.

Above his warm smile were two keen eyes, seemingly sizing me up. I had prepared questions, but they were quickly forgotten. We simply chatted like any two flyers.

Soon, hands waving in traditional fighter pilot semaphore, he was recalling how best to turn a P-40 Kittyhawk fighter against a Messerschmitt Me-109. He praised the climb rate of the Spitfire, and poked fun at the claustrophobic Hurricane. He would know. Stocky flew them all.

It's worth taking stock of the moment: Wing Commander James Francis "Stocky" Edwards, CM, DFC & Bar, DFM, CD, aged 97, decorated Second World War fighter ace, looked like he had just landed. I expected to see telltale rings around his ears from his helmet, or some chafing on his neck from his parachute harness.

THE Y2K SPITFIRE

Despite appearances, Stocky didn't just saunter in after landing a Spitfire, although there was one parked just outside. After an involved trans-Canada restoration, the "Y2K Spitfire," had returned to its spiritual home at 19 Wing Comox, B.C., where its restoration process had begun almost two decades earlier.

In 1999, a group of volunteers from the Comox Air Force Museum uncrated the remains of a former South African Air Force Spitfire Mk. IX. It consisted mainly of rusty, twisted bits of metal, but they had bold plans to restore and fly it with the call letters "Y2K" as they appeared in service overseas with 442 Squadron.

Vintage Wings of Canada, based in Gatineau, Que., acquired the project when the Comox group succumbed to financial pressures, with the understanding that once complete, the Y2K Spitfire would pay Comox a visit.

That visit began on the afternoon of Tuesday, July 31, when experienced warbird pilot Dave Hadfield landed the Y2K Spitfire at Comox.

Stocky Edwards was there to meet it.

SPEAKING FOR HEROES

Something about museums always disappoints me. Even artifacts that were witness to the most dramatic events in our history offer only mute testimony once entombed in a glass case. A Spitfire in a museum just sits there; but a real, flying Spitfire is a different thing. It hisses and drips and, if provoked properly, erupts into a satisfying roar. Pilots talk in hushed tones about the Spitfire, as if it were a living thing. It's such a pity that the Spitfire can't talk.

But Stocky was there. He can speak for the Spitfire, and for the boys who fought in it. His voice can relate the graceful arc of a loop or describe the mortal perils of air combat.



Vintage Wings of Canada's "W/C Stocky Edwards Curtiss P40-N Kittyhawk" is painted in the same Desert Air Force markings of Edwards' North African-based 260 Squadron. Here, pilot Dave Hadfield soars over the Gatineau Hills with his father, Roger, on board. **Peter Handley Photo**



By the war's end, Stocky Edwards had flown an incredible 373 combat missions, shooting down 19 enemy aircraft, of which 18 were fighters, without being shot down himself. **DND Photo**



After a flight together, pilot Dave Hadfield talks with Stocky Edwards about what it was like to fly a Kittyhawk over North Africa. **Peter Handley Photo**



A young Stocky Edwards was destined to lead. **Edwards Collection Photo**

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“STOCKY STEPPED FORWARD TO LEAD, OFTEN INCREASING HIS EXPOSURE TO HARM, SIMPLY BECAUSE HE KNEW THAT IT WAS THE RIGHT THING TO DO.”

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Wing Commander Stocky Edwards, DFC DFM, as a jet pilot with the RCAF in 1952. **Edwards Collection Photo**

He got to live a full life, fulfilling the wishes of many wartime comrades who didn't share his luck or skill.

One such comrade was RCAF Flight Lieutenant Arnold Roseland, a skilled and well-respected pilot who lost his life during a fighter sweep in France in 1944, while flying on operations with 442 Squadron.

The Y2K Spitfire, now part of the Michael Potter Collection in Gatineau, is dedicated to Roseland's memory; and like all of the aeroplanes in the collection, it stands as a testament to the sacrifices of individual pilots who flew in defence of Canada. Among the aircraft in the collection, for example, is a Curtiss P-40 Warhawk fighter painted in the exact colours of the one that Stocky Edwards flew in North Africa.

The Spitfire Mk. IX, now also called the "Roseland Spitfire," joined the flying collection last summer.

I asked Stocky how it felt, after so many years, to see a Spitfire fly over his Comox home. His eyes gleamed. Stocky clearly still has a soft spot for the Spitfire.

"If that Spitfire could speak, what would it say?" I ventured.

Stocky wasn't feeling sentimental.

"The plane would say, 'I have the wrong letters painted on me!'" He meant it should have his own initials, "JF-E."

My pen stopped, and I looked up slowly, but Stocky was smiling; his joke betraying the natural competitiveness of a fighter pilot. But I wondered if he wasn't also making a point.



