

A publication of Duncan Aviation

Duncan Debrief

Fall 2019

DUNCAN
AVIATION



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Cover: Paint Manager Jake Brewer standing in front of Duncan Aviation's new paint hangar in Provo, Utah. The hangar is 53,000-square-foot and has a two-zone air system featuring a down-draft air flow and automatic monitoring and alarms. It is the only truly green business aviation paint facility in the United States. No waste products are released into the water or city and more than 99.7% of the air released is clean due to an RTO (Regenerative Thermal Oxidizer) that burns off the VOCs (Volatile Organic Compounds).



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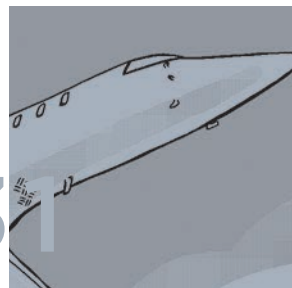
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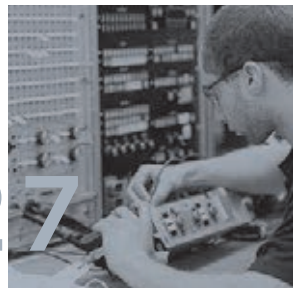
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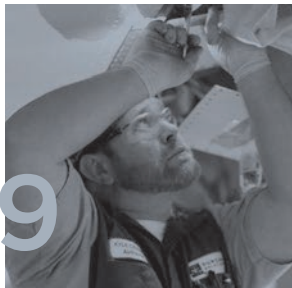
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company founder: Donald Duncan (1922-1981)



Innovation Brainstorm Meeting

“Learning and innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow.” - William Pollard

Todd Duncan, Chairman

Duncan Aviation stresses innovative thinking and embraces new ideas and different ways to accomplish things. When we were a smaller company, innovation was easier. Now that we have more than 2,300 team members supporting thousands of aircraft every year, we put more process behind that effort. We recently formed a 10-member Innovation Team to ensure we continue to fulfill our core values of being solutions-oriented and willing to try new things.

This spring, our Innovation Team hosted all-company meetings to collect new ideas and identify potential challenges. Ninety-five team members from 29 different areas within Duncan Aviation brought 102 ideas. Ideas like these will not only help us adapt to the radical technological changes our industry is seeing, but lead with creative and relevant initiatives for our customers and partners.

In honor of this vital piece of our culture, we decided to highlight some of Duncan Aviation’s innovations in this issue of the *Duncan Debrief*. You will learn about things like the Duncan Aviation KnowledgeBase, our asset tracking system, and new interior hydrographic solutions. We’ll also share recent advancements with PMA (Parts Manufacturer Approval) capabilities, NDT (Nondestructive Testing) services, and an MRI (Managed Rotable Inventory) parts program.

As always, if you have an idea of services, products, or processes, Duncan Aviation should consider, feel free to give me a call. We want to make sure we continue to lead the industry in creativity and customer responsiveness. My cell number is +1 402.430.6616.



PRESERVING EXPERTISE & INCREASING EFFICIENCY THROUGH INNOVATION

An aircraft service facility's capabilities are tied to its technicians' knowledge base. When the most experienced of those technicians leaves or retires, his or her knowledge can be lost. At the same time, problems that are new to some technicians may have been resolved by other team members in the past. But unless this knowledge is actively shared across the company—with an ease of access akin to searching Google for answers—technicians may end up wasting valuable time by solving the problem all over again.

In order to retain technicians' knowledge and facilitate solution-sharing across the company's many facilities, Duncan Aviation created the DAK (Duncan Aviation Knowledgebase).

PRESERVING EXPERTISE

DAK is an electronic-based system that captures data so it can be used to save technicians' time and customers' money. Every day, bots comb through vast amounts of data in databases throughout Duncan Aviation, and the data is then sorted and stored where it's available to all team members.

The system is used by airframe techs, avionics techs, and anyone else who's having problems resolving an issue with an aircraft. Techs search existing data and quickly and accurately find potential solutions that someone else at the company has already found and documented.

"The purpose of DAK is to let us learn from history, as opposed to having to research and find every single fix from scratch," says Rich Teel, IT Manager of

Systems and Programming. "Learning from troubleshooting performed in the past has the potential to reduce downtime and labor costs for customers."

Regardless of where data is entered into the system—at one of Duncan Aviation's three main facilities, its 27 Satellite Avionics Shops or workaway stations, its engine Rapid Response launch locations, or from any computer anywhere in the world that's connected to the Duncan Aviation network—we can capture it so it can be searched and used in the future.

