

Clare Leavens Award • Joe Chase Award • Aviall High Achievement Award



# AirMaintenance

---

# UPDATE

The Magazine for Aircraft Maintenance Professionals

Transport Canada Approved for R/T



## RAISING THE BAR:

### MYSTERY BANGS AND FLAMES

## OPINIONS

### INDUSTRY AFFAIRS



## ENGINEERING A DREAM

## TC FEEDBACK

### REPORTS & COMMENTS

## AME & PAMA NEWS

Publication Mail Agreement No. 0041039024  
and Return Undeliverable Canadian Addresses to  
Alpha Publishing Group (2004) Inc.  
Unit 100 - 6660 Graybar Rd, Richmond BC V6W 1H9  
email: amumagazine@outlook.com

February - March 2026  
Volume 24 / Issue 5

\$7.95

# Canadian Aero Accessories Ltd.

Component Sales

Overhaul & Repair



Trusted  
Experience  
Since 1964



## CALL US FOR THIS & MORE !

- Fire Bottles • Oxygen Bottles • Escape Slides • Life Rafts
- Starter Generators • AC Generators • Generator Control Units
- Boost Pumps • Fuel Pumps • Blowers • Valves • Brakes
- Hydraulics 5606 and Skydrol • Electronics/GCUs
- Actuators - Hydraulic and Electrical

Authorized repair Station For

**GOODRICH**

**Ice protection systems**

170 George Craig Blvd. N.E., Calgary, AB, Canada T2E 7H2

ph: 403.250.9077 • fax: 403.250.6841

sales@cdnaero.com

[www.canadianaero.com](http://www.canadianaero.com)



# Porter Airlines: “A true disruptor”



**S**INCE ARRIVING on the domestic discount airline scene in 2006, Toronto-based Porter Airlines has accomplished what few others in the sector have been able to: it has managed to stay in business while actually expanding operations. In late December Porter announced it has taken delivery of its 50th Embraer E195-E2 aircraft, marking a major milestone in the company’s North American fleet expansion. Porter has firm orders for 75 aircraft, with purchase rights for an additional 25, potentially bringing its fleet up to 100 E2s. Porter’s fleet also includes De Havilland Dash 8-400 aircraft.

The airline’s strategy includes extending its economy experience into southern vacation sunshine markets; launching 13 new routes to five popular destinations this season – Cancun, Puerto Vallarta, Nassau, Grand Cayman, and Liberia (Costa Rica) – from Toronto, Ottawa, Montreal and Hamilton airports. With the addition of the 50th E2, Porter will continue exploring opportunities to increase capacity across its growing network.

“The E2’s introduction into our fleet is allowing us to turbocharge these efforts as the fastest growing airline in North America over the last three years,” said Michael Deluce, President & CEO of Porter Airlines. “The aircraft offers an incredible passenger experience and supports our promise as being the only airline in the region with no middle seats for any passenger on any flight. Our story is continuing as we reset the competitive landscape.”

Porter’s rapid fleet growth and network expansion underscore its transformation into a major player in North American aviation. “Porter Airlines is a true disruptor in North American travel,” said Nigel Patterson, Vice President Sales & Marketing, and Head of Region North America, Embraer Commercial Aviation. ■

— John Campbell, Editor

## Departments

- 4 Upcoming Events
- 6 STCs & New Products
- 8 Industry Forum
- 24 AME Association and PAMA News
- 39 Classified Ads
- 42 AMU Chronicles



## Features

- Opinions** 10  
**Commentary on Industry Affairs**
- Transport Canada Feedback** 18  
**TC Service Reports & Comments**
- Raising The Bar: Mystery Bangs and Flames** 28  
**A northern flight’s unscheduled landing on sea ice**
- Engineering a Dream** 34  
**The evolution of the Super Seawind**

### AirMaintenance Update

Unit 100 - 6660 Graybar Road  
 Richmond BC V6W 1H9 Canada  
**phone:** (604) 214-9824  
**fax:** (604) 214-9825

**Published by Alpha Publishing Group (2004) Inc.**  
**Publication Mail Agreement Number 0041039024 and Return Undeliverable Canadian Addresses to:**  
 Alpha Publishing Group (2004) Inc.  
 Unit 100 - 6660 Graybar Road  
 Richmond BC V6W 1H9 Canada

**email:** [chrissie@amumagazine.com](mailto:chrissie@amumagazine.com)

**website:** [www.amumagazine.com](http://www.amumagazine.com)

**editor:** John Campbell  
**art director:** Cliff Vickstrom/DQ  
**publisher:** Bill Carter  
**sales manager:** Bill Carter  
 Advertising inquiries: (604) 214-9824

**Subscription Rates: 1 Year: \$40 2 Years: \$60**  
 AirMaintenance Update is published 6X annually. AirMaintenance Update may not be reproduced in whole or in part in any form without the express written permission of Alpha Publishing Group (2004) Inc. Copyright 2013 Printed in Canada

**production manager:** Chrissie Harvey  
**circulation:** Anne Gervin

**cover photo:** Ricky Deacon/Dreamstime.com



This publication neither endorses nor confirms the information contained within. The appropriate authorities should be contacted prior to commencing work on any aircraft or aircraft part or procedure.

Publications Mail Registration No. 0007198278

ISSN 1703-2318

AMU is viewable online: subscribe and download at [www.amumagazine.com](http://www.amumagazine.com)

# Upcoming Events

## Aerodynamics and Hydrodynamics Conference: call to action



**THE INTERNATIONAL CONFERENCE ON AERODYNAMICS AND HYDRODYNAMICS** in Ottawa on March 23-24, aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results on all aspects of Aerodynamics and Hydrodynamics. It also provides a premier interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted in the fields of Aerodynamics and Hydrodynamics. The Conference offers the opportunity to become a conference sponsor and/or an exhibitor.

### Call for Contributions

Prospective authors are kindly encouraged to contribute to and help shape the conference through submissions of their

research abstracts, papers and e-posters. Also, high quality research contributions describing original and unpublished results of conceptual, constructive, empirical, experimental, or theoretical work in all areas of Aerodynamics and Hydrodynamics are cordially invited for presentation at the conference. The conference solicits contributions of abstracts, papers and e-posters that address themes and topics of the conference, including figures, tables and references of novel research materials.

### Conference Proceedings

All submitted conference papers will be blind peer reviewed by three competent reviewers. The peer-reviewed conference proceedings are indexed in the Open Science Index, Google Scholar, Semantic Scholar, Zenedo, BASE, WorldCAT, Sherpa/RoMEO, and other index databases. Impact Factor Indicators.

The International Research Conference is a federated organization dedicated to bringing together a significant number of diverse scholarly events for presentation within the conference program. Events will run over a span of time during the conference depending on the number and length of the presentations. With its high quality, it provides an exceptional value for students, academics and industry researchers. 🌐

### COMING EVENTS

#### MRO Canada 2026

March 3-5, 2026

Calgary, Alberta

[www.western-ame.org](http://www.western-ame.org)

#### CAMEA Aviation Symposium

March 5-6, 2026

Winnipeg, Manitoba

[www.camea.ca](http://www.camea.ca)

#### International Conference on Aerodynamics and Hydrodynamics

March 23-24, 2026

Ottawa, Ontario

[www.waset.org](http://www.waset.org)

#### Aircraft Maintenance Conference

April 28-30, 2026

St. John's Newfoundland

[www.atlanticame.com](http://www.atlanticame.com)

#### 2026 CBAA Convention & Exhibition

June 9-11, 2026

Calgary, Alberta

[www.mms.cbba-aca.ca](http://www.mms.cbba-aca.ca)

# Advertisers Index

Amazon Stairclimber - BKD .....	7	Concorde Battery .....	12	NAASCO .....	5
Aeroneuf Instruments Ltd .....	20	Eagle Fuel Cells Inc .....	14	Propworks Propeller Systems .....	5
BKD 3D Printing .....	17	Harbour Air .....	21	Schweiss Bi-fold Doors .....	12
Canadian Aero Accessories Ltd .....	2/43	Hartwig Aircraft Fuel Cell Repair .....	13	STOLairus .....	41
Canadian Propeller Ltd .....	33	JetBed - BKD .....	44	Thank you to all of our advertisers .....	
CASP Aerospace Inc .....	33	MARSS .....	22	Call Chrissie F.M.I. @ 1 (604) 214-9824	

# AirMaintenance UPDATE

The Magazine for Aircraft Maintenance Professionals



We invite you to write an article on your field of expertise.

To view our editorial guidelines please visit [www.amumagazine.com](http://www.amumagazine.com)

## PROPWORKS PROPELLER SYSTEMS

**Overhaul • Repair • Sales**

Winnipeg 1-888-679-2965

Edmonton 1-888-457-1910

Avia • Dowty • Hartzell • Hamilton Standard  
Hamilton Sundstrand • McCauley • MT Propeller  
Sensenich • Governors • Non-Destructive Testing

FACTORY TRAINED TECHNICIANS - EASA APPROVED  
AMO #105-99

[www.propworks.ca](http://www.propworks.ca)

## Increase your starter generator reliability with NAASCO's Mercury Mod™ upgrades

Advanced cooling  
for greater  
reliability!

**Mercury  
Mod**  
Phase II

Approved for:

Agusta • Bell • Bombardier • Eurocopter  
MD • Schweizer • Sikorsky

HAC

NAASCO



**NAASCO NORTHEAST CORP.**

FAA repair station # FD1R135K • EASA.145.4687

[www.naasco.com](http://www.naasco.com)

Scan QR



for more information

To learn more about our cost-saving repair and overhaul programs, contact NAASCO today!

# STCs & new products

## Cabinet system adapts to uneven floors

The **NEXT MSS** cabinet system from **Sonic Tools** features a new design in signal black and anthracite grey. With an expanded range of more than 60 modules, including various cabinets, worktops, back panels, and accessories, the system allows for flexible configurations tailored to any workspace. New dual kick plates adapt to uneven floors. Backed by a 10-year warranty, NEXT MSS also integrates with the Sonic Foam System offering over 200 preconfigured tool sets. The array of SFS layouts allows mechanics to build a setup tailored to any job. [www.sonictoolsusa.com](http://www.sonictoolsusa.com)



## New starter designed for home-built aircraft

**Hartzell Engine Tech** has expanded its **Sky-Tec** brand with the introduction of a new line of lightweight engine starters designed specifically for 12-volt electrical systems on experimental and home-built aircraft. The new **Sky-Tec XP Series** starters, denoted by a "XP" suffix in their part numbers, will be available through Hartzell Engine Tech's global distribution network by the end of the first quarter of 2026. The new units are expected to retail for under \$1,000, offering a high-value solution for experimental aircraft owners and builders seeking quality, affordability and performance. [www.hartzell.aero](http://www.hartzell.aero)



## Floats designed for aerial firefighting missions

The FAA has recently granted an STC for **Heatwave Floats**, the amphibious scooping floats designed for the Air Tractor AT-802A. This solution for aerial firefighting missions has been engineered from the ground up to enhance safety, improve water handling, and to meet the intense demands of Rapid Initial Attack firefighting. Built with composite materials and what the company calls "intentional structural design enhancements," Heatwave provides improved water handling and better pilot safety margins. Developed by **Momentum Aeronautics**, Heatwave is said to represent the future of Rapid Initial Attack operations.



## HondaJet upgrade includes avionics software

**Honda Aircraft Company** has a new performance upgrade package for **HondaJet Classic** and **HondaJet APMG** (Advanced Performance Modification Group) aircraft. The HondaJet APMG S upgrade includes advanced avionics software and hardware that deliver faster processing speeds and enable future innovation across the HondaJet fleet. These enhancements also bring features from the HondaJet Elite S such as the Advanced Steering Augmentation System that support handling precision and expand crosswind capability. As part of the HondaJet APMG S modifications, there's a 300-pound increase in Maximum Takeoff Weight over the unmodified legacy HondaJet. [www.honda.com](http://www.honda.com)



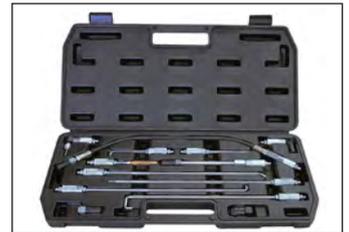
## Four-blade propeller offers performance upgrade

This composite propeller from **McFarlane Aviation** offers a performance upgrade for Cirrus SR22T and SR22TN aircraft. The MT four-blade composite propeller improves static thrust and reduces takeoff roll, delivering faster acceleration and stronger climb rates. Pilots can also expect reduced cylinder head and ITT temperatures, thanks to better airflow dynamics, extending engine life and increasing operational reliability. At only 65 pounds installed, the MT propeller is claimed to offer the longest TBO in the industry at six years/2,400 hours, and the blades do not have a life limit. [www.McFarlaneAviation.com](http://www.McFarlaneAviation.com)



## Lube kit for hard to reach places

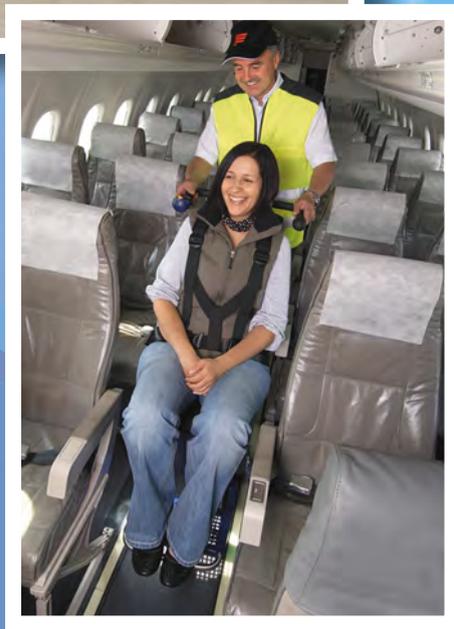
**Macnaught's aviation lube kit** includes all accessories typically required for lubricating aircraft. The ACK2 grease kit boasts a comprehensive range of greasing couplers intended specifically for the maintenance of aircraft and associated equipment. This kit has been developed in consultation with the aviation industry to fill their specific requirements. The ACK2 greasing kit would also suit any industry that has varied greasing application requirements, specifically for hard to reach and access grease nipples. The ACK2 complete coupler kit includes a blow molded carry case. [www.macnaught.ca](http://www.macnaught.ca)



To announce your STC or new product, email a JPG photo and a product description to John at: [amu.editor@gmail.com](mailto:amu.editor@gmail.com)

# the **Amazon** stairclimber

## the **AUTOMATED** lifting solution



- safe, dignified passenger transfer
- self-propelled: no lifting required
- versatile: used on commercial and corporate aircraft
- simple and easy to operate: training provided
- lifts 350 lbs. / 160 kg with the push of a button
- portable: use at base or take it with you

- compact and lightweight ■
- transports passengers quickly ■
- ensures fast and efficient turn times ■
- reduces risk of injury to staff and passengers ■
- unique, specialized design ■
- patented braking system ■

Tel: (604) 247-2128  
Fax: (604) 214-9825

# **BKD** AEROSPACE INDUSTRIES INC.

Call us for a quote or visit our website for more details.  
Watch our online videos at [www.bkdaerospace.com](http://www.bkdaerospace.com)

[info@bkdaerospace.com](mailto:info@bkdaerospace.com)  
Unit 100 — 6660 Graybar Road  
Richmond BC V6W 1H9 Canada



## MORE QUEBEC INVESTMENT BY BOMBARDIER

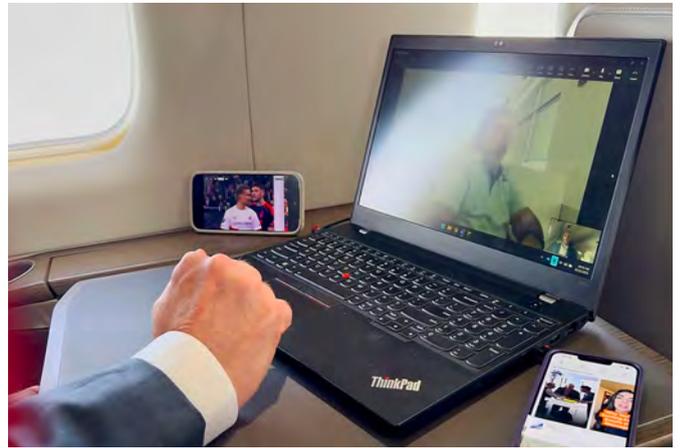
Bombardier says it will soon open a new 126,000-square-foot manufacturing centre in Dorval, Quebec near the Challenger manufacturing centre and the Laurent Beaudoin Completion Centre. This new facility represents an investment of approximately \$100 million and is set to open before the end of 2027. The announcement is the latest in a series of major economic contributions by Bombardier to Quebec and Canada. According to its own study, Bombardier contributed a total of \$7.4 billion to Canada's GDP in 2024 and sustained nearly 50,000 jobs across the country. In Quebec alone, Bombardier creates nearly 10,000 direct jobs.



