

A publication of Duncan Aviation

# Duncan Debrief

Spring 2013



## 1 Proper Planning Makes Easier Certification

The Duncan Aviation team understands how to work with oversight authorities worldwide and develops a detailed certification and return-to-service plan.



## 7 Transformation. Unlike any other.

Duncan Aviation transforms a Challenger 601-3A to look and feel like it just completed its first landing.



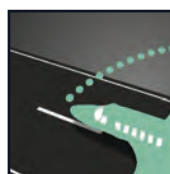
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Duncan Aviation team members are adept at finding solutions and providing aircraft operators with the best service possible. We introduce you to just a handful of stories around the world daily about team members serving customers.



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subscriber services:  
Direct all inquiries, address changes, subscription orders, etc., to:

Web: [www.DuncanAviation.aero](http://www.DuncanAviation.aero)  
E-mail: [Debrief@DuncanAviation.com](mailto:Debrief@DuncanAviation.com)  
Contact: Marketing Communications  
Phone: 1.800.228.4277 or +1 402.475.2611  
Fax: +1 402.479.1657  
Mail: Duncan Aviation  
Marketing Communications  
P.O. Box 81887  
Lincoln, NE 68501

contributing writers:  
Kate Dolan  
Diane Heiserman  
Beth Humble  
Danielle Kavan  
Lori Johnson

lead designer & photo director:  
Kaela Paseka

web developer:  
Tad Luedtke

circulation director:  
Kate Dolan

office administrator:  
Brian Ryba

chief editor & manager:  
Lori Johnson

vp marketing:  
Steve Gade

president:  
Aaron Hilkemann

chairman:  
Todd Duncan

company founder:  
Donald Duncan (1922-1981)

## from the chairman

### Todd Duncan



One thing about our business and industry is that it is very dynamic. We're all constantly changing and evolving. During the last several years, we have seen a lot of changes in regulations and requirements from the Federal Aviation Administration (FAA) and the European Aviation Safety Agency (EASA). To provide the best experience possible for customers, we need to thoroughly understand these changes and be able to walk customers through the process in a timely and efficient manner. To that end, we have honed our certification, engineering and return-to-service processes and continue to work with regulatory agencies, including partnering with Design Organisation Approval agencies in Europe, in the development of these processes.

Continuing and expanding support for our growing worldwide customer base is important to us. We now have full-time Duncan Aviation Regional Managers in key international regions such as Europe, South America, Australia, Mexico and India. We also have annual sessions with Customer Advisory Boards (CAB) in Europe and Latin America, in addition to our North American-based CAB, which has been in existence for several years now. Duncan Aviation is investing heavily in these regions and cultures and adapting our services to the unique needs in these regions. We have developed more mobile service teams so we can provide customers with even better support away from our main facilities, and we have expanded our 24/7/365 AOG parts support with phone coverage and assistance around the clock, even on holidays.

All the services and capabilities in the world, though, don't mean anything without resourceful and caring people in place to help customers when they need it. We continue to hire the best people with a customer service attitude and invest in their continued growth. 🇺🇸

## engineering alterations planning specialist

### Mary Bill



Duncan Aviation's mission to meet aviation safety and compliance requirements for our global aviation customer base is demonstrated by our commitment to stay current with the applicable international standards. Our relationships with the international aviation authorities, as well as organizations authorized by the authorities to approve design changes to our customers' aircraft are an important part of this mission.

The FAA recently issued guidance describing acceptable methods to test aircraft cabin interior materials when new finishes are used on existing aircraft cabin interior panels. Following this guidance, we recently completed revisions, beta tests and training for our interior material flammability test procedures. Additionally, we have noted this is under review by the EASA and we are preparing ourselves to harmonize our procedures with their guidance when made available. 🇺🇸



*Proper Planning Makes*

*Easier Certification*

[www.DuncanAviation.aero/worldwide](http://www.DuncanAviation.aero/worldwide)

Customers from around the world have come to Duncan Aviation for maintenance, repairs and overhauls. Whether it's a request to reupholster seats, replace an aging cabin management system or install a new Flight Management System, those customers can be confident that the Duncan Aviation team understands not only how to service, refurbish and install equipment, but also how to work with oversight authorities worldwide, providing the proper documentation and certification required to return the aircraft to service.

### *Working with EASA*

Aircraft are complex and safety is crucial. Consequently, navigating a certification is not a simple process. Whether they are working with the Federal Aviation Administration (FAA), the European Aviation Safety Agency (EASA) or another regulatory agency, Duncan Aviation team members have devised a process with extensive backend preparation to ensure a smooth production process and on-time delivery.

"We know it's not a simple process," says Mary Bill, Engineering Alterations Planning Specialist. "But we'll help customers, make sure they have a great experience and get them home on time. All we need is a solid plan that accounts

for a variety of scenarios and requires nearly all the paperwork to be done prior to the aircraft's arrival."

As European aviation authorities continue to harmonize their specifications under the EASA umbrella, Duncan Aviation's team members are constantly working to stay up-to-date on new regulations in order to walk customers through every step of the process, from the initial review of design data to the Design Organisation Approval (DOA) and approval for return to service.

Duncan Aviation has formed a series of partnerships with EASA-approved DOA firms. These firms provide design approval and certification for the work we do on EU-registered aircraft. Because these relationships are firmly established, Duncan Aviation can seek the

*"We know it's not a simple process. But we'll help customers, make sure they have a great experience and get home on time."*



*This aircraft galley is an example of the high-quality cabinetry and interior work that Duncan Aviation team members construct and certify on a regular basis.*

necessary certification from these entities without tacking on additional downtime for customers.

And in some cases, like a recent project completed by Heron Luftfahrt GmbH & Co. Aviation, all this planning can help get a customer back in the air even before they anticipated.

### *An Early Delivery for Heron Aviation*

From the moment Duncan Aviation and Heron Aviation signed the proposal for inspections, partial interior work, upgrades, avionics and paint for the German-registered Falcon 900EX, the customer tracked down aircraft data needed to obtain design change approvals that complied with EASA standards.

Duncan Aviation requested Heron Aviation provide flammability data, floor plans, the



The certification team at Duncan Aviation is well-versed in navigating the often tricky skies of Civil Aviation Authorities (CAA) all over the world. Whether an aircraft's country of registry is Colombia, Estonia, Mongolia, Indonesia, Tanzania, India or any other, our certification specialists will work with the CAA to secure the necessary plan for approval of the alterations.

Many countries, including South Africa, Canada and Australia, have organizations approved by their CAA that are similar to the EASA-approved Design Organisation Approvals (DOAs). Duncan Aviation partners with these organizations to coordinate a plan for approval of any design changes prior to an aircraft arriving in the United States at a Duncan Aviation facility.

Some countries certify data themselves through their CAA. Mary Bill, Engineering Alterations Planning Specialist, says, "For instance, the agency responsible for regulating and maintaining the safety of civil aviation in Brazil is the Agencia Nacional de Aviacao Civil (ANAC), and we secure all of the necessary approvals and certification from them prior to Brazilian-registered aircraft touching the ground in the United States."

Bill continues, "We stay on top of the regulations for our customers by working with the CAAs for their countries of registry to ensure the aircraft that are returned to service meet the requirements determined by their airworthiness authorities." ✈️

interior maintenance manual and completion specifications, among other documents.

"It's important to request this information up front; otherwise we won't be successful with the project. We're transparent about the process early on because setting realistic expectations is vital to our overall success,"

says Suzanne Hawes, Completion Sales Representative.

This data is needed for design approvals, but tracking down exactly what the DOA needs in a sea of paperwork can be a daunting task. Consequently, when an aircraft is placed on the schedule, Duncan Aviation immediately assigns a certification coordinator, project manager and a variety of team leaders who provide hundreds of years of experience working with and for the customer to hone in on the right documents.

"There are a variety of different names and descriptions for exactly what we need and it can be more than confusing, which is why we help the customer during this initial process," says Mary.

Once the Duncan Aviation team and the customer find all the necessary data, Duncan Aviation compiles the plan for approval and determines whether or not any pertinent information is missing. If not, the team will submit design changes

to one of several DOAs Duncan Aviation routinely partners with for approval. If data is missing, the certification coordinator makes every attempt to track it down.

"After exhausting all resources and relationships to obtain the data, we can re-engineer it in-house, but that takes extra time and adds to the overall cost, so we really try to work with the original source," says Jerri Becker, Certification Coordinator for Duncan Aviation.

Fortunately, because of Duncan Aviation's extensive planning for international aircraft modifications, if re-engineering is required, it is done prior to the aircraft's arrival so it doesn't affect overall turn

*"We're transparent about the process because setting realistic expectations is vital to our overall success."*

*"There are a variety of different names and descriptions for exactly what we need and it can be more than confusing, which is why we help the customer."*

"There are times when the data just isn't available," says Suzanne. "When this happens, we have other methods we can use, which are not always optimal, but we're actually currently working on an aircraft where we have to sample panels to get the data we need. It's not optimal, but if we're able to plan for it, it's attainable."

Heron's Falcon was scheduled for an

airframe 2C inspection, 144-month routine upgrades as well as due items, avionics Traffic Collision Avoidance System 7.1 installation, partial interior refurbishment and partial paint refurbishment. Fortunately for Heron Aviation, the customer was able to supply the data and the DOA approved Duncan Aviation's plan.

Of course, even with all that planning, the process isn't foolproof.

"The DOA on this particular project had to change its process in the middle of everything, so we adapted," says Jerri. "That's why all the team members are involved from the very start through delivery, so we can shift all the moving parts together when the unexpected materializes."

After approval, EASA issues a part number for each compliant part. Those numbers have to be physically inscribed on each part prior to final installation and engineering bulletin signoff, completing the production process.

"We did a check flight, fixed a handful of minor squawks

the following morning and the aircraft departed five days before expected delivery," says Jerry Tollas, Project Manager. "Heron Aviation was ecstatic."

Since regulations continue to change and no two aircraft projects are identical, Duncan Aviation's Certification Planning Team excels at problem solving, extensive planning and a little extra elbow grease to ensure an on-time delivery. ✈️

*When an aircraft is completed at Duncan Aviation, it delivers with an approved burn data package indicating the burn test results and return to service documents. This valuable data will help to form the basis for certification of any future work done to the aircraft.*

*"If we're able to plan for it, it's attainable."*

*"All team members are involved from the very start through delivery."*

*Turntime Guarantee*

When a customer has a date they absolutely have to have the aircraft by, Duncan Aviation team members do everything in their power to make it happen. For those who need a little extra assurance, we offer a Turntime Guarantee.

