

Proud Supporters of PAMA & Canadian AME Associations



AirMaintenance

UPDATE

The Magazine for Aircraft Maintenance Professionals



Transport Canada Approved for R/T

Celebrating
NBAA 2012

**PAMA
and AME
news**

**Aviation Terms
Part 1**

Publication Mail Agreement No. 0041039024
and Return Undeliverable Canadian Addresses to
Alpha Publishing Group Inc.
Suite 2 - 203 4360 Agar Drive, Richmond, BC, V7B 1A3
email: amu.magazine@telus.net

October - November 2012
Volume 11/Issue 3

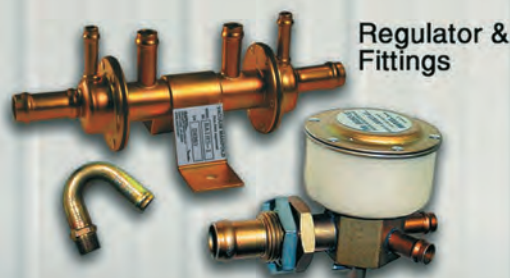
\$6.95

RAPCO_{inc.}

REPLACEMENT AIRCRAFT PARTS CO.

Rapco, Inc. can help you reduce maintenance costs...this is good for you and your customer. With the impact fuel prices have had on general aviation flying, and the resulting impact on maintenance facilities, everyone needs to find a way to decrease their operating costs, without sacrificing quality or safety. Rapco can help.

All Rapco parts are FAA-Approved, warranted better than the OEM, to save you and your customers money. Call now to see how we can help you - 1-800-527-2726



Visit: <http://www.rapcoinc.com/acappguides.html> for individual specific application guides for most popular aircraft

Visit us at
Booth 4782
NBAA 2012

Request an e-card
at www.rapcoinc.com

**PARTS
DEPARTMENT**

RAPCO_{inc.}
REPLACEMENT AIRCRAFT PARTS CO.



1-800-527-2726

RAPCO_{inc.}
REPLACEMENT AIRCRAFT PARTS CO.

www.rapcoinc.com

NO PLANE NO GAIN

visit www.noplanenogain.org

Clare Leavens Award

It was a complete surprise. An email arrived from the Ontario AME Association telling us that we, Air Maintenance Update Magazine, would be presented with the Clare Leavens Award at their annual symposium in October. The Clare Leavens Award is given to a member of the Aircraft Maintenance Engineers Association of Ontario who, in the opinion of the directors and members, has made a particularly outstanding contribution to the continued success of the association. It is a great honour to be recognized in this way. Thank you to all concerned. Unfortunately, I am unable to attend the symposium in Toronto and I regret that. I'll be there in spirit.

Also this month is the 65th NBAA Annual Meeting and Convention in Orlando. The magnitude of this event is quite staggering. There will be over 100 education, maintenance and operations sessions, and it is expected that 25,000 business aviation professionals interested in learning what is new in the business aviation world will be in attendance.

For those who think that business aviation is only for the rich and famous, consider the following uses of business aircraft: They are used for transportation of just-in-time cargo and parts, medical and emergency transport, news gathering, weather monitoring, transportation of employees to where they are needed when they are needed, transportation of customers, pipeline monitoring, and of course, the transportation of decision makers to exactly where they need to be (which may not be anywhere near a major international airport) when they need to be there, and in many cases a number of these places in the same day and then home that night. No, much of today's business could not be accomplished without business aircraft and the NBAA annual meeting brings it all together under one roof.

And while all this is going on, we here at AMU will stay the course and focus on the maintenance aspect of the aviation business where the sometimes unsung heroes work long hours to get these aircraft in the air and make all this possible

— Ian Cook, Editor

Departments

- 4 Upcoming Events
- 4 Advertisers Index
- 6 STCs & New Products
- 8 Industry Forum
- 21 AME Association and PAMA News
- 43 Classified
- 46 AMU Chronicles
By Sam Longo

Features

Aviation Terms Part 1

By Mike Broderick

10

Pilot Optional Aircraft Explained

By Gordon Walker

30

The Regs: More Letters from Readers

By Norm Chalmers

34

Keep On Working

By Stuart McAulay

40



AMU is viewable online: subscribe and download at www.amumagazine.com

AirMaintenance Update

Suite 2-203, 4360 Agar Drive
Richmond BC V7B 1A3 Canada
phone: (604) 214-9824 • fax: (604) 214-9825
toll free: 1-877-214-9826

email: amu.magazine@telus.net

Published by Alpha Publishing Group Inc.

Publication Mail Agreement Number 0041039024
and Return Undeliverable Canadian Addresses to:
Alpha Publishing Group Inc.
Suite 2-203 4360 Agar Drive
Richmond BC V7B 1A3 Canada

website: www.amumagazine.com

managing editor: Ian Cook

art director: Gregory Kero

publisher: Bill Carter

sales manager: Bill Carter

Advertising inquiries: (604) 214-9824

production manager: Chrissie Harvey

circulation: Anne Gervin

contributors: Mike Broderick,

Norm Chalmers, Sam Longo, Stuart McAulay,
Brian McNair, Gordon Walker, Sue Yost

Publications Mail Registration No. 0007198278

Subscription Rates: 1 Year: \$35 2 Years: \$55

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 Inc.
Copyright 2012 Printed in Canada

Corporate Member of:



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.

ISSN 1703-2318

Upcoming Events

CANADA

Ontario AME Symposium

October 17 – 19, 2012
Delta Meadowvale Resort
and Conference Centre
Mississauga, ON
www.ame-ont.com

Canadian Aerospace Summit

December 5 – 6, 2012
Ottawa Convention Centre
Ottawa, ON
www.aiac.ca/summit

Pacific AME 30th Year Celebration and Maintenance Symposium

January 16 – 19, 2013
Sheraton Vancouver Airport Hotel
Richmond, BC
www.pamea.com

Western AME Association Maintenance Symposium

March 13 – 15, 2013
Coast Plaza Hotel
Calgary, AB
www.wamwa.com

UNITED STATES

AOPA Aviation Summit

October 11 – 13, 2012
Palm Springs Convention Center
Palm Springs, CA
www.aopa.org/summit

Digital Avionics Systems Conference

October 14 – 18, 2012
Crowne Plaza Williamsburg
Williamsburg, VA
www.dasconline.org

NBAA 65th Annual Meeting and Convention

October 30 – November 1, 2012
Orange County Convention Center,
Orlando Executive Airport
Orlando, FL
<http://www.nbaa.org/events/amc/2012/>

California Aircraft Expo

November 3, 2012
McLellan Palomar Airport, Carlsbad, CA
December 1, 2012
Long Beach Airport, CA
www.californiaaircraftexpo.com

Arizona Aircraft Expo

November 9 – 10, 2012
Landmark Aviation
Scottsdale, AZ
www.azaircraftexpo.com

INTERNATIONAL

Dubai Helishow

November 6 – 8, 2012
Grand Stand, Meydan Hotel
Meydan Racecourse
Dubai, United Arab Emirates
www.dubaihelishow.com

Airshow China

November 13 – 18, 2012
Zhuhai, Guangdong, China
www.airshow.com.cn

Middle East Business Aviation Summit

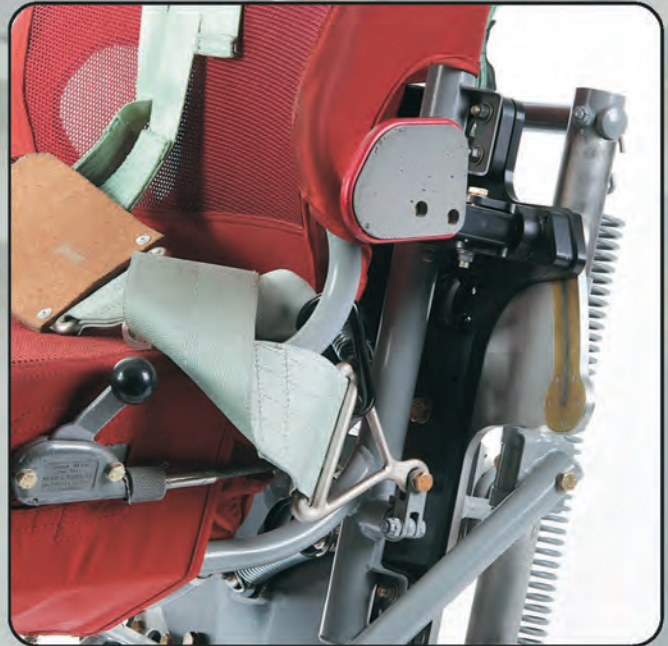
December 11 – 13, 2012
Al Maktoum International Airport
Dubai World Trade Centre, UAE
www.meba.aero

Advertisers Index

APS Brakes / Aero Incorporated	9	Eagle Fuel Cells Inc	31	Precision Aviation	11
Aeroneuf Instruments Ltd	32	FAA Productions	41	ProAero Engines Inc.	38
Aerosmith Heli Service	41	Gregorash Aviation	13	Progressive Air	14
Alpine Aerotech	5	Hartwig Aircraft Fuel Cell Repair	39	Propworks Propeller Systems	39
ARMEX	8	Heli-Expo 2013	20	Rapco Inc	2
Aviall	47	HEROS Inc.	17	Schweiss Bi-fold Doors	37
BKD Aerospace	35	Hope Aero	7	Scissordeck.com	12
Canadian Aero Accessories Ltd	15	MARSS	37	Superior Oil Coolers	14
Canadian Airframe Solutions Inc	12	NAASCO	33	U.S. Air Tool Company	36
Canadian Propeller Ltd	16	NBAA 2012	19	U.S. Industrial Tool & Supply Co	11
Casp Aerospace Inc	18	Okanagan Aero Engine Ltd	32	Universal Aero Engines Ltd	36
Concorde Battery	18	Ontario AME Association	29	Vector Aerospace	48
Condor Aircraft Accessories	16	Perimeter Aviation	31	Western Propeller Company Ltd	38



ALPINE AEROTECH LTD.



ANOTHER ALPINE AEROTECH SOLUTION



Authorized Bell Helicopter CSF

Composite Repairs
Full Paint Services
Approved Repair Fixtures
Instrument & Radio Repairs
Component Overhaul Services
Radio & Avionics Installations
Major Inspections & Overhauls
Import and Export of A/C
Manufacturing



1260 Industrial Road, Kelowna, B.C., Canada V1Z 1G5
Phone: (250) 769-6344 Fax: (250) 769-6303
admin@alpineaerotech.com www.alpineaerotech.com

STCs & new products

Concorde approves Battery Maintainers and Chargers for RG Series

Concorde Battery has approved the BC-8000 (Battery Charger and Capacity Tester), BC-9000 (25 Amp Battery Charger) and BatteryMINDer, 12V and 24V versions, for use on all RG series batteries. The new BC-8000 provides a cost-effective battery charger and capacity tester for 12 and 24-volt batteries in one lightweight unit. The digital display is easy to program for "set it and forget it" use. The BC-8000 provides an adjustable constant current load in 0.1A increments from 0.5A to 15A and 1.0A increments from 15A to 55A for discharge purposes. Additionally, the unit is a 25A charger capable of constant voltage and constant current charging for lead acid and nickel-cadmium batteries. **For information visit** www.concordebattery.com



Field Aviation receives STC for Dash 8 Air-Operable Door

Field Aviation has received an STC (#ST03120NY) from the FAA for installation of its proprietary Air Operable Baggage Door (AOD) on the DHC-8-100/200/300 series of aircraft. The FAA STC complements a previously issued Transport Canada STC. The manually operated, inward-opening plug-type door measures 50 x 60 inches and can be opened in flight for egress of personnel or equipment. The door is secure in its open position. Operator restraint attachment points and non-slip flooring are provided as additional safety measures. **For more information visit** www.fieldav.com



KH Industries Quad Light: portable, shatter-resistant lighting

KH Quad Lights can be daisy-chained together for fuselage overhaul and repair lighting, or used alone for aircraft repair and maintenance lighting. Intensely bright and very durable, the Quad Lights resist breakage from drops and falls.

This portable, industrial-grade light is designed to resist breakage through the use of shatter resistant polycarbonate tubeshields, an aluminum backbone that provides structural support, rubber end caps that stay intact during drops and falls, and lamp shock absorbers. The bulbs have a laminate coating that contains breakage.



For more information visit www.khindustries.com/AviationLighting

Maxcraft announces STC for Garmin G500H on Eurocopter AS355

Maxcraft Avionics Ltd., of Pitt Meadows Airport near Vancouver, BC, has announced that they have received Transport Canada Supplemental Type Certificate SH12-43 for installation of the Garmin G500H Flight Display System in Eurocopter AS355 rotorcraft. Approval for the G500H allows installation of interfaced systems including Garmin's Digital AHRS and ADC, 400W/500W Series Navigator, GTS800 Traffic Alerting System, FreeFlight RA-4500 Radar Altimeter, GTX Transponder and an interface to onboard NTSC or PAL video systems.

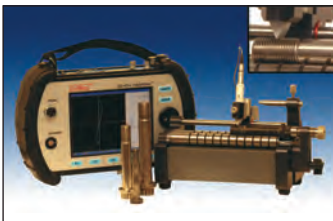
For more information visit www.maxcraft.ca



UniWest Tie Bolt Inspection System outperforms other testing methods

Aircraft wheel tie bolts are extremely safety-critical, as they hold the two halves of the wheel together and must withstand the stress of landing. Recently introduced, UniWest's Tie Bolt Inspection System, using eddy current testing (ECT), is now being used by major airlines as well as numerous aircraft wheel and brake shops that perform testing of aircraft landing gear. It is used to inspect the threaded area of the tie bolt and the underside of the bolt head. Independent testing proved that this system can detect smaller flaws than other methods.