## COMBI BOEING CERTIFIED BY TRANSPORT CANADA

Air Inuit announced in January that its first newly re-engineered Boeing 737-800NG combi aircraft has been certified by Transport Canada, marking the arrival of the world's first 737-800NG configured for both passengers and freight. The aircraft officially entered service on Air Inuit's Montréal-Kuujuaq route on January 13. The Boeing 737-800NG combi was converted by KF Aerospace and features a forward cargo compartment with space for five pallets and a 90-seat passenger cabin in the aft section. This world-first is part of Air Inuit's broader fleet-modernization strategy, which began with the acquisition of three Boeing Next-Generation 737-800s to eventually replace its 737-200 fleet.

## 5G NETWORK TESTING NOW COMPLETE



Gogo reports that it has completed flight testing and validation of its 5G air-to-ground (ATG) connectivity network for North American customers. The test team completed more than 30 hours of flying across almost 20 routes to confirm that the full capabilities of the first ever 5G tower network are ready to deliver high-speed, low-latency connectivity to operators flying in contiguous North America and southern Canada in January 2026. As the flight tests rolled out several trials, the 5G network delivered high-speed broadband speeds of more than 80Mbps download and 20Mbps upload which allowed streaming, and internet browsing simultaneously.



## ISLANDER RECEIVES TC TYPE CERTIFICATION

UK aircraft manufacturer Britten-Norman has received Transport Canada Civil Aviation type certification for the BN2T-4S Islander, the Rolls-Royce Model 250-powered turboprop variant of the company's iconic utility aircraft. The BN2T-4S, certified under TCCA Type Certificate A-92, also includes a series of additional enhancements that further elevate its operational effectiveness, including an increased Maximum Take-Off Weight of 8,925 pounds. Certification in Canada opens new opportunities across one of the world's largest remote and regional aviation markets, where operators rely on proven, rugged and reliable short-field aircraft capable of year-round operation.

## STUDENTS WILL HAVE UNIQUE OPPORTUNITY



Sturgeon Public Schools, in partnership with Edmonton Airports and Elevate Aviation, has introduced the Aviation Pathway Program – the first high school aviation program in the Edmonton, Alberta Region. As Canada’s aviation industry faces a critical shortage of skilled workers, this new partnership will help fill the gap by providing students with a one-of-a-kind opportunity to begin their journey toward a career in aviation while still in high school. The program will operate out of Villeneuve Airport, a general aviation and flight training facility. The program will combine classroom learning with hands-on experience in flight operations, ground handling, and aviation customer service.

## HISTORIC BOEING ORDER PLACED BY ALASKA AIRLINES



Alaska Airlines and Boeing jointly announced the airline’s historic 110-airplane order and its new global livery, a colourful aurora borealis design. The order includes 105 737-10s and five more 787 Dreamliners. The deal also includes options for 35 more of the largest 737 variant, and comes on the heels of Alaska Airlines Flight 1282 in January 2024 when a mid-exit door plug departed a 737-9 in flight. The order was made as the Seattle-based carrier and Boeing mark 60 years of partnership, which started with the delivery of a 727 and now includes nearly 250 737 airplanes and five 787 Dreamliners in service.

## EXTENSIVE PRODUCT LINE UNDER NEW MANAGEMENT



McFarlane Aviation, a manufacturer and distributor of FAA-PMA aviation components has acquired South Seas Ventures’ extensive product line. This move significantly expands McFarlane’s ability to support the general aviation market and provide accessible parts for legacy aircraft, especially Beechcraft Bonanzas and Barons. The product line covers a broad selection of airframe replacement parts—from landing gear and door or step components to flight control and engine control hardware—along with associated items such as bolts, bushings, bearings, rod ends, steps, door handles, and an assortment of clips, springs, clamps, and rings.



## CANADIAN AFTERMARKET SECTOR IS KEY TARGET

Military aircraft aftermarket provider Frazier Aviation has entered into a partnership with MD Global Aviation, a Canada-based aerospace and defence services firm. Under the partnership, MD Global will promote Frazier Aviation’s manufacturing, fabrication, and repair and overhaul management services, deepen engagement with existing and prospective customers, and provide actionable market intelligence to enhance the company’s long-term strategic growth initiatives in the region. “As we continue to expand our global footprint, the Canadian aircraft aftermarket sector stands out as a key strategic priority for the company,” said Brian Williams, the CEO of Frazier Aviation International, parent company of Frazier Aviation. ■

# The Numbers Don't Add Up

The Competition Bureau wants more airline competition, but it won't solve Canada's aviation challenges, says this industry analyst.

BY GERAINT HARVEY



Ryanair has been accused of hiding fees.

**A** RECENT MARKET STUDY by the Competition Bureau is calling for more airline competition in Canada's airline industry to reduce fares, increase service quality and provide better services to remote communities. The study reiterates that Canada's domestic air travel market is largely dominated by just two carriers, Air Canada and WestJet. Together, they account for between 56 percent to 78 percent of all domestic passenger traffic. This concentration limits passenger choice, and many Canadians feel airfares are high and quality of service is low as a consequence.

Increased competition has lowered air fares elsewhere, like in Europe, for example, where low-fares airlines dominate the continental market. However, there have been negative outcomes for consumers. While the bureau positions competition as the solution to the many issues plaguing the industry, it overlooks how an increase in competition can fall short, particularly when it comes to transparency, service quality, labour conditions and regional connectivity.

### **COST TRANSPARENCY NOT LIKELY TO IMPROVE**

One of the Competition Bureau's key criticisms of Canada's airline industry is the lack of cost transparency when booking flights. Hidden fees and complex fare structures make it difficult for travellers to effectively make comparisons among airlines. But it's unreasonable to expect increased competition — when airlines seek to make their offering more attractive than their competitors — to lead to greater transparency in Canada. In fact, competition has been linked theoretically and empirically to dishonest practices.



**Domestic aviation in Europe has experienced a substantial and persistent decline over the past two decades.**

Europe provides a cautionary example. Increased competition has not led to greater air fare transparency in Europe. Airlines like Ryanair, a low-fare airline and the continent's largest airline by passengers carried, have been accused of hiding fees for passengers.

### **SERVICE QUALITY AND WORKERS**

The bureau's study also found that many Canadians are dissatisfied with the quality of service offered by domestic airlines. Yet increased competition is unlikely to raise service standards. As airlines compete to offer the lowest fares, they often look to reduce operating costs, typically at the expense of service quality.



Geraint Harvey



**The Competition Bureau is calling for more airline competition in Canada's airline industry.**



**Qatar Airways has purchased stakes in airlines in Asia Pacific and Africa.**

Those who suffer the most from airlines minimizing costs are employees, since labour represents one of the few areas where airlines can cut back.

The morality and safety implications of introducing wage and employment insecurity to workers within high reliability organizations aside, reducing the quality of employment terms and conditions for workers in such an important industry is short-sighted. Claims of a pilot shortage are contested, and making employment in Canadian aviation less attractive for a highly skilled and crucial occupational group like pilots is a strategic faux pas that could have long-term consequences for the industry's stability.

### REMOTE COMMUNITIES LEFT BEHIND

Canada's unique geography means that many remote regions rely on airlines for goods and transport. Yet these areas are not effectively served by the commercial aviation industry. The bureau suggests greater competition could help, but that claim is questionable. The reason existing airlines are not providing a greater number of flights between remote communities and larger airports is because these routes aren't profitable. Rather than expanding service, a more competitive market could shrink route availability because airlines could abandon less profitable routes or refuse to compete on routes where a market leader emerges.

To its credit, the bureau offers several recommendations for northern and remote communities. But these communities are unlikely to benefit from competition alone. In fact, increased competition would likely mean airlines will focus on profitable routes and remove those that don't yield high profits.

Europe's airline industry is once again instructive. Euro-control, a pan-European organization dedicated to the success of commercial aviation in Europe, states that "domestic aviation in Europe has experienced a substantial and persistent decline over the past two decades," including the demise of regional operators serving lower-density routes. Where routes have been maintained — in Norway, for example — it's as a consequence of public service obligations that guarantee essential routes are maintained through government support.

It's because of public service obligations, not competition, that the Canadian government can serve remote communities. Without such safeguards, increased competition has the potential to do more harm than good.

### RISKS OF RELAXING FOREIGN OWNERSHIP

The bureau also recommended relaxing rules around foreign ownership within the Canadian airline industry so that a wholly foreign owned airline can compete domestically. But not all airlines are equal. Some, like Qatar Airways, are backed by the government of their home state. Qatar Airways has purchased stakes in airlines in Asia Pacific and Africa. Competition with airlines such as Qatar Airways is inherently unfair because of the huge financial support it receives.

Allowing such state-backed carriers into the Canadian market could place domestic airlines at a significant competitive disadvantage. This could not only weaken Canadian airlines, but also be detrimental to the Canadian economy if domestic carriers are pushed out. Competition may reduce fares, but it always comes at a cost. Canadians must be certain that lower fares are worth the cost. ■

*(Geraint Harvey is with the DANCAP Private Equity firm. This was originally published at: [www.theconversation.com](http://www.theconversation.com))*

# Study in Fragility



BY MARIE OWENS THOMSEN



“Me-first” policies are being enacted with little concern for their impact on global networks.

“Significant headwinds” now challenge the air transport industry. In the following editorial this economist itemizes five key risks that she says will shape 2026.

**IN JANUARY 2025**, the air transport industry was facing significant headwinds and none more so than the threat of tariffs and the potential retaliation they might provoke. In this challenging context, airlines nevertheless earned a record net profit of \$39.5 billion. It must be pointed out though that in one year a single oil company can make as much profit as our whole airline industry does. Looking at net margins, the picture appears even more fragile. At an



## FAA CERTIFIED CONCORDE BATTERY FOR GULFSTREAM GV & GV-SP

STC ST01097DE provides for the installation of RG-380E/53L, 53 Ah sealed lead acid batteries, with a kit accommodating the footprint of the Concorde batteries without modification to the aircraft.

Standardize your fleet with Concorde.  
Increase savings!



CONCORDEBATTERY.COM | ISO 9001 + AS9100 | Crafted for Quality in the U.S.A.

**New** One Piece 800-746-8273

# DOORS

- AVIATION
- AG DOORS
- SHOP DOORS
- BARN DOORS

## HYDRAULIC

“One-Piece” DOOR

OR

## BIFOLD

STRAP LIFT and auto latch

...Lift Straps

008

Say YES... to Strap-Lift Doors

Say NO to Cable Lift

SCHWEISSDOORS.com

expected 3.9 percent in 2026, the airline industry remains one of the lowest-margin industries, having never seen a net profit margin above five percent. In per-passenger and US dollar terms, the industry's anticipated net profit equates to \$7.90 — below what Apple earns from selling one iPhone cover.

In 2026, risks abound. Having a view of what these might entail is important for planning and decision-making and the impact they may have on airlines. Five areas loom particularly large in the year ahead.

### 1. Policy Fragmentation

The post-World War II multilateral system is weakened, with perhaps the most visible fragmentation occurring in international trade. “Me-first” policies are being enacted with little concern for their impact on global networks, whether it is supply chains or single industries such as air transport. International institutions are also being sidestepped, threatening to undo the International Civil Aviation Organization's 80 years of global harmonization.

Different frameworks now compete to determine how to address CO<sub>2</sub> emissions from air transport. Fragmented tax policies introduce severe competitive distortions that ripple across the global network even though the policy may appear locally focused. Such policies raise little money for governments, have little or no impact on emissions, and make air transport more expensive.

### 2. Supply Chain Disruptions

There is a persistent and record-high backlog of aircraft orders. While things have started to improve, the mismatch between airline requirements and production is not expected to unwind before 2031-2034. This negatively caps growth in the industry yet protects yields as aircraft load factors reach the highest level in aviation history. More dramatically, the situation has halted progress in improving fuel efficiency across the global fleet and slows the industry's decarbonization.

### 3. Climate Change-Related Disruptions

Disruptions such as extreme weather and commodity price swings can affect agriculture, infrastructure, global trade, and investment flows. A successful energy transition for airlines pursuing net zero carbon emissions by 2050 requires stable policies and reliable financing. The reduced commitment to addressing climate issues in a coordinated manner across the world will undoubtedly slow progress on all these fronts. Associated risks include greater food and water insecurity, and therefore increased migration. Yet the world has turned more hostile towards immigration. The decision by nations to welcome, or not welcome, migrants will put pressure on borders and support systems, impacting international air passengers.

### 4. Cyber Threats and Artificial Intelligence

Cyber threats are growing in both frequency and importance. We also see a convergence of risks and vulnerabilities with artificial intelligence enhancing attackers' capabilities, geopo-

litical instability providing fertile breeding ground, and digital dependence exposing supply chains and organizations to greater risks.

The airline industry's reliance on critical infrastructure makes the global air transport network particularly exposed, along with all other network industries. AI adds risks related to misinformation, loss of privacy, and erosion of trust, on top of those that might generate economic disruption, job displacement, and greater inequality. Proof of AI generating substantial profits and increased productivity are scarce and may take years to materialize.