"Most of our tried and true customers know that when we give them a delivery date, we'll do everything we can to make it," says Suzanne Hawes, Completion Sales Representative. "But for those new customers who don't have any experience with us, the Turntime Guarantee gives them an extra sense of security."

When a customer expresses an interest in a Turntime Guarantee, the customer's desires and goals are carefully reviewed. Turntime Guarantees are unique to each aircraft and are very specific about the requirements for both the customer and Duncan Aviation.


"Customers who want the Turntime Guarantee often have larger worksopes with multi-shop projects. They have a lot invested and it's definitely a valuable tool for them," says Suzanne. "It's a way for us to show a first-time customer how we operate all the time." ✈️





Over the past year, Duncan Aviation team members from interior production, certification, engineering, senior management and training came together to ensure our burn-testing procedures were evaluated based on recently issued FAA advisory circulars. Additionally, we have developed relationships with a number of DOAs in Europe to obtain approval of the interior design changes, including flammability aspects, for our customers with EU-registered aircraft. As part of our planning efforts, to ensure these approvals are handled in a timely and efficient manner, we will work with and on behalf of our European customers to obtain the OEM burn packages necessary to support approvals for design changes of their aircraft.

Our lab, located at the Battle Creek, Michigan, facility, tests materials used in interior modifications to ensure that they meet the flammability requirements established by the FAA. Kristi Steward, Interior Manager in Lincoln, says, "At the end of the day, the most important thing to us is our customers' safety." We are confident that we deliver a safe aircraft.

Aircraft deliver with an approved burn data package indicating the burn test results and return-to-service documents. This valuable data is not only necessary for an aircraft's return-to-service today, but also forms the basis for certification of any future work. 



When an operator contacts a Duncan Aviation technical sales representative for information about an interior modification, the doors open for an information sharing process that helps operators identify exactly what they want and helps Duncan Aviation properly plan for the potential work. Planning properly helps set a realistic turntime on a project and helps to ensure the proper paperwork is completed, filed and approved when the project is completed, allowing the aircraft to return to service with a minimal amount of hassle for the operator.

When an operator turns his questions into an official Request for Quote, Duncan Aviation's sales team brings a larger group in to assess the project. Ryan Oestmann, Manager of Engineering Services, explains that it is critical to involve his team in this step. "Before we remove




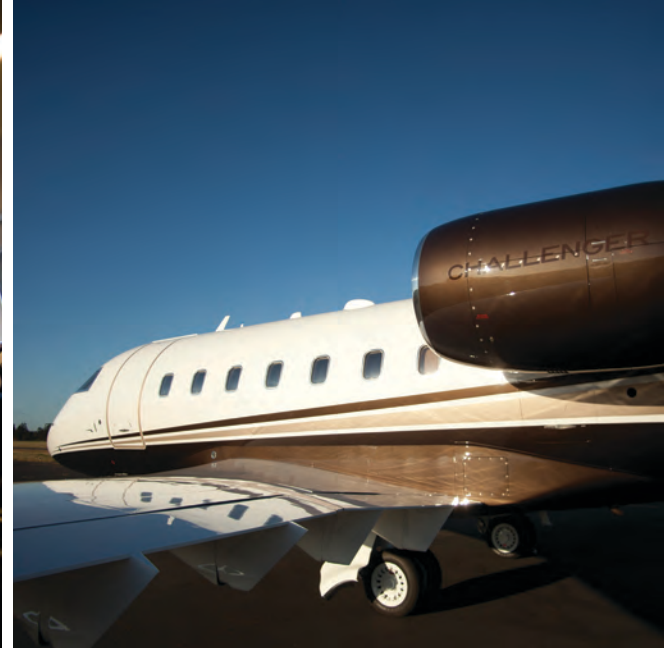
Duncan Aviation's Alterations Planning Team: Ted Brooks, Sean Davenport, Mary Bill, Mark Pawlowski and Shawn Carraher.

a bolt from an aircraft, the customer has a quote that details the time frame, costs and data necessary to certify the aircraft for airworthiness and return it to service."

The accuracy and transparency of this is a result of efforts by Duncan Aviation's Alterations Planning Team (APT). The team's goal is to streamline the planning process so we don't keep your aircraft on the ground by failing to allocate the necessary resources. Shawn Carraher, Manager of the Alterations Planning Team, is fond of his edited, five-P version of the military's six-Ps: Prior planning prevents poor performance. The members of the APT heartily endorse this motto.

The team reports to Engineering management and includes a Team Leader/Coordinator from Sales, an

Engineer, a Certification Specialist and representatives from Interior and Install. The team reviews quote requests every morning. In addition to providing accurate information in quotes, this team has helped customers receive more efficient and less expensive service. For example, an APT member recently knew a customer was dreading 200 hours of labor costs associated with repairing his broken antenna, thinking the interior would have to be removed to access the antenna. The team member, an interior specialist, knew from experience that replacing this antenna was a two-hour job that didn't require removing the interior because the antenna is located in the nose cone. That knowledge made a substantial difference to scheduling, anticipated work times, downtime for the aircraft and the customer's bottom line. 



## Before

In performing this Challenger pre-purchase evaluation and nose-to-tail update work, Duncan Aviation's goal was a flawless and timely finish while providing the customer with an experience unlike any other.



This is how the Challenger looked before transformation.

# Transformation.

— Unlike any other. —



From the very start, Ernie Sturm, Aircraft Management Solutions (AMS) President, knew he wanted to work with Duncan Aviation based on his experience with our project managers and myDuncan online project management system. But first, he needed to track down the right aircraft.

He spent three months searching for a jet with intercontinental range, a cabin that could comfortably carry up to 10 passengers and a basic equipment platform that could be upgraded to today's navigation and communication standards.

"We wound up focusing on the Bombardier Challenger 601-3A because it has the same airframe and engine combination as the newer Challenger 604 and 605 models. With the addition of an extra fuel tank modification—adding the "ER" designation—it flies at the same speed and has essentially the same range as a 604 or 605," says Ernie, a longtime Northwest-based business aviation industry veteran.

Sturm tracked down a Challenger for sale, but it needed a substantial amount of maintenance in order for it to comply with the Federal Aviation Administration (FAA) standards, and its interior, as well as exterior, needed complete refurbishment. An aircraft demanding that much work is typically a bit nerve-racking to invest in. But Ernie was confident in the capabilities, expertise and dedication of Duncan Aviation and knew we would be there to support him.

Ernie had an airframe team from Duncan Aviation's Battle Creek, Michigan, location take a look at the aircraft and conduct a thorough pre-purchase evaluation.

Duncan Aviation team members worked to get a good handle on the status of the aircraft as pre-purchase evaluations and new aircraft acquisitions can present unique opportunities as well as challenges. The physical condition of the aircraft

combined with the historical status of its records are key in determining whether an aircraft will meet the operational needs of its prospective buyer.

"The team was very responsive and as soon as they landed, they hit the ground running," says Ernie.

Within a couple of days, the two technicians and a documents research expert nailed down every concern they could anticipate. Sturm and his client purchased the aircraft and sent it to Duncan Aviation's Lincoln, Nebraska, facility for its transformation.

### Efficiency with myDuncan

Ernie worked with both Duncan Aviation's Battle Creek and Lincoln locations on a variety of smaller aircraft in the past, but this Challenger was one of the most involved projects he says he had ever tackled. Ernie needed to pair up with a completions facility who could handle the project quickly and efficiently and manage everything in one location from start to finish. He remembered using Duncan Aviation's myDuncan on his mobile phone and the one-on-one attention he received from his very own project manager. It was a match.

"I feel Duncan Aviation's project management system is the best in the industry. Between the project manager and myDuncan, I was always informed, and the project was constantly moving forward because the system allows me to send approvals quickly. That's the main reason I chose Duncan Aviation for this project," says Ernie.

"The team was very responsive and as soon as they landed, they hit the ground running."

After a brief overview of myDuncan, Ernie caught on quickly and the system allowed him to stay in the loop, any time of day or night. It documented everything and allowed him to go back and check on action items completed days or weeks ago. Ernie says it was a great way to communicate and made the process more efficient.

“Using myDuncan is much better than making a phone call and going back and forth, trying to get your phone call returned and only getting partial information,” says Ernie.

It took five months, but once the project really got going, Ernie says he was on myDuncan at least once a day. The project had 680 total items on the work orders, including quoted items and additional items that were added once the aircraft was in-house.

“That’s 680 things that needed to be tracked, completed and approved. Without that type of system, it’s next to impossible to keep track of it all,” says Ernie.

## Project Manager: Tracy Hein

Duncan Aviation was able to handle everything for the Challenger in-house, which lowered the overall cost and shortened the aircraft’s transformation timeline significantly. But a key ingredient to achieving this level of efficiency is utilizing project managers.

Project managers like Tracy Hein are constantly juggling the needs of the customer, maintaining a Duncan Aviation-level quality of work and keeping costs at or under budget – all with one eye on the clock. Because when it comes to staying on schedule, every hour counts.

Ernie says Duncan Aviation’s project manager concept is not something universal, and it’s the second reason he chose Duncan Aviation for this project.

“It’s nice to just make one phone call and have one person to contact. I’ve had other experiences where if I had an interior question or avionics question, I had to talk to the interior or avionics people. At Duncan Aviation, if I had a question, I called Tracy. It simplifies everything across the board, for everyone, really,” says Ernie.

Within hours of the aircraft’s arrival in Lincoln, Tracy and the rest of the Duncan Aviation team began the substantial workscope to complete the comprehensive 20-year airframe inspection, 10-year

landing gear overhaul and numerous other inspections and repairs.

Tracy says that prior to arriving at Duncan Aviation, the Challenger hadn’t flown in nine months.

“By the time we were done, we touched every inch of that aircraft. We did paint, an airframe inspection, a completely new interior, added Wi-Fi, upgraded cockpit avionics, rewired outlets, added lighting, designed custom wine racks... from nose to tail, Duncan Aviation was represented everywhere,” says Tracy.

When asked about the project’s completion, Ernie boldly states that the project was done on time. He then pauses and corrects himself.