For more information visit www.uniwest.com



Skyscapes Paint System meets two SAE AMS 3095 Certifications

SKYscapes, a new basecoat/clearcoat exterior paint system developed by Sherwin-Williams Aerospace, has two complete coating systems that include pretreatment, corrosion protective primer, topcoat and clearcoat, certified with SAE International's Aerospace Material Specification 3095 (AMS 3095). One system includes: Alodine, 483987 Primer, and SKYscapes basecoat/clearcoat. The second includes: Alodine, 483787 Chrome Hazard Free Primer, and SKYscapes basecoat/clearcoat. The system delivers faster process times, brighter and better hiding colors and easier maintenance repairs. **For more information visit** www.swaerospace.com



To announce your STC or new product, email a JPG photo and a product description to
amu.editor@gmail.com or amu.magazine@telus.net



**It's not always easy to see
the quality of our work.**

You need it done right, signed off, and back in the air. It's as simple as that. As the best-equipped overhaul facility in Canada, Hope Aero completes 95% of our work in-house, saving our clients money and time. With more than 550 years of technician experience and more than \$1 million of new technology added in the last five years, Hope Aero has the skills and experience to get your job done on time, the first time. When schedules matter – and they always do – **you need a partner who knows what matters most.**



800-268-9900 | hopeaero.com



PAMA & REPAIRPLANE.COM ANNOUNCE PARTNERSHIP

WASHINGTON DC, August 14, 2012 — The Professional Aviation Maintenance Association (PAMA) is proud to announce a strategic partnership with Repairaplane.com, a new website designed to match general aviation aircraft owners with qualified A&P mechanics and certified repair stations throughout the country, including paint, interior and avionics shops.

To celebrate the partnership, Repairaplane.com is offering PAMA members a highly discounted six-month trial subscription rate of \$285 in order to take advantage of the site's services. Membership includes a free tile ad on Repairaplane.com's home page, an enhanced profile in search results, email alerts when work is posted in their area, and free PAMA membership renewal. Repairaplane.com subscribers will also receive personalized marketing support

to ensure jobs are being posted within their area. So long as a member stays subscribed to Repairaplane.com, their PAMA membership will be renewed annually at no cost on an ongoing basis.

Non-PAMA members who subscribe to Repairaplane.com can also enroll in the introductory special and will be given a free one-year subscription to PAMA as well.

Repairaplane.com is dedicated to connecting general aviation aircraft owners with A&P mechanics, certified repair stations, and paint, interior and avionics shops throughout the country in a new and innovative way. At Repairaplane.com, aircraft owners post needed repair or upgrade work for free, then receive bids directly from the mechanics and shops interested and qualified to do the job. This provides owners with access to more resources than ever before when approaching their airplane repair or upgrade work while at the same time allowing mechanics the opportunity to

bid on and win business they may not have had access to otherwise.

For more information visit www.repairaplane.com.

ASSOCIATED AIR CENTER COMPLETES 23rd BOEING BUSINESS JET (BBJ)

TEMPE AZ, August 15, 2012 — Associated Air Center, StandardAero's Large Scale VIP Transport Completions Center in Dallas, Texas, recently delivered its 23rd "green" Boeing Business Jet (BBJ) completion for an Eastern European-based energy company customer.

The completed interior includes a large sitting area complete with bench seating, retractable tables, and individual "captain's chairs," in addition to a custom-designed lavatory and bedroom. Other features include a fully equipped cabin management system with in-flight entertainment, WiFi communications and flat panel video monitors.

ARMEX® Baking Soda Based Media — Discover the Difference

Case Study:

FAA Certified Repair Station

Application Overview: Remove polyurethane paint from magnesium part without removing chromate conversion coating and without damage to part.

Process: ARMEX Maintenance Formula XL at 30 psi in contained cabinet system.

Results: Successfully replaced hazardous chemical process, reduced cleaning time by 50% per part. Eliminated unnecessary costs of chromate recoat. Provided a cleaner, safer working environment. Eliminated hazardous waste disposal cost.

"We're saving money, time and cutting hazardous waste."



APPLICATIONS

Aluminum Parts
APUs
Gear Boxes
Sub Assemblies
Wheels and Brakes
NDT test cleaning

BENEFITS

No pitting, peening
or crack closure
Rinse parts clean
Superior Flowability
Water Soluble
Easier Disposal



For further case studies and more information go to
ARMEX.com or call 800-332-5424



ARMEX® and ARM & HAMMER® are registered trademarks of Church & Dwight Company. ISO9002

Among Associated Air Center's other recent achievements are its contract award for an Airbus A330-200 series wide-body aircraft and the opening of its 4,000-square-foot VIP custom interior Design Center which includes a full scale interior of a narrow-body Boeing Business Jet/Airbus Corporate Jet (BBJ/ACJ) VIP cabin, complete with full functioning seating, interior lighting, cabin management systems and an array of fabrics, veneers and interior floor plans.

StandardAero's Associated Air Center provides world-class program management and ODA certification authority to keep airplane programs on schedule and provides industry-leading experience and warranty support after delivery. The company's state-of-the-art facility employs advanced engineering in the industry along with operational excellence and superior customer service. For more information visit www.associated.aero.

STANDARD AERO RECEIVES NEW CERTIFICATIONS

TEMPE AZ, August 30, 2012 — StandardAero Components, an OEM authorized provider of component repair and overhaul services for the U.S. military and commercial aviation industry, announced it has expanded its global service capabilities with the recent certification and approval for engine component repair and overhaul, from two international civil aviation authorities.

StandardAero Components successfully renewed its Civil Aviation Administration of China (CAAC) certification and obtained a new authorization from Indonesia's Directorate General of Civil Aviation. StandardAero Components currently holds FAA, EASA, and CAAC 145 certification across a broad range of platforms, including GE, CFMI, Pratt & Whitney, Rolls Royce, and Honeywell product lines.

The recertification by CAAC expands StandardAero's support capabilities with an additional 1,000 new part numbers. The recent certifications extend the support of repair capabilities across Asia, one of the world's fastest-growing aviation regions. For more information visit www.standardaero.com.

MARANA MAXIMIZES ASSET VALUES OF AIRCRAFT

MARANA AZ, September 13, 2012 — Marana Aerospace Solutions, one of the world's largest commercial aviation maintenance and storage resources, is assisting aircraft owners to recoup the maximum economic potential of their assets when their aircraft are ready to be retired from service. Recognized as one of the most reliable providers of maintenance, repair and overhaul, Marana Aerospace Solutions also offers comprehensive services for various end-of-life options, including parts inspection, controlled parts removal, recording and tagging, packing, crating and shipping.

With its ideal location in the dry Arizona desert, the facility has, for over 30 years, provided award-winning maintenance solutions for almost every type of commercial aircraft. Incorporating its world class, FAA-certified aircraft maintenance expertise into its end-of-life programs enables Marana Aerospace Solutions to offer optimized packages to meet its customers' specific needs. In ad-

dition, the 1,200-acre facility's capacity to store up to 400 aircraft enables it to provide a unique suite of options to aircraft owners. For information visit www.maranaaerospace.com.

STEVENS AVIATION EXPANDS GULFSTREAM MAINTENANCE CAPABILITIES

GREENVILLE SC, September 18, 2012 — Stevens Aviation has added the Gulfstream models GIII, GIV and GIVSP to its Greenville/Spartanburg, SC maintenance capabilities. The program is being led by Rick Screen, who held management positions within Gulfstream Aerospace and West Star Aviation prior to joining Stevens Aviation as its Gulfstream Program Manager. Rick and his team will be offering Gulfstream customers inspections and maintenance, structural repairs, avionics and interior refurbishment. Stevens will be providing customers with free fuel to fly into and out of GSP for a major inspection. For more information visit www.stevensaviation.com. ■



PRECISION AT AN AFFORDABLE PRICE!

The APS "BlackSteel" Advantage —

As if affordability wasn't enough, APS also offers a high quality disc. The "BlackSteel" discs are CNC-machined from a one-piece forging, allowing for a stronger disc and a reduced risk of cracking. The APS heat treatment process provides additional strength to the steel, and provides the surface with a high resistance to rust and corrosion. The APS "BlackSteel" brake disc is the first choice among many commercial operators, making our brake discs the "proven original."

CALL OR VISIT US ONLINE!
 618.797.3140 (local) 618.931.0190 (fax)
apsbrakes@apsbrakes.com (email)
WWW.APSBRAKES.COM

APS
 aviation products systems, inc.

Aviation Terms

Part 1



brought this to my attention was when the love of my life asked me to explain what it meant when an article that was installed on an aircraft was installed under a TSO. “What is a TSO?” she asked. “A Technical Standard Order” I said. “That’s nice, but really what is it?” she asked. I knew but couldn’t really explain it. Hmm, this is not a good thing. Not knowing this term well enough to explain it was not going to do, so not only did her question cause me to look up the term so that I could properly explain it to her, but my shortage of knowl-

edge about this term also gave me the idea for today’s lesson. Just how proficient are we in this language of aviation terms and acronyms? Well, let’s find out. And whad’ya say we start with the definition of TSO and go from there. Also, you can expect that today we will also have plenty of cocktail knowledge (CK) presented as well. So grab some coffee and let’s get started.

A Technical Standard Order (TSO) is a minimum performance standard issued by the United States Federal Aviation Administration for specified materials, parts, processes, and appliances used on civil aircraft. Articles with TSO design approval are eligible for use on the United States type certificated products. Receiving a TSO authorization (TSOA) gives both design and production approval. So our first question for today is, does receiving a TSOA or a letter of TSO design approval necessarily convey approval for installation into or on an aircraft? I will let you ponder this for a while as we investigate the terms type certificate (TC) and supplemental type certificate (STC). A type certificate (TC), is awarded by aviation regulat-



BY MIKE BRODERICK
Helicopter Engine Repair Overhaul Services

Welcome back, my faithful students.

It looks like we will be continuing our interrupted Martin Mars story in another session. I am sure when the fire season slows down we will get the opportunity to finish up with our interviews of the pilots and mechanics, and get a close-up view of these beautiful aircraft. However, while we are waiting, how ‘bout we review our knowledge of aviation language. I know this might sound a little boring, but think about it: We confidently use these terms and acronyms every day, assured that we absolutely know their meaning until somebody questions us about a term. What

ing bodies to aerospace manufacturers after it has been established that the particular design of a civil aircraft, engine, or propeller has fulfilled the regulating bodies' current prevailing airworthiness requirements for the safe conduct of flights under all normally conceivable conditions (military types are usually exempted). Aircraft produced under a type certified design are issued a standard airworthiness certificate. The TC normally includes the type design, the operating limitations, the type certificate data sheet (TCDS), the applicable regulations, and other conditions or limitations prescribed by the regulating authority. The TC is the foundation for other approvals, including production and airworthiness approvals. TCs are normally issued for airframes, engines and propellers.

A production certificate (PC) entitles the holder of a TC to produce that product under the watchful eye of the regulatory authority. Any person may apply for a production certificate if that person holds, for the product concerned, a current type certificate, a supplemental type certificate, or rights to the benefits of that type certificate or supplemental type certificate under a licensing agreement. A PC cannot be transferred.

Now, once an aircraft has obtained its TC and the manufacturer can produce it under its PC, it is eligible to receive its airworthiness certificate. An airworthiness certificate is only issued to an aircraft that is properly registered and was found to conform to its type certificate data sheet (TCDS) and be in a condition for safe operations. The airworthiness certificate is valid and the aircraft may be operated as long as it is maintained in accordance with the rules issued by the FAA.

Founded in 1954... Still Riveting Today

6" Reversible Safety Wire Pliers
Made in the USA
TH3602-BS \$79.95

Right Angle Drill
US7092DARE-2800
List Price \$640.00
On Sale NOW \$448.00!

Rivet Cutter
TP96 \$19.00

Maxin Spring Center Punch
TP294S \$8.50

Check out our catalog with over 5,000 tools!

U.S. INDUSTRIAL TOOL & SUPPLY COMPANY

www.ustool.com
800-521-7394 • 310-464-8400
14083 S. Normandie Ave., Gardena, CA 90249
For technical or application assistance please email info@ustool.com or call 800.521.7394



Visit the "Precision" Companies
at the NBAA in Orlando, FL
Booth No. 3740







- 36 Sales Professionals
- Live 24/7/365 Worldwide AOG Support
- Sales, Repairs, Exchanges & MRO Services
- MRO Capabilities on Fixed & Rotary-wing Aircraft
- Six Strategic Locations Near: ATL / FFC / LFT / LGB / YVR
- More than 10,000 Overhaul & Repair Capabilities In-house
- 50,000 Line Item Inventory of Accessories, Avionics & Instruments

"Others sell parts, WE SELL SUPPORT"

PAI: 404-767-5800 • 24/7/365 AOG: 404-218-5777 • PAI-C: 604-542-8824 • 24/7/365 AOG: 778-919-8581

Unlimited Accessories • Unlimited Avionics • Unlimited Instruments

www.precisionaccessories.com

Exclusive Provider of
IS MRO
Inventory Supported
Maintenance, Repair & Overhaul

The holder of the TC and PC of any product or aircraft must provide instructions for continued airworthiness (ICA). There will be more about these instructions in just a minute; sit tight.

OK, so what exactly is a supplemental type certificate? A supplemental type certificate (STC) is issued by the aviation authority approving a product (aircraft, engine, or propeller) modification. The STC defines the product design change, states how the modification affects the existing type design, and lists serial

numbers for which the STC is effective. It also identifies the certification basis listing specific regulatory compliance for the design change. Information contained in the certification basis is helpful for those applicants proposing subsequent product modifications and evaluating certification basis compatibility with other STC modifications.

All right, so what was your answer regarding a component with a TSO? If you said "NO" you are correct. An item that has a TSO does not automatically

get approval for installation. Installation approval must come as a separate action from the regulatory authority.

OK, how 'bout the term ICA? Well an ICA is instructions for continued airworthiness, and these are the methods, techniques and practices for performing maintenance, preventive maintenance and alterations which are provided by the design approval holder or its component manufacturers, and are considered acceptable to the administrator under section 43.13(a). As you may or may not know, there has been quite a discussion on the difference between ICA information and that which the design approval holder considers proprietary. The FAA reconfirmed the proceeding definition of ICA, much to the consternation of some major design approval holders, and that will be a subject for another day.