Stocky Edwards always has been a take-charge kind of guy. Here, he settles into the Roseland "Y2K" Spitfire that was rescued from a South African scrap heap by volunteers in Comox, B.C. **Heath Moffatt Photo**

TAKING CHARGE

Stocky Edwards didn't distinguish himself in war merely as a crack shot with keen eyesight. Progressing from a non-commissioned flight sergeant to wing commander demonstrated a different type of competence. Stocky Edwards was a take-charge kind of guy.

After receiving his RCAF pilot wings, in early 1942 Stocky was posted to RAF 94 Squadron in North Africa. In March, he downed an enemy fighter during his first operational mission. Within the year, he had six combat victories, had been commissioned, and had been awarded both the Distinguished Flying Medal and the Distinguished Flying Cross, by then serving as a flight commander with RAF 260 Squadron.

By early 1943, Stocky was given command of RAF 274 Squadron, flying Spitfires, first in Italy and later at RAF Station Hornchurch in England. His 23rd birthday was on the eve of D-Day. After an instructional tour in Canada, flying Anson and Crane trainers, Stocky was sent back to England, where he was promoted to wing commander, commanding RCAF 127 Wing until the end of hostilities.

I asked about his stunning wartime rise through the ranks, and about whether he felt well prepared to assume leadership. Stocky's answer was so animated that I thought he was about to rise from his chair.



Twenty-one-year-old James F. "Stocky" Edwards, left, receives his pilot's wings at No. 11 Service Flying Training School in Yorkton, Sask., on June 27, 1941. **DND Photo**

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“IF THE SPITFIRE HAD A VOICE, IT WOULD INDEED SOUND LIKE STOCKY: STEADY, CONFIDENT AND DECISIVE.”

“Oh, I wanted to lead!” he said. “I was schooling myself to be a senior officer.”

Why? Was it ambition? Natural competition among fighter pilots? Wasn't the war already dangerous enough?

“To save lives,” he replied humbly. While Stocky admired the RCAF's flight training, he had nothing positive to say about its combat tactics or leadership, and felt that his squadron was losing pilots unnecessarily.

He stepped forward to lead, often increasing his exposure to harm, simply because he knew that it was the right thing to do. Asked whether he received any formal leadership training from the Air Force, he replied, “None.”

But with his index finger raised for emphasis, Stocky dismissed leadership training, emphasizing his contention that under stress, leadership ability comes naturally to a relative few.

It was in that capacity, as a leader of men, that Stocky found his stride.

By the war's end, Stocky Edwards had flown an incredible 373 combat missions, shooting down 19 enemy aircraft, of which 18 were fighters, without being shot down

himself. After the war, Stocky stayed in the RCAF, flying Vampire, CF-100 and Sabre fighters, retiring in 1972.

PLANNING FOR THE FUTURE

In light of his commitment to leadership, it is hardly surprising that he lent his name to the Stocky Edwards Legacy Trust. It is a charitable fund, administered through the Royal Canadian Air Force Association (RCAFA), offering financial incentives to encourage youth to demonstrate excellence in the Royal Canadian Air Cadet programs. Bursaries are available for those pursuing careers in aviation. (For more information see www.y2kspitfire.ca.)

Stocky describes the Trust with the same infectious enthusiasm as he did the Spitfire. That's Stocky, it seems.

He was a key supporter of the Y2K Spitfire restoration project for two decades before he saw it fly; and now, he's directing his energies to where he foresees a need—providing for the development of future aviators.

If the Spitfire had a voice, it would indeed sound like Stocky: steady, confident and decisive. Stocky Edwards is a leader. 



“A Spitfire in a museum just sits there; but a real, flying Spitfire is a different thing. It hisses and drips and, if provoked properly, erupts into a satisfying roar,” writes Rob Erdos. The throaty growl of a soaring Spitfire is beyond compare. **Master Seaman Roxanne Wood Photo**



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► BY KEN POLE

Unless you're an integral part of the aviation community, whether commercial or corporate, the odds are you've never heard of Josh Gelernter, Richard Shehab or Francis Chasteau.

There's no reason why you should know them. Like many in the industry, with the notable exception of pilots, cabin and ground crews, these flight dispatchers work entirely behind the scenes. Critical cogs in a complex machine, they are the men and women who in many cases have "go/no-go" authority

on when an aircraft is cleared to leave the terminal or fixed-base operation.

"A lot of people are probably unfamiliar with the role of a dispatcher and their importance in the overall picture at airlines that require dispatchers," Gelernter explained to *Skies* from his office at Sunwing Airlines Inc., near Toronto Pearson International Airport (CYYZ).

"Not every airline requires dispatchers; it depends on the type of operation and aircraft, the number of passengers they carry, and where they fly."

In the busier winter season, Sunwing may operate up to 40 Boeing 737s (800NG and MAX 8 variants) serving the North American and southern charter markets, as well as domestic flights within Canada. Its seasonally-flexible schedule means the airline usually has a roster of 16 to 20 dispatchers.