“We were in the timeframe we were expecting. Things get added to the workscope that affect the out-date. A project as big as that, if you can be finished within 10 days of the date you forecasted several months ago, that’s pretty good,” says Ernie.

Not only was this project finished within 10 days of the original out-date, it was finished just three days behind it. The three-day delay was directly attributable to a customized piece added after the initial quote. Ernie says the incredible schedule adherence was because Tracy had her eye on the clock and the calendar, pulling strings behind the scenes to make sure all the team members were on the same page.

## Classic, Yet Customized

Ernie and his end-customer wanted the more than 20-year-old Challenger to look and feel like it just completed its first landing. With an experienced design eye as well as input from the customer, the aircraft left looking fresh and contemporary.

“When an aircraft is owned by an individual, it ends up being a statement of their style and what they want it to look like. That often involves some unique customization,” says Ernie. “The customer wanted a certain type of crystal in the galley. We bought it and Duncan Aviation refashioned a cabinet to house it. Everything was one of a kind.”



A custom wine rack and cabinets house previously purchased crystal.

“By the time we were done, we touched every inch of that aircraft.”



A custom logo was incorporated throughout the aircraft.

Working with Duncan Aviation’s interior design department, Sturm and his client chose colors and materials for a total refurbishment of the interior, including new carpet, new wood and metal finishes, new counter surfaces and a galley/refreshment center redesign reflecting the client’s taste.

“The transformation on this aircraft was amazing. It truly gave the aircraft an artistic, contemporary feel on the interior with a classic color scheme on the exterior,” says 23-year-veteran Designer Teri Nekuda.

Teri’s process allows the customer to put his or her personal stamp on the aircraft, sometimes literally.

“The customer had a somewhat hands-off approach to the aircraft project, until it came to the interior and paint. He flew out to set parameters and the interior department worked within those. They were even able to incorporate his custom logo throughout the aircraft,” says Ernie.

Additionally, Duncan Aviation’s paint shop created a custom exterior paint scheme that included retaining the client’s special aircraft registration number, as well as a deviation from the common white or gray base paint.

But customization isn’t all about appearance. In addition to the maintenance, interior and exterior enhancement, the airplane’s navigation and communication equipment was upgraded.

“We upgraded the GPS and Flight Management Systems to incorporate the Wide Area Augmentation System, so now we can fly the new approaches that don’t rely on ground-based equipment and will be a key component in the FAA’s NextGen air traffic control system,” explains Sturm. And for the passengers, Duncan Aviation team members installed wireless internet capability.

## Thinking Green: Saving Money and Reducing Waste

Duncan Aviation’s design team loves to build new interiors, but sometimes, if it isn’t broken, there’s no reason to fix it. In this Challenger, Duncan Aviation team members designed a plan to keep all of the existing wood and simply

refinish it to save time and money and remain more environmentally conscientious.

“When I suggested it, I thought I’d get some pushback, but the team embraced the concept and it just turned out to be gorgeous,” says Ernie.

The Challenger traded in a dated light wood for a much darker, high gloss alternative that transformed the entire cabin with a superficial swap. The team also decided to keep the leather seats because they were in great shape and meshed well with the design.


When it comes to saving money and crunching numbers, two heads are often better than one. Ernie and the design team were trying to determine the best and most economical way to soundproof the aircraft. After mulling over several options, they found a way to get the same effect for almost half the price. A little extra planning and searching saved a lot of time and money.

“I appreciated the flexibility people had. When we said, well, have you thought about this? They thought about it and found alternatives. They didn’t say ‘this is the way it has to be done,’” says Ernie.

## A Squawk-Free Test Flight

At the end of the day, Duncan Aviation team members combine all their skills and efforts to please the customer. They don’t produce a product that just looks the part—it delivers as well.

A complete overhaul on a jet for private use is an extremely personal experience. It needs to be functional, fiscally reasonable and really representative of the owner. This is an experience only Duncan Aviation can offer in its large, world-class facilities that have a small-town culture of values and personal connection with customers.

“This aircraft was taken apart and rebuilt, and it’s remarkable that we had an essentially squawk-free test flight. It was a major project that went incredibly well when so much could have gone awry,” says Ernie. 



Existing wood was refinished to save time and money.

“It truly gave the aircraft an artistic, contemporary feel on the interior with a classic color scheme on the exterior.”




The team decided to keep the aircraft’s leather seats, which were in great shape.

## Meet the Avionics and Instruments Team



*Experience.*  
*Unlike any other.*

Duncan Aviation has team members from the Netherlands to Nebraska and our backgrounds are even more diverse. But a common thread that ties us all together is a positive attitude and an inherent sense of doing the right thing that allows us to be a step above the rest.

We're very particular about whom we hire, and once those team members are part of our family, we work to cultivate those relationships for decades. It's the people within a company who create such a strong brand. Duncan Aviation is an experience, unlike any other. The following stories describe just how much our customers mean to us and what it takes to create that experience time and time again. 




### Who has component solutions 24/7/365?

**Meet the Duncan Aviation Avionics and Instruments Team. Two customers were faced with five grounded aircraft when pressed to comply with a mandate requiring upgrades on their aircraft's navigation units. One call to Duncan Aviation, and they were back in business in less than 24 hours.**

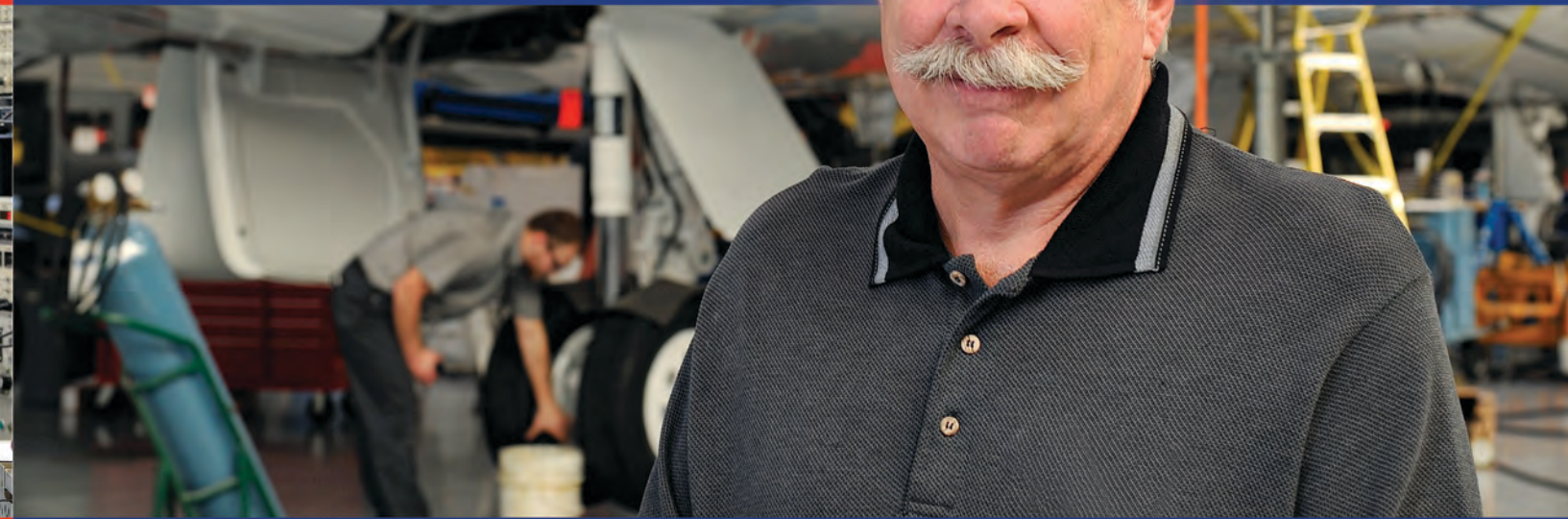
Two operators called their Duncan Aviation Regional Manager, Skip Laney, on a Thursday morning, asking for assistance. They explained that collectively, they had five aircraft that needed navigation boxes worked or they would be grounded. Skip suggested the customers join forces and fly four navigation sets—a total of eight boxes—to Duncan Aviation's Lincoln, Nebraska, facility.

The aircraft arrived in the middle of the afternoon on Thursday and within an hour, the avionics team had all eight boxes and the two from the dispatched aircraft on the avionics bench. The team needed to comply with and reinstall two navigation units on the delivering aircraft as soon as possible, as they anticipated the aircraft would dispatch the following day. Duncan Aviation team members exceeded that expectation and were able to complete all 10 units in less than 24 hours.

"Our team turned 10 boxes in just 24 hours. That's extraordinary," says Skip. "Both customers were ecstatic with Duncan Aviation's quick turnaround and can-do attitude. The entire team is to be commended for their outstanding hustle, team effort and performance." 

For more stories visit [www.DuncanAviation.aero/experience](http://www.DuncanAviation.aero/experience).

## Meet Tim



**Whether it's midnight on Christmas Eve or Monday at 10 a.m., who can provide experience, expertise and unparalleled results? Duncan Aviation.**

**Meet Tim Garity. During the winter holidays, when travel and shipping is a nightmare for just about everyone, he had to think resourcefully to repair an aircraft after it collided with another.**

Duncan Aviation's sales representatives received a phone call from a customer on Grand Cayman Island whose aircraft had been damaged after making contact with another aircraft.

Duncan Aviation's parts and sales team ordered the replacement part and had it immediately shipped to Lincoln for a modification and paint. Simultaneously, Airframe Mechanic Brian Robinson and Airframe Technical Representative Tim Garity flew commercially to the island and arrived on Christmas Eve.


Grand Cayman Island is a desirable location during the holidays for those who live in snow-covered parts of the world, so the duo couldn't secure a hotel room. But because Duncan Aviation has connections all over the world, Tim and Brian met up with a good friend of the customer, and he drove them to a resort with one room left.

"Who would have guessed there would be no room at the inn on Christmas Eve?" joked Tim.

On Christmas Day, the duo determined whether they needed to order any other parts. They also tracked down the aircraft tools and luggage that had been delayed in Miami due to the high-volume holiday travel.

In order to maximize productivity and efficiency while waiting for the parts, Tim and Brian removed the damaged part of the aircraft and responded to another operator who was having a problem with his aircraft. They were able to troubleshoot the problem, obtain the parts and fix the aircraft before his scheduled departure.