So, we have talked about TC and STC holders. But what about those folks who provide components under a parts manufacturer approval (PMA). And what is a PMA product anyway? Well, as I am sure you already know, it is generally illegal in the United States to install replacement or modification parts on a certificated aircraft without a PMA (although there are some exceptions to this general rule, including parts manufactured to government or industry standards, parts manufactured under technical standard order authorization [TSOA], parts manufactured for experimental aircraft, etc.) Thus, PMA-holding manufacturers are permitted to make replacement parts for aircraft, even though they may not have been the original manufacturer of the aircraft. Application for a PMA is usually a two-



Canadian Airframe Solutions Inc.
 Abbotsford BC p. (604) 846 5383
 info@airframesolutions.com | www.airframesolutions.com

AIRCRAFT CERTIFICATION SERVICES - SPECIALIZATION IN AIRCRAFT INTERIOR
 AND STRUCTURAL MODIFICATIONS AND REPAIRS.

DAR No. 349 ON STAFF





SCISSOR X DECK
 Fabricated in Canada
HELI MAINTENANCE

USA Patent Pending

- 7'5" Max Deck Height
- 450 lb capacity
- Safety Compliant
- Side or end deck access
- 10 height adjustments
- Add bridging plank for inline or wrap around
- Folds Flat
- Hinged frame option
- Extension ladder stows under deck

dan@scissordeck.com | 1.877.730.2704 | scissordeck.com



WHEN YOUR WORK IS DONE OURS HAS JUST BEGUN
CALL NOW FOR SPECIAL WINTER PRICING



Go to our website at
www.GregorashAviation.com
and click on our
TFTBO P&W Brochure
on the left and see our
cylinder process!

CONTACT US
1.800.561.5544

UNMATCHED 1000 Hour Warranty

At Aero Recip we stand behind our work
with a 1000 hour warranty against
Head and Barrel separation.

Transport Canada approved.

Developed by Aero Recip
specifically for R985 and
R1340 overhauled cylinders.



People buy from People



THE GREGORASH AVIATION FAMILY OF COMPANIES

step process. First, the manufacturer-applicant must demonstrate to the FAA that the design meets the requirements of the FAA's safety regulations and standards. This can be demonstrated in a number of ways:

1. The applicant may rely on a licensing agreement with another approved manufacturer who has already obtained approval of the design in question.
2. The applicant may use comparative analysis to show that the parts it makes are the same (in all relevant airworthi-

ness characteristics) as other parts that are already approved.

3. The manufacturer may rely on qualitative analysis to show through test and computation that the part directly meets the FAA's safety standards.

Today, because of a complexity of issues, the trend is to use a variety of techniques in combination in order to obtain approval of most components, relying on the techniques that are most accurate and best able to provide the proof of airworthiness desired.

The second step in the application process is to seek FAA approval of the manufacturing quality assurance system (known as production approval). Production approval will be granted when the FAA is satisfied that the system will not permit parts to be distributed until they have been verified to meet the requirements of the approved design. As design approval holders, PMA companies must also provide ICA for their components.

Now, what is a 100-hour inspection? You know the answer to this one, right? Are you sure? A 100-hour inspection is an inspection identical in scope to an annual inspection, conducted every 100 hours of flight on aircraft under 12,500 pounds that are used to carry passengers for hire.

An annual inspection is required once every 12 calendar months. This inspection is identical to the 100-hour inspection in scope and detail, but must be performed by a licensed Airframe and Powerplant (A&P) mechanic with Inspection Authorization (IA). This inspection shall not be overflown.

Line maintenance: we all know what that is right? Or do we? Well, in official regulatory parlance, line maintenance is the maintenance that is performed on an aircraft before a flight to ensure that the aircraft is safe for the intended flight. Line maintenance may be scheduled or unscheduled, and may include:

1. Troubleshooting

Superior Oil Coolers

Superior
OIL COOLERS

***Your Newest Certified Oil Cooler
Overhaul Repair Shop In Canada***

**With state of the art equipment —
over 65 years experience to serve
your needs — old and new.**

WE OFFER

**Full Overhaul & Recertification
or Inspections, Flushing,
Welding, and 24 Hour A.O.G.**

**Including Turbine Oil Coolers
Oil to Fuel Heaters
& Heat Exchangers**

contact: Terry or Orest
1487 Dublin Avenue, Winnipeg, Manitoba R3E 3G8
ph. 204-775-4200 **cell:** 204-781-0084 **fax:** 204-779-9402

For factory service, call Canada's largest engine & parts distributor at: 1-800-667-0522

- New/rebuilt factory exchange engines
- New cylinder assemblies
- Continental fuel injection kits
- Lear Romec fuel pumps
- Starters and alternators
- Tempest Carbs
- Teledyne (Bendix) magnetos and harness
- Champion Lasar ignition systems, spark plugs and Oil Filters
- Turbos, controllers and waste gates
- Precision Airmotive Warranty Centre
- Slick ignition kits (rebates available for converting from Bendix to Slick mags)













PROGRESSIVE AIR

2965 Airport Road, Kamloops, BC V2B 7W8
Phone: (250) 376-6226 • Fax: (250) 376-1995
sales@progressiveair.net • www.progressiveair.net

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 PowerSystems

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

ph: 403.250.9077 • fax: 403.250.6841

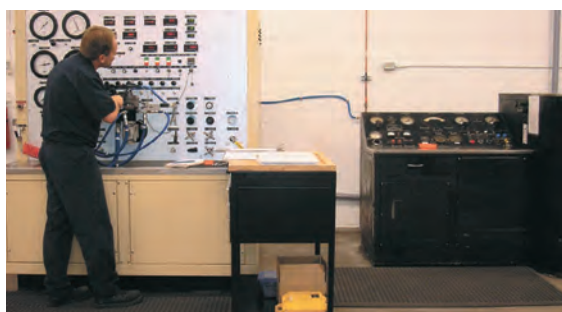
sales@cdnaero.com

www.canadianaero.com



Aircraft Propeller & Governor Specialists

- Complete Servicing of TURBINE & RECIPROCATING Governors
- Quality at Competitive Prices
- Experienced, Factory-Trained Technicians
- Call our Governor Dept 24/7 & AOG



1-800-773-6853
www.canadianpropeller.com

2. Defect/discrepancy correction

3. Replacement of a component, possibly using external test equipment. Components include engines, engine modules, fuel systems, propellers, rotor systems, and avionics. Test equipment would include propeller balancing equipment, or rotor tracking equipment.

4. Minor repairs and modifications which do not require extensive disassembly and can be accomplished simply.

5. Visual inspections that will detect the obvious discrepancy

How 'bout datum? An aircraft datum line is an imaginary vertical plane or line from which all horizontal measurements of arm are taken, generally for balance purposes. Once the datum has been selected, all moment arms and the location of CG range are measured from this point and the weight and balance may be calculated.

And while we are in this area, here are some more terms that I am sure you know; but could you explain them if asked?

Center of Gravity (CG)

CG limits are specified longitudinal (forward and aft) and/or lateral (left and right) limits within which the aircraft's center of gravity must be located during flight. The CG limits are indicated in the airplane flight manual. The area between the limits is called the CG range of the aircraft.

Weight and Balance

When the weight of the aircraft is at or below the allowable limit(s) for its configuration (parked, ground movement, take-off, landing, etc.) and its CG is within the allowable range, and both will remain so for the duration of the flight, the aircraft is said to be within weight and balance. Different maximum weights may be defined for different situations; for example large aircraft may have maximum landing weights that are lower than maximum take-off weights either due to structural constraints and or because some weight is expected to be lost as fuel is burned during the flight.

The CG may change over the duration of the flight as the aircraft's weight changes due to fuel burn. As long as the CG remains within the allowable limits or within its weight and balance range, all is OK.

Reference Datum

The reference datum is a reference plane that allows accurate and uniform measurements to any point on the aircraft. The location of the reference datum is established by the manufacturer and is defined in the aircraft flight manual.

The horizontal reference datum is an imaginary vertical plane or point, arbitrarily fixed somewhere along the longitudinal axis of the aircraft from which all horizontal distances are measured for weight and balance purposes. There is no fixed rule for its location, and it may be located forward of the nose of the aircraft. For helicopters, it may be located at

**When
 Accessories, Service and
 Time are Critical!**

CONDOR 
Aircraft Accessories (1996) Inc.

**Repair and Overhaul
 of Aircraft Components**

- | | |
|----------------------|--------------------|
| • Starter Generators | • Boost Pumps |
| • Relays | • Actuators |
| • Landing Gear | • Hyd. Pumps |
| • Motor | • AC Generators |
| • Maxarets | • Inverters |
| • Blowers | • Switches |
| • Accumulators | • Rate Controllers |
| • Shut Off Valves | • Transmitters |
| • Bleed Valves | • Coffee Makers |

Hangar 5, 620A McTavish Road, N.E., Calgary, Alberta T2E 7G6

Ph: 403-250-3032 Fax: 403-291-9439

Toll Free: 1-888-285-8989 www.condorac.com

Transport Canada (#60-90) and EASA.145.7094 since 1989

From Our Hands To Your Engine

...Quality, Integrity, Service



H.E.R.O.S. Inc. — Helicopter Engine Repair & Overhaul Services

- Providing Quality Model 250 Engine & Accessory Support
- Specialized Repairs & Custom Overhauls

Website: www.herosinc.com

HYE-Tech Manufacturing, LLC — “A Better Part for A Lower Price”

Specializing in FAA Approved Replacement Parts:

- For the Model 250 Engine
- Honeywell Fuel System Components for the Model 250, PT6, & LTS-101
- Argo-Tech Fuel Pumps for the Model 250 & PT6

Website: www.hyetechLLC.com



Helicopter Engine Repair Overhaul Services, Inc.
627 Ruberta Ave., Glendale, CA 91201
Phone: (818) 265-9730 Fax: (818) 265-9731



Hye-Tech Manufacturing, LLC.
627 Ruberta Ave., Glendale, CA 91201
Phone: (818) 291-0338 Fax: (818) 291-0339

CASP aerospace inc.

Aircraft Safety and Life Support Equipment

Repair • Overhaul
Exchange • Sales



Fire Protection • Oxygen • Inflation & Pneumatic
Cartridges • Decorative Laminates & Floor Covering

info@caspaerospace.com • www.caspaerospace.com

98 Columbus Street, Pointe Claire, Quebec H9R 4K4
Tel: 514.630.7777 Fax: 514.630.9999

the rotor mast, the nose of the helicopter, or even at a point in space ahead of the helicopter. While the horizontal reference datum can be anywhere the manufacturer chooses, most small training helicopters have the horizontal reference datum 100 inches forward of the main rotor shaft centerline. This is to keep all the computed values positive. The lateral reference datum is usually located at the center of the helicopter.

Arm

The arm is the chordwise (fore-and-aft) distance from the datum to any point on the aircraft.

Moment

The moment is a measure of force that results from an object's weight acting through an arc that is centered on the zero point of the reference datum distance. Moment is also referred to as the tendency of an object to rotate or pivot about a point (the zero point of the datum, in this case). The further an object is from this point, the greater the force it exerts. Moment is calculated by multiplying the weight of an object by its arm.

And now my faithful students, once again the subject has become more long-winded than anticipated, so it will have to be continued in the next issue. Sorry 'bout that, but go ahead and use the preceding CK to the best of your ability now, and as always, remember even the best pilot can't fly until you say it is OK to fly.

MIKE BRODERICK is Vice President of Business Development at Helicopter Engine Repair Overhaul Services (HEROS). Over the past 35 years, he has served as a shop technician, engine shop supervisor, Engine Program Director, Director of Maintenance, Director of Operations, and owner of a Rolls-Royce engine overhaul and MD Helicopter component overhaul shop. He is a certified A&P, and holds a Bachelor of Science degree in Aviation Administration. As well, Mike has been appointed as an FAA representative for the FAA Safety Team (FAAST) and is a member of the HAI Tech Committee. Mike is a regular contributor to Air Maintenance Update. ■

CONCORDEBATTERY.COM

CONCORDE



PROVEN RELIABILITY

Concorde's proven RG® Series battery technology is trusted by OEs and Military Air Forces worldwide. RG® Series' SLA-AGM (sealed lead acid – absorbent glass mat) design is safe with no threat of thermal runaway, reliable and maintenance free: no memory, no deep cycling requirements, and no watering.

Certifications: Military, OE, STC, FAA-PMA and TSO-C173 Authorizations

- Agusta
- Bell
- Enstrom
- Erickson Air-Crane
- American Eurocopter
- Kaman
- MD Helicopters
- Robinson Helicopters
- Sikorsky Aircraft
- Tamarack Helicopters



NBAA
Booth 985

...the heart of your aircraft®
CONCORDE

Concorde Battery Corporation

626.813.1234 | ISO 9001 + AS9100

MAKE PLANS FOR YOUR COMPANY TO BE PART OF THE LARGEST BUSINESS AVIATION EVENT IN THE WORLD -

Attend or Exhibit at NBAA2012

**Orange County Convention Center
and Orlando Executive Airport**

Orlando, FL

- Over 26,000 Attendees
- Over 1,000 Exhibitors
- More than 100 Aircraft on Static Display
- Ranked #4 among all U.S. tradeshows



 **NBAA2012**

65TH ANNUAL MEETING & CONVENTION
OCTOBER 30, 31, NOVEMBER 1
ORLANDO, FL



NBAA also hosts


MAY 21, 22, 23, 2013
GENEVA, SWITZERLAND


ABACE
SHANGHAI, CHINA
APRIL 16, 17, 18, 2013

Learn more
at www.nbaa.org

HELI-EXPO 2013

The World of Vertical Aviation | CONNECT • ENGAGE • SUCCEED

Las Vegas • March 4-7 (Exhibits Open March 5-7)
Exhibit Floor Open New Days: Tuesday Through Thursday!

"HELI-EXPO is a good opportunity to meet with suppliers, customers, and new contacts under one roof. And we get good, necessary information from the various seminars."