"The DAK system is a result of our commitment to our core value of continuous improvement," says Rich. "We want to always be smarter and more nimble in our responses to problems, so we can have the most efficient technicians in business aviation and keep costs down for our customers."

INCREASING EFFICIENCY

Prior to joining Duncan Aviation's Bombardier Airframe Service Sales team, Joe Cugnetti was a Lead Tech for Falcon aircraft in Battle Creek, Michigan, for six years, and he used DAK regularly.

"It made us extremely efficient," says Joe. "If we'd run into a discrepancy and needed the best way to resolve an issue, especially if it was one we didn't see often, we'd pull up the Corrective Actions and see how it had been resolved previously. In more situations than I can remember, DAK gave us a way to fix the problem or gave us the name of someone who's already seen this same problem. Searching DAK for answers became part of

my normal routine when working on a project."

Another reason Joe relied heavily on DAK was for part numbers. When ordering parts, researching the part numbers was often the most time-consuming aspect. It could take hours or even days if a number had changed or the old part number no longer worked with the manufacturer.

"Because this is billed to the customer, we wanted to find a much faster way to find these numbers, and there are essentially illustrated parts of every aircraft with the part numbers broken out," says Joe. "Finding the numbers in DAK saves us an incredible amount of time on research."

A search of DAK for a solution not only provides quick, accurate answers, it sorts results by the best solutions. Someone else here at Duncan Aviation has seen this problem before and has recorded the fix, along with notes, maybe graphics or photos, and correspondence between the tech and the OEM, for instance.

BETTER SERVING CUSTOMERS

Duncan Aviation prides itself on its ability to develop innovative solutions to problems our customers and technicians face each day. Staying on the leading edge of technology is one more way we make sure our techs are the most well-trained and knowledgeable in the industry. As an enterprise, Duncan Aviation will continue to research and develop technological systems that allow us to better serve both our team members and our customers. 

INNOVATIVE INTERIOR SOLUTIONS

Exploring new and innovative interior products is something Duncan Aviation does regularly. We work closely with industry partners to explore new and different design trends to ensure that they meet customer requests and wishes as those desires evolve.

HYDROGRAPHIC SOLUTIONS

We are proud to offer hydrographic solutions for interior finishes. These solutions can be used on interior components, panels, accents, and even full cabinets, depending on their size.

The capabilities open up a variety of aesthetic options for interior finishes without changing cabinet veneer, and looks can include wood grain, stone, metals, as well as custom designs. Some options allow shorter downtimes than traditional methods and are excellent solutions to cabinetry with settling finishes. The solutions also provide new finish options for countertops and sinks without weight restraints or engineering requirements.

Sales Manager Nate Klenke says, “Experimenting with and introducing interior finishes in

new and creative ways is critical in providing relevant and interesting interior designs. Hydrographics create the ability to replicate a variety of textures and designs to an aircraft interior while providing a lightweight, durable finish at an incredible value compared to genuine materials like leather, stone, or wood veneer. Many times, the genuine products also create challenges with thickness and lack of flexibility, which add to the complexity during the construction and application phases of the refurbishment. Hydrographics

nearly eliminate the need for special edge treatments and will cover the most complex shapes.”

Interior Manager Jared Stauffer adds, “Offering hydrographic solutions for interior finishes is an extra touch to meeting our customers’ needs. We are trying to widen our lens to more than what’s just in aviation. We consider what options and capabilities the customer has outside of their aircraft and look for ways to not only integrate those into their aircraft interior, but also make the experience special.”

INNOVATIVE INTERIOR THINKING

More and more products are entering the market, and it’s important that we continue to be focused on researching all new innovations and understanding their possible applications in aviation. To do this, we like to reach outside the typical aviation product shows and attend others such as the International Woodworking Fair, Detroit Auto Show, and other transportation shows.

“It’s a more intentional approach to getting products that we already see out there into

aviation and our portfolio at Duncan Aviation,” Jared explains.