### 5. Macro-Economic Outlook

The external value of the US dollar is important to the global economy because of its dominant share in cross-border payments. Over the very long term, the US dollar is a trend-depreciating currency. Currently, the Federal Reserve is in rate-cutting mode, and global uncertainty has rather uniquely favoured other safe havens, such as gold and the Swiss franc. Adding the lack of fizz in the US economy, persistent budget and current account deficits, and potentially greater reservations about US stock market valuations, the US dollar appears most likely to pursue its depreciation in 2026. A weaker US dollar tends to benefit all non-USD-based countries who will pay less in local currency for their USD-denominated debt and trade. This is of course important for air transport where

**THE BEST PLACE IN THE WORLD TO TAKE A LEAK**

# FUEL CELLS

**QUOTES ON:**  
Cherokee Tanks  
Fuel Cells & Metal Tanks  
Repair, overhauled & new  
Technical Information or  
Free Fuel Grade Decals

**MONARCH PREMIUM CAPS**  
Premium Stainless Steel  
Umbrella Caps  
for your  
Cessna 177 through 210

[www.hartwig-fuelcell.com](http://www.hartwig-fuelcell.com) [info@hartwigfuelcell.com](mailto:info@hartwigfuelcell.com)

**HARTWIG**  
AIRCRAFT FUEL CELL REPAIR  
Keeping aircraft in the air since 1952

**US: 1-800-843-8033**  
**CDN: 1-800-665-0236**

**INTL: 1-204-668-3234**  
**FAX: 1-204-339-3351**



**Extreme weather or commodity price swings can affect agriculture, infrastructure, global trade, and investment flows.**

over 50 percent of the cost base is invoiced in US dollars. At the same time, the oil market is undergoing major structural change as demand is shifting in response to electrification and to greater use of liquefied natural gas in road transport.

Geopolitical changes will also play a role. Supply is expanding even as demand slows, leading to inventory build-up and putting downward pressure on prices—again good news for many airlines.

The risk of a severe economic slowdown in 2026 seems limited unless we have underestimated the potential combined effect of the above converging risks and vulnerabilities,

or because of unforeseen events. Nevertheless, this is not a particularly growth-friendly environment and global GDP growth is unlikely to accelerate. Moreover, given this risk convergence, the margin to maneuver is reduced, which makes policy mistakes more likely.

**Championing the Value of Aviation**

In the context of limited policy flexibility, good growth and welfare-increasing strategies are hard to come by. Yet it so happens that the energy transition and air transport combine to deliver a uniquely promising growth strategy that can enhance agriculture, restore natural habitats, build energy independence, strengthen local communities, broaden the tax base, promote international trade, connect people, support innovation, and lift productivity. All of these benefits have a dynamic and positive impact on each other. This is way more than what traditional economic policy can muster through policy, interest rate cuts, or tax reductions.

Even without quantifying all those dynamic effects, the airline industry supports 87 million jobs and four percent of global GDP. Air transport is not just about flying—it's about driving progress. Let it lead the way. ■

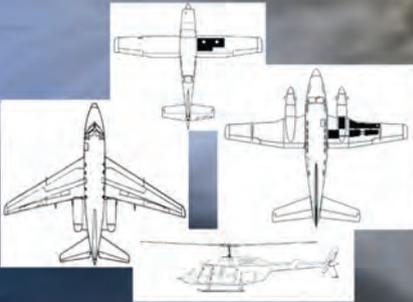
*(Marie Owens Thomsen is Chief Economist, International Air Transport Association)*

# FUEL CELLS

All Makes & Models - Piston - Turbine - Rotor - Jet

## Quality and Safety.

- New**
  - OEM & PMA Replacements
  - 5 year warranty
  - Quality Installation Kits
  - FAA Certified TSO & PMA Mfg
- Factory Overhauls**
  - Exchanges & Major Overhauls
  - 5 year warranty
  - Over 40 years of experience
  - FAA Certified Repair Station
- Valves**
  - Stainless steel drain valve kits





**Technical Support / Sales**  
**800-437-8732**

Tel: 715-479-6149  
Fax: 715-479-6344

Online Catalog  
[www.eaglefuelcells.com](http://www.eaglefuelcells.com)

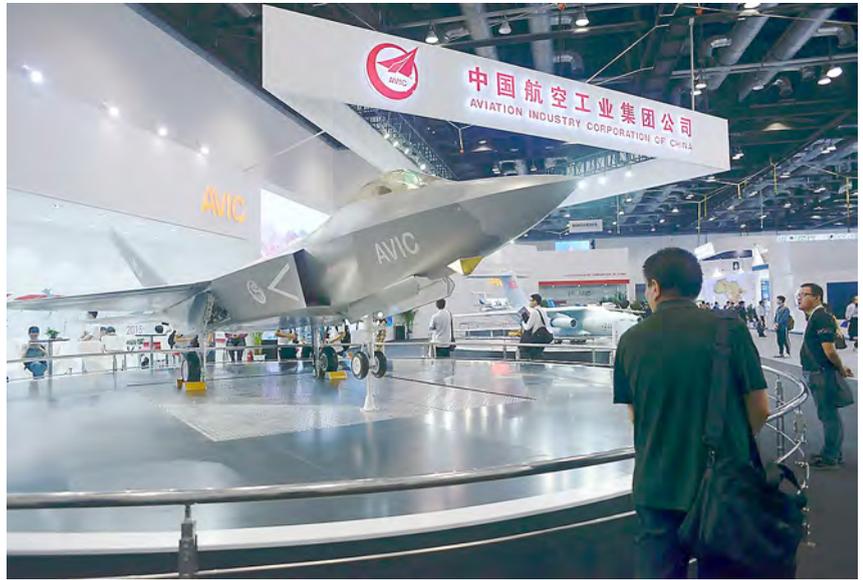
© 2014 Eagle Fuel Cells-ETC, Inc.

# The Role of Used Serviceable Material

BY PAUL ASHCROFT

China plans to reuse or recycle more than 90 percent of materials from retired aircraft.

The question though, can China build a sustainable future for aircraft teardown?



**C**HINA'S AVIATION INDUSTRY is entering a pivotal decade. A younger fleet, progressing towards mid-life, rising operational pressures and a renewed push for sustainability are converging to reshape how airlines think about material use and end-of-life strategies. Nowhere is that shift more visible than in the rapid growth of China's aircraft teardown and recycling sector.

This momentum isn't happening in isolation. Airlines across the region are navigating escalating maintenance costs, ongoing shop visit availability issues, and long-term and structural supply chain constraints. New parts remain expensive and, in many cases, are difficult to secure. Geopolitical tensions and tariffs continue to influence material flows. Against that backdrop, operators are looking for lower-cost solutions that keep aircraft flying, protect asset value, and support long-term resilience.

That's where Used Serviceable Material is beginning to play a far greater role. As operators face the realities of cost pressure and supply shortages, USM is increasingly viewed as a strategic tool. Airlines are now actively exploring USM to reduce downtime, manage operational risk, and create more predictable maintenance pathways. Confidence is rising, supported by a maturing supply chain and the assurance that strict Civil Aviation Administration of China controls maintain the highest levels of safety and traceability.

This shift aligns with a broader national focus: On a number of occasions at the recent USM conference in Jinan I heard mention of an ambition in China to reuse or recycle more than 90 percent of materials from retired aircraft. Achieving that goal requires commitment, scale and collaboration. The country's teardown capacity is expanding quickly, but meeting future demand will depend on a well-connected ecosystem that can handle both the straightforward and the complex.

Not all components are equal when it comes to recycling. The materials of a typical A320ceo aircraft consist of approximately 70 percent aluminium and 10 percent steel by weight,

and these are widely recyclable. However, cabin interiors, carbon fibre composites and other specialized materials still require deeper industry cooperation and, in some areas, new technologies to ensure they can be responsibly recycled.

As fleets mature and retirements accelerate, and with newer fleets having a greater composite composition, these challenges will become more pressing. International partnerships will be essential. Access to global USM supply is already helping Chinese operators smooth over the gaps created by supply chain volatility. It also provides the quality, documentation, and reliability needed to build long-term confidence. The airlines that succeed will be those that combine strong in-country capacity with relationships that open up the best of the worldwide aftermarket.

AerFin plays an active role in that progress. Our deep experience in complex teardowns and transactions helps customers navigate challenging decisions with confidence, and our meticulous focus on quality ensures they receive material they can rely on. Sustainability sits at the heart of our business model, so our approach to recycling and resource recovery ensures every asset delivers value throughout its life while supporting the circular principles central to China's aviation strategy.

The way ahead is clear. China's teardown and recycling market is expanding, and its airlines are recognizing the economic and environmental value of USM. With confident, reliable and progressive partnerships in place, the region is well placed to build a highly efficient, resource-conscious ecosystem that supports growth and strengthens resilience.

For operators, this moment represents an opportunity to rethink how assets are managed, how supply limitations are navigated, and how sustainability is embedded into long-term planning. For the aftermarket, it's a chance to support that transformation with reliable, traceable, and cost-effective material solutions that keep fleets moving forward. ■

*(Paul Ashcroft is Senior Vice President Asia-Pacific, AerFin)*

# Managing Localized Risks

Despite all the challenges now facing the industry, this UK-based aircraft leasing specialist remains optimistic about the future.



**Nimalan Vikneswaran**

**A**VIATION industry leaders are cautiously optimistic about the sector's trajectory, as resurgent demand continues to clash with delivery delays, maintenance bottlenecks, and geopolitical uncertainty. ACC Aviation,

a provider of ACMI (Aircraft, Crew, Maintenance, Insurance), Charter and Consulting services, has looked closely at the aircraft trading and leasing sector and describes a market finding its footing after years of turbulence, but still navigating tight margins and chronic supply chain strain.

"Operators are facing ongoing aircraft and engine shortages, with thousands of new aircraft yet to be delivered," says Nimalan Vikneswaran, ACC Regional Vice President. "As a result, older jets are staying in service longer, driving up lease rates for mid-life assets. Some lessors are acquiring new generation aircraft for teardown to secure spare parts, while others are rebalancing portfolios toward proven, mature types to maintain operational flexibility."

Though the immediate impact of tariffs has been limited, global trade tensions continue to unsettle the market. "Suppliers remain cautious about passing on cost increases, while airlines are reluctant to absorb them," says Vikneswaran. "Even if these sorts of trade disputes create short-term volatility,



**Geopolitical instabilities are adding new layers of complexity.**



**The aircraft trading and leasing sector is a market finding its footing after years of turbulence.**



**Operators are facing ongoing aircraft and engine shortages.**

the overall aviation ecosystem is robust enough to withstand these shocks."

With geopolitical instability — from the war in Ukraine to shifting trade alliances — adding new layers of complexity, diversification remains critical at leading lessors. Broader portfolios spanning multiple regions and airline types are seen as key to managing localized risks and ensuring long-term stability.

"However, maintenance, repair and overhaul providers remain under pressure," observes Vikneswaran. "Turnaround times for engines and components is still far longer than before the pandemic. Lead times for shop visits and aircraft transitions can now stretch to six months or more. While there are signs of gradual improvement, many MRO shops do not expect a full normalization before 2027."

ACC Aviation analysts anticipate a steady market through the rest of the decade, defined by consolidation among lessors, cautious fleet growth, and sustained demand for reliable mid-life aircraft. Although rising costs and environmental regulation will continue to shape strategy, it is agreed amongst aviation professionals that the sector's underlying fundamentals remain strong"

"Even amidst supply constraints and economic uncertainty, aviation's adaptability stands out," says Vikneswaran. "We see aircraft useful-life extensions everywhere, operators will always find a way to fly." ■

# Cramping: Just Say No

WestJet pilots are welcoming the company's decision to ditch seat reconfiguration plans following intense backlash from the public and employees alike.



This reversal by an employer demonstrates the power of a united pilot voice.

**CAPTAIN JACOB ASTIN**, chair of the ALPA WestJet Master Executive Council, issued the following statement in mid-January after WestJet Airlines announced it was halting plans to reconfigure seating on some of its Boeing 737 aircraft.

“Following the stated employee concerns and widespread public backlash, the decision by WestJet Airlines to stop their fleet configuration plan that included cramped, non-reclining economy seating and return to the previous standard of seating is welcome news for our flight crews and our passengers.

“Our union's consistent advocacy—highlighting concerns such as reduced passenger comfort and operational impacts—played a key role in amplifying pilot, crew, and guest feedback that supported this reversal. This reversal by our employer also demonstrates the power of a united pilot voice in protecting WestJet's brand and service standards ahead of our upcoming contract negotiations.” ■

**B · K · D ·**  
A E R O S P A C E  
**INDUSTRIES INC.**  
**3D SPECIALTIES**



Custom 3D design and high quality printing available for specialty parts and tooling. Wide range of materials available from 316L Stainless Steel to plastic. Contact us at : **604.247.2128**



**COMING SOON**

**CREATE & ORDER YOUR 3D PARTS ONLINE USING BKD'S 3D PRINTING WEB PORTAL**

Our system will allow you to remotely access and print your own high quality 3D parts. Simply login, create a new project, or access an existing one, specify your project details and get a quote for 3D production. Once approved, print your project and have it shipped to you. Call us for more information about your 3D project.

Pro2 ( WxDxH )		Pro2 Plus ( WxDxH )	
Single Extruder Print	Dual Extruder Print	Single Extruder Print	Dual Extruder Print
305x305x300 mm	280x305x300 mm	305x305x605 mm	280x305x605 mm

Slicing Software: ideaMaker. File Types: STL, OBJ, 3MF, OTLP. Machine code: GCODE.  
Supported OS: Windows, macOS, Linux. Network: Wi-Fi, Ethernet. Power-loss Recovery.  
Print Tech: FFF. Head System: Dual-head w/ elec. lifting system. Filament Diameter: 1.75mm.  
Filament Run-out Sensor. Print Head Travel Speed: 30-150 mm/s. Layer Height: 0.01 - 0.25mm.  
Nozzle Diameter: 0.4mm (Default) and 0.2/ 0.6/ 0.8/ 1.0 mm. Max Nozzle Temperature: 300 °C.  
Max Build Plate Temperature: 110 °C. Connectivity: Wi-Fi, LAN, USB port. Live camera.  
Filter: HEPA with activated charcoal. Certifications: CB, CE, FCC, RoHS. ISO 9001 & ISO 14001.

## ★ TRANSPORT CANADA ★

# Reports and Comments

The following are selections of Canadian Aviation Service Difficulty Reports originally published as “Feedback” by Transport Canada.



Below: Close-up of the engine mount bolts.