— Markus Willisich, Maintenance Manager

Plan Now to Attend
Register Today at rotor.com/heliexpo


HELI-EXPO 2013
March 4-7 • Las Vegas, Nevada
Exhibits open March 5-7

PRODUCED BY

Helicopter Association International



The SoCal chapter was treated to an exceptionally eventful evening of technical training, award presentations, and another great 94th Aero Squadron Restaurant dinner by long-time chapter supporter Mr. Skip Koss, VP Marketing, Concorde Battery on June 12th in Van Nuys. Skip's presentation on "Battery Airworthiness" was packed full of new developments as well as invaluable tribal knowledge that only an industry luminary who has "never been unemployed since 1949" can properly impart. Skip opened with the evolution of batteries dating back to the early years, then went into depth on the different types of batteries (lead acid vs. NiCad), servicing and charging procedures (slow, fast, boost charging), capacity checks, ratings and equipment, discharge minimums, sulfation, scheduled inspection intervals, identifying damage, approved installation manuals, lithium ion technology, TSOs and secondary batteries, which now have their own ICAs.

The chapter sends our most heartfelt thanks to Skip and Concorde Battery for all their time, generosity and tremendous contribution to SoCal PAMA and the aviation community worldwide. To contact Skip or learn more about Concorde Battery, visit www.ConcordeBattery.com or just click on their logo at www.SoCalPAMA.org.

It was also an evening of great pride for the chapter as President Greg Potter presented the 2012 SoCal PAMA A&P Student Scholarships to Nicholas Arnold (NVOC), Brian Felt (NVOC) and David Murphy (S. CA Logistics) with their families, friends, and college professors in attendance. Greg then introduced Mr. Ross Gregory of the LAX FSDO who presented Mr. Richard Troy, retired American Airlines Maintenance Manager (LAX facility) with the FAA's prestigious Charles E. Taylor Master Mechanic Award and jewel-embellished pin, an honor bestowed upon only those A&Ps with over 50 years of an impeccable aircraft maintenance service record. Mr. Gregory and Mr. Troy each delivered touching homage to how integrity, diligence, and good old-fashioned commitment to getting the job done right define our industry's leaders of today and the next generation of maintenance technicians. In keeping with the FAA's tradition of recognizing CET recipient spouses, Mr. Troy presented his lovely wife Gloria with a Charles E. Taylor jeweled spouse pin. Congratulations Richard, Nicholas, Brian and David.

Thank you SoCal PAMA supporters for making SoCal PAMA scholarships possible by your generous donations throughout the year. \$362 was donated for the June 2012 SoCal PAMA scholarship fund raffle drawing. Thank you chapter supporters: Aero-Nasch/Jet Brella, Business Aerotech, Consolidated Aircraft, Corporate Air Parts, Extraord-N-Air, Gulfstream LGB, HRD Aerosystems, Howard Leight (member), Rotorcraft Support, and Triumph Instruments. All proceeds from raffle ticket sales benefit the SoCal PAMA scholarship awards program.

Job Opening to Post?

Get the word out through SoCal PAMA. Send your postings to DanWRamos@verizon.net including company name, logo, position title, location of position, and contact information. The SoCal chapter offers

employment and educational opportunity postings free of charge on its website to the aviation maintenance community worldwide.

Advertise Your Company

Support SoCal PAMA! It's only \$50 for 12 months. Contact Nikki King or Gail Erwin for posting a new ad, renewal fees, and artwork updates.

SoCal PAMA Calendar 2012

- Nov. 13: Chapter Meeting
- Nov. 15 – Dec. 1: RSVP for Holiday Social
- Dec. 11: Holiday Social

Industry Events 2012

- Oct. 11 – 13: AOPA Aviation Summit, Palm Springs; AOPA.org
- Oct. 13: Wings Of Valor Gala Dinner, Van Nuys; JimmyDoolittleMuseum.org
- Oct. 16: IA Training – Rotorcraft Support: TBA, Burbank; 818-997-7667
- Oct. 30 – Nov. 1: NBAA Annual Convention, Orlando; NBAA.org
- Monthly: Western Museum of Flight, Torrance; WMOF.com

The SoCal chapter offers aviation event postings free of charge to the aviation maintenance community worldwide.

SoCal Board of Directors & Assistant Directors

- Greg Potter, President, greglpotter@verizon.net
- Bill Johnston, Vice President, wjohnston@raytheon.com
- Dan Ramos, Treasurer/Website/Broadcasts, danwramos@verizon.net
- Gail Erwin, Secretary/Newsletter/Website, gailjerwin@verizon.net
- Glenn Beckley, Sgt. At Arms, coptcmd@aol.com
- Chris Cancelosi, Meeting Coordinator, chris@rotorcraftsupport.com
- Warren Horton, Meeting Coordinator, wchorton@hotmail.com
- Sabrina Baiocco, Raffle Ticket Sales/Holiday Social, sbaiocco@claylacy.com
- Luisa Benin, Raffle Ticket Sales/Scholarships, lbenin@claylacy.com
- Tina Campos, Asst. Sgt. At Arms, tcampos@claylacy.com
- Nikki King, Website/News/Events, nikki@extraord-n-air.com
- Veronica Lozano, Asst. Meeting & Raffle Prize Coordinator, veronica@rotorcraftsupport.com
- Phil Samuelian, Website/Photography, psamuelian@me.com

PAMA Mission Statement

The mission of PAMA is to promote continuous improvement in professionalism and recognition of the Aviation Maintenance Technician through communication, education, representation and support.

SoCal PAMA News

Dan Ramos, Publisher; Gail Erwin, Editor

PAMA First State



Chapter News

The First State Chapter – PAMA started 15 years ago with humble beginnings. Our first few meetings in September 1997 were held in the vintage 1960 terminal lobby at the New Castle County Airport in New Castle, Delaware. Midway through this first year, everything changed. FlightSafety International was gracious enough to allow us the use of one of their large meeting rooms for our monthly chapter meetings and we have been there ever since.

As usual, this year's meetings will consist of reviewing club information, providing a technical guest speaker with a 45-minute presentation, free full dinner and free door prizes. We currently do not charge to attend our meetings, nor do we collect any local dues. We are currently averaging 25 people per meeting. We will not have a meeting in December, and the February meeting will be the symposium, which will be on February 9, 2013, at the Deerfield Country Club in Newark, Delaware. Mark it down!

The First State Chapter – PAMA is currently looking for speakers or vendors who are interested in presenting a 45-minute technical presentation at our chapter meeting at FlightSafety International in New Castle, Delaware, at 7 p.m. on the dates below. Your presentation will be FREE of charge. This is a great way to show your product or company in front of 20 to 30 aviation professionals. Anyone interested can email John Agnew, President at admin@firststatepama.com, or call 302-983-0042.

- Oct 9, 2012 – Open
- Nov. 13, 2012 – James Allen MD
- Jan. 8, 2013 – Open
- March 12, 2013 – Open
- April 9, 2013 – Open
- May 14, 2013 – Open

Once again, the chapter will be very active with local aviation trade schools in the area. For the past seven years, the chapter has sponsored a scholarship fund. This scholarship of \$1000.00 will provide financial assistance to local students who wish to further their careers at an aviation school. The chapter would like to congratulate the following individuals for being selected to receive the 2012 First State Chapter – PAMA Scholarship:

- David Pearce: 2012 Delcastle Technical High School, Aviation Shop Graduate, presently attending Aviation Institute of Maintenance in Philadelphia, PA – Enrolled 6/12
- John Alderson: 2010 James H. Groves High School, graduate, presently attending Aviation Institute of Maintenance in Philadelphia, PA – Enrolled 9/11

By far the highlight of the year will be the First State Chapter Maintenance Symposium on February 9, 2013. One of the most important aspects of this eight-hour maintenance training is that we keep it

accessible to everyone. That is why this will always be a FREE event and will always be conducted on the weekend so everyone can attend. The day will include breakfast, lunch, and an after event cocktail party, all for free. Last year we had 350 people attend our 10th Annual PAMA First State Chapter IA Renewal and Maintenance workshop. This was co-sponsored by Dassault Falcon Jet and ICG. Each technician received eight hours towards his or her AMT award and IA renewal. As part of our show we also have a mini trade show. Last year we had 36 vendors set up in the trade show area.

Annual Golf Tournament

The chapter will end its year (meetings are from September to May) in June with our annual Golf Tournament. As for last year's event, the 7th Annual First State Chapter Golf Tournament on June 19, 2012 at the Deerfield Golf course was a huge success. We had 115 attendees enjoy a beautiful day of golf.

Winners with a score of 10 under: Glenn Reynolds – Jim Murray – Jim Murray Jr., and Paul Weatherwood. Also, Longest Drive – Chad Belmont, Closest to the Pin – Chris Holder. The Chapter would like to thank the following sponsors for their generous support of the Golf Tournament:

- Golf Event – International Communications Group - ICG
- Lunch – Duncan Aviation
- Dinner – Dassault Falcon Jet
- Cocktails – Dallas Airmotive
- Gold Sponsor – Biz Jet
- Silver Sponsor – FlightSafety International
- Bronze Sponsor – JSSI
- Longest Drive (Prize) – Professional Aviation Associates
- Closest to the Pin (Prize) – CAE

We feel the biggest factor in the chapter's success is teamwork and camaraderie. All the members have worked hard in putting together quality presentations and events year round. The chapter has many members who pitch in to get the jobs done so one member does not feel overwhelmed in doing everything. Starting in September these will be the First State chapter Officers:

- John Agnew - Chapter President
- Bob Gaden - Chapter Vice President
- Jim Carlisle - Chapter Treasurer
- OPEN - Chapter Secretary

John Agnew, President, First State Chapter – PAMA



June Chapter Meeting

Our June meeting was held on the 12th at the Embraer facility at Bradley Field. After a social hour and some pizza, acting chapter president, Robert Torres conducted the chapter meeting.

Bernie Mullen, the regional sales representative from Snap-On Tools and Gene Mitchell of Adducent Technology, Inc. were the presenters for the Aeroprobe. The tool has two parts: an activator that applies a magnetic field to the tool, and the detector, which is used to locate lost tools. The detector resembles a wand with a coil cord attached. There is an amplifier unit that is worn and a headset that also plugs into the amplifier. The unit is easy to operate and can locate the tool even through the aluminum skin of most aircraft. With just a little training, personnel can learn to detect the sound associated with the located tools, and they can be found rather quickly.

Adducent Technology has a very good video for their product at their website, www.adducenttechnology.com/aeroprobe.html. Anyone interested in tool control should research this product.

Thank you to all in attendance of the September Chapter Meeting at the Skyline Restaurant in Windsor Locks, CT!

Event Details

A big thank you goes out to our speaker Chris Holder, Eastern US Sales Manager for Concorde Batteries; who gave a very informative and enthusiastic presentation on the care and maintenance of lead acid batteries. This presentation not only served as a welcome refresher of good everyday practices when servicing and handling lead acid batteries, but also provided a peek into the manufacturing and testing processes performed at the West Covina, CA, Concorde facility. During the presentation there were intriguing discussions regarding the potential use of Lithium Ion batteries in general and commercial aviation in the near future.

Throughout the evening, Chris took time to cite many of the fine points of Concorde Batteries over their competitors. One point that stuck with me most is that each and every battery that comes out of the Concorde Battery facility is hand-constructed and tested by Concorde personnel, and is 100% guaranteed to work when it is packaged and shipped out for customer use.

In addition to the knowledgeable words of our presenter, each person in attendance at the meeting also received a spiral-bound Dale Crane Maintenance Technician Pocket Handbook courtesy of the fine folks at Concorde Batteries.

CT Aero Tech Students Attend Pratt & Whitney Customer Training

On April 25th, 11 Powerplant students from Connecticut Aero Tech, accompanied by their instructor, Charles Hilton, completed an eight-day training course on the Pratt & Whitney PW4000 94-inch High-bypass turbofan engine.

Many thanks go out to the courteous staff at the Pratt & Whitney East Hartford Customer Training Center. As one the individuals privileged to attend this training, I join my peers in extending a special thank you to both Julio Leroux and Jerry Howell for providing such valuable hands-on training in a clean, knowledge rich and professional environment.

– Robert Torres

Aviation Humour by Unknown

Marriage Made in Heaven

There was a young couple very much in love. The week before they were to be married, both were killed in an airplane accident. They found themselves at the Pearly Gates being escorted in by St. Peter. After a couple of weeks in heaven, the prospective groom took St. Peter aside and said, "St. Peter, my fiancée and I are very happy to be in Heaven, but we miss very much the opportunity to have our wedding vows celebrated. Is it possible for people in Heaven to get married?"

St. Peter looked at him and said, "I'm sorry; I've never heard of anyone in Heaven wanting to get married. I'm afraid you'll have to talk to the Lord God Almighty about that. I can get you an appointment two weeks from Wednesday."

Come the appointed day, the couple was escorted by the guardian angels into the presence of the Lord God Almighty where they repeated the request. The Lord looked at them solemnly and said, "I tell you what: wait a year, and if you still want to get married, come back and we will talk about it again."

A year went by, and the couple, still very much wanting to get married, came back. Again, the Lord God Almighty said, "I'm sorry to disappoint you, but you must wait another year and then I will consider your request."

This happened year after year, for 10 years. Each time they reasserted their yearning to be married, and each time God put them off for another year. In the 10th year, they came before the Lord God Almighty to ask again. This time the Lord answered: "Yes, you may marry, this Saturday at 2:00 PM. We will have a beautiful ceremony in the main chapel. The reception will be on me."

The wedding went off without a hitch. The bride looked beautiful. The Buddha did the flower arrangements for which Moses wove simple yet elegant baskets. Jesus prepared the fish course. All of Heaven's denizens attended and a good time was had by all.

Tragically, but perhaps inevitably, within a few weeks, the newlyweds realized that they had made a horrible mistake. They simply couldn't stay married to one another, so they made another appointment to see the Lord God Almighty. Groveling and frightened, they asked if they could get a divorce.

The Lord heard their request, looked at them and said, "Look, it took us 10 years to find a priest up here in heaven, do you have any idea how long it'll take us to find a lawyer?"