The two finally received the necessary part on January 2. They missed two holidays with their families and, while installing the part, they discovered the aircraft part needed some additional work to make it airworthy. Instead of giving in and waiting another week for an additional part, Tim was proactive and contacted the manufacturer.

"I explained the situation and they responded with a procedure that allowed us to make the part airworthy. We purchased some tooling, modified the part and completed the repair to the aircraft," says Tim. "All in all it was a good trip, complete with a few challenges that we were able to meet and conquer." 



## Meet Kelly



**Would you rather work with a company that's all about the bottom line or one that invests in the future? The Duncan Aviation team believes in greener alternatives.**

**Meet Kelly Becker.** After spending years watching thousands of gallons of acetone be used, packed up and shipped off for safe hazardous waste disposal, he started researching alternatives and found a distiller that allows Duncan Aviation to reuse 40 percent of the acetone used in its paint shop.


Environmental Director Kelly Becker and Supervisor Ryan Herbstreith didn't have to spend much time demonstrating the value of purchasing acetone distillers for the Lincoln, Nebraska, and Battle Creek, Michigan, facilities to Duncan Aviation's senior management team. When he explained they could benefit the environment by distilling and reusing 40 percent of the paint shop's acetone while simultaneously cutting the cost of purchasing and paying to dispose of the solvent, they were convinced.

"It was a substantial up-front cost, but we will recoup the investment in less than two years," says Kelly.

The one concern about this new process was its potential effect on Duncan Aviation customers. Turns out, it doesn't affect paint quality. The paint shop still uses new acetone on all aircraft; the distilled solvent is only used to clean tools. To maintain the high-quality paint work Duncan Aviation has built a strong reputation for, the paint shop still uses virgin acetone.

"The customer will never notice the difference because they will get the high-quality wipe down. The high standard is still there; we're just changing our internal processes a bit," says Kelly.

Duncan Aviation's paint shop uses about 5,000 gallons—or 91 drums—of acetone every six months. After implementing the distiller, the paint shop was able to recycle 1,980 gallons. The amount of waste acetone the paint shop has to ship offsite for disposal has also reduced by more than 50 percent.

"I don't take shortcuts in any way or shape as far as the environment is concerned," says Kelly, as he rattles off a list of new green solutions he hopes to implement in the not-too-distant future. Duncan Aviation is always looking to reduce its environmental impact for our team members, customers and the rest of the world. 

## Meet Regis



**When your aircraft is AOG, and it is crucial you get it fixed quickly, who are you going to call?**

**Meet Regis Biarrietta.** Just days before the presidential election in Venezuela and the threat of a possible airport shutdown, he battled road closures and heightened security to get a stranded customer's aircraft up and running. He succeeded, just in the nick of time.

Duncan Aviation's team received a troubleshooting phone call that a customer's engine was leaking oil and needed a mechanic as soon as possible. To complicate an already undesirable situation, the Venezuelan elections were concluding in five days and rumors were flying that the airport would be shut down and all aircraft with N-Numbers would be grounded.

The customer planned to fly Engine Tech Regis Biarrietta out on his backup aircraft, but it was experiencing some mechanical difficulties, so he opted to fly Regis commercially and wound up sending him to another part of the country less affected by the election-related security.

Just a few hours later, Regis made his way to Simon Bolivar International Airport of Maiquetia where the aircraft was parked and immediately began troubleshooting to identify the parts he needed—all while next to the heavily-guarded Presidential hangar. He located the necessary parts at an airport just an hour away, but the roads were closed, rendering them useless.

With just a few days left and an ever-increasing sense of urgency, Regis decided to call his team lead back in Florida to track down and expedite delivery of the parts. Fortunately, the customer's other jet was up and running and ready to leave Tampa, Florida. The pilot picked up the parts on his way out of the United States.

Using an alternate airport and land route, the parts arrived. Regis fixed the engine and as they were taxiing out, he noticed they were the very last corporate aircraft with an N-Number left in the airport. He breathed a sigh of relief as they departed—just in time. 

# FANS Intelligence

Sixteen years ago, the Duncan Intelligence publication was born, the product of business aviation operator questions and the knowledge of Duncan Aviation's seasoned Technical Representatives. It was a simple concept: take the questions the Tech Reps were fielding every day and turn them into technical articles. At its start in 1997, the initial editions covered five different airframes and the TFE731 engine. The one-page newsletters were printed and given to customers or faxed to customers' offices. The response was very positive—the technical tips were valued, the publications were kept for reference, posted on walls and shared with friends. Today, the

delivery method has evolved, but the formula for the information is the same—to provide current technical advice, free, to anyone who needs it.

Duncan Aviation continues to deliver a monthly dose of technical knowledge to the business aviation community. The company has also hosted several Duncan Intelligence Live events and, in December 2012, a new format was introduced with the first Duncan Intelligence webinar. The webinar format allows attendees to get the information live, right from their computer, laptop or tablet, wherever they may be, or to download a recording to watch later. The subject matter for the first webinar was one of the hottest topics in business aviation today, FANS 1/A+.

FANS 1/A+ is a complex subject because each aircraft requires a unique solution. Because of this complexity, operators have a lot

of questions and expert advice is in demand. Duncan Aviation is on the leading edge of FANS 1/A+ solutions, working with equipment manufacturers to help operators reach compliance ahead of the 2015 mandate for Link 2000+ in Europe. Duncan Aviation sales experts and avionics technical representatives are available to field questions any time. Additionally, they have developed several resources to assist operators as they work through what is needed for FANS 1/A+ compliance. With a Straight Talk ebook, a video series, a webinar, multiple blog posts and Duncan Intelligence articles, FANS information by Duncan Aviation has been read and downloaded thousands of times by operators throughout the world. Look for more videos and webinars to be added to the Duncan Intelligence lineup in 2013. Visit our subscriptions page to make sure you receive the latest information: [www.DuncanAviation.aero/publications/subscribe.php](http://www.DuncanAviation.aero/publications/subscribe.php).

*The Duncan Intelligence publication has evolved over the years from fax issues to email/web-based issues, providing current technical advice to the industry.*

1 January 2011

After this date, all new aircraft operating above FL 285 in EASA-controlled airspace must be delivered with a compliant system. Several OEMs have temporary exemptions delaying this requirement until a FANS 1/A+ or Link 2000+ solution becomes available.

7 February 2013

North Atlantic Tracks will only allow FANS-1/A+-equipped aircraft to fly in the center two tracks.



Justin Vena

Justin Vena has worked in aviation for more than 20 years and has deep experience in avionics ranging from technician to training to engineering and most recently, as an Avionics Installation Sales Rep. He co-authored our FANS publication and is the host of our FANS video series. Justin is widely regarded as a top expert on FANS for business aviation.



Gary Harpster

Gary Harpster began his career in aviation in 1977 and is currently serving as an Avionics Installations Sales Rep at Duncan Aviation. He is an industry expert on NextGen initiatives, giving presentations around the world. Gary is currently serving as Chairman of the AEA Board of Advisors.

## FANS Resources

### FANS 1/A Straight Talk Book

There are a lot of variables to deal with when it comes to FANS 1/A+. There is no one avionics solution that will fit every aircraft, and often it takes a variety of avionics solutions to come up with a final solution that will result in compliance. While there are no easy answers, this publication is meant to help clarify FANS 1/A+ for operators looking for more information. [www.DuncanAviation.aero/straighttalk/fans/index.php](http://www.DuncanAviation.aero/straighttalk/fans/index.php)



### Understanding FANS Video

A four-part video series covering a variety of topics, including what it is, how it works, how it's changing and upcoming FANS mandates. [www.DuncanAviation.aero/videos/understanding\\_fans/index.php](http://www.DuncanAviation.aero/videos/understanding_fans/index.php)

### FANS 1/A Webinar

A one-hour seminar for operators researching FANS compliance for their aircraft, and all aviation enthusiasts with an interest in AAA NextGen initiatives. Presented by FANS expert Justin Vena, co-author of Duncan Aviation's popular "Straight Talk About FANS" booklet and host of the "Understanding FANS" video series. [www.DuncanAviation.aero/videos/webinars/20121218-fans\\_1a.php](http://www.DuncanAviation.aero/videos/webinars/20121218-fans_1a.php)



1 January 2014

Any aircraft fitted with FANS-1/A+ will be exempt from the EASA mandate for Link 2000+ and will exempt the aircraft from any future datalink mandates.

5 February 2015

By this date, all aircraft operating above FL 285 in EASA-controlled airspace must have been retrofitted with a compliant system.

5 February 2015

North Atlantic Tracks are expected to lock down most if not all the tracks to allow only FANS-equipped aircraft. Currently this is not an official date, only the expectation.

## FANS Mandate Timeline

# Investing Today to be Prepared Tomorrow



Duncan Aviation completes landing gear restorations and overhauls for:

- Challengers
- Globals
- Hawkers
- Learjets
- King Airs

Bombardier Global Landing Gear

## The Expansion of Duncan Aviation's Landing Gear Service

Landing gear overhaul/inspection/restoration is often mistakenly seen as a commodity service. Any shop that has received an OEM Maintenance Manual and follows FAA standards is free to advertise that it can inspect and overhaul aircraft landing gear. But not all landing gear service is equal. There are many additional service and capability requirements related to landing gear maintenance that can cut expenses and downtime but that can't be found at every aircraft landing gear shop. The landing gear is a behind-the-scenes inspection, most often scheduled alongside, but taking a backseat to, a major airframe inspection. However, it can have a huge impact on the entire project's schedule if the landing gear restoration runs into major squawks.