### REPORT: AEROSPATIALE ATR 42 500

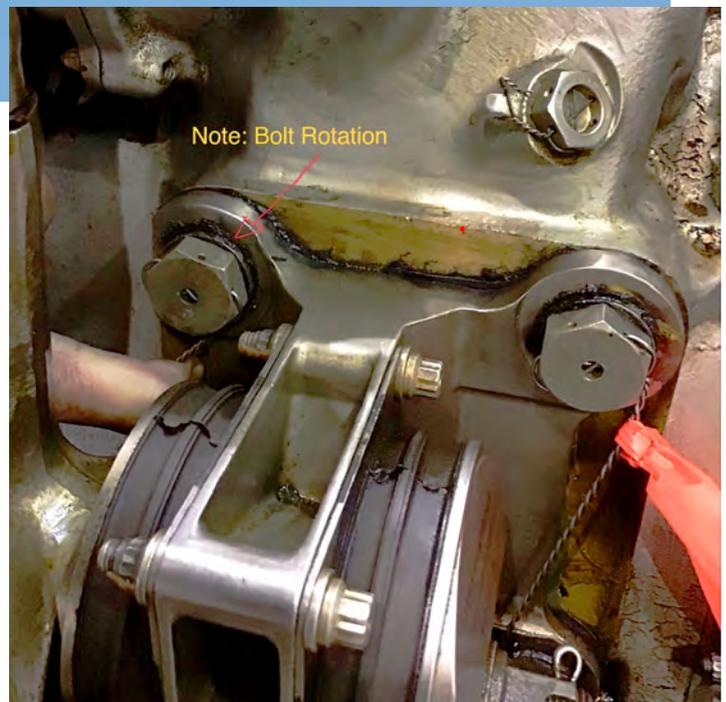
#### Loose ATR42 Engine Mount Bolts

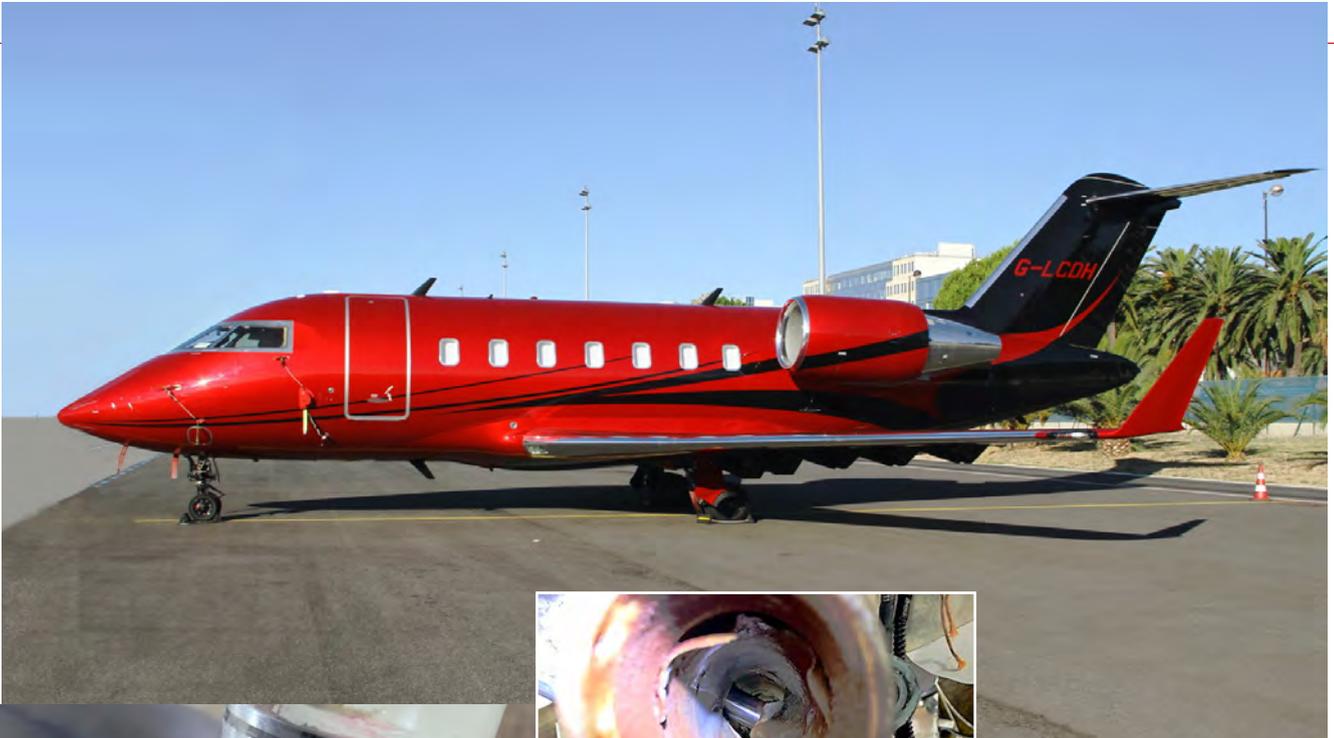
##### Subject:

When opening the #1 engine for inspection, it was discovered that the forward inboard lateral shock mount securing bolts attaching the mount to the engine case were loose. Further inspection revealed that the outboard lateral mount bolts were also loose. The lock wires on all 8 bolts were still intact. No discrepancies were found on the remaining mounts.

##### Transport Canada Comments:

These engine mount bolts were still lock wired for security and were found to be loose. Quick visual inspection would not have found this problem. Look for signs of wear or streaking and check the bolts for movement with a wrench. Engine mount bolts are under continuous stress and will wear out and fail if not properly torqued.





Left: Severe internal axle corrosion.

Below: Internal axle corrosion.



Left: External axle corrosion.

Bottom photo: External corrosion at axle root in 2 places.



## REPORT: BOMBARDIER CL600

### Landing Gear axle corrosion

#### Subject:

While replacing the #1 brake assembly it was discovered that the left main landing gear axle had excessive corrosion damage (level 3 corrosion). The axle was replaced with a serviceable one.

#### Transport Canada Comments:

While changing a brake the maintainer noted corrosion externally on the axle and then performed a detailed inspection. The inspection found the axle was severely corroded internally, to the point where it required replacement. While performing regular maintenance tasks it is good practice to inspect the work area for additional defects or any other anomalies, especially for areas found in harsh environments.

# AERONEUF

INSTRUMENTS (ITE/IT)

REPAIR - OVERHAUL - CERTIFICATION - SALES  
RÉPARATION - RÉVISION - CERTIFICATION VENTE

 Transport Canada AMO 27-91

 EASA.145.7189

Since 1988  
Depuis 1988

 Hamilton Sundstrand

 SIGMATEK

 AIM

Honeywell

 AMETEK

Rockwell Collins

THALES

 AEROSONIC

Bendix King

 Avastar

 GOODRICH

Kollsman

SEXTANT

 rc allen instruments

Now in Laval, located between  
Mirabel and Trudeau airports to  
better serve you !

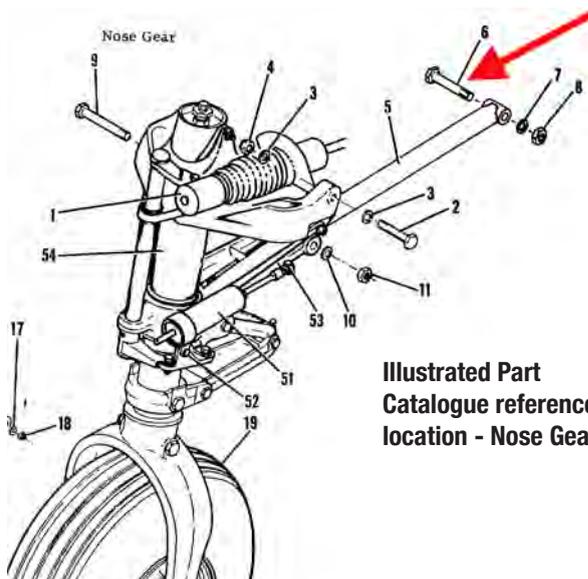
Maintenant à Laval – Entre les  
aéroports Mirabel et Trudeau  
pour mieux vous servir !

Your solution for  
Avionics Maintenance

Votre solution en  
Maintenance d'Avioniques

Ground Equipment  
Équipement au sol

600, 3<sup>e</sup> Avenue, Laval, Québec, H7R 4J4  
Tél: (514) 631-2173 Fax: (450) 627-2199  
www.aeroneuf.com • info@aeroneuf.com



Illustrated Part  
Catalogue reference  
location - Nose Gear

## REPORT: CESSNA U206F

### Nose Landing Gear Drag Link Bolt – Risk of collapse

#### Subject:

During a scheduled 200-hour annual inspection, the nose landing gear aft drag link bolt was found with the bolt head sheared off. The bolt was removed, drag link and attachment structure inspected, no additional defects noted. New bolt was installed. We pay particular attention to this bolt and check at each 200-hour inspection as in the past this bolt has been found bent and/or sheared as in this case. Previous Service Difficulty Reports (SDR) on this have been filed. Total time and cycles on this bolt are unknown.

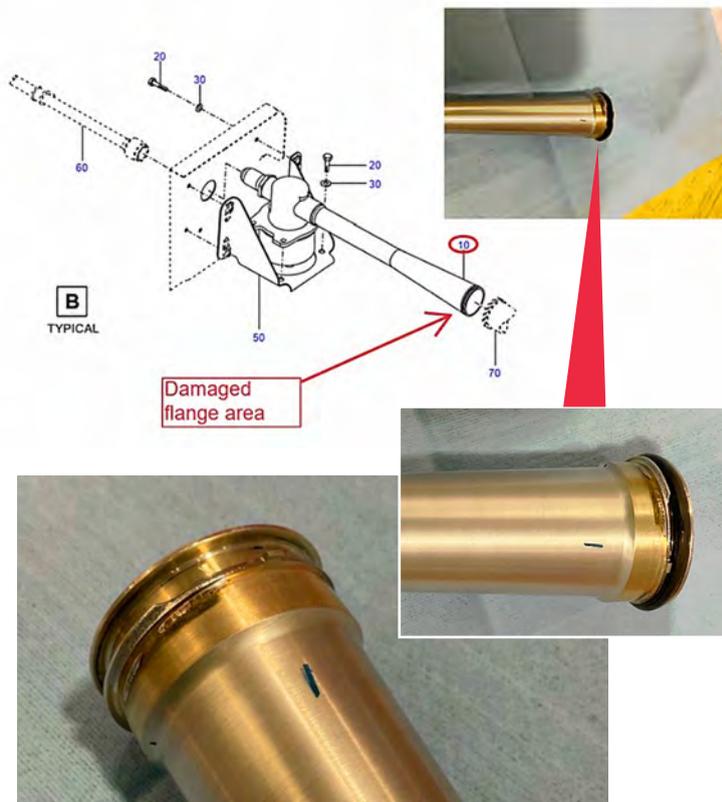


Cessna U206F drag link  
bolt head sheared.

**Transport Canada Comments:**

Prior to the introduction of Cessna Supplemental Inspection Documents (SIDs) in the early 2010s, inspection of the drag link bolts was not specifically addressed. Failure of the aft drag link bolt can lead to nose gear collapse and prop strike; this has occurred on a number of occasions.

Inspection of the drag link bolts is currently addressed in SID 32-20-01, though the suggested interval may not adequately identify a defective bolt before failure. Increasing inspection frequency, as the submitter has done, may identify defects sooner and potentially avoid a nose gear collapse.



**REPORT: EMBRAER ERJ 170 200 SU**

**Unexpected Fuel Tube Faults**

**Subject:**

During an inspection task E75-28-50-00-007F-01, it was observed that an O-ring was visible under a clamp shell coupling on the right-hand engine feed ejector pump in the collector bay. Removing the clamp shell revealed that over 50 percent of the flange on the fuel line had worn away.

**Transport Canada Comments:**

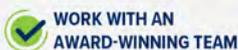
A maintenance individual noticed the O-ring poking out of its home in the clamp shell. Maintenance task E75-28-50-00-007F-01 gives the procedure to inspect bonding jumpers, clamps, and flexible connections installed on the wing stub. The procedure also asks maintainers to do an internal General Visual Inspection (GVI) of the wing stub lower and lateral surfaces on the areas below the centre and lateral wing-to-fuselage fairing in certain zones.

Based on the pictures supplied, significant chafing has damaged the tube flange where the O-ring sits. Damage like this is typically caused by severe misalignment. If left alone, this tube would have leaked, causing low fuel pressure to the engine and possible flame out.



**BUILD YOUR  
FUTURE WITH**  
 **HARBOUR AIR  
AEROSPACE SERVICES**

*Now hiring in Vancouver, BC*  
Openings for qualified and  
aspiring aircraft maintenance  
engineers and technicians!  
Find current positions at  
[harbourair.com/careers](http://harbourair.com/careers)





**REPORT: RJ AVIATION CL600 2C10 (RJ700)**

**Right Hand (RH) Main Landing Gear (MLG) forward trunnion bushing corrosion**

**Subject:**

After removal of the RH MLG and forward trunnion bearing, fretting corrosion was found on the forward trunnion sleeve bushing upper inner surface. It was found while performing Aircraft Maintenance Manual (AMM) task 32-11-05-00-807-A03 - Removal of the MLG forward trunnion bearing.



**Close-up view of trunnion fitting.**



**Corrosion found in the fitting sleeve**

**Transport Canada Comments:**

The fretting corrosion found on the trunnion bearing sleeve bushing in the forward trunnion fitting is a serious defect. The Canadian Regional Jet (CRJ) technical help desk must be contacted for further disposition and rectification actions. The affected aircraft had been in service for 18 years and had 40,777 hours total time at the time this defect was found.

# Maintenance and Ramp Safety Society

A Non-Profit Society Dedicated To  
**Reducing Aviation Human Error**

**ORDER YOUR POSTERS TODAY!**

The tools that we offer to help achieve a zero accident rate consist of:

- ▶ **Posters**—High impact, non stop reminders how to reduce human error
- ▶ **Videos**—High quality productions that show how to reduce human error.
- ▶ **Membership**—Access to human factor specialists help reduce human error
- ▶ **Training**—Courses designed by experts to help you reduce human error
- ▶ **'GroundEffects'**—Specialized articles to help you reduce human error

**These Tools Save Lives and Money!**  
Are you going to deny yourself and your company the most important wish of all—SAFETY?



121 - 19140 28th Ave, Surrey, B.C. Canada V3S 6M3  
 ▶ tel: 604.531.9108 ▶ fax: 604.531.9109 ▶ email: marss@marss.org  
 Visit our website to view the full selection or to order your posters today! ▶ web: www.marss.org

**REMEMBER!**  
**Safety and Profit Work Together**



## REPORT: SHORT & HARLAND SD360

### Elevator Control Rod Broken

#### Subject:

During the takeoff roll, the flight crew experienced a loss of elevator authority. The flying pilot first officer elected to reduce power, decelerate, exit the runway and taxied back to the ramp.

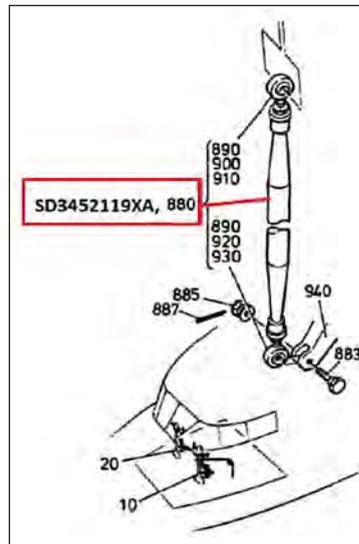
#### Transport Canada Comments:

Further investigation of this event revealed that a primary elevator control rod Part Number (P/N) SD3452119XA failed during takeoff roll on a SD3-60 aircraft. The failed control rod had been inspected 7 flight hours prior to the failure (2 weeks calendar time). The buckling failure of the control rod was due to compressive overloading and attributed to exposure to high ground gusts, jet blast, or helicopter downwash. There are 16 known Service Difficulty Reports (SDR) for elevator, rudder, flap, and aileron control rods found either sheared, bent, or cracked. Eleven of the SDRs are failed rods (sheared or bent). SD3-60-Sherpa, SD3-30, SD3-Sherpa and SC7 Skyvan aircraft models use the same flight control arrangement (flight control rods), share many P/N with model SD3-60, and are exposed to the same risk as the SD3-60.

The failure of a primary flight control rod results in the primary control surface being free to rotate. The control surfaces are statically balanced, so flutter or a control jam is not expected. However, the worst-case scenario is a loss of primary elevator control during take-off/initial climb (critical phase of flight), which could lead to catastrophic consequences.