PAMA Cincinnati



Lunken Airport Days

A GREAT SUCCESS - If you didn't get to attend Lunken Airport Days; you missed a spectacular display of aviation maintenance skills. OATS provided three different areas of expertise that individuals could engage in as aircraft technicians. We had a table with sheet metal projects, a table with a Lycoming O-235 engine, and a table for electronics. I would like to thank the following individuals and companies for their participation in the 2012 Lunken Airport Days event:

Individuals: Cheryl Popp, Glenn McCauley, Jim Ries, Rich Brannock, Gail Goodpaster, Gary Goodpaster, Janet Llamas, Joe Llamas, Joe Lutz, Stephanie Cobb, Jacob Glasshagel, Karin Hartman, Al Luken, Lynette Ashland, Ed Maue.

Companies: Van's Aircraft, JSSI, Signature Engines, The Kroger Co., Executive Jet Management, Inc., and Meyer Tool, Inc.

Please forgive me if I excluded your name and did not give you the recognition you deserved for participating. We would like to start working on next year's Career Day event, so think about ways to improve or new recommendations.

Mark your Calendar

OATS Aviation Maintenance Safety Seminar – mark your calendar! The Aviation Maintenance Safety Seminar (f.k.a. IA Seminar) is scheduled a week earlier than traditionally held. Be sure to mark Saturday, October 20th on your paper, electronic, and mental calendars. The seminars begin at 8 a.m., running until 5 p.m., at Cincinnati State Technical & Community College at Harrison Airport. The cost is free and includes snacks and lunch. Duncan Aviation is presenting the

entire day with a one-hour exception. This one hour is for the Cincinnati FSDO's program. We will post the agenda on the OATS website (oatsline.com) and we will send out a flyer as soon as Duncan completes the agenda.

The reason for the name change is to let people know that the seminar is intended for all certificated and student mechanics, not just for the IA. But don't worry; the seminar will satisfy the requirements for IA renewal and can also be used for the FAA awards program. Please complete the registration form and fax it to 513-979-6677 or email it to khartman@ejmjets.com.

Congratulations to Glenn McCauley. Glenn was recognized for his part in Citizens on Patrol, a volunteer working with the City of Cincinnati Police Department. Way to go, Glenn. We know how much you participate in various volunteering opportunities. At times you may not feel appreciated but know this – YOU ARE. (If you didn't, I'd have a lot more work to do.) Seriously, Glenn, congratulations and thank you for all of your hard work and efforts.

Company Members 2011

We appreciate the support from our company members: Aero Battery Inc, J.R. Ries & Associates, Aviall, The Kroger Company, Cintas Omnicare Inc, Chemed/Jet Resources, Proctor & Gamble Co., Executive Jet Management, Tool Testing Lab, Inc, and Great American Insurance

Contact Information

If you need to contact the OATS officers, Gary Goodpaster at gary.goodpaster@kroger.com, Don Streitenberger at Donald.streitenberger@kroger.com, and Karin Hartman at khartman@ejmjets.com.

Pacific AME Association



PAMEA Members Recognition

This is the most important part of our newsletter, as without the support of the people and corporations below, we would not exist. PAMEA thanks you for your support over the years and looks forward to serving you in the years to come.

Active members recognition:

Arthur Morrow, Richmond – 25 years; W.E. Clifford, Sidney – 20 years; Joseph Howse, Duncan – 20 years; Peter Killin, Campbell River – 20 years; Mel Neidig, Langley – 20 years; Ted Gerow, Victoria – 15 years; Doug Hladun, Whitehorse – 15 years; John Van t'Haaff Sr., Victoria – 15 years; Jack Baryluk, Richmond – 10 years; Norm Chalmers,

Delta – 10 years; Barrie Johnson, Maple Ridge – 10 years; Richard Johnstone, Delta – 10 years; Robert Kobzey, Campbell River – 10 years; Marc Lemay, Cumberland – 10 years; Ron Alexander, Saanich-ton – 5 years; Frederick Anderson, Kelowna – 5 years; Ray Bozzer, Abbotsford – 5 years; John Davidson, Richmond – 5 years; Andrew Ferguson, North Vancouver – 5 years; R.C. (Chris) Robinson, Richmond – 5 years; Tom Wilson, Montreal – 5 years.

Corporate Members

Pacific Avionics & Instruments, Richmond – 25 years; Coulson Air-crane Ltd., Port Alberni – 20 years; Pratt & Whitney Canada Inc., Quebec – 20 years; Viking Air Ltd., Sidney – 20 years; Carson Air Ltd., Kelowna – 15 years; Aero-Smith Heli Service, Coombs – 10 years;

Pacific Coastal Airlines, Richmond – 10 years; Selkirk College, Castlegar – 10 years; Wildcat Helicopters Inc., Kelowna – 10 years; Pro Aircraft Maintenance, Delta – 5 years; Stolairus Aviation Inc., Kelowna – 5 years; VIH Helicopters Ltd., North Saanich – 5 years; World Courier of Canada, Ontario – 5 years.

The Pacific AME Symposium is Back

- Human Factors and SMS Update classes at no additional charge!
 - All the latest products on display! Lots of door prizes!
 - Free trips! Reduced costs to attend!
 - Free parking! Coffee breaks and lunch for paid delegates!
 - Plus a wind-up 30-year anniversary banquet
 - Check PAMEA website for updates: www.pamea.com
-
- It all takes place at the Sheraton Vancouver Airport Hotel (Richmond Inn), 7551 Westminster Highway, Richmond, BC, Tel: 604-273-7878, www.sheraton.com/VancouverAirport.
-
- Meet the exhibitors and fellow delegates. Enjoy refreshments and snacks. Exchange ideas. Welcome attending COPA and B.C. Float-plane members.
-
- Meet the current PAMEA directors. Put your name in on the many door prizes to be drawn over the three days. GET ACQUAINTED. Look at safety management systems for smaller companies, aging aircraft special inspections and guidelines, and Bell helicopter updates. Suppliers will be supplying discussion time and will answer any questions about their products.

Training Updates

There will be a no-charge Human Factors update to satisfy some company manual requirements. A Cessna Aircraft representative will be there to discuss additional requirements regarding inspections. Eurocopter will share its plans for the Canadian market. Suppliers will be available to discuss new products and services. Members of Transport Airworthiness will be available to answer your questions. There will be a Transport Canada open forum.

Your 2013 Symposium Committee

Gordon Askin, Jack Baryluk, Norm Chalmers, David Clarke, Tim Cole, Maciek Donasewicz, Gordon Dupont, Mike Gore, Harald Leukefeld, Vaughn Philpott, John Pinz, Parm Rai, Bob Rorison, Peter Sleeman.

From the Tower, Bob Rorison President

I must start this column off with a round of thank you's. First, as this is the first newsletter since the annual general meeting and following

directors' meeting I, on behalf of all members of PAMEA, would like to extend a sincere thank you to now past-president Larry Bell for five years of leadership. Larry has been at the helm during some very difficult and trying times as TCCA looked at divesting itself of the AME licensing responsibility. He also saw the association having to move from the old PWA Guardhouse office, our home and storage place for many years, to a much smaller and expensive office at #314-5400 Airport Road South. With retirement on the horizon, he has stepped down. Norm Thompson stepped up as president but resigned in part over concern with the symposium program. Norm deserves a strong vote of thanks, as living in Kelowna and presiding over a committee located in the Vancouver region is not an easy task. Thank you, Norm, for your efforts. They are appreciated.

A big vote of thanks has to go to Sandi Whitehurst, our very capable office manager. After five years of dedicated service, she is selling her house and moving to, she hopes, a quieter locale. We wish her all the very best and look forward to seeing her at the symposium.

A vote of thanks has to go to all the members who have stuck with us over the years.

2013 will see our association celebrate 30 years of existence. We are fortunate to have members who have supported us over those years and are thankful that we have new student members like David Clark and Maciek Donasewicz who have volunteered to assist our organization on the symposium committee. There is a lot of work to be done, but I foresee the 30-year celebration symposium will be a successful as well as a memorable one.

Change is inevitable in the aviation industry, so we must support and promote our association if we hope to have a say in these changes that affect us and our profession. We will be changing office managers and will introduce you to Tasha Oliver in our next newsletter.

We will be doing a by-law review and will keep you informed about it. We are looking at a number of options to improve membership. One involves taking an initiative that the Ontario AME Association has done for years and provide a free one-year membership to students training to enter our profession. Another option being looked at is a Facebook page for the association and a blog that people can set up to enable discussion. The website will be updated so that you can pay your dues, symposium fees and the like online. It will have other features to make it more useful to you, including a member-only section with material in it.

If there is anything else you feel should be done, please contact us through our email or contact any one of the directors. You can also ask your questions through the online version of this newsletter that will go out four times a year, if everything goes as planned.

One more thank you for your support, and see you at the symposium and 2013 annual general meeting.

Bob — President

Western AME Association



We all sincerely hope that it has been a great summer season for everyone. For the fixed-wing guys it is business as usual, and for some helicopter guys it is wind-down time, as another fire season comes to a close.

Just a short note this issue to keep you updated on what is going on in the Western AME Association. We had difficulty with our website and eventually had to shut it down. This was almost parallel to our implementation of a newer website that most all the directors are excited about. We are planning to incorporate many links to sites that the AME may frequent, as well as forum links and slide shows. This should be up and running shortly as registration for Symposium 2013 commences in the fall. Symposium 2013 will have a steering committee in place by the time this issue is out, and is moving the symposium back to Calgary, Alberta, at the West Coast Plaza. The details will be released as soon as possible.

We have been receiving some comments regarding membership cards. I talked with Shauna at Managewise; she was hired to help with the administration needs of the association and was assured that they were being sent out (I haven't got mine either), so please be patient; we know who you are.

There were a few key meetings during the month of September, one being our fall WAMEA meeting on Sept. 9, 2012 in Edmonton. A lot of important issues were discussed and the minutes will be posted on our web page shortly. Another rather important meeting was the

Prairie Northern Region aviation safety meeting held in Yellowknife at the Explorer hotel, on Sept. 11, 2012, moderated by Kate Fletcher of Transport Canada. A number of topics were discussed, one being the future of the AME license, and the confusion and fragmentation of departments in smaller companies in regards to the implementation of SMS. There were other issues that will be summarized in the next issue and posted on our web page. Another meeting will be the CFAMEA annual general meeting in Toronto in October, which I will be attending and will have this meeting summarized for the next issue.

We will be starting a membership drive this fall, so be prepared to be contacted. There are advantages to belonging to the association. One perk is that members receive a subscription to Air Maintenance Update and Wings magazines. As a member, you are allowed to view restricted areas of the web page, such as financial reports and meeting minutes.

We, as your voice, are looking forward to a busy and productive year ahead, with many good changes on the horizon. Have a great fall season, and if you have any comments for the web page, want to vent a frustration, or give someone a pat on the back, feel free to contact me at the address below.

Rod Fisher
President WAMEA
fishr@sasktel.net



If you'd like to contribute your professional association's newsletter to AMU magazine contact our editor, Ian Cook via email :

amu.editor@gmail.com



AME Association of Ontario

2283 Anson Drive, Mississauga, Ontario L5S 1G6

tel: 1-905-673-5681 fax: 1-905-673-6328

email: association@ame-ont.com website: www.ame-ont.com



2012 Ontario AME Symposium and Tradeshow

The annual Ontario AME Symposium and Tradeshow will be held on October 17th –19th, 2012 at the Delta Meadowvale Resort and Conference Centre. This is a perfect opportunity to take in the networking opportunities available, participate in training sessions and meet with vendors that you deal with.

This year, our two-day training program will once again offer one room dedicated to the helicopter industry with half-day workshops. Other sessions include Avionics, Aircraft Visual Inspections, Propeller Maintenance, Stress and Failure of Aircraft, Bombardier Update, and Transport Canada updates.

We are also going to be offering mini-courses this year. For an extra small fee, there will be two full-day courses offered by System Safety Services – Advanced Human Factors for Humans and SMS, Simplified and Useful. Spots for these mini courses will be limited and will required pre-registration.

As always, we will be having our banquet and awards night, complete with amazing entertainment. Once again, all members of the Ontario AME Association will receive a discount for the show registration. Please check our website <http://www.ame-ont.com/> for updates and registration forms. You can also contact Cara Tweyman at 905-405-1870, or email at cara@precisionaerocomponents.com for more information. We hope to see you there.

— The Board of Directors

Clare Leavens Award

The Clare Leavens Award is given to a member of the Aircraft Maintenance Engineers Association of Ontario who, in the opinion of the directors and members, has made a particularly outstanding contribution to the continued success of the association. This year the Clare Leavens Award will be presented to AMU Magazine at the Ontario AME Association Workshop Banquet on October 18th. The association appreciates everything that AMU Magazine has done over the last 10 years to enhance and promote our profession and our association.

— The Board of Directors

Canadian Federation of AME Associations Annual General Meeting

Immediately following the Ontario AME Symposium and Workshop being held October 17th through 19th, we are pleased to host the Annual General Meeting of CFAMEA on October 21st and 22nd, 2012. This AGM brings together all regional associations for discussions on issues affecting all AMEs and maintainers throughout Canada. These will include, but are not limited to, discussions and consensus on issues such as the single AME license, fatigue risk management for maintainers, and other items of interest to us all.

— The Board of Directors

Prevention (Being Prepared)

by John Longo

Imagine for a moment that you owned the company. Besides enjoying the company vehicle and the title, you are accountable for operations and company profitability. My suggestion is to invest in and develop yourself and your team members as if your team members are the key to enhancing your service reputation and profitability. They are the ones who do the task right the first time and directly impact whether there is waste or efficient use of parts and materials. Correct?

An effective strategy is to encourage and support your TEAM members to practice continuous learning as a life focus. One of the foundation principles of learning is the activity related to prevention. An example of this among world-class operators is the practice of winter preparedness (prevention). This also applies to other seasonal preparedness. In my experience, this prevention activity was activated across all operational sectors of the company in order to be ready for Mother Nature's challenges. The following is offered towards encouraging efficiency and profitability through prevention:

Policies

Review company documents to ensure the wording reflects an advanced planning and prevention focus. The opposite of this is to not have any prevention words and to run the operation totally reactive as if in constant fire-fighting mode. The entire leadership team needs to set the example in this prevention focus.