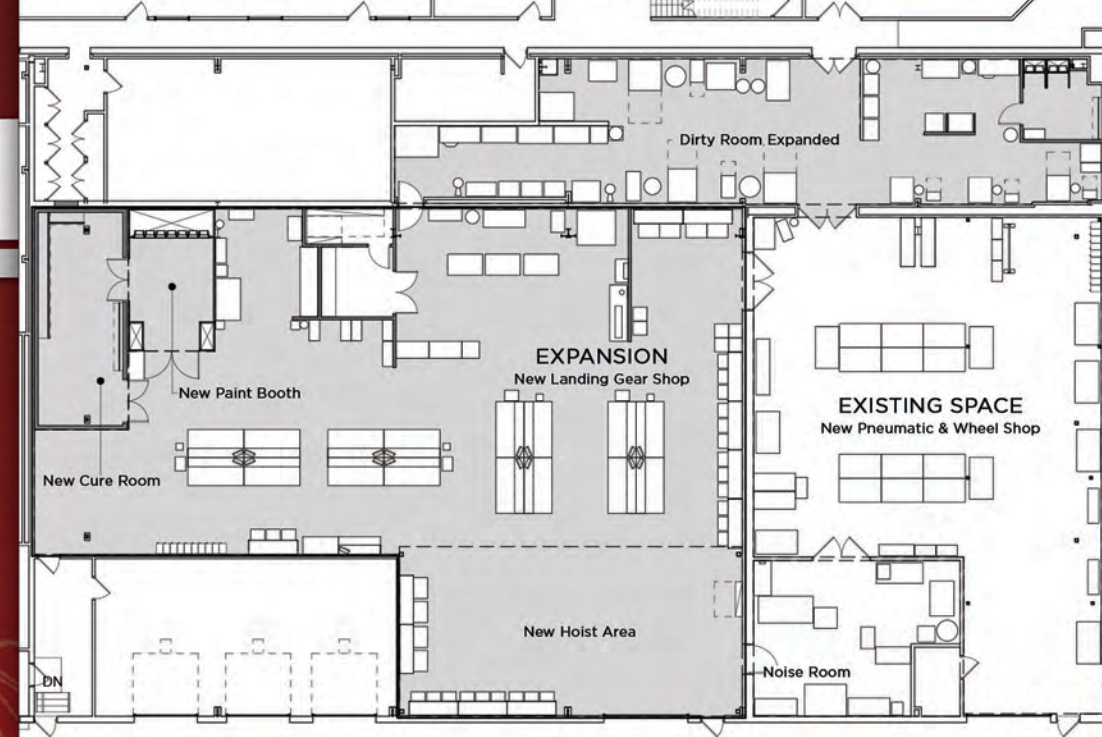
Duncan Aviation's Manager of Accessory Services Marty Lincoln has invested heavily in the landing gear customer. "I understand full well the impact a landing gear overhaul has on an airframe inspection. After all, an aircraft can't go anywhere without its legs. Everything we do, we do it for them." Marty is always looking for ways to improve the efficiencies in the Accessory Shop, bolstering capabilities and improving safety. These efforts translate into huge savings in labor hours, out-the-door costs and warranty claims.

### Accessory Service Expansion

Scheduled to open in August of 2013, Duncan Aviation will more than double its Accessory Shop area at its Lincoln, Nebraska, location with the refurbishment and expanded footprint of its service area. The company will gain approximately 6,300 square feet of Accessory service area, double its work benches and add new tooling and in-house capabilities, including an overhead crane and a new paint booth with a curing room.

The overhead crane will cover approximately 1,200 square feet of shop space, allowing for better work flow. Fixed stands will be installed adjacent to the cranes, giving the technicians easier access to the larger landing gear during maintenance. Marty explains the necessity of the overhead crane and fixed stands.

"Business aircraft are getting bigger and heavier, requiring heavier equipment," he says. "The installation of the crane is as much about the safety of our technicians as it is to protect our



Represents Expansion Areas

customers' landing gear while it is in our shop. We want to make sure that our technicians are safe from harm while at work and that there are no concerns about property damage while we are serving our landing gear customers."

Bombardier Global gear can weigh up to 500 pounds and can be very dangerous when picked up manually. With a crane, these large gears are easily lifted and moved about the shop during overhaul. It also makes the shop larger by not taking up valuable production space on the floor, allowing for the accessories area to double the amount of bench space it currently has.

A new 300-square-foot dedicated paint booth and a 400-square-foot new cure room are included in the expansion. The larger paint booth and cure room will increase the work capacity of the Accessory Shop and improve the time it takes for landing gear to go through the paint process. Now, if requested, we have the ability to paint larger landing gear parts, such as those that are found on the Global.

### Hydraulic Testing Brought In-house

With the Accessory Shop expansion, Duncan Aviation has also invested in the addition of precision tooling by adding a new Skydrol Hydraulic Test Bench. The new hydraulic test stand is capable of testing valves, hoses, accumulators, actuators and many other landing gear-related components. Jerry Cable, Duncan Aviation's Accessories Tech Rep, is excited about this new in-house capability. "The test bench allows for function tests on all landing gear hydraulics, taking the guesswork out of troubleshooting. Now that we can perform these tests on-site, it will save the customer the extended downtime and added expense of having this test

performed elsewhere." Jerry goes on to say, "It does really cool stuff!"

Prior to securing the bench, all these extra components would be sent out to a third-party vendor for testing and required repair. Now that the units remain in-house, customers are able to

come to the Accessory Shop and watch first-hand while their units are being tested. And because the results are immediate, squawks and failures are identified faster, providing our customers with the most accurate quote.

### Corrosion Removal Capabilities


When a landing gear is removed for inspection, such as with the 192-month gear restoration on a Bombardier Challenger 604/605, there are many common corrosion squawks that, through Duncan Aviation's years of experience, are expected. Just a few of these include corrosion on the axle bore in the main landing gear trailing link, hinge pin and side strut rod end, as well as nose landing gear plunger tube.

The removal of this corrosion requires machining expertise and a precision Computer Numeric Controlled (CNC) mill. Duncan Aviation has had the machining expertise with its in-house Machine Shop, and the company recently purchased and installed a new mill. The new Fryer Machine Systems CNC mill has the capability of handling a load nearing 3,000 pounds, a table size of 17x63 inches and position accuracy of +/-0.0002 of an inch. This increased capacity and precision accuracy increases the efficiency and safety of handling the larger gear assemblies of large airframes, including the Global.

Marty Lincoln is serious about doing all he can to support every landing gear customer. "Over the next several years, 1,255 Bombardier customers will be required to have their landing gear inspected per Chapter 5 requirements. By investing today, we will be prepared tomorrow to meet all of their needs in our house."

With the expansion of the Accessory area and the added tooling and capabilities, Marty plans to double the size of his team over the next five years. 

# Get Cash for your Avionics Stash

Contact Duncan Aviation to sell your excess avionics inventory by emailing an Excel spreadsheet of your parts list, including part numbers, to [WeBuyAvionics@DuncanAviation.com](mailto:WeBuyAvionics@DuncanAviation.com). We are also interested in purchasing surplus inventories of airframe and engine accessory components. 

The business aviation industry is growing rapidly and the demand for good, serviceable avionics parts to support our customers' current and future needs is strong. So Duncan Aviation Parts & Rotables Sales has stepped up efforts and increased on-hand inventory of avionics parts by seeking out and buying excess or surplus inventories of avionics units for all makes of business aircraft, including modifications packages removed for avionics upgrades.

Every day, customers reach out to Jamie Blackman, Duncan Aviation's Avionics Acquisitions Manager, offering a list of inventory for the company to purchase. She says most purchase lists average 20-50 part numbers, but can be as high as 5,000. Aircraft inventory companies purchase an aircraft to part-out and approach Duncan Aviation to sell the avionics units, knowing our customer base will likely be able to use the inventory. Directors of Maintenance will sell their rotatable pools if their aircraft is traded in for a larger or newer aircraft. These pools consist of good, serviceable units they no longer need. So they sell the units and then turn around and buy inventory for their new rotatable needs.

"We have no limits on how large or small of a list we'll buy," says Jamie. "If a customer presents us with a list, we'll take it all whether we have repair capabilities or not." This makes it easier for the customer, she says, saving them the time it takes to go to multiple outlets to sell their inventory.

## Best Price First

The Avionics Acquisition team won't haggle on price. Jamie explains why, "We always offer

our best price out of the gate, never low-balling a customer or engaging in time-consuming negotiations. We won't waste their valuable time exchanging emails or phone calls to come to pricing terms. By offering them the fairest price upfront, we save ourselves time and make them money."

William Calgagni of the Calin Corporation explains why he selected Duncan Aviation to sell his avionics parts. "Out of the three companies I contacted, Duncan Aviation was the easiest to work with and the best fit for my needs, offering a competitive price."

Jamie also believes that offering the fairest price upfront goes a long way to ensure the seller will come back the next time they have additional units for sale. William agrees, "The next time I have any avionics units to sell, Duncan Aviation will be on the short list again."

"We are more than happy to explain how we arrived at our offer," explains Jamie. When a list is received, it is examined and compared to all of Duncan Aviation's historical data. Each individual part number is researched to find sales history, as well as repair capabilities and average repair costs. Even Duncan Aviation's own stock quantities are examined to determine the current number of units on hand. All of this information together provides the most accurate fair market value and is used to formulate the purchase offer extended to the customer.

Duncan Aviation's offers are competitive and, in most cases, higher than others because Duncan Aviation has more than 45,000 different repair manuals and a large team of avionics repair professionals. These in-house repair capabilities keep costs under control, allowing us to offer more money for the units. And our wide and active

customer base ensures that we are able to maintain multiple units in our inventory.

## Best Price Fast

Not only will this team give their best offer out of the gate, they'll make that offer within one to two business days of receiving the list. There is no waiting up to two weeks to hear back about an offer or to find out that most of the list is rejected. Austin Chambers, Parts & Rotables Sales Business Representative, enters the lists into a proprietary computer program that compares individual part numbers to Duncan Aviation's entire historical experience with each unit. "With a click of a button, I am able to replicate the thoroughness of manual line-by-line research, but have results within a matter of a few hours."

Over the past two years, Duncan Aviation Parts & Rotables Sales has doubled, if not tripled their avionics inventory. In 2012, we added \$2.5 million worth of additional avionics units to our inventory. For the next 12 to 24 months, the Avionics Purchasing Program will begin the process of building an inventory of avionics units for which Duncan Aviation doesn't have repair capabilities. "The market demand for these newer systems is beginning to grow," says Jamie. "Our customers need these units and we want to be able meet those needs by being their best source."

## Bottom Line


If you have avionics inventory, whether it is one unit or thousands of piece parts, we will be the first to respond and with the best offer. When receiving your payment you have the option of cash, trade or putting credit on your account for future Duncan Aviation work, anywhere in the company.