“At a minimum we’ll have two per shift; but in the winter, when fleet size increases, three or four.”

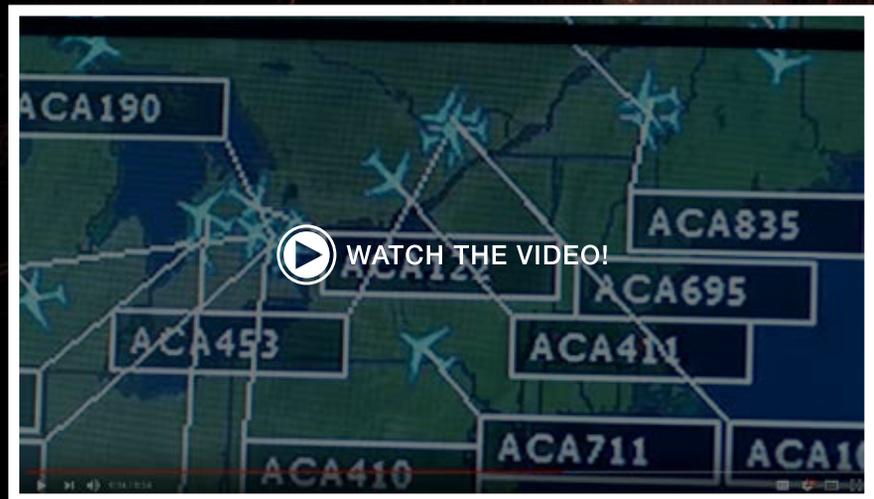
Each deals with up to 12 aircraft on a typical shift.

Long before a flight is ready to take off or the aircraft has even arrived at the gate, the dispatcher is reviewing information such as weather, airport suitability, aircraft limitations and airspace constraints.

“It is the dispatcher who is responsible for planning how the aircraft will be getting from Point A to Point B, how much fuel will be required, and what is the fallback if the aircraft is for some reason unable to land at their original destination,” explained Gelernter. “The planning includes keeping the flight crew up to date on loads using standard passenger weights, and, when needed, cargo.

“If there’s any difference of opinion between dispatcher and pilot-in-command, our policy/procedure is to involve the on-call manager,” he replied when asked about that potential scenario. “That could be one of various management pilots or office personnel who can mediate the situation after hearing both sides and offer some type of input.”

While rare, differences are dealt with expeditiously. “The closest thing might be when the dispatcher chooses a route for



the flight and the pilot wants a different route, or doesn’t want to go as close to weather as the dispatcher wants to plan. That’s something which can be resolved between them. I have no issue, in most cases, with changing the routing if a pilot is not comfortable.”

Dispatchers do not routinely hear air traffic control (ATC) communications, simply because it’s “not within my oversight,” as Gelernter put it, adding that a pilot who has been told something by ATC may inform the dispatcher “to kind of clear it with us or just keep us in the loop.”

Major route changes, however, which could require more fuel, can mean the dispatchers must revise or re-compute the flight plan.

Gelernter, a graduate of Georgian College and Embry-Riddle Aeronautical University,



As a flight dispatcher at Sunwing Airlines, Josh Gelernter deals with up to 12 aircraft on a typical shift. **Sunwing Photo**



As chief dispatcher at Porter Airlines, Richard Shehab must consider many factors when formulating a flight plan, including fuel, weather, traffic flow, airport restrictions and aircraft performance. **Porter Airlines Photo**



At Chartright Air Group's headquarters at Pearson airport, flight dispatchers monitor nearly four dozen aircraft, representing a diverse range of platforms. They also manage maintenance and invoicing, and address personal requests from aircraft owners and passengers. **Chartright Photo**

said there isn't a specific post-secondary dispatcher program in Canada. Ontario's Seneca and Georgian colleges have programs which focus on non-flying aviation operations and Gelernter said a majority of his colleagues in the past couple of years have come through those institutions.

Gelernter started in the airline's maintenance department as a technical librarian before making the move into flight dispatch. His meticulous and detail-oriented nature, combined with a technical knowledge of airline operations, helped him make the transition. He then received Transport Canada mandated training to gain his certification as a flight dispatcher.

Anyone coming in "off the street" must also pass two Transport Canada exams. One focuses on operational topics such as aviation rules/regulations, weight and balance, chart reading, and aircraft systems. The second deals entirely with meteorology. Various classroom and self-study courses can help with preparation.

But passing the exams and being Transport-certified doesn't guarantee employment, only eligibility.

"Once you have those exams, you could apply to be a dispatcher and if you were hired," said Gelernter, "the company itself would train you on how it operates and what its policies are."

That on-the-job training, working with another dispatcher, could last several weeks or months. Then there would be an initial on-site competency test either by a Transport Canada inspector or a Transport Canada-authorized company check dispatcher, after which the individual would be signed off to work autonomously. There is also an annual competency re-check.