Personal

As a professional technician/clerk/planner, you should be encouraged to maintain your sign-out authorities, renew your fire-fighting skills, first aid accreditation, and more. Personal protective equipment should be serviceable and at hand to keep things safe. Do you want to grow to an old age with hearing loss? Use those full ear barriers to cover the whole ear and bone around your ears to keep hearing as nature intended. Remember: a professional looks orderly and well turned out. No wearing coveralls/shop coats that stand up without you in them. Periodically use the laundry service to keep your work clothes clean and you feeling good. Keep up your rest, especially when working a rotating shift. Adjust your clothing by season and have a change of clothes at the workplace. If you ever got soaked with jet fuel, you know what I mean.

The Flying Machine

World-class operators, in advance of seasonal weather changes, institute a fleet-wide campaign to do some extra basic maintenance checks. Examples are: a pre-winter function test of ribbon heaters on exposed belly water lines, confirmation of the operation of heated drain probes, clearing threshold drains for door openings, function testing and clearing belly drains. Also: extra lubrication cycles for landing gear, moveable doors, air stairs, flight controls, as required.

Operations

Can you say that the equipment is at hand for winter weather? Are there engine inlet plugs, powerplant tents, wing covers, tie down systems, wheel chocks, control locks with high visibility streamers, tow tractor wheel chains, and sand/grit for spreading on gate/parking areas? Are the portable heaters serviceable, and ground power units ready to go? Are the cherry pickers, motorized air-stairs, and de-ice sprayers ready to go? What about servicing rigs such as toilet, potable water, hydraulic fluid, oil and more? Are there established procedures to quickly react to high winds, or heavy snow/ice loading on the aircraft? Is there a procedure to keep the motorized equipment fuelled up? How about a daily inspection function check using a checklist?

Communications

At your company is there a bulletin process that notifies of technical, operational changes that staff should read and sign-off as understood? Do you conduct regular operational meetings and include company updates and progress reports?

Facilities

Are the apron/hold area markings and lighting systems working? What about roof mounted clearance lights on the buildings and hangars? Is your company ready for the longer hours of darkness? Are heating and lighting systems ready for the hangars? Is there a procedure to load the hangar with priority mission aircraft to keep them out of the severe weather to be set for morning start-up operations?

Training

Is there a re-current training process active in your company? What about new employee induction/orientation? How are working technicians prepared to enter management? Is it trial and error, or formal skill training?

Purchasing

Is there a just-in-time system for obtaining consumable items? What about managing the time-expiry products like sealants, glues and more? Is there a trigger to obtain seasonal products such as de-icing fluids, engine oils, hydraulic fluids, and alcohol for on-board anti-ice systems? Is there a fly-away kit management and re-certifying system by aircraft type?

Maintenance Control/Operations Control/Station Control

The best investment in prevention is to have these 24/7 nerve centre teams working to manage and influence business-like outcomes for the operation and the customers. If you owned the company, these are the professional, safe, business-like, preventative practices that you would integrate into your operations.

About the author

John Longo has AME certification and many years experience in technical operations as a certified technician, technical trainer, operations manager and industry advisor. He is currently working as aviation consultant with international clientele and is the Director of Training for the AME Association of Ontario.



As a vendor or sponsoring company, you can provide information that is vital to maintaining the level of professionalism expected of those working in today's aviation industry.

To view AME association and PAMA newsletters online, visit:

www.amumagazine.com



UPDATE 2012

Ontario AME Symposium & Trade Show

October 17-19, 2012

- Half Day Training Sessions
- Training sessions may support the training requirements specified in CARS 573.07 & CARS 573.06
- Join us for an **Aviation Industry Social** on Thursday, October 18
“free entrance to the trade show from 2 to 6”
- Discounts for Ontario AME Association Members
- Specialized Rotary Wing Seminars
- Over 50 Exhibit Booths
- Banquet & Awards

Location:

Delta Meadowvale Resort & Conference Centre
Toronto, Ontario

For more information contact:

Cara Tweyman, Precision Aero Components
Tel: (905) 405-1870
cara@precisionaerocomponents.com

www.ame-ont.com



Pilot Optional Aircraft — explained



BY GORDON WALKER, AME 'E',
Professor of Avionics
Centennial College

I recently reconnected with a colleague

of mine from the 1980s. His career has taken him into the engineering and design side of the business, and he was weighing the merits of two possible new job opportunities. The allure of a teaching position at a community college was strong, but ultimately he opted to remain active in the field of aircraft development and design. "They offered me a job working on POAs, Gordo – airplanes without pilots! It's like an AME's ultimate fantasy come true!"

POAs (Pilot Optional Aircraft) are relative newcomers to the aviation world, but their presence is quickly becoming

conspicuous. More familiar is the pilotless Drone aircraft, which has been with us for some time now. Used largely for military operations, particularly in a reconnaissance role, drones, or UAVs (Unmanned Aerial Vehicles) were used extensively during the Vietnam War, and have continued to be a key element of aerial warfare ever since. (Recall the American UAV captured by Iran in December 2011).

UAVs can be programmed to fly a specific route, or controlled by a pilot/navigator on the ground. Remotely piloted vehicles (RPV) are totally controlled by the pilot/navigator on the ground, whereas semi-automatic and automatic unmanned aircraft generally have the ground-based controller monitoring and controlling take offs and landings, while the vehicle flies a pre-programmed route.

A fully autonomous UAV does not rely on any control input from the ground, and is capable of adjusting its pre-programmed route as conditions change. Information from sources such as TCAS or ADS-B can be utilized by the autonomous UAV to determine manoeuvring strategies without control commands being broadcast from any external source.

A POA has the capabilities of a fully autonomous UAV, but with the added option of carrying a human pilot on board. This format allows computers to do what they do best and humans to do

what they do best, a feature which many feel has been handled quite poorly up until now with regard to fly-by-wire/autoflight systems. By this, I mean that we currently have computers doing the flying, and pilots monitoring the autopilot computers while it should be the other way around, with pilots doing the flying, and the computers monitoring the pilot's performance to ensure safety is not compromised.

The advantages of employing an aircraft without a human pilot on board are many and varied, but the commonly used catchphrase explaining the types of missions for which UAVs are best suited is "dull, dirty, and dangerous."

As maintenance technicians we are acutely aware of the human factor risk of having people perform tasks that are tedious, repetitive, and of such duration as to lead to fatigue. Asking pilots to fly long surveillance missions creates potential human factor problems, specifically in the area of complacency and fatigue. Modern theatres of war pose the threat of chemical and nuclear weapons, and thus the unmanned aircraft is much better suited to these dirty and dangerous environments.

While the early versions of unmanned aircraft were little more than large-scale, radio-controlled models, advances in computer and avionics technology has led to a much more sophisticated array of guidance systems being made available for pilotless operations. Once again, global positioning systems (GPS) play a large role in the automated guidance of pilotless aircraft. It is important to note, however, that for most military operations, due to the covert nature of the



- Garrett TPE-331-1 thru -11 Overhaul, Repair, Camp HSI/GBI, Field Service
- Avionics Shop Specializing in King, Collins, S-Tec
- Certified NDT Shop
- On-site Design Approval Representative (DAR)
- Structural Repair/Modification Services
- Manufacture & Repair of Cargo Nets
- Large Inventory of new & used Fairchild Metro and Beechcraft light twin parts

AMO 37-74



Tel: 204.480.4006
Email: info@perimeter.ca www.perimeter.ca



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

Quality and Safety.

New
OEM & PMA Replacements
10 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

© 2011 Eagle Fuel Cells-ETC, Inc.

AERONEUF

INSTRUMENTS LTÉE/LTD

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



Transport
Canada

AMO 27-91



EASA.145.7189

Since 1988
Depuis 1988

HAMILTON SUNDSTRAND

SIGMA TEK



Honeywell

AMETEK

Rockwell Collins

THALES

AEROSONIC

Bendix King

SEXTANT

GOODRICH

Kollsman

Callen 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^e Avenue, Laval, Québec, H7R 4J4
Tél: (514) 631-2173 Fax: (450) 627-2199
www.aeroneuf.com • info@aeroneuf.com



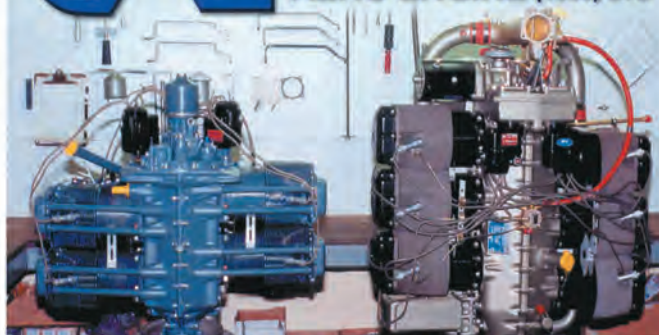
missions, and the fear of hostile interception, GPS is used only as a secondary navigational cross-check system, with the primary navigation being carried out by the inertial navigation/reference systems.

Inertial navigation systems (INS) do not require any input from external sources, such as radio stations, satellites or magnetic compasses. Once the INS has determined its present position on the ground, it measures accelerations in three dimensional space to determine its position during the course of the flight. Specific waypoints can be pre-programmed into the INS before the aircraft is dispatched, and it will fly that flight plan using full authority autonomous flight controls.

The testing and certification process for unmanned aircraft is understandably extensive, expensive, and arduous. This is one of the primary reasons for us having only really seen UAVs being used for military operations. Recently however, the new generation of pilot optional aircraft have been making their presence known in the civilian aircraft world, with several smaller aircraft manufacturers considering entry into the fray.

The fact that a POA can be flown with or without a pilot at the controls has enabled more lenient and less stringent flight testing opportunities. Regulators are far more receptive to allowing test flights of aircraft in which a human pilot can take over, should the autonomous flight control systems fail. This speeds up the certification process, and substantially reduces the manufacturer's research and development costs. The potential civilian market for a new generation of POA is

OKANAGAN AERO ENGINE (1999) LTD



ENGINES AVAILABLE FOR SALE OR EXCHANGE

Lycoming

- O-235-L2C
- O-320-A, D, E, H
- IO/LIO 360 C1E6
- O-540 A, E
- IO-540-K
- TIO-540-A or J
- LTIO-540-J
- VO-435-A

Continental

- O-200-A, O-300-A, C, D
- IO-360-C, D, KB
- TSIO/LTSIO-360-EB, KB
- O-470 K, L, R, S
- IO-470 D, L, U
- IO-520 A, C, D, F, L
- TSIO-520 E, EB, N, NB, VB
- TSIO-520 C or M

Now offering Level 3 LPI and MPI

Call Fred or Dan for custom overhauls and all engine-related accessories including Lycoming vertical and geared engines.

#1-5550 Aerospace Drive, Kelowna, BC, V1V 1S1
Fax: (250) 765-8322 Phone: (250) 765-9718
E-mail: okaero@shaw.ca

attracting the attention of smaller manufacturers who would not have considered entering into the competitive military arena. There are several applications for such an aircraft in government-controlled, non-military areas such as border patrols, maritime reconnaissance, search and rescue operations, disaster assessment and relief, forest fire fighting, sovereignty claims, and so on.

Canada is currently very active in establishing a presence in the high arctic, but the hostile climate and the vastness of the territory makes sustaining a human presence very difficult. POAs could provide constant unmanned patrol activity, with human pilots using the aircraft when more extensive, detailed monitoring is deemed appropriate. These aircraft could also be used as communications satellites in remote, or disaster zones, and the monitoring of pipelines is a natural application for a POA. Security and police functions could be conducted by aircraft of this type, using pilotless aircraft for long term monitoring and surveillance, as well as entering high-risk environments without the risk of personnel harm.

The big question, of course, for civilian use of POA or UAVs remains "When, if ever, will we see these aircraft used in a passenger carrying capacity?" There are many viewpoints and opinions surrounding this question. Some feel we will never have passengers flying in a pilotless aircraft. Then again, there was a time when people would only travel in elevators with an operator at the controls.

Most airports now feature fully automated, driverless, light rail vehicles. The notion of travelling in a train without

an engineer would have been unthinkable a generation ago. Perhaps the day is not too far off when the crew member sits in the cockpit to monitor the automatic take off, then returns to the passenger cabin to serve drinks and headsets to the paying customers. After selling duty-free goods, they could return to the cockpit to watch the fully autonomous flight controls land the aircraft and taxi to the gate. We wait with bated breath.

Q: Why is inertial navigation preferred over GPS for unmanned aircraft?

Answer to previous question:

Q: Where is the circuitry for the crew call and ordinance sign "Chime Generator" located?

A: The chime generator circuitry is contained within the Passenger Address Amplifier.

GORDON WALKER entered the avionics industry after graduation from Centennial College in 1980. His career with Nordair, Air Canada, CP Air, PWA, and ultimately Canadian Airlines took him to many remote corners of Canada. Since leaving the flight line to pursue a career as a college professor, Walker has continued to involve himself in the aviation/avionics industry, by serving on several CARAC Committees concerning the training and licensing of AMEs, being nominated to the CAMC Board of Directors, and being elected President of the National Training Association. (NTA). ■

NAASCO... simply the "best value" for your maintenance dollar





Approved for:
 Agusta • Bell • Eurocopter
 • MBB • MD • Schweizer • Sikorsky

**TRANSPORT CANADA
APPROVED**



NAASCO NORTHEAST CORP.

FAA repair station # FD1R135K • EASA.145.4687
 222 GRAND AVENUE, SHIRLEY, NY 11967
 (631) 399-2244 • FAX: (631) 399-2275
www.naasco.com





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

more letters from readers about the Regs



BY NORM CHALMERS
Pacific Airworthiness Consulting



In my last column, I made a last-minute

addition referring to approval of major repairs and modifications for importing of aircraft from the USA. After reading FAA documents including 8110.37E, 8300.10, 8300.14, the Canada/USA Bilateral Agreement with its related documents and some of the numerous advisory and guidance documents available, I can only add a few notes.