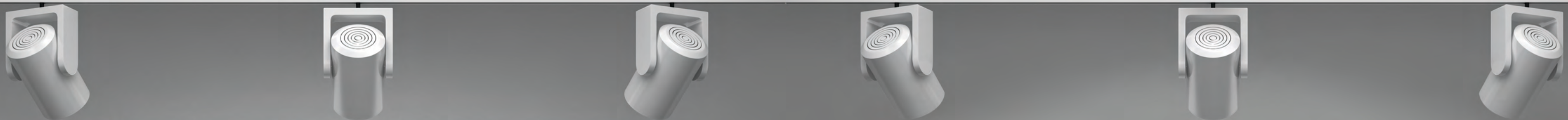
## Jamie Blackman

In 1996, Jamie Blackman joined Duncan Aviation as a Customer Account Rep assisting customers with scheduling and sending their avionics units in for repair. For the last two years, she has been instrumental in building the Avionics Purchase Program into what it is today. In the beginning, she admits it was a part of the business that was relatively unknown to her, processing two or three lists a week. But in the spirit of learning the business and through trial and error, she has streamlined the process, offering a fair-market price. Her team now processes three to four lists every day.

She says the business has changed a lot over the years. "The internet has had an impact, both positive and negative. Duncan Aviation ranks high when part numbers are entered into search engines, such as Google. The number of people asking to sell us parts has increased significantly. By the same token, because many people are doing a lot of research on their own, they are better informed and more aware of the market and what's available. As a result, the industry has become more competitive with pricing and warranty."

Jamie gives credit to her team for having the greatest impact to their success. "The automated program we have to process the incoming lists is amazing. When I first started researching lists, I spent hours going line by line. Now, because of some very innovative thinkers in our department and programming expertise, we are now able to process these lists within minutes, not days." 





# AEA Taps Duncan Aviation Tech Reps


Hundreds of customers over the years have relied on Duncan Aviation Avionics Tech Reps as a valuable resource for information and support when it comes to repairing their aircraft avionics systems. Duncan Aviation has always been a strong supporter of the Aircraft Electronics Association (AEA) organization and when asked if we would be part of their training events, it seemed like a natural fit.

This year, Scott McKenzie, Chris Christianson and Dan Magnus conducted training at the United States AEA National Convention. Duncan Aviation representatives will also present the same classes at AEA's Regional meetings.

[www.DuncanAviation.aero](http://www.DuncanAviation.aero)

## High Frequency Troubleshooting

Scott and Dan teamed up to explore the mysteries of high frequency (HF) troubleshooting. They field numerous calls from customers who need assistance in troubleshooting their HF systems when they have a squawk. Most communication systems on aircraft are relatively simple, with a transmitter/receiver, the corresponding antenna and a controller. The HF system is a little more complex as there are additional components needed to get the job done. They will be putting their decades of experience together to assist attendees in resolving common HF issues.


The class will cover the basic HF technology and get into the quirks inherent in these systems. Discussion will include tuning, grounding and idiosyncrasies of different systems, including antennas. The session will conclude with an opportunity for questions and answers and the critical exchange of pilot and crew debriefs. 

## Cabin Management Systems

In response to the recent explosion of new and exciting cabin management system (CMS) entertainment and control options for business aircraft, Duncan Aviation team members have written a Straight Talk book and developed this presentation for AEA to help guide operators through their many options. Every day, Duncan Aviation Tech Reps field questions on cabin management and entertainment, and these resources cover the most common equipment requested by Duncan Aviation customers and explain what equipment is available and how it can benefit aircraft cabin systems.

This presentation will cover the basics of CMS systems and get in to the nuts and bolts of installing, interfacing and supporting various systems. Discussions will include everything from switching to displays, Wi-Fi and more. The sessions will conclude with a time for questions and answers.

The AEA in particular is a great asset to the aviation community and Duncan Aviation is pleased to be asked to support the organization and its members.

Download Duncan Aviation Resources, including the CMS Straight Talk Book, here: [www.DuncanAviation.aero/resources](http://www.DuncanAviation.aero/resources). 


## CATCH THE AEA REGIONAL PRESENTATIONS AND MEET OUR PRESENTERS:

September 25-27, 2013  
Fort Lauderdale, Florida

November 6-8, 2013  
Kansas City, Missouri




**SCOTT MCKENZIE**  
Avionics Tech Rep

Scott McKenzie's aviation career began in 1995 with the U.S. Coast Guard. After attending the USCG Aviation Technical Training Center to become an aviation electronics technician, Scott was stationed at USCG Air Station Elizabeth City, North Carolina, where he worked on the avionics systems installed on the HH-60J Jayhawk and HC-130H Hercules aircraft. Scott was also trained as a member of the HC-130 flight crew as a navigator, which is what led his career to Duncan Aviation. On a cross-country flight aboard an HC-130, the aircraft landed in Lincoln for refueling, and that was the first time Scott became familiar with Duncan Aviation. When his time was up with the Coast Guard, Scott returned to his home state of Nebraska and was hired by Duncan Aviation as an avionics line representative in 1999. Scott worked his way up to crew leader until July 2012, when he took his current position as an Avionics Technical Rep. 




**CHRIS CHRISTIANSON**  
Avionics Tech Rep

Chris Christianson began his career in electronics in 1993 and expanded into aviation electronics in 1997, joining Duncan Aviation in 1999. Since that time, Chris has held the positions of Modifications Technician, Modifications Crew Leader, Modifications Team Leader, Avionics Line Technician, and now Avionics Tech Rep. This varied experience in the avionics installations realm has allowed Chris to be a part of just about every major avionics retrofit that the Lincoln, Nebraska, facility has seen since 1999. Chris has been a part of everything from glass cockpits to multiple versions of CMS and major safety systems like TCAS, EGPWS and FMSes. He says, "I don't know how or why the timing has been right over the years for this to occur, but it has been pleasurable being able to have been a part of it all. Now as Tech Rep, I continue to enjoy supporting our teams and the company, tackling whatever comes our way." 



**DAN MAGNUS**  
Avionics Tech Rep

Dan Magnus has been solving avionics issues for 37 years. As an Avionics Tech Rep, Dan handles a variety of issues daily including ADF, Comms, Control Heads, CVR, DME Gables Control Heads, Receivers, Nav Comm/Receivers, Radar Systems, GPS, GNS, Transponders and UNS Components. "This is the ideal job for me because I really enjoy helping people," Dan says. "Sometimes, I get to solve an issue that has stumped others and that is very rewarding." 



# Duncan 411

## NEWS & TECH UPDATES

n. (duncan aviation): the most comprehensive, family-owned aircraft support organization with a history of trying new ideas and an ability to innovate and transition itself into emerging trends.

The “Duncan 411” addition to the *Duncan Debrief* is meant to keep you up-to-date on the continually changing aviation industry. In it, you will find Duncan Aviation news and technical updates that may affect you or your aircraft.

Visit [www.DuncanAviation.aero/gbp](http://www.DuncanAviation.aero/gbp) to view all of Glass Box Project solutions.



### DUNCAN AVIATION PARTNERS WITH UNIVERSAL AVIONICS ON FALCON 900B RETROFIT PACKAGE

Duncan Aviation has partnered with Universal Avionics to install and certify a technologically advanced cockpit for the Dassault Falcon 900B. This is the latest addition to Duncan Aviation’s “Glass Box Project,” a focused effort to make available the latest in emerging flat-panel retrofit technology. Attractive downtimes and reduced risk are being delivered by Duncan Aviation with thorough planning with customers, the Federal Aviation Association (FAA), avionics and airframe Original Equipment Manufacturers (OEMs) and Duncan Aviation’s in-house engineering team.

This cockpit upgrade replaces 25 older instruments and will significantly improve reliability and situational awareness. The avionics suite will have five high-resolution Universal EFI-890R Light Emitting Diode (LED) backlit Liquid Crystal Displays (LCDs), including Engine Indication (EI) that will replace the analog gauges. Dual Universal UNS-1Fw Flight Management Systems (FMS) will provide Wide Area Augmentation System/Localizer Performance with Vertical Guidance (WAAS/SBAS/LPV) capabilities at initial certification and are Automatic Dependent Surveillance-Broadcast (ADS-B) capable. Dual Vision-1® computers will provide Synthetic Vision and dual Application Server Units for on-side charts and graphical weather. Data link for Future Air Navigation System (FANS) operations will also be available. This solution provides the capability for video, checklists and more.

This Supplemental Type Certificate (STC) provides the required components to comply with FANS 1/A, allowing operators the ability to fly within the North Atlantic Track (NAT), which will give them the most favorable fuel savings as determined by the airline traffic on a daily basis. The equipment includes:

- A WAAS-capable Flight Management System, Dual UNS-1Fws.

n. (Universal Avionics’ Perfect Fit): this cockpit upgrade replaces 25 older instruments and will significantly improve reliability and situational awareness.


- A data-capable Cockpit Voice Recorder (CVR), Universal CVR-120A.
- A Data Link Solution, Universal UL-801.
- A means of getting the data signal out of the aircraft, an ICG-220A Iridium System with dual voice channels for the cabin and cockpit.

“This is an exciting upgrade that offers the capabilities that operators have been asking for, as well as enhanced safety and reduced operational costs,” said Duncan

Aviation’s Senior Avionics Sales Representative Gary Harpster. “When combined with the Universal Flight Management System, the 800 series Unilink (Communications Management Unit) system assists operators in complying with upcoming data link mandates such as FANS 1/A+ or Link 2000+.”

Through its Organization Designation Authorization (ODA), Duncan Aviation will complete the new STC on the Dassault Falcon 900B with certification expected this summer. 

### NEWS FROM PROVO

Duncan Aviation’s Provo, Utah, facility recently received the 2013 Business of the Year award from Utah County. In addition, the city of Provo has begun what will be a two-year construction project to install the infrastructure necessary for Duncan Aviation to be able to break ground on a new full-service facility in Provo at some point in the next five years. 

### DUNCAN AVIATION ADDS SERVICES WITH ACCESSORY SKYDROL TEST BENCH

Duncan Aviation is adding an upgraded hydraulic Skydrol test bench to provide additional capacity and capabilities for large-body aircraft and to move in-house work that was previously outsourced, which improves customer service and decreases project turntimes.

“The addition will increase the efficiency of our component capabilities for landing gear projects as well as

add more than 100 part numbers to Duncan Aviation’s hydraulic support team, especially in the Challenger and Global markets,” explains Marty Lincoln, Accessories Manager at Duncan Aviation’s Lincoln, Nebraska, location.

Duncan Aviation invested in the Skydrol test bench to boost efficiency, improve safety, add capabilities and increase capacity. 