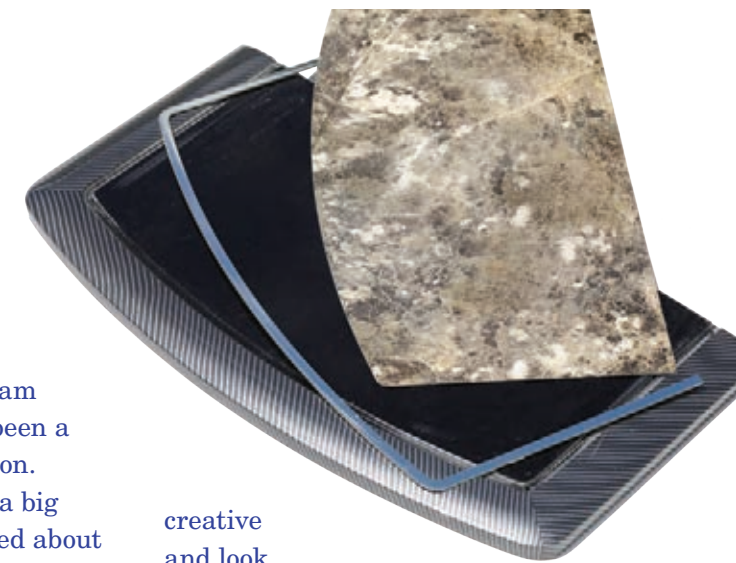
Offering new and innovative solutions for interior finishes has been motivating in the shop, and Finish Shop Team Lead, Chris Nelson, has been a key in their implementation.

“Chris’ vision has been a big part of this. He gets excited about it, gets his team members excited about it, and has been a key in making this happen,” Jared says.

Chris says knowing about the new technologies is important, but exploring how they could be used in business aviation is just as critical. “We are trying to think outside of the box and do something different,” he says. “Yet we want to keep the customers’ best interests in mind. Giving them options for unique and new interior finishes for their aircraft is extremely important and can help them achieve an interior feeling previously not possible. Customers love custom, personalized interiors.”

MINDSET IS CRITICAL

Duncan Aviation gives team members the freedom to be



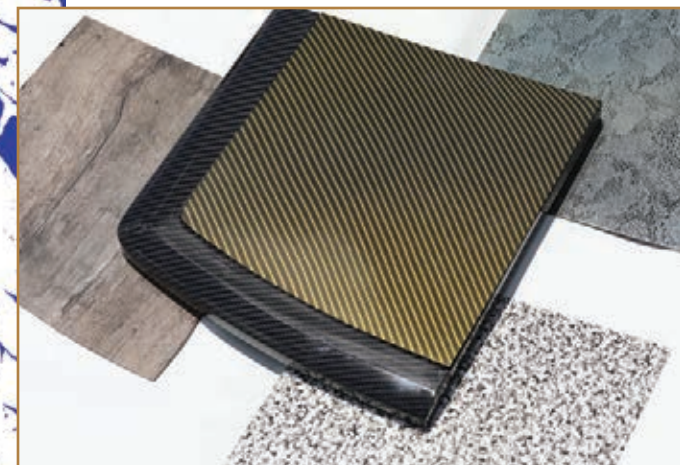
creative and look for new ideas.

“Our team members know if an idea has merit, we evaluate it and are willing to spend time and money on research and development,” Jared says.

In addition to offering hydrographic solutions, Duncan Aviation is offering spectra chrome graphics, vinyl wrap graphics, removable/ interchangeable table inserts, and 3D patterning software.

Adding any one of these interior solutions is a way to add character and make an interior better match a customer’s personality through accentuation of high-end woodwork and materials. It all translates into greater flexibility for the customer and designers to incorporate interesting elements more efficiently and cost effectively.

“The bottom line is that Duncan Aviation receives lots of requests for one-of-a-kind, fully customizable interiors,” Chris says. “We seek creative solutions as we explore new and different design trends to ensure that we can meet customers’ requests and wishes, even before they know what those are.”



Interchangeable table inlays can look like wood, stone, metal, or another custom design.



PMA Replacement Parts Deliver Value, Quality, & Availability

As an MRO, Duncan Aviation is continually looking for ways to help you keep a sharp eye on your bottom line, reducing costs, increasing reliability, and cutting downtimes. Being able to offer PMA (Parts Manufacturer Approval) replacement parts is one viable solution to all three.

PMA replacement parts are nothing new, but over time have become more widely accepted in the industry. “Using PMA parts just makes good sense,” says Jim Ferguson, Duncan Aviation’s ODA (Organization Designation Authorization) PMA Administrator. “PMA is like a generic prescription. People were skeptical in the beginning, but as costs, quality, and lead times continued to improve, that philosophy changed and is preferred by customers as an alternative and often an improvement over the original.”

Duncan Aviation was granted its first PMA Authority by the FAA more than 35 years ago, allowing us to manufacture aviation-related parts intended for installation on an aircraft. Initial PMA efforts were to support our STC (Supplemental Type Certificate) customers with parts when necessary.