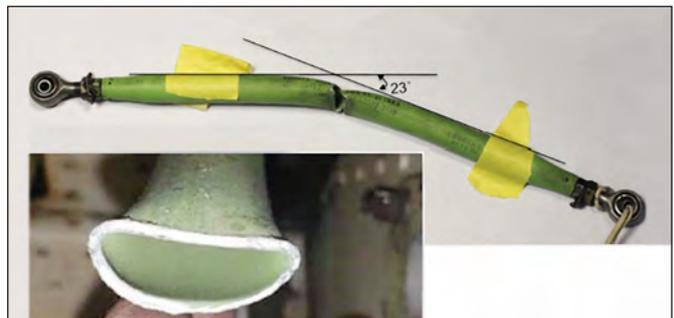
Transport Canada Civil Aviation (TCCA) and the Type Certificate Holder (TCH) agree that this situation does not constitute an unsafe condition warranting an Airworthiness Directive. Ground gusts, jet blast or helicopter downwash are not an aircraft-specific issue but an environmental threat. No deficiency was identified with the product because the load required to cause the failure of the rod was beyond the loads it had been designed for.

In October 2020, TCCA issued Civil Aviation Safety Alert (CASA) 2020-12 to raise awareness of the potential for damage to components of flight control systems if an aeroplane is exposed to strong winds, and to recommend corrective actions in the event of such exposure. Although the incident that gave rise to CASA 2020-12 was on a De Havilland DHC-3 Otter aircraft, CASA 2020-12 highlighted the fact that the



Above: Diagram of parts illustration.

Below: Picture of failed elevator control rod.



In May of 2023, Viking Air Limited, the TCH at the time, released Service Bulletin No. SD360-27-A35 to inspect all flight control rods (aileron, rudder, elevator, and flap) for signs of bending or bowing deformation, cracking, or other damage. In May of 2025, De Havilland Aircraft of Canada Limited, the current TCH, released Aircraft Maintenance Manual (AMM) Temporary Revisions for each SHORTS aircraft type, specifying functional checks and detailed checks in the conditional inspections section (AMM Section 5-51) for all flight control rods.

DHC also issued Service Letter SD3-SL-05-001 to notify operators of a new Chapter 05 AMM task that provides inspection requirements for aircraft subjected to known or suspected high gusting winds, jet blast, propeller wash, helicopter downwash or ground gust of 50 knots or more while parked or taxiing.

TCCA reminds operators and maintainers that vigilance is required as exposures to high winds from ground gusts, jet blast or helicopter downwash are unpredictable and may involve hidden damage to critical flight control systems. When aircraft are suspected or known to have been exposed, follow the manufacturer's recommendations in the Instruction for ICA, or where no detailed instructions exist, follow the inspection criteria in Standard 625 Appendix G section (15) to inspect for any damage. ■

# Aircraft Mechanics Fraternal Association

## National President's Year-End Update

The start of a new year is always an opportunity to advance our goals, strengthen relationships, and build on the progress we have already made together as a craft-specific union. AMFA's leadership remains fully committed to our core objective: upholding the highest standards of this industry, and our goal is to secure the recognition you deserve—from your employer, from regulators, and from the flying public—for the critical role our profession plays in aviation safety across North America.

We will continue to be the voice for skilled aircraft maintenance workgroups by driving top-of-scale wages at our represented carriers to within cents—not dollars—of one another, as the market responds to the true value of licensed AMT/AME skillsets.

## YEAR-END GROWTH SNAPSHOT

The heightened interest from other technician/engineer groups across the U.S. and Canada suggests that each high-profile contract functions as both a retention and a recruiting tool, contributing to approximately 83% membership growth since 2018.

Membership has expanded from just over 3,000 AMTs and related at Southwest and Alaska in 2018 to more than 6,200 by the end of 2025, with the addition of new members at Horizon, Spirit, Sun Country, L3 Harris (Trenton), WestJet, Calm Air, Jazz Aviation Line, and Jazz Technical Services. Once Aircraft Maintenance Technicians and Engineers at Hawaiian Airlines and Air Canada complete their representation votes and formally join AMFA, the union's membership will have tripled compared to its 2018 size.

Ongoing campaigns at Alaska-Hawaiian and 2,200 Air Canada professionals, combined with recent CBAs that average around 30% wage increases and stronger job protections and bargaining outcomes have been central to AMFA's membership growths.

## ORGANIZING WINS AND STRONG CONTRACTS

Recent contracts at WestJet, Jazz Line/JTS, Calm Air, Horizon, and Alaska feature double-digit raises, improved work rules and benefits, and upgraded job protection and scope language, reinforcing AMFA's reputation for securing top-tier economics.

## CONTRACT GAINS AND WAGE FOCUS

Leadership emphasizes "industry-changing" contracts, with strategies to push represented carriers to leapfrog each other's wage scales and improve quality of life; these high-profile gains make AMFA more attractive to non-union and other industrial union member groups.

## CRAFT-SPECIFIC AND DEMOCRATIC MODEL

AMFA represents only AMTs/AMEs and skilled trade professionals, focusing 100% of union resources on a single craft and contrasting itself with industrial unions that spread attention across many sectors and classifications.

Direct election of national officers, open negotiations, and full access to tentative agreements before ratification give members transparency and control, key reasons for moving to and staying with AMFA.

## WAGE GAINS AND INDUSTRY-LEADING DEALS

AMFA frequently highlights double-digit raises, high top-of-scale rates, and premium structures in recent CBAs at carriers such as Southwest,

Alaska, Horizon, WestJet, Jazz Aviation Line/JTS, and Calm Air, framing these contracts as setting or matching the top of the market.

Historical examples, like the Northwest Airlines CBA in early 2001 (resulting in significant \$10-13 hourly wage increases with 37% raise top-of-scale, pension rate increase of 113%, retroactive pay rate of 3.5% of W-2 earnings, secured outsourcing limits) illustrates a long pattern where strong economics reinforced members' decisions to choose or stay with AMFA.

## SCOPE, OUTSOURCING LIMITS, AND WORK PROTECTION

AMFA members understand outsourcing limits and protections because they directly shape that language of the contract proposal and ratification process. Critics from rival unions occasionally point to AMFA contracts as having weaker scope language; however, those attacks highlight how central scope protections, growth language, and clear voting information are when AMTs/AMEs and related skilled professionals evaluate which union best defends long-term job security. By contrast, industrial unions like IBT, TWU, and IAM frequently criticize AMFA while avoiding transparent disclosure to their own members about outsourcing, despite it remaining a significant issue at the carriers they represent.

According to the DOT Inspector General, major U.S. air carriers outsource approximately 71% of heavy airframe maintenance, with about 27% performed at foreign stations—meaning roughly one in five U.S. flights has undergone overseas maintenance. Network airlines remain the largest outsourcing spenders, with American Airlines paying providers (\$1.9B), Delta (\$1.1B), and United (\$1.6B) leading in 2019; Southwest and JetBlue spent \$837 million and \$579 million, respectively.

## VISIBILITY AND ORGANIZING LEVERAGE

National updates from AMFA emphasize that visible bargaining wins at existing carriers "raise the bar" on compensation and conditions across the sector, which in turn makes non-union or differently represented groups more receptive to AMFA organizing campaigns and open negotiation process.

AMFA leadership explicitly links major, ratified industry-changing CBAs to tangible gains for members, including job protections, top-of-scale wages, retroactive pay, and improved work-jurisdiction safeguards. Notable examples include Southwest (2019 and 2023: \$160M retro pay, top wages, job protections), Alaska (2024: \$65.85 top rate, OT protections), WestJet (2024: 27% wage increase, 20% matching retirement), Horizon (2025: 20% top-of-scale increase), Jazz Aviation Line/JTS (2025: 19-40% immediate wage increases, 63% average five-year progression), and Calm Air (2025: 22% first-year wage increase, comprehensive contract reorganization, strengthened subcontracting protections).

AMFA's member-driven approach delivers tangible results: industry-leading wages, strong job protections, and transparent, democratic processes. These achievements reinforce the value of skilled AMTs/AMEs and position AMFA as a benchmark for industry representation.

By continuing to set high standards at the bargaining table, AMFA ensures long-term security, career growth, and recognition for its members, while strengthening the union's influence and appeal to new and existing professionals.

[www.amfnational.org](http://www.amfnational.org)

**Bret Oestreich**  
National President

# Pacific AME Association



## About Our Association

The Pacific Aircraft Maintenance Engineers (AME) Association is one of six associations across Canada, the others being Atlantic, Central, Western, Quebec and Ontario. These associations represent regional interests as well as concerns of national importance. The membership base is comprised of AMEs, non-licensed personnel working in the industry, students and apprentices, as well as corporate members.

Aircraft Maintenance Engineers of Canada (AMEC), is the national body that is supported and financed by all the regional associations and represents the associations and important matters at the national level.

The Pacific AME Association is a non-profit organization, run by a volunteer group of AMEs and non-AMEs. Directors are elected by member AMEs to the Board for a two-year term. The purpose of the association is to maintain and enhance the standards of professionalism of the AME and the aircraft maintenance industry as a whole, and to promote the rights and privileges of the AME.

The association works with and is consulted by Transport Canada in the formulation of new rules and regulations to promote the viewpoint of the AME. We are represented on various committees and working groups involved with aircraft maintenance and licensing. We support the community college aircraft maintenance programs throughout BC through annual monetary awards and bursaries.

## Reminder

This is a reminder that PAMEA has decided to formally transfer Membership Administration to AMEC/TEAC which is currently handled by the Ontario Association. What this means for the Membership is that our web site page will send you to the Ontario Association Membership pages for you to sign up if you are a new member or to complete your renewal as a PAMEA Member.

Visit: [www.amec-teac.ca/pacific](http://www.amec-teac.ca/pacific)

# Western AME Association

[www.wamea.com](http://www.wamea.com)



temporarily email = [md@werkasset.com](mailto:md@werkasset.com)

## WAMEA presents MRO Canada 2026

**Calgary, Alberta** — WAMEA is proud to announce the launch of MRO CANADA 2026, the country's first national B2B Maintenance, Repair & Overhaul (MRO) trade show, taking place March 3, 4 & 5, 2026 at the Best Western Premier Calgary Plaza Hotel & Conference Centre.

This landmark event brings together Canada's aviation maintenance sector for three days of industry connection, business, learning and technical collaboration.

MRO Canada 2026 is co-located with the long-standing Western AME Conference, enabling general admission attendees to access both events with a single registration badge. We invite MRO trade show focused air operators and aircraft owners at a discounted MRO only pass for \$50 CA.

## A New National Platform for Canada's MRO Sector

MRO Canada 2026 is designed as a true B2B marketplace for tech ops: maintenance and engineering, providing an annual hub for Canada's extensive MRO, AMO, and air operator communities to meet. We welcome international exhibitors who wish to expand their presence in Canada or who seek to find Canadian partners.

## The event will feature:

16,000 sq ft trade show floor showcasing third-party MROs, AMOs, OEMs, DAOs, STC holders, tooling suppliers, teardown services, engineering organizations, and aviation technology companies.

Technical sessions, airworthiness updates and CAR 573.06 eligible AME training. Private meeting rooms for air operator and supplier meetings. Networking reception, Sneak-a-Peek on March 3 19:00-21:00. Complimentary Breakfast & Lunch both days. Happy Hour on March 4 16:30-18:00. On March 4, an Exhibitor-Air Operator Dinner will be held at the hotel. Buy a table for eight.

## Invitation to all Air Operators, & Aircraft Owners at Special Rates

To support Canada's commercial and general aviation communities, air operators, airlines, and individual aircraft owners may attend the two day MRO Canada 2026 trade show for \$50CAD. A general admission rate is available for a badge that permits access to both the MRO and AME events. This discounted MRO trade show rate provides those with their primary focus on the 120 MRO exhibitors attending, which provides access to the March 3 evening reception and two full days of MRO CANADA for exhibitor interaction and meetings.

"MRO Canada is intended as a meeting ground between the people who operate Canada's aircraft and the organizations that keep them airworthy," says Kirk Watson, President of WAMEA. "By making it very accessible for aircraft operators and owners of every type of aircraft out there, we ensure meaningful B2B conversations happen..."

## Attendees and Participants

Hundreds of aviation tech ops professionals from across Canada and abroad are expected to attend, both fixed wing, rotary wing and heavy lift drones, including: Air operators tech Ops staff & leadership. Aircraft owners, owner operators and lessors of aircraft AN. AMEs (M1, M2, E, S), technicians, ACA / SCA staff. DOMs, PRMs, QA and regulatory managers, line maintenance managers. Heavy check, paint and cabin interior design and install Repair administrators, material & services buyers, supply chain and logistics staff. Consultants, DARs, MD-Ms, OEM representatives. Training managers, engine managers, and project managers.

## Registration Now Open at our Website: [www.western-ame.org](http://www.western-ame.org)

Special event hotel rate: \$135 CAD/night + tax at the conference venue. Overflow hotels are close by.

[www.western-ame.org](http://www.western-ame.org)



## Central AME Association



### Manitoba's Annual Aviation Symposium

The CAMEA Annual Aviation Symposium is back on **March 5-6, 2026!** Early bird discounts in effect until Dec 31, 2025! Save 10% off the Symposium Cost. Hosted by **Canad Inns Destination Centre Polo Park**, Winnipeg, MB

Sponsorship opportunities for the 2026 CAMEA Annual Aviation Symposium are now available. Contact [info@camea.ca](mailto:info@camea.ca) for more details.

### About Our Association

The Central Aircraft Maintenance Engineer Association is an organization dedicated to maintaining and enhancing the standards, rights & privileges of all AME members in the central region of Canada.

[www.camea.ca](http://www.camea.ca)



## AME Association of Ontario

#613 - 7360 Bramalea Road, Mississauga, Ontario L5S 1W9  
tel: 1-905-673-5681 email: [association@ame-ont.com](mailto:association@ame-ont.com) website: [www.ame-ont.com](http://www.ame-ont.com)



### Association Health Plan

Starting in April the Aircraft Maintenance Engineers of Canada/ Techniciens d'Entretiens D'Aeronefs du Canada (AMEC/TEAC) members will have access to a new, affordable group health insurance plan. AMEC/TEAC has partnered with Entente Education Canada (formerly RTOERO), a large non-profit organization with over 100,000 members. Their size helps keep costs low and benefits high.

This plan is especially valuable for members who don't have enough insurance, are retired, or aren't covered by an employer. It offers good coverage and fair rates for individuals, couples, or families. Membership in one of the Regional AME Associations automatically registers the member into AMEC/TEAC and provides eligibility for the Health Plan.

There are numerous noteworthy aspects of this plan. Dependent children are covered until age 30 to accommodate longer schooling periods. Eligibility includes partners, spouses, ex-spouses, children, grandchildren, and siblings.

The insurance offers three categories—extended healthcare, dental, and hospital—which can be chosen individually or as a full package. The extended healthcare covers all Health Canada-approved prescription drugs, with some exceptions for cosmetic uses, vision care, and includes a paramedical practitioner benefit without per-visit maximums or doctor referrals. Travel insurance is also included providing 93 days of coverage per trip.

Submitted by **Stephen Farnworth**  
For the Board of Directors

## Aircraft Maintenance Engineers of Canada



### The Purpose of Our Charter

To hold in high regard the safety of those persons affected by the Aviation Maintenance occupations, to promote safe practices in the workplace and to recognize that safety is the cornerstone of the aviation industry.