Any dispatcher joining Sunwing would first need to complete the company's in-house training, regardless of their previous experience.

A SECOND SET OF EYES

The situation isn't much different at a scheduled carrier, such as Porter Airlines Inc., where Richard Shehab is chief dispatcher.

The carrier operates a fleet of Bombardier Q400 turboprops from its home base at Billy Bishop Toronto City Airport (CYTZ).

Shehab, who came out of Seneca College's operations program and has been with Porter for nearly seven years, is one of 15 dispatchers. Four work during the day and three at night, because CYTZ has a 23:00-06:45 operations curfew. Shifts overlap to facilitate handovers.

"I did a co-op placement at Air Georgian (a CYYZ-based Air Canada Express partner)

as they were transitioning to a 705 operation from a 704 operation, before I came to Porter," said Shehab.

He explained to *Skies* that his role is to "formulate, execute and amend the operational flight plan" as required by Canadian Aviation Regulations (CARs), including key fuel considerations, weather analytics, traffic flow into dense markets, airport restrictions such as construction or closures, and aircraft performance.

"When the flight plan is released by the dispatcher, it's sent to the crew and to ATC simultaneously. They (ATC) get a postage-stamp version, the raw details of the flight. We don't actually need to talk directly with ATC unless they have some sort of amendment. They may say that we need to fly at a different altitude because of route restrictions, or they may change the route completely to avoid severe weather systems, which is common [when] flying into the United States in summer."

Shehab said Porter also maintains a "flight watch" by monitoring the route for any factors which might not be apparent to pilots. "We're essentially a second set of eyes on that flight ... and that also involves interaction with ATC in order to get clarification or permissions to make significant deviations during flight."



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Then, there are private and business aviation operators.

At Chartright Air Group—it, too, is headquartered at CYYZ, but has facilities in Kitchener, Calgary, Regina, Vancouver and Southern Florida—Francis Chasteau describes himself as a flight co-ordinator and client account manager.

He told *Skies* that managing nearly four dozen aircraft as diverse as a McDonnell Douglas (Boeing) MD-87, various Bombardier and Gulfstream jets, a Cessna VIP Grand Caravan amphibian, and other smaller platforms brings different challenges to the dispatch role.

“We micro-manage a smaller set of aircraft on behalf of up to six clients; and while we do dispatching and flight arranging, we go kind of above and beyond by focusing on maintenance, invoicing and personal requirements from start to finish,” said Chasteau.

Chartright’s seven account managers and eight or nine flight co-ordinators or dispatchers—the titles are used interchangeably—have varied responsibilities in the 24/7 operation. Some handle only three aircraft, while others handle up to 11, depending on clients’ needs or preferences.

Chasteau said he doesn’t have Transport certification because Chartright functions as a CARs Type “C” operational control system. He doesn’t develop flight plans or perform meteorological evaluation; both of those tasks are outsourced to licensed dispatchers at other specialized companies.

“While the account managers tend to be in the office from 9 to 5, we do basically work

24/7 with our flight co-ordinators,” he said. “Our clients call us day or night and we make sure that we’re always available. They may be overseas and it’s two o’clock in the morning here, but we provide arrangements or assistance as needed.”

That sometimes means dealing with aircraft owners’ family members and even pets. “That’s where our operation becomes a little more interesting: special requests.”

Asked whether he and other dispatchers are ever pressed to “make things happen” for demanding clients, Chasteau chuckled before responding diplomatically that “on-time performance is very important because, for example, sometimes an executive has to get to a meeting across the country and five minutes can make or break a deal.”

These clients, understandably, can be assertive and “while it has to be done as quickly as possible,” he said “it’s never at the risk of compromising safety.”

“It’s not the least stressful job I’ve had . . . You can have a week where none of your clients are flying, and then you can have another week where you have an AOG [aircraft on ground for maintenance] in the middle of nowhere, and you’re tearing your hair out. It’s really up and down.”



KEN POLE

Having never finished an engineering degree (“probably a service to aviation,” he says), Ken Pole has had a lifelong passion for things with wings. The longest-serving continuous member of the Parliamentary Press Gallery in Ottawa, Ont., he has written about aerospace in all its aspects for more than 30 years. When not writing, he’s an avid sailor and photographer.