The FAA seems to have removed some of the designated engineering representative (DER) authorities and added others. They have implemented a new delegation called a Repair Specification DER (RS-DER) and a new level of approval document called a Repair Specification Title and Signature Page. At the same time, they seem to have reduced the level of repair approval that an 8110-3 form may be used for. Now, this form has a myriad of guidance documents that bounces it back and forth amongst the FAA Aircraft Certification Office (ACO), DERs and RS-DERs. They have also added in the term “Critical Parts” to the mix of factors of “Major Repairs” and “Major Alterations” to be considered before approval. After talking to a couple of DERs, I am wondering if anyone out there in readerland is capable of providing a definitive explanation of how this FAA system works.

Do you know where Niverville is? Well neither did I until we received a letter from “semi-retired” Roger Beebe, a long-serving executive with Transport Canada saying “hello”. “Hello” to

you Roger and all of the other Aircraft Maintenance Engineers (AME) residing along the historical Red River. He goes on to state, “After all these years, I still have a great interest in the future of AMEs.” Unfortunately there are too few of us who are interested in the future and are willing to work to improve things.

I received a follow up letter from Norm Paterson (ref. AMU April/May 2012) stating: “I am still a little fuzzy on replacement times for equipment such as oil cooler hoses not listed in 625 App C.” He refers to manufacturers’ manual and bulletins that seem to mandate replacement.

That’s the way it was before the CARs. You were required to follow the “manufacturer’s recommendations”. The oddest situation I had was with an AME

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



BKD Aerospace Industries Inc.

Call us for a quote or visit our website for more details.
Watch our online videos at www.bkdaerospace.com

- 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

info@bkdaerospace.com
203 – 4360 Agar Drive
Richmond BC V7B 1A3 Canada



**Overhaul & Repair of Opposed Piston Aircraft Engines
& Accessories**
**Non-Destructive Testing • LPI & MPI CGSB Level 2
New & Used Parts**

Call for availability of exchange engines & accessories
(204) 339-4078

10 Prairie Place, St Andrews, MB R1A 3P1 • Fax: (204) 338-2230
 Email: info@universalaeroengines.com • Web-site: www.universalaeroengines.com

who took manufacturer X's "time expired" cooler and put it on manufacturer Y's aircraft – one which had no life limit on the cooler. The same applied to hoses. Appendix C changed that.

For outright replacement of parts, Appendix C of Standard 625 only addresses transmitter batteries. All documents that mandate replacement of parts are regulatory documents and include Airworthiness Directives, Type Certificate Data Sheets and other documents mandated in those Data Sheets. These parts are normally referred to as life limited parts.

For non-replacement maintenance tasks such as calibration, inspection and overhaul, you must consult the individual aircraft Maintenance Schedule Approval (MSA) as approved by TC or extracted from Standard 625 Appendix B. I have seen some TC Inspectors require some stuff to be added, but many times it was not supported in regulation or by TC official policy. That ought to be challenged if you see it as a local requirement and an unnecessary burden. That's all there is on that part of the topic.

For your actual work, the manufacturer's instructions come into the picture. CAR 571.02 mandates compliance with manufacturer's recommendations for techniques, practices, parts, materials, tools, equipment and test apparatuses (or equivalent). Replacement or overhaul times specified in documents issued by the manufacturer such as "Mandatory Service Bulletins" are not mandatory per the CARs but once again I urge due diligence.

Further to this subject, Norm asks about liability implications. He states that "the list of continuing airworthiness tasks and replacements is very large."

He's right on with that. If you are working on one type of aircraft, the pile of documents to consider is large. If you're working on three types of aircraft, your pile of documents will be about three times as big. I'll repeat myself here and state that legal requirements are a different world from liability. Requirements are what I write about. For liability, nothing is for certain until the Supreme Court has made a ruling on the matter. On that, all I will tell you is



Supplying the aerospace & metal working industries since 1951!



USATCO 34-214C
Single Cyl. C-Yoke
Squeezer



USATCO 34-725A-1-1/2
Tandem Cyl. Alligator
Yoke Squeezer



USATCO 34-351TA-12
Tandem Cyl., 12" Reach Alligator Yoke Squeezer

The only 12" 351 type riveter on the market!



USATCO 34-214A-3
Single Cyl. Alligator
Yoke Squeezer



USATCO 34-720C
Tandem Cyl. C-Yoke
Squeezer

*Large Inventory ~ Repairs On All Major Brands ~ Calibration
Over 50 years of exceptional customer service!*

www.USATCO.com Toll Free USA & Canada: **800-645-8180**
 Ronkonkoma, NY tel: 631-471-3300 fax: 631-471-3308
 Rancho Dominguez, CA tel: 310-632-5400 fax: 310-632-3900

to maintain your highest standard and use your best judgment to exercise DUE DILIGENCE. For more on that, refer to AMU's April/May 2012 issue.

To the above, I'll add the "requirement" to have insurance coverage. We are all always open to lawsuits in civil court. A friend of mine suffered incredibly and, metaphorically speaking, lost the farm because of a lack of complete insurance coverage extending to the area of "Errors & Omissions" coverage. Using your "best judgment" and "highest standards" regarding due diligence is very important but also get insurance that addresses all of your needs. For this, find an insurance company that specializes in aviation. This area of insurance is like every other topic under the sun: there is a plethora of "experts" out there but few who know what they are talking about. Ask around the industry to find a knowledgeable person with the product to suit your needs.

Regarding civil liability, I'll use a metaphor of the advice to hikers for protection against grizzly bears. Always wear bells on your person to signal to

the bears that you are near and give them plenty of time to run away. Carry a can of pepper spray to chase them off if they still bother you. Further to this, autopsies on fat bears can find stomach contents of bells flavoured with pepper.

A letter from Dennis Lyons of Fast Air takes us back to the AMU June/July issue and asks for some corrections or clarifications.

His first point is regarding some confusion that arises from my usage of the Small Operator Maintenance Control Manual (SOMCM) as an example. I did state that "For AMOs this is not any help" which was not correct in all cases. The SOMCM training requirement regarding elementary work and servicing might be used as an example for Approved Maintenance Organizations (AMO) that want to delegate these tasks to unlicensed personnel.

The second half of that paragraph clarifies my point somewhat but here is some expansion on that. Many years ago (for the young readers, after the dinosaurs but before SMS) all approved companies had "Maintenance Control

One Piece 800-746-8273

RED POWER

HYDRAULIC DOORS



with REMOTES

See Our New Pump!

LIFT-STRAP

BI-FOLD DOORS



with AUTO LATCH-STRAPS

SCHWEISSDOORS.COM

...Lift Straps

800-746-8273

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

Manuals” or MCMs. With evolution to the “new” Canadian Aviation Regulations, Transport Canada (TC) wisely termed the manual applicable to AMOs as a Maintenance Policy Manual (MPM) to limit confusion. The term Maintenance Control Manual was retained in CAR 706 for air operators operating commercial air services. These are commonly referred to as AOCs for a commercial Air Operator Certificates issued under the 700 series of the CARs. To this mix of MCMs for AOCs and MPMs for AMOs, we add the SOMCM for SOA-

OCs (say that fast). The SOMCM was produced by TC to help small and start up AOCs produce an MCM. Up there in the thin atmosphere of Ottawa, airlines get the most attention and AMOs are put on the back burner to languish without similar assistance. As a further note, the initialisms used, such as MCM, are used in the regulations as a convenience to reduce text. You can give your manual any name you want, for example, Quality System, Quality Management, etc.

In the event that some servant of the Minister is reading this, (don't get caught), please consider extending a helping hand to AMOs by publishing a generic MPM for small AMOs or a SAMOMPM.



... The policies in the TC-approved manual must be clear enough to guide the development of the referenced documents which, in turn, must be complied with. These documents must not be allowed to contradict each other.

The second point Dennis raises is regarding the Standard 573.06(5) “three year requirement” for update training as a “fixed period”. He mentions with a “robust QA system (which all mature companies should have) you can move from a fixed period of time to a competency-based system of update training”. This three year period is not a fixed period that must be adhered to but is a maximum period of time allowed for a minimum amount of training. Before this requirement, most companies did little or no training given the choice. Now you must not exceed three years without update training. If you want to do more training or have a shorter cycle then go ahead



IN 1947, A LEGACY BEGAN

FOR 65 YEARS, WESTERN PROPELLER HAS BEEN THE PROPELLER AND GOVERNOR MAINTENANCE PROVIDER OF CHOICE FOR THE GLOBAL AVIATION MARKET. WE OFFER THE HIGHEST QUALITY OVERHAUL AND REPAIR SERVICES AVAILABLE.

VISIT US ONLINE AT WWW.WESTERNPROPELLER.COM AND BE PART OF THE LEGACY.

1-877 870 PROP (7767)

WESTERN PROPELLER

MINIMIZE YOUR DOWNTIME

Whether you have a Continental or Lycoming engine, you need a piston engine overhaul facility.

Pro Aero Engines Inc. provides Exchange, Custom Overhauling and Repair Services, with an unsurpassed warranty. As a Precision Airmotive Warranty Centre, our 15,000-sq.-ft. modern facility is equipped to provide you with step-by-step overhaul, repair or modification of piston engines and accessories. From Non-destructive Testing, Cylinder Repairs, Camshaft Regrinding, Fuel Injection and Carburetor Repairs or Overhaul to Starter, Alternator, Turbo Component or Magneto Overhaul and Repair, we're your One Stop Service Solution!

All this boils down to proven dependable power, shorter down times, and maximum value.

Contact us today!





Built with Pride and Flown with Confidence

2965 Airport Rd., Kamloops, BC V2B 7W8 Canada (250) 376-1223 www.proaeroengines.com

FIRST IN SERVICE SINCE 1974

and do training that exceeds this. As I stated previously, 24 hours in a year seems to be widely accepted as a minimum for personnel with aircraft certification authority (ACA). If you want to do less, submit a manual amendment to TC.

Now for something completely different. This is on the topic of MPM and MCM composition. Many people are still in the mode of the old Engineering & Inspection Manual (E&I Manual), when approved manuals were huge. TC inspectors required all manner of requirements to be written into the old MCMs because that was the only place that airworthiness requirement could be mandated. The Air Regulations and the Air Navigation Orders (ANOs) contained almost nothing. What was required was that the manuals be approved. That was how requirements like stores, documentation and quality control were mandated. We required companies to list these items under the duties of various personnel in the company, primarily the Chief Engineer and the Chief Inspector.

Nowadays I see similar things going on in modern MPMs and MCMs, including long and drawn-out job descriptions. Under current regulations, job descriptions and numerous other examples are not required. What is now required is specified in the standards: for specifics, AMOs refer to Standard 573.10(1) and for AOCs refer to Standard 706.08(1). Following those two referenced areas are instructions for the implementation of "documents incorporated by reference". These are the procedures, process specifications and forms that companies need in order to provide detailed control of their day-to-day operations. These additional documents are approved by the company PRM, or a delegate, and can be revised when needed but always in conformance with the policies of the TC approved manual. This is not an easy way to escape requirements. The policies in the TC-approved manual must be clear enough to guide the development of the referenced documents which, in turn, must be complied with. These documents must not be allowed to contradict each other.

I seem to be running out of time this month, so here I'll leave you. Be good and remember Due Diligence.

Please be aware that I am not a lawyer or legal expert. What I write in my column is not legal advice nor legal opinion. If you face a legal issue, you must get specific legal advice from a lawyer, and preferably one with experience in the aviation matters in your own country.

NORM CHALMERS worked with Transport Canada as an Airworthiness Inspector for 25 years. Before this, from 1967 to 1983, he worked in the aircraft maintenance industry in and around Western Canada and in the Arctic. His industry experience includes the operational maintenance of normal and commuter category aircraft and smaller transport category aircraft in the corporate sector as well as several years working in major repairs in the helicopter sector. As an Airworthiness Inspector, he has been responsible for most duties related to the position, including the approval of all aspects of maintenance, manufacturing, training, and responsibilities related to distribution organizations. Norm now operates Pacific Airworthiness Consulting; www.pacificairworthiness.ca. ■



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



**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

**NEW TANKS -
10 YEAR WARRANTY**

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

www.hartwig-fuelcell.com **info@hartwig-fuelcell.com**

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

US: 1-800-843-8033 **INTL: 1-204-668-3234**
CDN: 1-800-665-0236 **FAX: 1-204-339-3351**

Keep on Working



BY STUART McAULAY



As we continue to learn about mental

illness and reflect upon some of the implications discussed in my previous articles, it has, we hope, become more apparent that this issue is more than just somebody else's problem. Those struggling with distorted thinking patterns leading to, or prolonging, depression and anxiety need the encouragement to seek the proper balance of support, lifestyle change, and possibly medication to get back on track. Even though this condition is becoming more common, it also has a high rate of successful recovery with proper direction and ongoing therapy. Those who are responsible for, or are simply aware of, those suffering in silence must educate themselves through individual or corporate training models as adopted by those companies who sincerely wish to invest in the lives of their workforce. Mental illness on various levels is a reality that has the potential to either bring us into community or sadly allow us to fall by the wayside.

Recovery from these conditions is very possible with a proactive attitude from both the company and the employee. Every situation may be different, but adopting patience and persistence can go a long

way in fostering the wellbeing of those involved in this process. Education in mental illness is essential, especially for those who cannot appreciate the real effects of having a mood disorder and an inability to perform to their potential due to distorted thinking patterns. Recognizing and acknowledging the symptoms of depression in the earlier stages helps both parties initiate the best course of action. This is not unlike the concern for other common issues like addiction or noticeable deterioration of physical health and abilities. There has to be more of an ongoing interest beyond simply getting yourself checked out or taking a week off.

Maintaining steady employment through ongoing support or accommodation strategies is absolutely essential to the emotional self sufficiency of those just trying to weather the storm while making their way back to a normal healthy routine. In fact, a high percentage of those who have battled major depressive episodes will recover and be more productive again. I have been through the entire spectrum of trying to fit in, to giving up, to remaining hopeful and ultimately being persistent, seeing

that I somehow had to keep going. It's a very tough road to travel alone and the more people involved who care about you – even if they don't really understand your condition – the speedier your recovery will be.