To provide a national forum for Canadian Aircraft Maintenance Engineers and more particularly to promote and mentor our occupation, distinguishing and highlighting the roll of Aircraft Maintenance Professionals in the aviation workforce.

To constitute a body through which the views and objectives of Aircraft Maintenance Engineers, Technicians, Approved Maintenance Organizations and others may be represented at the Canadian and global level. Aircraft Maintenance Engineers of Canada will be available for advice or consultation on all questions, policy matters, and all other areas of the aviation industry which affects or may affect the Aircraft Maintenance Engineer and all members in the aircraft maintenance industry.

To constitute a body which is recognized, and available for consul-

tation regarding the regulation of any matter in the aviation industry, which may affect the Aircraft Maintenance Engineer and all other persons in the aircraft maintenance industry.

To influence and obtain recognition from various government and aviation agencies, corporations and training facilities which may have an impact on the aviation maintenance industry.

To facilitate the interchange between regions of Canada relating to their views of the aviation maintenance industry, or to any other matter, which may be of common interest to our members.

To disseminate technical or other information which relates to the occupation of Aircraft Maintenance Engineer or to the aviation industry professionals in general.

To maintain a high standard in the aviation industry, and in particular the licensed Aircraft Maintenance Engineer and all other Aviation Maintenance Professionals.

[www.amec-teac.ca](http://www.amec-teac.ca)

# Atlantic AME Association



## The Core Function: Certification as an Applied Science

At the heart of every AME's work lies certification — the act of declaring that an aircraft or aeronautical product is Airworthy, i.e. in a fit and safe state for flight. This is a decision made through the application of engineering principles, regulatory knowledge, and critical thinking. The AME must interpret data, verify compliance, assess risks, and make an evidence-based determination — all hallmarks of applied scientific practice.

In many cases, AMEs perform functions similar to engineers in other disciplines: analyzing failures, verifying conformity with type design, approving repairs and modifications, and overseeing quality assurance. These responsibilities demand not just hands-on skill, but intellectual judgment and a deep understanding of aeronautical science.

## Advocating for Change

The goal of revisiting the NOC classification isn't to elevate one AME category above another. It's about ensuring consistency, accuracy, and respect for the applied-science nature of the profession. Both AME-M and AME-E share the same roots, education, and responsibilities — they should therefore share the same professional recognition.

Employment and Social Development Canada (ESDC) welcomes feedback on NOC classifications, and the aviation maintenance community has an opportunity to engage directly through its consultation portal (<https://noc.esdc.gc.ca/>). We encourage all AMEs to voice their perspectives and advocate for this long-overdue correction.

Additionally, this is a timely reminder of the importance of supporting our regional and national AME associations. These organi-

zations serve as the collective voice of our profession, championing recognition, education, and regulatory consistency. Engaging through these associations ensures that we remain proactive in shaping how our role is defined and respected across Canada.

## Upholding a Century of Professional Integrity

For over a hundred years, the title of Aircraft Maintenance Engineer has stood for precision, responsibility, and public trust. From Robert McCombie's first licence in 1920 to today's highly complex aircraft systems, the core duty has not changed: ensuring that every flight meets the highest standards of safety and airworthiness.

Reclassifying AME-M and AME-E equally under the banner of Applied Sciences is more than an administrative fix — it's a reaffirmation of our professional identity. It recognizes that AMEs are not merely technicians or tradespeople, but applied scientists and engineers who safeguard the very foundation of aviation safety.

Our history, our education, and our accountability all point to one truth: we are practitioners of applied science. It's time that our national occupational classification reflected it.

## Save the Date: ARAMC 2026

Aircraft Maintenance Conference 2026

April 28-30, 2026

St. John's Newfoundland

[www.atlanticame.com](http://www.atlanticame.com)

# SoCal PAMA Chapter



## Flight Safety Detectives Episode 308: Real Time Reporting

The European Aviation Safety Agency issued an emergency airworthiness directive (AD) on November 28, 2025, that ordered nearly 6,000 A319, A320, and A321 aircraft be grounded to check for a flight control computer issue. Flight Safety detectives Todd Curtis and John Goglia recorded this show and gathered details about the grounding in real time.

While recording the show, John gets phone calls and emails from colleagues and Todd prepares for a TV news interview. This episode shows how they gather data on unfolding aviation safety events like ADs.

The affected aircraft had to be on the ground for repair, just over a day after the AD was issued. John describes how challenging this would be for airlines that fly large numbers of the affected aircraft. He shares the logistical issues the airlines face as they check these aircraft, especially if they are located far away from a repair station. They also predict the impact on the flying public.

## Flight Safety Detectives Episode 307: Pilot Mental Health

Guest Xyla Foxlin focuses on how the FAA and the aviation community can better support mental health issues faced by pilots and other aviation professionals. Foxlin is an engineer and pilot who produced an

award-winning video about pilot mental health. Her aviation journey highlights include a Young Eagles flight that cemented her fascination with aviation, owning and maintaining a Cessna 140 that she's flown from coast to coast, a 2025 visit to Oshkosh and regaining her FAA medical certificate.

Foxlin discusses efforts with the Pilot Mental Health Campaign (PMHC) to push the Pilot Mental Health in Aviation Act of 2025 through the House of Representatives. In her personal story, Foxlin had to regain her medical certification and ability to fly after disclosing past mental health-related medical treatments. In the current FAA medical certification system, a significant percentage of pilots hide mental health conditions or avoid treatment entirely because of concern that their medical certification risks their livelihood.

Greg Feith, John Goglia, and Todd Curtis share the breadth of aviation-related mental health concerns, including investigators who may be affected by their work, mechanics who committed suicide or were at risk for committing suicide after an aircraft accident, and the trauma that an entire community may face after a major plane crash.

[www.socialpama.org](http://www.socialpama.org)



# Mystery Bangs and Flames

*What happened? The question remains unanswered after a northern flight makes an unscheduled landing on sea ice.*



**ON** 06 MAY 2024, the flight crew of the Kudlik Aviation Inc. Pilatus PC-12/47 aircraft (registration C-FKGE, serial number 761) was conducting a series of flights beginning at Québec/Jean Lesage International Airport (CYQB), Quebec, and ending at Taloyoak Airport (CYYH) with intermediate stops. During a flight from Gjoa Haven Airport (CYHK) to CYYH, the flight crew heard an unusual bang. After landing, troubleshooting, including a ground run, was coordinated with the maintenance provider.

During the troubleshooting, the engine's parameters remained normal, and the noise could not be reproduced. It was determined that the noise was possibly caused by a momentary bleed-off valve fault.

At 0659Z on 07 May 2024, the occurrence flight crew departed CYYH for a flight to Nauyas Airport (CYUT). They then departed CYUT at 0820 for a flight to Chesterfield Inlet Airport (CYCS). The aircraft performed normally during those flights.



**Incident aircraft on sea ice.**

The incident aircraft departed at 0820 for a flight to Chesterfield Inlet Airport.



## HISTORY OF THE FLIGHT

At 0937 on 07 May 2024, the occurrence aircraft, operating as flight KUK761, took off on an instrument flight rules flight from CYCS to Rankin Inlet Airport (CYRT) with two flight crew members and one passenger on board.

During the flight, the aircraft performed normally until the power was reduced for descent. Shortly after starting the descent from 4000 feet above sea level (ASL), the engine emitted a series of bangs with flames appearing from the exhaust ducts followed by a sharp reduction in power.

After attempts to regain power were unsuccessful, the flight crew called Rankin Radio to declare a MAYDAY. At 0951, the aircraft landed on the sea ice approximately five nautical miles (NM) east of CYRT with the landing gear in the retracted position.

The emergency locator transmitter (ELT) did not activate automatically but was manually activated. The signal was received by the Canadian Mission Control Centre and relayed to the Joint Rescue Coordination Centre (JRCC) in Trenton, Ontario. There were no injuries.

The Royal Canadian Mounted Police (RCMP) and the local fire department responded and arrived on site by snowmobile approximately one hour and 20 minutes after the landing.

## WEATHER INFORMATION

The aerodrome special meteorological report (SPECI) for CYRT issued at 0941 reported light winds from the southwest, visibility of two statute miles (SM) in mist with scattered clouds at 200 feet above ground level (AGL), and that the visibility to the north was 10 SM.

## AIRCRAFT INFORMATION

The Pilatus PC-12/47 aircraft is a single-engine, turbine-powered, pressurized light airplane with a passenger seating capacity of nine, and two flight crew seats. It has a maximum gross take-off weight of 10 450 pounds. The occurrence aircraft was built in 2006 and had accumulated 13 747.8 hours of total flying time since new.

At the time of the occurrence, the aircraft had no outstanding maintenance defects and the airworthiness directives and service bulletins applicable to the aircraft had been complied with. The last 150-hour maintenance cycle was completed on 25 April 2024 at 13 701.2 hours airframe time. On the occurrence flight, the aircraft's weight and centre of gravity were within the prescribed limits.



Above: Kudlik Aviation specializes in the air transportation of workers, cargo and a wide variety of goods to northern sites in Nunavik and Nunavut.

Left: The Pilatus PC-12/47 aircraft is a single-engine, turbine-powered, pressurized light airplane with a passenger seating capacity of nine, and two flight crew seats.

### COMPANY INFORMATION

Kudlik Aviation Inc. is a Québec-based aviation subsidiary of Construction Gély Inc. Kudlik Aviation Inc. operates 4 aircraft under Canadian Aviation Regulations Subpart 703 (Air Taxi Operations) in support of Construction Gély Inc. operations throughout northern Canada.

### FLIGHT CREW INFORMATION

The captain had been flying commercially since 2001 and held an airline transport pilot licence - aeroplane. The captain had 15 300 total flight hours at the time of the occurrence. Of these, approximately 14 200 hours were on the Pilatus PC-12/47 aircraft, including approximately 13 000 hours as pilot-in-command. He completed his pilot proficiency check on 24 August 2023 and it was valid at the time of the occurrence.

The first officer began flying commercially in 2023 and held a commercial pilot licence - aeroplane. The first officer had approximately 712 total flight hours, of which approximately

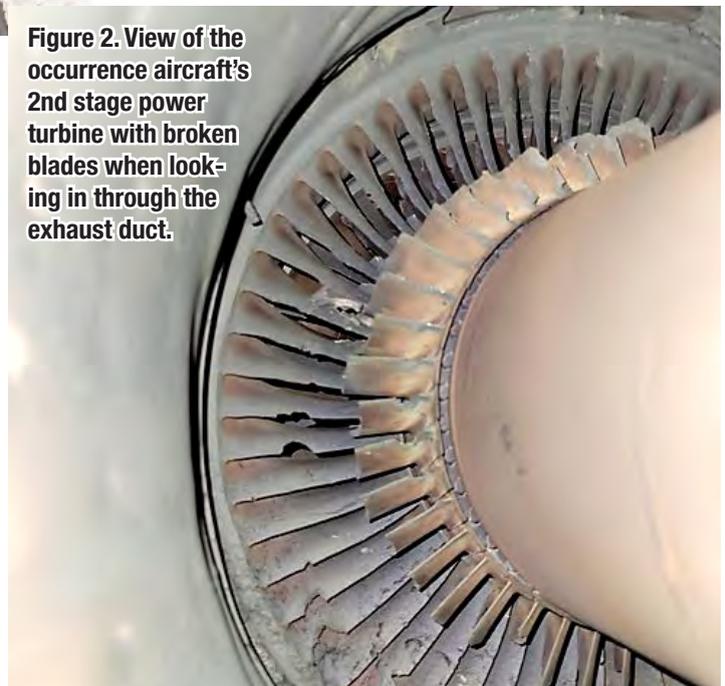


Figure 2. View of the occurrence aircraft's 2nd stage power turbine with broken blades when looking in through the exhaust duct.



**Above: The incident flight crew called Rankin Radio to declare a MAYDAY.**

**Right: During the flight from Gjoa Haven Airport the flight crew heard an unusual bang.**



502 hours were as first officer on the Pilatus PC-12/47 aircraft. He completed his pilot proficiency check on 25 June 2023 and it was valid at the time of the occurrence.

Both pilots had valid medical certificates and held the appropriate licences and ratings for the flight in accordance with existing regulations.

## SURVIVABILITY INFORMATION

The aircraft came to rest upright and intact. The flight crew and passenger were wearing safety belts with attached shoulder harnesses, and they were not injured. Cargo restraints were in use. The occupants egressed quickly and safely through the main cabin door, onto the sea ice.

## DAMAGE TO THE AIRCRAFT

The aircraft landed on its belly on the sea ice, which was covered in a layer of snow (Figure 1). The aircraft's lower fuselage and trailing edge flaps received some abrasion damage, and several plastic fairings were cracked or broken. The largest area of structural damage was on the bottom aft fuselage

area at the location of a Nav/Com antenna, which broke loose and tore open approximately 0.5 ft<sup>2</sup> of the fuselage. Two of the four propeller blades were bent from contacting the snow and ice. There was no post-occurrence fire or fuel/oil leakage.

## ENGINE INFORMATION

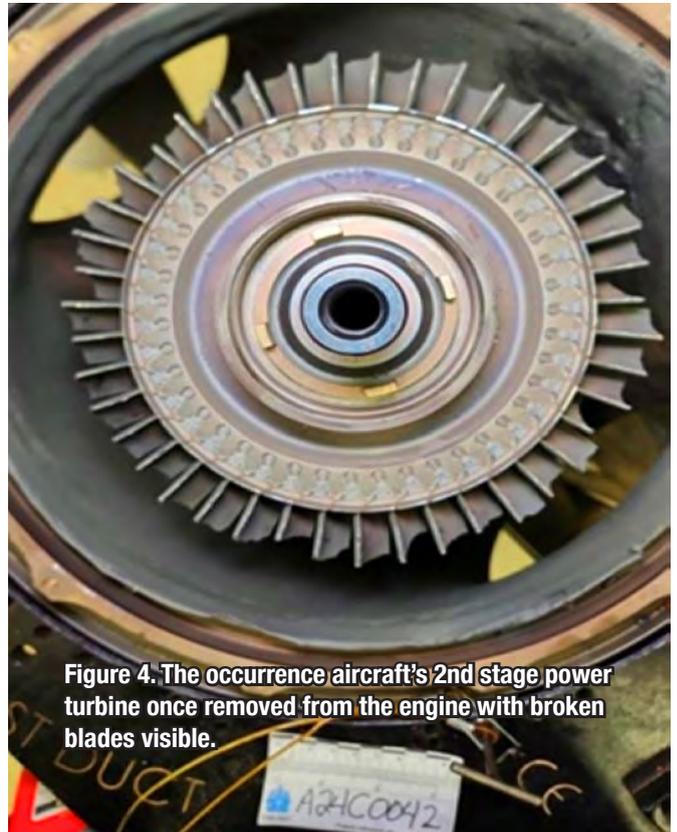
The Pratt & Whitney Canada PT6A-67B engine (serial number PCE-PR0639) was manufactured in 2006 and had accumulated 13 498.6 hours and 8694 cycles since new.

On 04 February 2020, at an overhaul facility approved by the engine manufacturer, the engine was overhauled to the manufacturer's overhaul specifications, which included the power turbine section (serial number PS-PRO639) and the gas generator section (serial number GG-PRO639). All airworthiness directives and service bulletins applicable to the engine model and serial number were complied with at the time of the overhaul.