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Flight dispatchers are responsible for planning how an aircraft will get from Point A to Point B. Among other things, they must determine fuel loads and identify alternate airports in case they are needed. **Eric Dumigan Photo**

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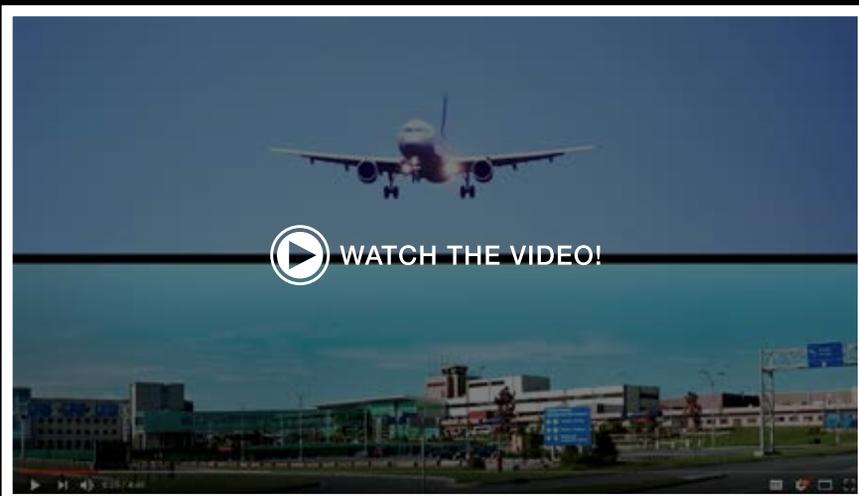
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Showing **THE WAY**

Halifax Stanfield International Airport has a conscientious approach to all its interactions with passengers and operators. It's just The Stanfield Way. **BY BEN FORREST**



A few weeks before the summer of 2017 settled on Canada's Maritime provinces, roughly a dozen people with autism and their families visited Halifax Stanfield International Airport for a mock-travel day.

They arrived at the terminal, checked in, went through security, sat with other passengers in the hold room, boarded an airliner, and listened as flight crew went through the usual announcements and pretended to take off.

"What seems simple to some of us—when you're dealing with individuals on the [autism] spectrum, it's not necessarily easy for them," said Joyce Carter, president and CEO of the Halifax International Airport Authority (HIAA).

"It was quite overwhelming, actually, to be there with the families and experience this event with them," she said.

"It is a real example—a very relevant example—of how we see ourselves being in that space of empathy and emotion behind a passenger's experience."

Halifax Stanfield was not the first airport to offer this kind of event, which aims to help

people with autism adjust to the experience of air travel. Similar initiatives had taken place at airports across North America.

But it's still a powerful illustration of The Stanfield Way, a set of guiding principles that indicate a unique level of conscientiousness baked into the airport's daily operations.

"We recognize that people are travelling for all kinds of reasons, and we can't assume that they're comfortable with our facility, with the processes, with flying, with going through an airport," said Carter.

"You have people going to weddings, you have people coming from funerals, you have families that are reconnecting that haven't connected for five years, you have immigrants arriving to a new country.

"There's a lot of emotion, and we spend a lot of time trying to recognize that, and ensure that we are embracing it and putting ourselves in the shoes of those passengers."

With this in mind, the airport trains all its employees to be happy, helpful, courteous, caring and kind in all of their interactions.

That, in a nutshell, is The Stanfield Way.

"Those virtues were created not just by us sitting around a boardroom table... but through consultations with our partners at the airport," she said.

It appears to be working. Halifax Stanfield has seen its passenger volumes increase by 14 per cent over the last five years, with more than four million visitors passing through the terminal in 2017.

The airport had 84,045 aircraft movements last year, down slightly from 2016, but a spokesperson said these numbers often fluctuate and noted some operators have switched to larger aircraft and require fewer trips.

Cargo volumes jumped slightly upward last year, from 33,329 tonnes to 34,051 tonnes. The most popular cargo is live lobster, followed by medical and surgical instruments, aircraft parts, electrical machinery and industrial machinery.

Halifax Stanfield hosts seven cargo airlines and all of Canada's largest passenger airlines, including Air Canada, WestJet, Porter Airlines, Sunwing Vacations and Air Transat.

"We've got a lot of faith in our region," said Carter. "We're very proud of the accomplishments that Halifax and Nova Scotia have had... over the last several years."

Located in the Halifax Regional Municipality, 38 kilometres north of the provincial capital, the airport opened in June 1960 and serves as a hub-and-spoke operation for the entire Atlantic Region.

Its two runways have been gradually extended over the years to 10,500 feet and 7,700 feet, respectively, part of a \$500 million airport improvement program that began in 2010.

The airport is named after Robert L. Stanfield, a long-time Nova Scotia politician who served as premier from 1956 to 1967 and as leader of the federal Progressive Conservative Party from 1967 to 1976.

Stanfield was leader of the opposition during Pierre Elliott Trudeau's first three terms as prime minister. His admirers remember him as "the greatest prime minister we never had."

As for the airport, Carter sees recent growth as its greatest accomplishment, as well as its biggest challenge.

"For sure the challenge is to have growth on growth—to be able to meet the needs and the expectations of our partners, of our community, of our tourism associations, the trade needs for the Nova Scotia export industry," she said.

"All of that is our biggest challenge, but we're tackling it head-on."