## DUNCAN AVIATION'S WORLDWIDE REGIONAL MANAGEMENT TEAM EVOLVES

Duncan Aviation recently welcomed four additional Regional Managers to support operators worldwide. Richard Gardner, Allan Orsi, Andy (Anand) Fernandes and Rodolfo Rodriguez join Arjen Groeneveld, Regional Manager in Europe, in an effort to better support customers throughout the world. Each Regional Manager travels their region, meeting with aircraft operators, management organizations and other service providers with the goal of maintaining and building relationships, providing customer service, listening to operators and learning more about each region's regulatory issues and processes while engaging in industry forums.



In 2011, Arjen Groeneveld became Duncan Aviation's first Regional Manager outside of the United States. Arjen, who lives in The Netherlands, provides support to operators throughout Europe. He has more than 22 years of experience derived from positions in aerospace research, commercial airline and the aircraft leasing industries. Contacted Arjen at +31.6.4672.7679 or by email at Arjen.Groeneveld@DuncanAviation.com.



Richard Gardner supports the regions of Australia and New Zealand. His experience includes employment with Air New Zealand and Pacific Turbine and owner of SinglePoint Assist, an international AOG support network. He holds many licenses including an Airframe & Powerplant from the Federal Aviation Administration, Civil Aviation Authority Airframe and Engine license and licenses in New Zealand, Latvia, Trinidad and Tobago. Reach Richard in New Zealand at +64.4.479.3275 or email Richard.Gardner@DuncanAviation.com.



Allan Orsi is located in Sao Paulo, Brazil. He has prior work experience with Honeywell do Brasil, Embraer, Bosch and Aerostation. Allan has a Bachelor of Science degree in Mechanical Engineering and an International Trade Technical degree. Reach Alan in Sao Paulo at +55.19.9214.1335 or by email at Allan.Orsi@DuncanAviation.com.



Andy Fernandes supports India. He has been with Duncan Aviation since 1999 and will continue his current responsibilities as an Avionics Installations Sales Rep, serving a dual role as he supports operators in India, traveling to India several times a year. Andy holds a bachelor's degree in Aviation Maintenance and a master's degree in Aviation Safety. He has worked for Swiss Air and as a mechanic and project manager for Duncan Aviation in Lincoln. You can reach Andy at Duncan Aviation-Lincoln at +1 402.479.4186 or email at Andy.Fernandes@DuncanAviation.com.



Rodolfo Rodriguez supports Mexico. Prior to joining Duncan Aviation, he was a Naval Officer for the Mexican Navy, retiring after 21 years of service. Rodolfo has a Naval Sciences degree in Engineering and is authorized for internal combustion engines and gas turbine engines. Reach Rodolfo in Mexico at +52.55.5584.4589 or email at Rodolfo.Rodriguez@DuncanAviation.com.

"With these Regional Managers now located in key areas around the world, Duncan Aviation can continue to provide support to operators and maintenance organizations while learning the industry nuances present in each region," says John Slieter, Vice President of Sales for Duncan Aviation. "They are a group of enthusiastic aviation professionals. Each one has a strong desire to assist operators in safe and efficient flying."



April 2013 - Steel for the north hangar going up. The overall dimensions of the building are 630' by 200'. The hangar will stand 46' tall at the eave and approximately 52' at the peak.



Roofing for the south hangar of the building is progressing through the Nebraska winds.



Compacting the trench that holds the electrical service. Fly ash was used to achieve the proper moisture content in the soil.



An overall view of the south hangar taking shape on the east side of the building. The jobsite was organized to accommodate 45 semi truck loads of steel that arrived March 18-27.

## EXPANSION IN WORK AT DUNCAN AVIATION'S LINCOLN FACILITY

In June of 2014, Duncan Aviation will complete the largest expansion project its Lincoln, Nebraska, campus has ever seen. The 175,000-square-foot facility comprises two 40,000-square-foot maintenance hangars and a 95,000-square-foot office and shop space.

The facility's foundation and footings were initially poured in 2012 and the framing, rafters, insulation and roofing sheets have been added so far this year. Most visibly notable was the main frame steel construction, completed in April, and the roofing, which was finalized just one month later. The

first maintenance hangar is expected to be completed near the first quarter of 2014 and the entire structure will open that summer.

The expansion comes in response to customer requests and changing customer needs. As the industry continues to shift toward larger business aircraft, a trend fueled by technological advances and increased globalization, Duncan Aviation's current hangars are unable to accommodate the volume of maintenance, modifications and completions work our customers require.

## DUNCAN AVIATION LAUNCHES LIVE ONLINE CHAT SUPPORT

Duncan Aviation is pleased to announce the launch of live online chat support for select pages of its corporate website, [www.DuncanAviation.aero](http://www.DuncanAviation.aero). Customers seeking information from Duncan Aviation's Parts and Rotables Sales area will receive immediate

answers to their questions, such as stock quantities and availability.

With the growth of e-commerce, Chris Gress, Duncan Aviation Parts and Rotables Sales Manager, understands the need for his team to be available online to answer customer questions in a fast and

efficient manner. "The world is accustomed to getting answers online. With the Live Chat window, we are able to give our internet-savvy customers the same customer service and support without them having to make a phone call or send an email. It's a great tool, and just

one more way we can better serve the customer and fulfill their needs."

When Parts and Rotables Sales Representatives are available for support, the Live Chat button will be visible on all of the Parts and Rotables pages of [www.DuncanAviation.aero](http://www.DuncanAviation.aero). As demand for live online support

increases, it is likely more departments within Duncan Aviation will provide online chat assistance.

Look for this Live Chat box on the right of your screen.



## SAVE THE DATE

2014 NBAA LEADERSHIP CONFERENCE

Atlanta, Georgia • February 17-20, 2014

### DUNCAN AVIATION SUPPORTS NBAA LEADERSHIP CONFERENCE

In February, Duncan Aviation was a platinum sponsor of the 2013 NBAA Leadership Conference in Austin, Texas. Unlike any other meeting in the industry, speakers at this two-day conference are not necessarily aviation-related. They are top-notch experts in various areas of leadership. This year, the conference focused on leaving a legacy and inspiring the future. This year's speakers provided attendees with many different things to think about and put in place to become better leaders for their departments, companies, families and communities.


"The goal of the conference is for attendees to leave with the intention of raising the bar in all facets of their lives," says Jeannine Falter, Vice President of Business Development with Duncan Aviation and co-chair of the upcoming 2014 and 2015 NBAA Leadership Conferences.

"As we look at the demographics of business aviation, we can see that in the next two decades, our industry will be hit hard by retirements. Many well-known faces may continue to consult and provide direction to the industry, but will certainly move on from day-to-day management of their companies and industry associations and groups," Jeannine says.

"Business aviation needs to do everything we can to attract the best and the brightest, providing them with continual training in leadership as well as technical skills and making positive changes so they will stay and grow business aviation into the future. Developing upcoming business aviation leaders and investing in people is the reason Duncan Aviation chose to be a platinum sponsor this year and a reason I am active in developing content for the conference over the next two years. I encourage other companies to consider investing in attendees at

next year's conference and, just as importantly, to consider investing in a sponsorship." Sponsorship dollars are invested directly in the Leadership Conference and determine in large part the speakers that are invited and the experience that attendees have, she says.

The 2014 NBAA Leadership Conference will be held the week of February 17, 2014, in Atlanta.

As a co-chair, I will be working with Bob Hobbi, owner of Service Elements in Phoenix, to line up speakers. Please contact Jeannine at +1 402.475.2611 or [Jeannine.Falter@DuncanAviation.com](mailto:Jeannine.Falter@DuncanAviation.com) if you would like to be a sponsor or have suggestions for conference content. 

n. (NBAA Leadership Conference): top-notch experts speak on various areas of leadership to help attendees become better leaders for their departments, companies, families and communities.

### DUNCAN AVIATION AUTHORIZED TO MODIFY EXTENDED LIFE BATTERY

Duncan Aviation is now authorized to modify the UNS-1C Flight Management System (FMS) to include an extended-life battery. The modification also comprises an adapter assembly and internal hardware modifications to accommodate the new battery.

"The main advantage is longer life and that when users get a 'low


battery' warning, they have three months to get the battery replaced before they lose any pertinent information," explains Don Fiedler, OEM Program Manager at Duncan Aviation's Lincoln, Nebraska, location.


Previously, only Universal Avionics Systems Corporation

### DUNCAN AVIATION ADDS WEEKEND SHIFT NDT TEAM TO SUPPORT CUSTOMER DEMAND

Duncan Aviation's Non-Destructive Testing (NDT) team in Lincoln, Nebraska, has added weekend shift coverage to help meet shorter turntime demands while enhancing the customer service experience.

"We needed to add a weekend shift to better serve our internal and external customers and meet the shorter turntimes they were requesting," says Marty Lincoln, Duncan Aviation's Accessories Manager. This addition includes both new hires and repositioning existing team members to ensure a smooth transition.

The NDT team supports the airframe, paint, engine, machine, accessories and landing gear shops. This is in addition to the non-destructive testing of parts shipped in from customers. 

(UASC) was able to complete this modification. Duncan Aviation is the only other avionics service provider in the United States with the authorization to complete this modification and our team members executed more than 50 modifications in the first two months of the program. 



## AIRCRAFT SALES & ACQUISITIONS

2006 Gulfstream 450 s/n 4039



TOTAL TIME: 2,557 Hours  
LANDINGS: 1,317

- FEATURES:
- Honeywell Primus Epic Plane View
  - Triple Honeywell MAU-913 Modular Avionics Unit
  - Single Honeywell GP-500 Flight Guidance Panel
  - Triple Honeywell AZ-200 Air Data Modules
  - Dual Honeywell MRC-855A Modular Radio Cabinet
  - Dual Honeywell RT-300 Radio Altimeters
  - BBML 2
  - Direct TV
  - Wireless LAN System
  - 20.0 Inch LCD Monitor Fwd Bulkhead

Duncan Aviation is proud to present Gulfstream 450 serial number 4039 to the international marketplace. The aircraft features a 14 passenger universal floor plan with four 26" club seats forward, two individual seats mid-cabin with an opposing four place divan, and a four place conference group aft cabin with an opposing credenza, galley and lavatory.