Companies that are willing to invest in their people can start by researching the ground work laid by other companies who are currently leading in the area of mental health and wellbeing strategies. First steps could include an overall commitment to learning and implementing corporate policy based upon the Canadian Human Rights Act addressing people with disabilities and the Occupational Health and Safety act (OHS) as a baseline. Both the employer and the employee must be prepared to discuss any mental health issues with an open mind and a willingness to work together towards a pathway to recovery. This will ultimately result in a win-win situation and will go beyond merely filling a role to performing a job assignment. A newfound mutual respect will enable a greater sense of collective accomplishment and potential for greater awareness and productivity into the future. The innovative mentalhealthworks.ca website is available to employees and managers alike as an initiative of the Canadian Mental Health Association (CMHA) by explaining many of the current issues we have covered, including a managers guide to mental health accomodation in the workplace called Working it Out.

Positive social connection and reliable support networks are essential to recovery, especially when the tendency for people with depression is to withdraw. A caring word or two must be initiated by those in positions of responsibility and influence. A "Psychological Health and Safety" (PHS) system for the workplace is also being developed in an effort to further extend beyond current OHS legislation in an effort to better define the psychological effects on the worker from within the workplace. This would include reporting and investigative steps to evaluate a person's state of wellbeing in much the same way as we audit processes and procedures for quality standards. These guidelines are still being developed, and in some cases being implemented as a voluntary means of promoting a positive leadership model by using the resources that encourage a more balanced psychological mindset for our workers.

Employers can also offer the flexibility for troubled employees to make doctor appointments, engage in cognitive therapy sessions or work modified shifts coordinating with these appointments. A trusted accountability partner within the workplace may be necessary to help with progress reports, periodic assessments of the working environment, or simple observation and availability to talk when necessary. These are all simple strategies that could be made possible in many work situations. Working in a different capacity within the company for a period of time may offer a welcome change of focus or a break from certain demanding tasks that normally accompany the regular position of that employee. Look at what needs to be accomplished and determine viable options for other ways of getting the work done. Work environment options may play a significant role throughout the accommodation process in an attempt to find creative solutions.



Toll-Free 1-877-954-0668 • Phone 250-954-0668
Fax 250-954-0667



1020 Virginia Road - PO Box 128, Coombs, BC V0R 1M0

E-mail pacificheli@bcsupernet.com www.aerosmithheli.com

Your Full Service Heli-Port on beautiful Central Vancouver Island

Located near Qualicum Beach Airport
GPS Coordinates: 49°18'25 124°24'48

**General and Major Maintenance,
Repairs and Modifications,
Dynamic Component Repair and Overhaul of:
Bell 206 A/B/L and MDHC 500 components**

**Parts Sales, Vibration Analysis,
Salvage, Pre-purchase Inspections and Consulting**

- Complete Re-furbishing, Paint and Interiors
- Aircraft Leasing
- Fuel Sales
- Component Rentals & Exchanges





Join us at the
FAA Production
Studios for "LIVE"
Aviation Seminars!
Watch our Satellite
Broadcasts on ATN,
GETN and The Dish
Network. View our Recorded
and "LIVE" Streaming
over the Internet.

For Broadcast Schedule
Information go to:
www.faa-productionstudios.com

Programs are made possible
through the cooperative effort of
The National Aviation Safety Foundation
www.nationalaviationsafetyfoundation.org and the
Federal Aviation Administration - www.faa.gov

The employee must accept the fact that these are temporary solutions to the bigger picture, which is recovery, and that special circumstances are the result of the employer believing in you enough to invest in your long-term stay with the organization. Be honest about your progress and get to know your limits while focusing on one-day-at-a-time until the situation starts to improve. Both your physical and mental health remain your top priorities to allow you to perform both in your personal AND professional life, so remember to maintain that perspective. Always rise above the perception of weakness when your condition is really an irrational state of mind that has taken control, for whatever reason, until you are able to build up your resilience and gain back control of your rational thinking and participation in your life as you would prefer it to be. It will happen as long as something is being done to improve the situation as it relates to each person. Some conditions may only require an open discussion and the possibility that there may be a bad day once in a while that will be understood when it happens. Sometimes sick leave is necessary where a period is required to simply de-stress or adjust to medication and to prepare coping strategies with recovery options.

In more involved arrangements, employees may be subject to an accommodation agreement to ensure that the right to accommodation is not abused in fairness to the employer. This further

represents an acceptable means for the employer to see a commitment from the employee to help him or herself to move forward with the healing process. Managers handling such situations will need to gain a true appreciation of the soft skills necessary to deal with sensitive issues sometimes beyond the common leadership required to keep company operations moving forward for everyone.

I have experienced situations where nothing was ever discussed, and I held myself in the game working way below my potential until I reached a point where I needed sick leave in order to deal with some "personal issues". It was granted and left at that. I have also had the privilege of working with others who, while it took some courage to explain the situation, allowed a certain trust level to be established and I was able to explain a difficult condition and have it make sense, and come across as a legitimate concern. I definitely have confidence, though, that these things have improved through self-education, as I have since gone as far as discussing my personal issues with other staff, thereby easing the burden of living with the shame or embarrassment of not being able to control my thoughts and perceptions the way a normal person does. I have also come to learn that a normal person is someone who has to contend with his or her own personal issues.

The idea of a community of people simply supporting one of their own is a

necessary ingredient to having a productive, capable workforce. This may sound like the kind of stuff that only more compassionate people will embrace, leaving many of us to continue being part of the same old problem rather than part of the necessary solution. Anyone can be an encourager, even if it is simply through resisting the temptation to spread hurtful ideas or even offering a word or two in politeness while quietly acknowledging that you support them in some way. Some people are more cut out to be good listeners and are likely to respond with regular encouragement and accountability.

I continue to work on improving this area of my life and have learned to see these types of setbacks as part of the greater picture and part of who I am. I also realize that I can either do nothing or I can venture outside of my comfort zone and do something to help shape my future for the better and appreciate those who have become part of that process. The exercise of sorting through the complexity of mental illness is not just a simple act of positive thinking, but working it through may continue to be a challenge in patience and hope. I have found that the key to recovery is through the ongoing support of friends and family, including the work community, wherever possible. I encourage anyone who can relate to anything touched upon in this series to keep learning, keep an open mind, and to maintain the courage to keep on working. ■



We invite you to write an article covering your field of expertise. By contributing to AMU, you educate readers, and make them aware of your business, experience and talents.

To view our editorial guidelines please visit www.amumagazine.com

Aviation Services

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



Pitot-Static Test Adaptors

For all Types of Aircraft

Nav-Aids Ltd

1-877-332-3055 www.navaidsltd.net



**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
www.aircraftcanada.com

CARS FOR THE AME

by Bill Fraser

CARs for the AME, Seventh Edition

Used by aviation colleges and AMOs across Canada,
 CARs for the AME is a Canadian Aviation Regulations
 Study Guide for Aircraft Maintenance Engineers.

Available at

www.carsfortheame.com

email: bfraser@carsfortheame.com

Aviation Services

GEN5
Paint Booths





Aerospace
Finishing Equipment
& Paint Booths



GFS®

WWW.GLOBALFINISHING.COM

SAVEONJETFUEL

- Enviro Tanks
- Bulk Jet Fuel
- Avgas

Toll Free: 1-866-353-3030
www.saveonjetfuel.com

SERVING THE HELICOPTER INDUSTRY

HPA Consultants

519-674-5050

- Maintenance Human Factors Initial & updates (IA renewal approved)
 - Computer-based HF updates
 - QA & SMS
 - Cars Training and refreshers
 - CRM
- In-house training always available upon request

www.flysafe.ca
info@flysafe.ca

Applus⁺ RTD
NDT & Inspection

CARs AMO 76-90
ALL NDT METHODS

X-ray • Ultrasonics • Bond Testing
Eddy Current • MPI • LPI

EXPERIENCED STAFF OF CERTIFIED TECHNICIANS

#8, 2280 Pegasus Way N.E. Calgary, AB T2E 8M5
p: (403) 274-8214 • f: (403) 274-8457 • w: www.rtdquality.com

AP HYDRAULICS
Engineered Fluid Power



Hydraulic Test Stands



Hydraulic Power Units

- Precise Digital Gauges
- Stainless Steel Construction
- Two Year Warranty
- Quadruple Filtration

Voice: 910.371.1151 • Fax: 910.371.1152
www.ap-hydraulics.com

Do you have any story ideas for AMU?

By contributing articles to AMU, you are able to promote your skills and expertise; and you provide valuable information to the aviation and aerospace community.



Email ideas for articles to
AMU's editor, Ian Cook, at:
amu.editor@gmail.com

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 • 1.800.331.4244



Quality Assurance Specialists

- Confidential Safety & Internal Audits
- On-Site Tech Rep
- Maintenance Analysis & Planning
- SMS Program Development & Audits
- MCM & MPM Manuals & AMO Approvals
- Aviation Project Management
- Regulatory Requirements

9295 E. Saanich Rd. Sidney, BC, V8L 1H6

t: 250-656-5433 • c: 250-413-7583

john@lattaaviation.com

www.lattaaviation.com

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

Employment

Kenn Borek Air Ltd.

Kenn Borek Air Ltd.

**Now accepting
resumes for M1 and
M2 engineers**

*with minimum 3 years,
willing to travel.*

*Fax resumes to
403-250-6908 or email
dgaunt@kbaops.com*

**Contact AMU Magazine
to advertise**



phone: (604) 214-9824
toll free: 1-877-214-9824
amu.magazine@telus.net

FLYRITE

ACCESSORY OVERHAULS

AMO 98-97 EDMONTON, AB

STARTER-GENERATOR

- Overhauls
- Modifications
- Service
- Training
- Rentals



GOODRICH > APC > AUXILEC
(formerly TRW Lucas)
BENDIX > B&C STARTERS

1-888-439-6020

flyrite@incentre.net

Ph. (780) 439-6020
Fax (780) 439-6106

BY SAM LONGO



LinkedIn to Aviation

Leaning heavily towards the “old school” state of mind tends to make me rather skeptical of the quantitative values of social media . . .

While some of these venues leave me cold, others are clearly worth further investigation. Despite remaining in the dark ages and refusing to carry a cell phone, I am not entirely out of touch with modern reality. I generally don't like answering the phone at home, so why on earth would I agree to place one in my pocket? People who really know me usually know exactly where I am, and it's likely the garage. However, on the social media front, I have become a little more involved.

I am on Facebook, though I rarely sign in to see what is transpiring among friends and their families' lives. I seem to have totally avoided Twitter. Perhaps it's just too much to handle, along with unending social updates on Facebook, or maybe it's that name. Somehow it just makes me feel like I will be labeled a twit if I choose to get involved.

The one worthwhile network that I have discovered while stumbling through cyberspace is LinkedIn. For those who are unaware of this particular social media network, let me explain. It is a more business-oriented networking tool, similar to Facebook but without the mindless photos and text reporting “what I had for lunch today.”

If you have been in the aviation business for any length of time you probably already know that the single most valuable tool for success is networking. Whether you are an AME looking for new opportunities or a vendor looking for new customers, knowing the right contacts will almost always make things happen quicker. This is the first way that LinkedIn can be a valuable asset to your career or company.

Once you get involved (it is free, by the way), building up your personal profile page can also be beneficial. If done well, it is a great showcase for what you have accomplished so far and what potential you may have to offer in the future. It is like having an up-to-date résumé circulating on the Internet, 24 hours a day, 7 days a week. Speaking of which, it is a proven fact that over 80 percent of employers looking for new staff now check LinkedIn first.

OK, so enough with the infomercial you say. But wait, there's more. As most of my loyal readers and ex-aviation students know, I am now happily retired, so why would I be so

enamored with this specific networking phenomenon. Despite rumors to the contrary, I am not looking for new employment. However, it does present a really terrific opportunity to get back in touch with colleagues who I have worked with in the past, as well as keeping track of where many of my previous students are presently employed.

My current profile shows that I have in excess of 350 contacts. Although many of these are within the aviation community, many others are spread across a diverse array of backgrounds and careers. Just within the scope of this summer I have re-connected with over a dozen ex-colleagues and students, which will in turn lead to additional connections in the future. Although 350 may sound like a lot, many LinkedIn devotees have in excess of 500 contacts. It's not rocket science to realize how all this relates to a lot of networking potential.

So if you are already involved, I am likely preaching to the converted, but if you are not, then I suggest that you check it out. I think you will be surprised at how many people in the industry who you already know will pop up. Believe me, you don't have to be a computer whiz to figure it out (I'm not). Before you know it, you will be networking your way to new opportunities and a better future. Heck, you may even happily reconnect with some old friends. You have nothing to lose and no one will solicit at your door. So why wait? Log on now, strut your stuff and see what happens. You won't be sorry.

Oh, and speaking of strutting your stuff, in reference to my non-existent, unofficial job search? As mentioned earlier, I really am enjoying this whole writing/retirement thing. However, there are still a few career possibilities on the bucket list that might just coax me out of my cozy cocoon. If you are looking for someone to work on your vintage airplane, or perhaps become curator of your classic car, motorcycle or aviation museum, please feel free to get in touch. I may not be cheap but I am always cheerful and only a click or two away on LinkedIn. Hey, I may be old school, but you are never too old to stop networking.

Cheers.

For more published writing by Sam Longo, please visit www.samlongo.com ■



Come see us at NBAA
Booth 699

40



AVIALL

40 Aviall stocking locations around the world means we have a location close to you. Aviall works hard to provide you with exactly what you need, precisely when you need it. **Aviall Delivers.**



aviall.com

North America Sales and AOG: 1-800-AVIALL-1
International Sales: +1-972-586-1985

AVIALL
A BOEING COMPANY

SETTING THE STANDARD OF CUSTOMER SERVICE

Visit us at **NBAA Booth 1500**



PT6A • PW100 • JT15D • PW307A • PW308A/C

A Fully Authorized Pratt & Whitney Canada Distributor & Designated Overhaul Facility

24/7

READY TO SERVE AROUND THE WORLD

**MAINTENANCE
REPAIR
OVERHAUL**

VECTOR
AEROSPACE

Our reputation for superior customer service continues to grow at Vector Aerospace Engine Services – Atlantic.

We're proud of our past – working hard for your future.

Toll Free: 1.888.769.0999
WWW.VECTORAEROSPACE.COM