Halifax Stanfield is trying to position itself as an alternate gateway to Canada from Europe, with recent success through WestJet's routes to Paris and London Gatwick.

Innovation is another major focus as the airport moves forward, and there are plans to expand its cargo capabilities by creating an air cargo logistics park.

Staying true to The Stanfield Way is another key goal, and Carter noted that's not always easy when growth is involved.

"To continuously provide that excellent customer service, that's hard work," she said. "That's something that we work at every day."

"Everyone has a link back to that customer excellence that we try to provide."

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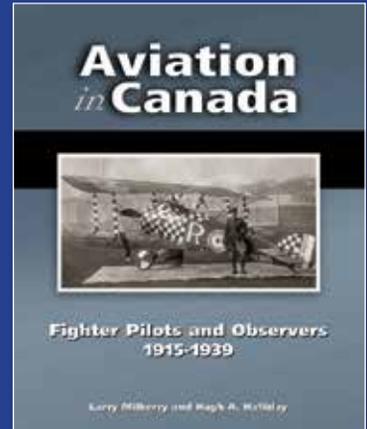
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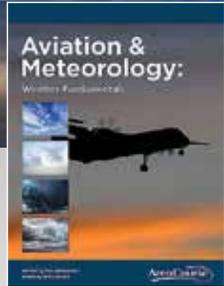
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Column

INSTRUMENT IQ BY JOHN MONTGOMERY

John Montgomery is the founder and president of Professional Flight Centre in Delta, B.C., which was established in 1986. A 12,000-hour ATPL pilot and multi IFR instructor, he also specializes in ground school and seminar instruction. John can be reached at john@proifr.com.



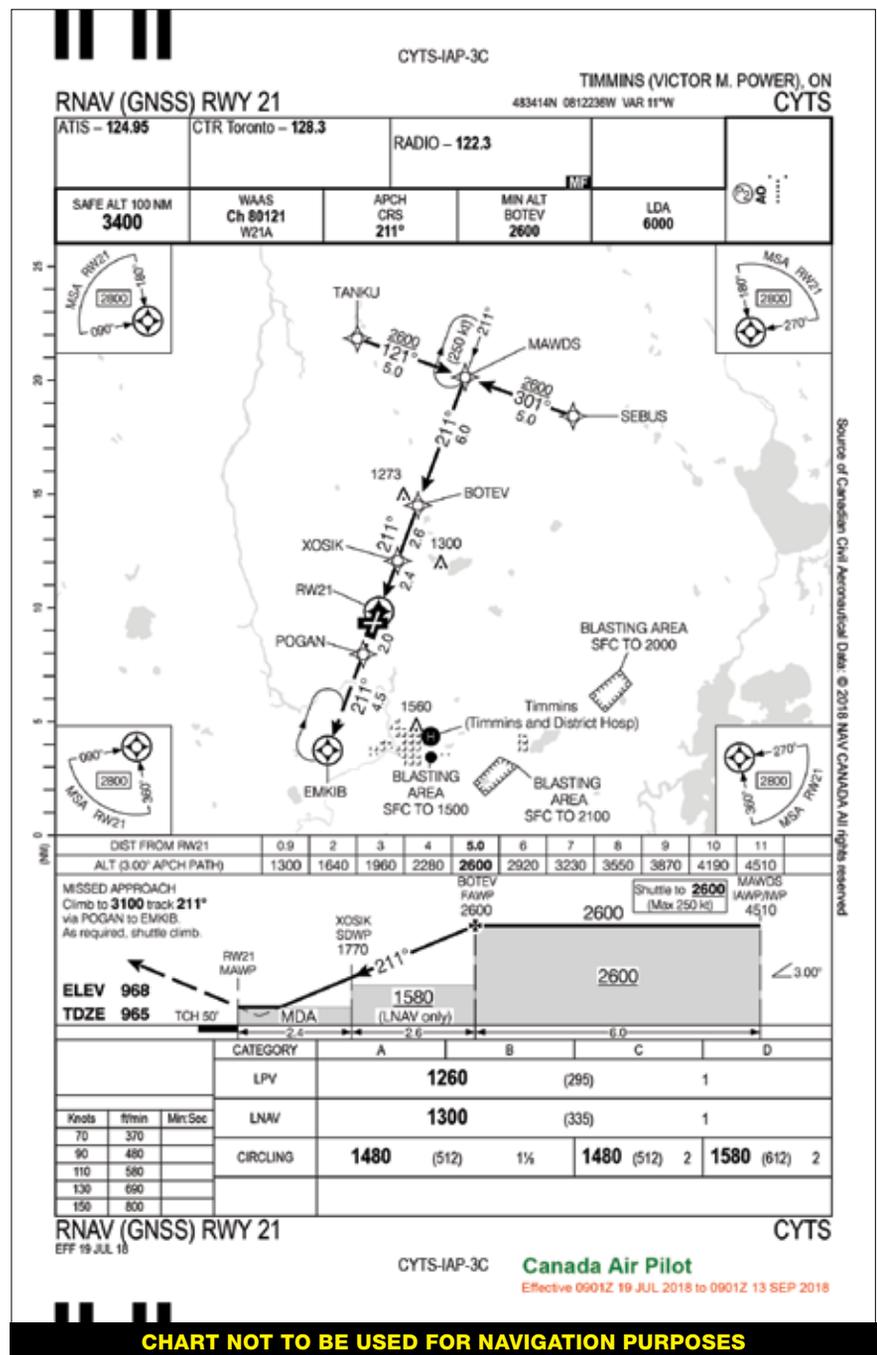
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1. Does this approach offer vertical guidance similar to an ILS?
2. What does LPV stand for? The GPS must be _____ enabled in order to fly it.
3. What minimum ceiling and visibility should give you the required visual reference to land via the LPV approach, and is an RVR-based approach ban a possibility here?
4. Am I correct in saying that all of the waypoints within this approach are “fly-by” waypoints? If not, which ones are “fly-over?”
5. You arrive at the decision altitude of 1,260 ASL and do not have the required visual reference to land the aircraft. Relative to GPS operations, what action must the pilot take to fly the standard missed approach with GPS guidance?
6. What action should be taken upon arrival over the clearance limit, EMKIB, if further clearance has not been received?