During the overhaul, the first stage power turbine blades (part number 3122972-01) were inspected and deemed serviceable, and the second stage power turbine blades (part number 3056693-01) were replaced with a complete new set.



**Figure 3. The occurrence aircraft's 1st stage power turbine once removed from the engine with broken blades visible.**



**Figure 4. The occurrence aircraft's 2nd stage power turbine once removed from the engine with broken blades visible.**

At the time of the occurrence, the engine had accumulated 4558.4 hours and 2417 cycles since its last overhaul and was operating under a Transport Canada-approved overhaul time extension to 5000 hours. The 1st stage power turbine blades had accumulated 8671 cycles since new.

The second stage power turbine blades had accumulated 2395 cycles since new.

Initial inspection of the engine shortly after the occurrence (before the teardown) was conducted by the TSB at CYRT. The inspection revealed the following:

- (a) The engine did not rupture and remained intact with the exception of the two power turbine stages, in which all the blades had experienced midspan fractures (Figure 2).
- (b) The majority of the blade fragments exited through the exhaust ducts.
- (c) The exhaust ducts and power turbine vane ring were heavily dented.
- (d) The blade fragments did not appear to damage the aircraft's windscreen or fuselage. The compressor section turned freely and, along with the combustion section, presented no abnormalities.
- (e) A borescope inspection of the engine revealed that one compressor turbine blade had a small piece of material missing from its trailing edge.

(f) The front engine (gearbox) magnetic chip detector plug was covered with metal contaminants.

(g) There were no observed oil or fuel leaks.

Data from the aircraft's engine condition monitoring system (ECMS) were recovered by the TSB laboratory. The occurrence flight data indicated that the engine was being operated within the power settings recommended by the aircraft manufacturer for the altitude, temperature, and flight configuration preceding the engine failure. Following the engine failure, the propeller speed did not decrease to a level consistent with a feathered propeller condition.

Analysis of the ECMS data did not establish a connection between the unusual bang heard on a previous flight and the engine failure, nor did it reveal any anomalies that could suggest an imminent engine failure.

The engine underwent a teardown and visual inspection at the engine manufacturer's facility under TSB supervision. The teardown and visual inspection revealed that:

- (a) There was damage to the power turbine section that was consistent with midspan fractures of the power turbine blades (figures 3 and 4).
- (b) There were also overheating signatures and galling of bearing surfaces at the primary planetary reduction gears in the propeller reduction gearbox. The cause of this was not determined.

(c) The small piece of missing compressor turbine blade was not causal to the power turbine blades fracture.

(d) The compressor, combustion, lubrication, and fuel sections presented no further abnormalities.

Engine oil and fuel samples were sent for analysis, which revealed that they met the specifications. The oil sample taken from the reduction gearbox showed dark discoloration and the presence of particles that were mainly rich in lead and copper.

The power turbine blades were subjected to a metallurgical analysis. The metallurgical analysis revealed that the alloying concentrations of the turbine blade remnants were consistent with the manufacturer's material specifications. No evidence of fatigue fracture or degradation of materials was noted. The results of the metallurgical analysis showed fracture by tensile overload. The cause of the power turbine blades fracture could not be established.

## TSB LABORATORY REPORTS

The TSB completed the following laboratory reports in support of this investigation:

LP083/2024 – NVM [non-volatile memory] Data Recovery – EMCS [engine condition monitoring system] Data Card

LP087/2024 – Fuel and Oil Analysis

LP089/2024 – Engine Teardown

LP090/2024 – Aircraft Track Superimposed Over Terrain

## SAFETY MESSAGE

The correct use of safety belts and cargo restraints can improve survivability outcomes during forced landings. ■

*(This report concludes the Transportation Safety Board of Canada's investigation into this occurrence. The Board authorized the release of this report on 19 November 2025. It was officially released on 02 December 2025.)*



**CASP** aerospace inc.  
Since 1970

**Aircraft Safety and Life Support Equipment**  
Repair • Overhaul • Exchange • Sales

Fire Protection  
Oxygen Cylinder Assemblies  
Crew Masks  
Inflation & Pneumatic  
Cartridges  
Floor Covering  
Securaplane Batteries, Camera and Security Systems

[www.caspaerospace.com](http://www.caspaerospace.com)  
98 Columbus Street, Pointe Claire, Quebec H9R 4K4  
Tel: 514.630.7777 • Fax: 514.630.9999 • [info@caspaerospace.com](mailto:info@caspaerospace.com)

## PROPELLER, BLADE, & GOVERNOR MRO Aluminum & Composite

Toll Free - 1 800 773 6853  
[info@canadianpropeller.com](mailto:info@canadianpropeller.com)  
[www.canadianpropeller.com](http://www.canadianpropeller.com)



Your Authorized  
Service Facility

**CANADIAN**  **PROPELLER**

# Engineering a Dream



*The technical evolution and development of the Super Seawind, N71RJ*

**I**N THE SPECIALIZED FIELD of experimental aviation, there is a distinct line between those who follow a manual and those who redefine the envelope. The story of the Super Seawind, registered as N71RJ, is not merely a tale of a pilot building a kit; it is a 20-year case study in engineering persistence, technical evolution, and the uncompromising pursuit of a turbine-powered amphibious vision.

At its core, N71RJ represents one of the most complex experimental aviation projects ever undertaken. While the base Seawind 3000 airframe is already a marvel of composite design, the “Super” designation of N71RJ comes from its radical departure from standard specifications, most notably the integration of a Pratt & Whitney PT6A-20 turbine engine.

To understand the technical depth of this project, one must look past the sleek fiberglass lines and examine the decades of maintenance discipline and developmental hurdles that made this aircraft a reality. This commitment to excellence eventually culminated in N71RJ receiving the prestigious “Most Innovative Seaplane” award at EAA AirVenture Oshkosh 2025, a testament to its technical superiority in the experimental category.

### THE FOUNDATION:

#### A MAINTENANCE MINDSET (1966–1969)

The technical success of N71RJ was not born in a Florida hangar in 2006; it was forged in the U.S. Army in 1966. For Steven Wightman, the builder and pilot, the project embodied a “maintenance-first” philosophy. While stationed at Fort Eustis, Virginia, he trained in military aircraft maintenance,

**The handcrafted all-carbon cowling complements its amphibious water operations and high-speed performance.**

gaining technical depth. Working on the DeHavilland Beaver (U-6A), Otter (U-1A), and Beechcraft Queen Air (U-21), Wightman learned the “language” of airframes.

The U-21, a high-performance, twin-engine aircraft, exposed him to complex systems and operational reliability. While it did not provide direct turbine experience, it instilled the technical rigour needed for high-performance flight. In the Army, maintenance was a life-saving discipline, teaching that an aircraft’s integrity depends on torqued bolts, fluid systems, and aerodynamic cleanliness. This military-grade mindset became essential for the structural modifications required to mount a turbine engine on a kit-built frame designed for a Lycoming IO-540 piston engine.

### AERODYNAMIC GENESIS: WHY THE SEAWIND?

When the search for a personal aircraft began in the mid-1990s, the technical requirements were stringent: it had to be amphibious, fast, waterproof, and structurally resilient. Most amphibious aircraft suffer from a “compromise penalty.” To land on water, they typically require bulky hulls and high-drag bracing, which limits cruise speeds to 120–140 knots. The Seawind 3000, however, utilized a Natural Laminar Flow (NLF) wing design and a sleek, composite hull that minimized traditional amphibious limitations.



**Top, left: The Super Seawind N71RJ is turbine-powered with a sleek design. Top, right: N71RJ airborne, showing its amphibious capability. Left: Compare the sleek design of the standard Seawind, left, to the Super Seawind composite hull, right, and the clean aerodynamics of the handcrafted all-carbon cowling complementing its amphibious water operations and high-speed performance.**



**Left: Steven Wightman with the Pratt & Whitney PT6A-20 turbine engine.**

#### THE ADVANTAGE OF COMPOSITES

Technically, the kit selection choice of fiberglass over aluminum was a strategic maintenance decision. Aluminum airframes are susceptible to corrosion, especially in saltwater environments. For an amphibious vehicle, the hull is essentially a boat; it is constantly exposed to moisture and varying hydraulic pressures. The Seawind's composite structure allowed for complex aerodynamic curves, such as the integrated pylon for the engine and the sweeping curves of the hull, that would be nearly impossible to replicate with sheet metal.

This "slippery" airframe provided the foundation for a 200-knot cruise true air speed, TAS. However, working with composites at the level required for N71RJ meant mastering resin-to-cloth ratios, vacuum bagging, and thermal curing. This technical leap turned the builder into a chemical and structural engineer who had to ensure the vinylester resin and E-glass reinforcement could withstand the unique vibrational frequencies of a turbine engine. The composite construction also provided superior fatigue resistance compared to traditional metal aircraft, a critical factor for an airframe subjected to the repeated hydraulic hammering of water landings.

The NLF airfoil is specifically designed to maintain smooth airflow over a larger portion of the wing surface, reducing skin friction drag and allowing for higher cruise velocities. For the Super Seawind, this meant that once the aircraft left the water, it could perform as a high-speed cross-country machine capable of rivalling many pressurized turboprops. The design's unique engine placement, high on the vertical fin, kept the intake and propeller clear of water spray — a common issue in seaplanes that can damage propeller blades and trigger more frequent maintenance.



**Top, left: Dual displays integrate Garmin G900X and GRT EFIS for full turbine monitoring.**  
**Top, right: Delivery of the PT6A.**  
**Left: As the airframe and turbine evolved, so did the cockpit.**



**This model's interior seating layout provides a wide bench that accommodates two people.**

**THE DEVELOPMENTAL MARATHON:  
KIT 153 (2004–2009)**

The arrival of Seawind Kit 153 in 2004 marked the transition from theory to physical development. The Super Seawind project was never intended to be a “fast build” but a “right build.” Early construction focused on the structural integrity of the hull and primary spars.

Because this aircraft would be turbine-powered, the standard kit instructions served only as a baseline. Wightman consulted structural engineers and turbine specialists to determine where additional layers of carbon fibre and fibreglass were needed to handle increased operational loads.

Teamwork. Wightman invited men skilled in carpentry, composite construction, flight training, and the PT6 series engine to become part of his team.

Training? By 2009, Wightman completed Instrument Flight training certification, and seaplane training in Maine and Alaska, in addition to extensive maintenance training with Pratt & Whitney Canada, PWC, for PT6 engine line maintenance certification.

During this period, every component was inspected against military-grade standards. This included not only assembly of pre-molded parts but also “blueprinting” the entire airframe. Wing root alignment and reinforcement of landing

gear pick-up points were executed with long-term durability in mind. This phase laid the groundwork for the most demanding technical challenge: converting the airframe from a 300-hp piston-driven design to a five-blade propeller composite powered by a 550-hp jet engine.

**STRUCTURAL REINFORCEMENT  
AND TAIL GEOMETRY**

A major technical hurdle in developing N71RJ was reinforcing the airframe to handle the additional torque and thrust of a turbine engine. The standard Seawind was designed for a Lycoming piston engine. Integrating a PT6A-20 turbine required rethinking the engine mount and centre of gravity (CG) envelope. On a Seawind, the engine is mounted high on the vertical stabilizer in a “puller” configuration.



**Above: Installing position and landing lights. At its core, N71RJ represents one of the most complex experimental aviation projects ever undertaken.**

This creates a unique “pitch-power” coupling: the high thrust line produces a nose-down pitching moment with increasing power. To manage this, the tail spar and horizontal stabilizer were reinforced with light but strong carbon fibre to withstand the 550 equivalent shaft horsepower (ESHP) of the turbine, almost double the original design. The vertical fin was strengthened to endure 15G vertical and 20G forward loads. This increase in structural rigidity was essential to handle the torsional, torque forces, and vibration harmonics generated by the five-blade MT propeller.

### **HYDRODYNAMIC ENGINEERING AND “THE STEP”**

Amphibious aircraft face a dual-physics challenge: they must be stable both as boats at 60 knots and airplanes at 200 knots. N71RJ’s hull underwent careful scrutiny to ensure safe water-to-air transitions. The “step,” where the water surface tension is broken during takeoff, had to be perfectly aligned with the CG. If misaligned, the aircraft could “porpoise,” a dangerous oscillation that can lead to accidents. Wightman focused on the hull’s hydrodynamic profile to ensure clean takeoffs.

### **PT6A INTEGRATION: TRANSFORMING TO A SUPER SEAWIND**

The defining technical achievement of the Super Seawind was the integration of the Pratt & Whitney PT6A turbine. Often regarded as one of the most reliable engines in aviation history, the PT6 transformed N71RJ from a high-performance kitplane into a capable cross-country machine. The PT6A-20 variant chosen for this project provides a strong power-to-weight advantage over piston engines, enabling shorter take-off runs and superior climb performance, particularly advantageous in high-density altitude conditions.

Beyond raw power, the turbine offers mechanical simplicity and reliability. With fewer moving parts than a piston

engine and no reciprocating mass, it delivers smooth, vibration-free flight. It afforded the full power of a twin engine at half the weight under a single cowl. Installing it required a complete departure from the Seawind’s original design, including custom-engineered cowlings and a sophisticated engine-to-pylon interface to handle the 550 ESHP with no excessive heat or stress to the composite airframe.

### **THE PHYSICS OF THE PT6 INTEGRATION: A PROPELLER PT6-PARTNERSHIP**

The PT6 is a “reverse-flow” engine: air enters the back, and exhaust exits the front. In N71RJ’s puller configuration, the intake had to capture clean, undisturbed air from above the cabin, while the exhaust was routed away from the composite fuselage and empanage.

Heat management presented a significant challenge. Turbine exhaust can exceed 600C, which is catastrophic in fibre-glass if not properly shielded. Wightman redesigned the exhaust stacks by lengthening them six inches to lower exhaust gas temperatures and direct discharge away from the airframe. He also installed advanced thermal barriers made by Planemakers of Sarasota, Florida, and he installed stainless-steel exhaust ducting to prevent corrosion and boost take-off performance via additional rearward thrust. The installation also included the MT five-blade constant speed propeller optimized for the turbine’s RPM range, with a “Beta” range for reverse thrust, a critical safety feature for shortfield landings and for docking in water environments without brakes.

### **FUEL SYSTEM REDESIGN**

Turbines are thirsty. At cruise altitude, a piston engine might burn 15 to 18 gallons per hour (GPH); the PT6A-20 can burn 30 to 35 GPH at lower altitudes. To maintain a 1,000-statute-mile range, the fuel system of N71RJ had to be redesigned. This involved the technical challenge of expanding wing tank capacity by adding 17-gallon wingtip tanks and ensuring a redundant fuel pump system. Also, in a turbine, rigorous fuel testing and filtration are critical; even a small amount of water or debris can cause a flameout.

Wightman’s fuel system features dual vented header tanks with sumps and high-capacity filters to ensure only pure Jet-A reaches the turbine, redundant electric fuel pumps, and an accessible emergency shutoff enhance safety. The tanks were treated with specialized sealants to handle Jet-A’s chemical properties, which differ from the Avgas used in standard Seawind builds.