## DUNCAN AVIATION LAUNCHES AOG SERVICES APP ON ANDROID™ PLATFORM

Duncan Aviation recently completed the Android™ version of its popular AOG Services app, which makes it easy for operators—especially those that are Aircraft On Ground (AOG)—to find the nearest Duncan Aviation location to their current position. The app also offers 24/7 phone numbers and technical representative contact information.

The first version of Duncan Aviation's AOG Services app was launched in September 2011 for Apple devices. Since then, several improvements have been made. The app is accessible in the field and doesn't require a data connection after it's installed.

"Operators can have decks of business cards they call through to find AOG service for their aircraft," says Doug Alleman, Regional and Service Sales Manager. "With the Duncan Aviation AOG app, it's easy to get the right person on the phone and get a quick response. It really helps operators get the answers they need when they're AOG."

The AOG Services app is available for download now at the Google Play store and the Apple App Store.

Duncan Aviation has also released mobile-friendly versions of its myDuncan aircraft project management website and its parts search website. Both myDuncan and the parts search


websites are now compatible with tablets and mobile phones, and may be bookmarked on Apple and Android™ devices.

myDuncan streamlines the item-approval process and communication for aircraft projects with photo attachments, job status reports, item histories and projected expenses. It also enables off-site decision makers to view approved

sections of the project during prebuy evaluations. The website is available at [www.myDuncan.aero](http://www.myDuncan.aero).

A mobile-friendly version of Duncan Aviation's parts search website makes it more compatible with tablets and mobile phones, extending the ability to search Duncan Aviation's parts, accessories, avionics and

instruments inventory and capabilities. With one touch, customers can enter all or part of a part number, with or without dashes, and find out if Duncan Aviation has the capability to repair/test or overhaul the item. Our customers are also able to dial Duncan Aviation directly with one touch or send a quick email. It may be bookmarked on Apple and Android™ devices. The website is available at [www.DuncanAviation.aero/parts/search.php](http://www.DuncanAviation.aero/parts/search.php).

For more information on installing these apps, please visit [www.DuncanAviation.aero/apps](http://www.DuncanAviation.aero/apps). 

n. (AOG App): install at the Google Play or Apple App Store and find the nearest Duncan Aviation location from your current position. Get the answers you need when you're AOG.

n. (off-site services): Duncan Aviation comes to you, saving fuel, travel time and aircraft usage and making maintenance events less disruptive to your overall schedule.

airplanes to move our technicians and tech reps to where they are needed to best support our customers. We have also used company aircraft to pick up and deliver parts when a customer is AOG. It is just an example of how our people have the desire to support customers as best they can, and how they

are provided the resources to support them with creative and unusual solutions."

Duncan Aviation provides factory authorized service for Bombardier Challenger (300 and 600 series), Bombardier Global, Bombardier Learjet, Cessna Citation (500, 550, 560, 650 and 680), Dassault Falcon, Embraer Legacy and Embraer Phenom (100 and 300) aircraft. The company also services Raytheon Hawker and Gulfstream aircraft. Airframe maintenance includes all inspections, heavy structural repair and modifications. 



## DUNCAN AVIATION PROVIDES OFF-SITE MAINTENANCE SERVICES FOR BUSINESS AIRCRAFT

Duncan Aviation recently rolled out an off-site maintenance service that lets customers receive Duncan Aviation's comprehensive airframe service, inspections and maintenance in their hangars, instead of at one of Duncan Aviation's maintenance facilities.

"For years, Duncan Aviation has provided customers with rapid response access to technical road teams that can be easily and quickly dispatched around the world for unscheduled technical assistance," says Chad Doehring, Airframe Services Manager for Duncan Aviation-Lincoln. "We have now expanded the capabilities and number of team members so we can provide customers with maintenance services at their preferred location rather than at one of our maintenance facilities. This saves the customer fuel and travel time, decreases their aircraft usage and makes maintenance-only events less disruptive to their overall schedule."

To make this service as accessible as possible, Duncan Aviation has positioned team members at launch offices around the country; these offices are located near hub airports where they can quickly book flights and make connections. In addition, Duncan Aviation has several

company aircraft at its disposal to help move people, tools and parts quickly to best meet customer needs.

"This is an extension of the comprehensive and responsive support that we have provided customers in the field for many years," says Todd Duncan, Chairman of Duncan Aviation. "We have always used our company



## DUNCAN AVIATION ADDS PORTLAND FACILITY

Duncan Aviation continues to strategically grow throughout the nation and world. Now, operators based near or traveling to Portland

International Airport (PDX) in Portland, Oregon, can rely on Duncan Aviation, along with partner Flightcraft, for avionics needs closer to home with the opening of a new facility there.

Located on the international airport at 7777 NE Airport Way, this shop is the newest in Duncan Aviation's growing list of 30 facilities

located throughout the United States. This facility specializes in avionics installation and repair.

"Customers have consistently asked us to consider positioning more Duncan Aviation avionics technicians in the upper northwest part of the United States, so we answered," says Matt Nelson, Duncan Aviation's Manager of Satellite Operations. "We

are ultimately trying to expand our footprint in the Northwest in support of our Provo, Utah, location."

Satellite Shop Manager John Almeida says Portland will also be supported by Duncan Aviation's Seattle, Washington, location.

Matt says Duncan Aviation chose to partner with the Flightcraft facility because it is an excellent

extension for our avionics line and installation services.

Flightcraft supplies airframe services for Citation 500 series aircraft and the company is a Hawker/Beech authorized service center for the Hawker 125 series, King Air series, Beechjet and Premier.

To reach the Portland shop, call John at +1 503.287.7777. 

# Duncan Debrief

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## KAREN K. DUNCAN SCHOLARSHIPS ANNOUNCED

In 1999, Robert and Karen Duncan started a competitive scholarship program to help the children of Duncan Aviation team members fund post-secondary education expenses. Active philanthropists, then-chairman of Duncan Aviation, Robert, and his wife, Karen, believed it was time to invest even more in the workforce of the future, their current work family and the community. Since then, 181 scholarships totaling \$1,240,000 have been awarded through the Karen K. Duncan scholarship program.

This spring, Duncan Aviation is pleased to announce the names of 20 recipients of Duncan Aviation's 2013 Karen K. Duncan scholarship program. The recipients, who have at least one parent who is a full-time Duncan Aviation team member, will each receive up to \$4,000 for two years

of continuing education at an accredited two- or four-year college or post-secondary vocational school. The money may be applied toward tuition, fees, books or room and board.

Recipients were chosen by an independent selection committee who reviewed the students' grade point averages, ACT scores, class rankings, citizenship activities, leadership skills and responses to application essay questions. The winners include the following:

**Atley Jo Cervany**, daughter of Mark and Roxie Cerveny. Kevin is with the interior modifications and completions team.

**Max Cuppens**, son of Joep and Valerie Cuppens. Joep is with the engineering team.

**Kayla David**, daughter of Paul and Amy David. Paul is with Duncan Aviation's human resources department.

**Christopher Elofson**, son of Steve Elofson and Angela Nieman. Steve is with the avionics service sales team.

**Makayla Rae Forsythe**, daughter of Kevin and Sharol Forsythe. Kevin is with the engineering team.

**Tyler Hayes**, son of Greg and Jennifer Hayes. Greg is with the interior modifications and completions area.

**Jake Hergott**, son of Jeff and Heidi Hergott. Jeff is with the interior team.

**Dylan Kitchen**, son of Jim and Dottie Kitchen. Jim is with the interior modifications and completions team.

**Hayley Kouma**, daughter of Dan and Dawn Kouma. Dan is with the modifications and completions team.

**Joshua Mertens**, son of Mike and Michelle Mertens. Mike is with the inspections and quality control area.

**Erin Miller**, daughter of Robert and Amy Miller. Robert is with the airframe team.

**Krista Parks**, daughter of Zane and Kathleen Parks. Zane is with the avionics and instruments area.

**Abigail Pope**, daughter of Mark and Kelly Pope. Mark is with the airframe team.

**Mercedes Prochaska**, daughter of Todd and Vickie Prochaska. Todd is with the interior modifications and completions area.

**Melissa Svoboda**, daughter of Jim and Marla Svoboda. Jim is with the accessory shop.

**Garrett Teel**, son of Rich and Lisa Teel. Rick is on the information technology team.

**Scott VanderWeide**, son of Chris and Tamara VanderWeide. Chris is with inspections and quality control.

**Amelia Walker**, daughter of Tim and Lisa Walker. Tim is with the engineering team.

**Mark Wallace**, son of Kim and Gail Wallace. Kim is with the avionics line department.

**Meagan Williams**, daughter of Dean Williams and Rebecca Thomas. Dean is with the customer service team.

Congratulations to the scholarship winners!

Duncan Aviation's scholarship program is open only to dependents of full-time Duncan Aviation employees.

## DUNCAN AVIATION GRANTED REPAIR CAPABILITY FOR SECURAPLANE BATTERIES

Duncan Aviation now has the capability to repair batteries from Securaplane Technologies. This is in addition to Duncan Aviation's ability

to distribute Securaplane main ship and emergency batteries.

"With more than seven years of Securaplane customer support experience under our belts, we've earned the ability to repair the emergency batteries as well as distribute and service them," says Karl Detweiler, Accessories Shop Business Development and Marketing Supervisor at Duncan Aviation's Lincoln, Nebraska, location.

During the renewal of its distribution and service agreement with Duncan

Aviation, Securaplane decided to include the repair capability, which will help reduce turntimes. Currently, the average turntime for service or installation of the battery is two to three days. Unusual repairs could run longer, depending upon the type or amount of repair work needed.

"Prior to this agreement, Duncan Aviation could service or replace the batteries in the unit, but Securaplane needed to repair the unit, if necessary," Karl says. "Duncan Aviation has an extensive battery repair shop

and keeping this all in-house will certainly save the customer time."

Duncan Aviation also distributes and services the Securaplane main ship batteries. The Enersys main ship battery is a true no-maintenance pure lead battery that can be shipped as NON-Hazardous/ NON-Spillable. The battery can also be stored fully charged for up to 24 months with no ongoing maintenance or top-charging of the battery. The full replacement warranty on these long-lasting batteries is 30 months from the date of installation.



Cover: Mary Bill, Engineering Alterations Planning Specialist (left) and Kristi Steward, Interior Manager (right) of Lincoln, Nebraska, both believe the bottom line is ensuring the safety of our customers.