Column

FACES OF FLIGHT
BY LISA GORDON



Meet Kyle Green,

Flight Training Manager & Assistant CFI

For as long as he can remember, Kyle Green wanted to be a pilot.

One of his earliest memories is visiting the Canada Aviation and Space Museum in Ottawa when he was seven years old. By age 15, he'd begun some flight training, eventually flying solo before he could drive a car.

"Then, I pushed pause," said Green, who is now the flight training manager and assistant chief flying instructor at Waterloo Wellington Flight Centre (WWFC) in Breslau, Ont.

"I decided I'd wait and go to an aviation school, so I started in the Conestoga College program in 2003 and graduated in 2005."

At that time, Conestoga's Aviation – General Arts and Science program was in transition, moving toward a more structured and professional format.

But the industry was sluggish, and Green and his classmates sometimes wondered why they had pursued an aviation career.

"A lot of the people around the flight school had been there since 9/11 and the hiring was really slow," he remembers. "It was very challenging to find work. Flight instructing was maybe the only way to move into an airplane. It was completely different than it is today."

He worked as a dispatcher at WWFC and then as a ramp attendant before he was able to earn his Class IV instructor rating in 2007. Eventually, he worked his way up to the top of the instructor hierarchy, obtaining his Class I rating in 2012.

There's just something about teaching that resonates with Green, now 33.

"I never looked at it and said, 'I'll never instruct.' But I was kind of unsure until I was finishing up my own training. I was leaning towards it, but planned to see what else was out there.

"The thing is, I like it. I like it a lot more than I had expected."

With roots going back to 1932, WWFC is one of Canada's largest flight training centres. Located at the Region of Waterloo

International Airport (CYKF), the school currently operates 24 aircraft and employs about 40 flight instructors.

"We are one of the largest schools in the country in terms of number of aircraft, but the real measure for us is how many hours and graduates are we producing?" said Green. "We are very busy, and we have two successful post-secondary programs. We are approaching 20,000 flight hours per year."

As the school's training manager, he is responsible for several facets of the structured professional programs.

"I develop content, support systems such as our student tracking software, and instructor training programs. We are a big flight training unit, but we are still a small business. So, I'm somewhat of a generalist."

Flight instructors used to stay at a school for several years, gaining experience in order to make the jump to a small charter operator or scheduled carrier. Starting off as a Class IV, they'd typically progress to a more senior level during their tenure.

Nowadays, Canadian schools are lucky to keep an instructor on staff for a year, and experienced Class I and II teachers are a rare breed. About half of WWFC's flight instructors were hired away over the past year.

As a result, Green said the school has deliberately changed its in-house instructor training program.

"We have massively increased the amount and variety of training we do with our instructors on an ongoing basis. In the past, you asked questions of those who had been doing it for years. With today's turnover, that's not a reliable method of improving people's skills. We are more deliberate about passing information and sharing experiences between instructors."

He added that most people who teach flying are just passing through on their way to an airline career. "The turnover is just a fact of life, and we need to be able to cope with it."

For his part, Green is happy working as a senior flight instructor. With about 3,200 hours in his logbook, he doesn't see any immediate changes in store.

In 2010, he worked part-time for a local on-demand charter operator. The experience taught him to appreciate the benefits of flight instructing.

"The flying was fantastic, but the schedule was terrible," he recalled. "Maybe I wasn't as interested in the typical pilot career. There wasn't a lot of appeal to me in moving across the country for a job. Work-life balance is important."