### **THE GLASS COCKPIT: INTEGRATING MODERN SYSTEMS**

As the airframe and turbine evolved, so did the cockpit. N71RJ moved from traditional “steam gauges” to a fully integrated glass cockpit, enabling precise monitoring of the high-performance turbine. The digital system allows faster data processing, helping the pilot react to engine trends before they become critical. For backup, a second set of gauges was

installed to monitor the oil and fuel pressure and engine temperature. A live digital camera permits viewing via the Grand Rapids Engine Flight Display, EFD. The oil pressure indication is used to calibrate and cross-check EFT indications. In addition, the G900x-coupled Trutrak HX autopilot provides enhanced safety by stepping in to fly the super seawind to any land or water airport. Furthermore, an auto feather and a glide range of 10.9 - 1 assures pilots of a safe landing.

#### **SYSTEM INTEGRATION AND REDUNDANCY**

Turbine engines require monitoring of different parameters than piston engines. Instead of cylinder head temperature (CHT), pilots track interstage turbine temperature (ITT); instead of RPM, they monitor Ng (gas generator speed) and Nf (propeller speed). Integrating these sensors into the Garmin G900X and Grand Rapids Technologies (GRT) EFIS required complex wiring, rewiring, and data-bus programming and testing. N71RJ was designed for long-range IFR flight, with 28-volt redundancy, four independent batteries, and backup power for flight displays, a level of system redundancy usually found only in commercial aircraft.

#### **MAINTENANCE AS A DEVELOPMENTAL TOOL**

Throughout the 20-year build, maintenance was part of the development process. Wightman approached every taxi test and engine run as a data-gathering mission. Nosewheel vibrations, propeller performance, or a sticky brake were investigated thoroughly, not just corrected. This methodical approach transformed the aircraft into a living project that evolved through thousands of hours of technical observation. Maintenance discoveries allowed Wightman to resolve issues with landing gear retraction speed and oil system cooling, resulting in a more reliable and robust aircraft.

#### **MORE INNOVATION?**

When on land, an electric-hydraulic nosewheel enables this amphibious vehicle to turn on a dime. Useful in tight airport parking. A streaming digital camera of the nosewheel well lights up the GRT EFIS so the pilot can see inside and, if necessary, unstick a hung nosewheel all at the touch of a button from inside the flight deck. Finally, two-place oxygen from Mountain High Oxygen of Oregon equips N71RJ to leap over clouds and avoid threatening storms up to 24,000 feet.

#### **THE “SUPER” IN SUPER SEAWIND: PERFORMANCE RESULTS**

The decades-long development of N71RJ produced an aircraft that redefined amphibious performance. While most amphibious aircraft struggle to exceed 150 knots, N71RJ can cruise at 200 knots TAS in class A airspace. The combination of the PT6A's 550 ESHP and the Seawind's low-drag hull created a “power-to-cleanliness” ratio rarely seen in experimental aviation. With a low weight-to-power ratio, this aircraft climbs at over 2,500 feet per minute, quickly reaching high-altitude cruise where the turbine becomes most efficient.

Achieving this required solving countless engineering challenges, from the water-tight integrity of the retractable landing gear to a turbine inlet air dryer via an inertial particle separator, IPS. N71RJ carries a useful load of approximately 1,200 pounds, allowing a full payload of passengers and equipment even with full fuel. These performance achievements contributed to its recognition as the “Judges’ Choice for Most Innovative Seaplane” at Oshkosh 2025, standing out among hundreds of specialized aircraft.

#### **THE LEGACY OF PERSISTENCE: TECHNICAL LESSONS LEARNED**

The development of N71RJ proves that the limits of a kit-built aircraft are defined by the technical ambition and discipline of the builder. The project demonstrates that integrating industrial-grade turbine technology into a personal airframe is possible when structural and systems engineering are approached with care.

Persistence was as much a tool as any wrench or gauge. Wightman faced financial hurdles, technical redesigns, and the mental demands of a two-decade build, but his refusal to settle for “good enough” meant every system was optimized. From the custom-molded interior that reduced cabin noise to precision-balanced control surfaces that provided fingertip handling at high speeds, each detail reflected the commitment to technical excellence. This persistence carried the project from fiberglass molds to a world-class, turbine-powered amphibious aircraft recognized as the “Judges’ Choice for Most Innovative Seaplane” at Oshkosh 2025.

#### **DOCUMENTATION AND EDUCATIONAL VALUE**

One of the most significant aspects of the N71RJ project is its thorough documentation of the build process. From the challenges of integrating the PT6 turbine engine to the complexities of composite maintenance and the realities of amphibious flight testing, Wightman carefully recorded the engineering decisions and lessons learned over two decades. Wightman's book “The Legacy of N71RJ” offers a detailed account of these technical choices, emphasizing the value of a “Subject Matter Expert” (SME) mindset when approaching high-performance aviation. The book provides invaluable insight for the Seawind community and the broader experimental aviation world, showing that safety and performance are built on careful planning, disciplined process, and experiential knowledge.

#### **LEGACY OF THE SUPER SEAWIND**

The Super Seawind N71RJ is more than an airplane; it is a legacy of engineering, discipline, and innovation. It evolved from a vision in U.S. Army maintenance hangars to a turbine-powered amphibious marvel. It demonstrates that the compromises of amphibious aviation can be overcome with vision and technical precision. Its 25-year journey from a kit to Oshkosh 2025's Most Innovative Seaplane highlights that a single builder can achieve what often only major aerospace teams attempt. ■ *(With Steven Wightman files)*

**Aviation Services**

**When flying is what you do, we're here.**

Sealand Aviation, located at Campbell River on Canada's West Coast, provides experienced and efficient aircraft maintenance and service.

- Transport Canada approved for repairs, maintenance, structures, welding and manufacturing.
- A&P and IA on staff for US inspections and US annuals.
- EASA Part 145 Approved



2300 Airside Drive, Campbell River Airport  
2880 Spit Road, Campbell River Floatplane Base

[www.sealandaviation.com](http://www.sealandaviation.com) • 1.800.331.4244

**SAVEONJETFUEL**

- Enviro Tanks
- Bulk Jet Fuel
- Avgas

**Toll Free: 1-866-353-3030**  
[www.saveonjetfuel.com](http://www.saveonjetfuel.com)

*SERVING THE HELICOPTER INDUSTRY*

**AirMaintenance Update  
AME / AMT Guidance**



**FLYRITE**

AMO 90-97 EDMONTON, AB  
ACCESSORY OVERHAULS

**STARTER-GENERATOR**

**OVERHAULS BY THE BOOK!**

- Overhauls
- Modifications
- Exchanges
- Service
- Rentals

SAFRAN • SKURKA • THALES  
**1-888-439-6020**

[info@flyrite.ca](mailto:info@flyrite.ca)  
Ph. 780 439-6020  
[flyrite.ca](http://flyrite.ca)  
[www.flyriteaccessoryoverhauls.com](http://www.flyriteaccessoryoverhauls.com)



**Pitot-Static  
Test Adaptors**

**For all Types of Aircraft**

**Nav-Aids Ltd**

**1-877-332-3055 [www.navaidsltd.net](http://www.navaidsltd.net)**

**Aviation Services**

**Canadian Aero  
Accessories Ltd.**



**Component Sales  
Overhaul & Repair**



Authorized repair Station For

**GOODRICH**

**Ice protection systems  
PowerSystems**

170 George Craig Blvd. N.E.,  
Calgary, AB, Canada T2E 7H2

ph: 403.250.9077

[sales@cdnaero.com](mailto:sales@cdnaero.com)  
[www.canadianaero.com](http://www.canadianaero.com)

**Aircraft**  
CANADA



**SINGLE PISTON • TWIN PISTON • SINGLE TURBINE • TWIN TURBINE  
JETS • HELICOPTERS • APPRAISALS**

*Certified Aircraft Appraisals*

*Member of National Aircraft Appraisers Association*

**LORNE GRAY AGENCIES LTD.**

**TEL: 403-547-1024 FAX: 403-547-0037 EMAIL: [INFO@AIRCRAFTCANADA.COM](mailto:INFO@AIRCRAFTCANADA.COM)**

**[www.aircraftcanada.com](http://www.aircraftcanada.com)**

**AirMaintenance Update**  
**[www.amumagazine.com](http://www.amumagazine.com)**



**Alpha Publishing Group Inc.**

Unit 100 - 6660 Graybar Road  
Richmond BC V6W 1H9 Canada



**Heli Technology Inc**

**SPECIALIZING IN BELL HELICOPTERS**

**204, 205, 206, 212 & 407**

- Dynamic Component Overhaul •*
- Genuine Bell Parts Sales •*
- Exchange & Rental Program •*
- Field Maintenance •*
- In-House Reworks & Machining •*

**OVER 30 YEARS EXPERIENCE**

Phone: (250) 566-4401  
Fax: (250) 566-4333

PO Box 18, 3010 Selwyn Road  
Valemount BC V0E 2Z0

**Aviation Services**

**Now Hiring at Stolairus Aviation Inc.**



We are currently looking for an experienced AME for full time employment.

Prospects will have a minimum of 2 Years Canadian General Aviation M1 Maintenance experience. A strong structures and DHC-3 Otter experience a bonus!

Please visit our website (www.stolairus.com) for more information on our AMO.



**No phone calls –**  
Please send resume to:  
**stolairus@telus.net**

**Leading  
Edge  
Technology**



**Beaver & Otter  
Safety & Performance  
Modifications**

- Beaver – STOL Kits
- Wing Angle Kits
- 5370 Upgross Kits
- Otter – STOL Kits
- 400-lb. Upgross Kits
- Float Stretch Kits
- “Yukon” Cargo Door



**Walter Turbine Otter Conversions**  
*“the most cost effective  
Turbine Otter Conversion  
on the market”*



**TC approved (AMO# 80-07)  
for Maintenance,  
Repairs, Structures,  
Welding & Manufacturing**

www.stolairus.com / stolairus@telus.net  
6095 Airport Way, Kelowna, BC V1V 1S1  
(North end of Kelowna Int'l Airport)  
Phone: (250) 491-7511  
Fax: (250) 491-7522

**ENGINE APPROVED KITS**  
**NEW DPU 7-7070 VIDEO RECORDING**

# MACHIDA

- HD VIDEOSCOPIES
- BORESCOPES
- BLENDING SCOPES
- CUSTOM SCOPES

**WWW.MACHIDASCOPE.COM**

Find us on Facebook

**PHONE: 1-800-431-5420 - 1-845-365-0600 EMAIL: INFO@MACHIDASCOPE.COM**

## Interface Integration

*As a novel exercise in gimmickry, Lufthansa has turned the common in-flight fold-out table into a high-def touch screen.*



PHOTO: LUFTHANSA-TECHNIK

**L**UFTHANSA TECHNIK has miniaturized the technology behind its Hidden Touch Display in order to pave the way for a clever new form of user interface integration in aircraft cabins: the “Nice Intellitable,” which was presented at the Dubai Airshow during the month of November 2025. The new tech blends high-definition touchscreen functionality directly into the surface of a folding tray table. The tray’s smart display functions only appear on the passenger’s request and just as quickly vanish into the tray table’s thin foldable surface when no longer needed.

The Nice Intellitable represents a further development of Lufthansa Technik’s Hidden Touch Display, which earlier in 2025 had already won a prestigious Red Dot Design Award. The technology’s central feature is a fusion of high-quality look and feel surfaces with interactive functionality for the aircraft cabin. Customizable for surface appearances (such as wood, carbon fibre or metal, to name just a few), all control interfaces can blend seamlessly into the interior design, providing passengers with an intuitive yet optically and sophisticated control experience.

Compared to its wall-mounted predecessor, the fully customizable Nice Intellitable also broadens the spectrum of integrated control functionalities to a large extent. The current demonstrator integrates content such as flight information, a moving map, seat adjustment, a food and beverage preview and ordering system, music and video content players, and a flipping book for digital magazines.

Once the tray table is needed in its original role as the surface for dining, all hidden touch functions can be minimized to a space-saving design at the edge, or simply switched off. For this role, the smart surface is completely resistant to spilled fluids and the abrasive forces of silverware or other hard items.

“Sometimes, there seems to be a disconnect between how airlines and VIP operators design their control solutions, and how their passengers actually interact with the cabin environment,” said Andrew Muirhead, Lufthansa Technik’s Vice President Original Equipment and Special Aircraft Services. “To get rid of traditional control interfaces, which sometimes can feel bulky and outdated, we are permanently rethinking how technology integrates with interior design, creating more cohesive and natural interactions. The Nice Intellitable exemplifies this approach, redefining VIP, but also commercial business or first class cabins, through more intuitive and seamless technology that puts both passenger experience and airline needs at the centre.”

Just a few years ago, Lufthansa was still focused on traditional high-end screen technology. Through its Aerq joint venture with LG, the group tested next-generation in-flight entertainment concepts – such as 14-inch 4K Organic Light-Emitting Diode (OLED) displays with streaming capabilities at every seat. But after five years, the start-up discontinued operations in 2024. ■

*Courtesy Lufthansa Technik ([www.lufthansa-technik.com](http://www.lufthansa-technik.com))*

# Canadian Aero Accessories Ltd.

Component Sales

Overhaul & Repair



Trusted  
Experience  
Since 1964



## CALL US FOR THIS & MORE !

- Fire Bottles • Oxygen Bottles • Escape Slides • Life Rafts
- Starter Generators • AC Generators • Generator Control Units
- Boost Pumps • Fuel Pumps • Blowers • Valves • Brakes
- Hydraulics 5606 and Skydrol • Electronics/GCUs
- Actuators - Hydraulic and Electrical

Authorized repair Station For

**GOODRICH**

**Ice protection systems**

170 George Craig Blvd. N.E., Calgary, AB, Canada T2E 7H2

ph: 403.250.9077 • fax: 403.250.6841

sales@cdnaero.com

[www.canadianaero.com](http://www.canadianaero.com)

# JetBed™

Easy to Carry • Easy to Stow • Ready to Go



*"Thank you for finally providing a solution to a comfortable, restful sleep on a corporate jet ... back support is superb ... the quality of your bed is evident ... a real winner."*

*Lusardi Construction Co.*



## The Comfortable Way to Fly

Easy to use, easy to stow!  
Removable mattress, for easy cleaning. Meets or exceeds FAR-25-853a standards for flammability. JetBed™ weighs no more than 20lbs!

### Available for:

Cessna CJ-1  
Cessna CJ-2  
Cessna CJ-3  
Cessna XL & XLS  
Cessna XLS-PL, XLS Plus  
Cessna Encore & Ultra Encore  
Citation X & Sovereign  
Gulfstream G200  
Gulfstream 550  
Gulfstream G-IV  
Gulfstream G-V  
Challenger 300  
Challenger 600 Series  
Falcon 2000  
Global Express  
Learjet 45  
Hawker 800  
Falcon 50

*"... a long flight was proof that JetBed was the right decision. Without hesitation, I would recommend JetBed to any operator seeking ease, reliability and quality ... Kudos to you and your Jet Bed staff for such a quality and innovative solution. You have surpassed all of my expectations ..."*



# JetBed™

*"... a great addition to our cabin requirements ... deployment is extremely easy ... stores easily ... definitely a satisfied JetBed customer."*

*Qualcomm Flight Department*



**BKD**  
mobility products  
Approved distributor

Tel: 604.247.2128 Fax: 604.214.9825

[www.bkdaerospace.com](http://www.bkdaerospace.com)  
[info@bkdaerospace.com](mailto:info@bkdaerospace.com)

BKD Aerospace Industries Inc.