No two days at work are the same, and Green enjoys the variety. His specialty is teaching instrument flight rules (IFR) ratings, although he teaches other advanced courses as well.

"It's quite rewarding to see people have 'ah ha' moments. Invariably, they do.

My role has always been to figure out what their motivators are and how to communicate with them to connect ideas, concepts and skills. There are always a few points where they make a connection or consider a concept in a different way.

"And when you're training an instructor, you spend a lot of time teaching them how to do what I've just described."

A native of Stratford, Ont., Green grew up on a farm and had no family connection to aviation. It was just something he knew he had to do.

He emphasized the importance of quality flight instruction in an industry crying out for pilots.

"I think it's important to make sure everyone remembers that we need instructors, and we need instructors who consider it an important thing to do and take it seriously."

Many of the skills learned on the job are valuable for the rest of a pilot's working days, he added.

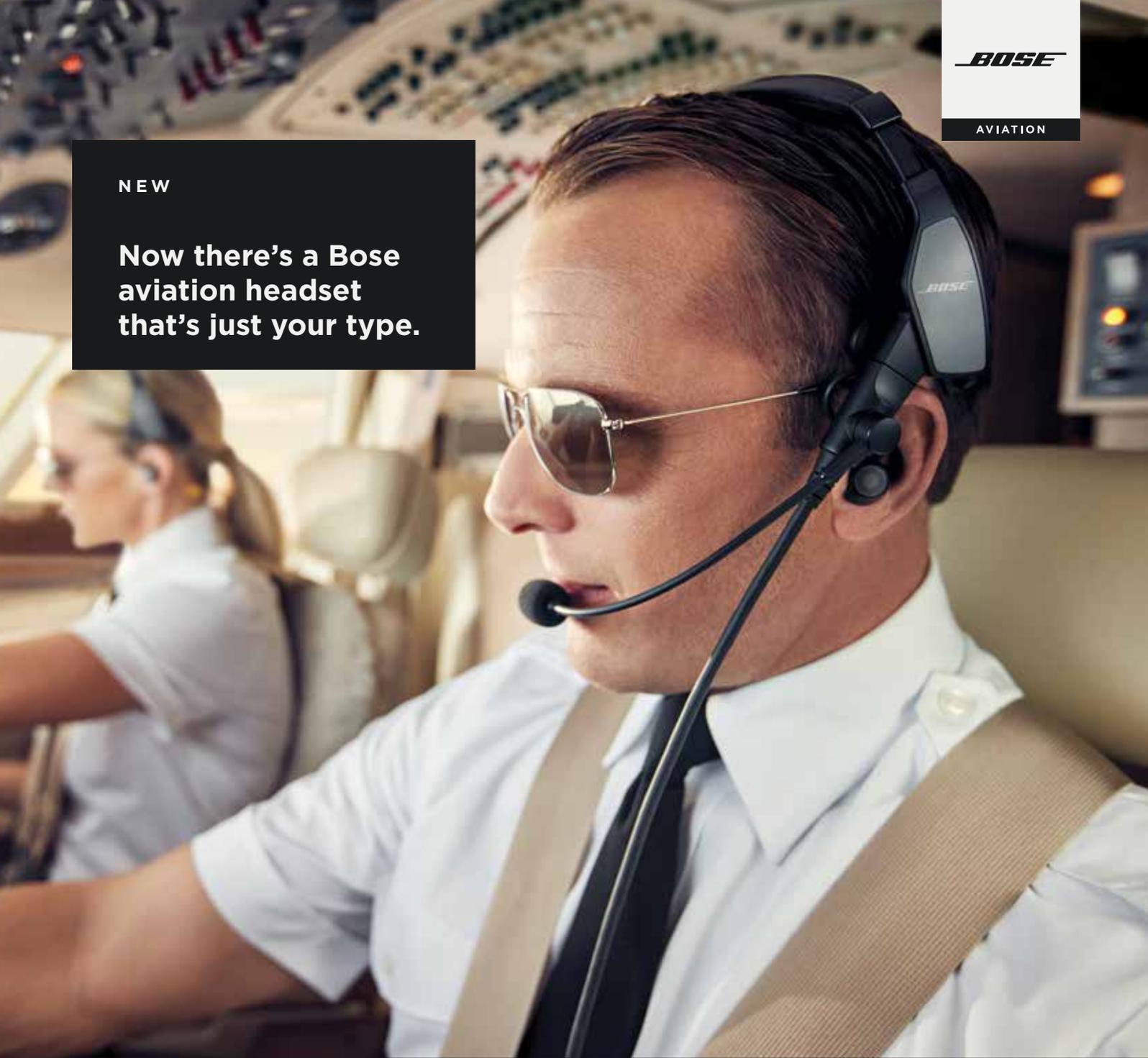
"It's a tremendously useful thing to do at the beginning of your career." ■

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