Today, Duncan Aviation has an entire department dedicated to PMA certifications and manufacturing not only to support STCs, but to identify PMA opportunities for some of the most common aircraft parts not readily available.

Maintenance Cost Savings

PMA replacement part numbers can save operators hundreds, if not thousands, of dollars in maintenance costs.

For example, operators of a certain model aircraft can get PMA replacement window dust panes for \$100 each, an 86%

aftermarket savings. Typically when it comes to dust panes, if you are replacing one, you are replacing them all, which can be 10 to 20 panes per aircraft. As you can see, thousands of dollars can be saved by choosing the PMA option. Not only is there a cost-savings, but there is a time-savings as well; these dust panes are kept in inventory and are available with no lead time.

Reliability

Many of our PMA replacements are an improvement of the original design because our customers wanted something better, and we listened.

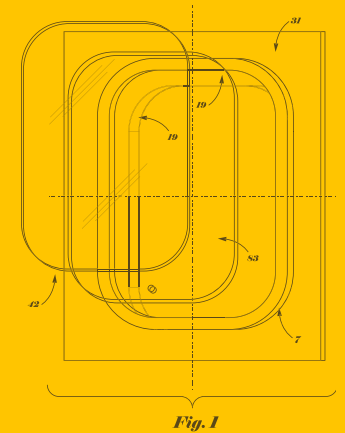
Concerned with how the main cabin curtains hang, bind, and drag along the tracks, some aircraft operators asked us to develop an improved design. Through a lot of trial and experimentation, we manufactured and certified a new PMA roller bearing curtain glide that operates smoothly in the tracks and along the curvature of the aircraft. This improved, popular design is also in stock and available.

Availability

Parts availability is always a concern for operators, especially for legacy aircraft. Parts may no longer be available from the manufacturer, or there is an extremely long lead time to get them. This can delay a maintenance event for several weeks, if not months. At Duncan Aviation, we keep an inventory of our PMA replacement parts so they are available when needed.

Chad Ladwig, Duncan Aviation’s PMA Project Lead, is in charge of exploring PMA opportunities throughout the industry. He says there is no shortage of ideas. “I receive ideas from technicians all across the company.”

He works closely with Duncan Aviation’s Engineering and Certifications team, as well as outside resources, turning these ideas into cost- and time-saving alternatives for our customers. Duncan Aviation has engineered more than 980 PMA parts. For a complete list of parts available through Duncan Aviation’s PMA authorization, consult the FAA Regulatory & Guidance Library.



Here are some of the current PMA projects underway:

Hawker 125 Series, 750, 800, 800XP/850XP

- Access Door Seal
- 100 Amp Fuse
- Bleed Air Seal (includes Hawker 900XP & 1000 models)

Cessna Citation 560XL & 650

- Entry Door Cable

Duncan Aviation holds an ODA from the FAA for STCs, MRAs, and PMAs.

View our PMA Library to find a solution for your aircraft: www.DuncanAviation.aero/pma-library

TECHNOLOGY THAT TRAVELS

NDT Hits The Road!



Nondestructive testing, or NDT, is critical to the success of aircraft maintenance projects today. There is some form of NDT on nearly every inspection. That makes Duncan Aviation's NDT services some of the most requested services in-house at our three MRO locations in Battle Creek, Michigan (BTL), Lincoln, Nebraska (LNK), and Provo, Utah (PVU), and on the road to customers around the country.

Every day, each team is kept busy with scheduled inspections but remains flexible to be able to handle last-minute requests, many of which involve travel to an aircraft or customer hangar. "You never know when you're going to get a call that throws an unexpected corrosion inspection into your day," says Brian Young, NDT Team Leader in LNK. "That's when you get good at juggling schedules and resources."

Ray Vieselmeyer, NDT Crew Leader in PVU, says he gets a customer call almost every week that takes team members on the road. "We're always ready to provide a quick response."

Duncan Aviation's NDT technicians have traveled throughout North America with accurate, portable test equipment.

On-the-road NDT services are vital to operators who perform smaller in-house inspections at their home locations. "Although we would love for them to come to Duncan Aviation for all of their aircraft maintenance, we understand why some operators elect not to relocate their aircraft for smaller inspections," says Kasey Harwick, Duncan Aviation's Vice President of Maintenance. "We work with them to facilitate their NDT requirements so that they can do just that. And when it comes time for major work, they know we will continue to be there to support them."

Customer Zach Thompson, Vice President of Maintenance for Trego/Dugan Aviation, agrees whole-heartedly.

"Support of Duncan Aviation NDT services in our hangars is huge! Having Duncan Aviation's NDT team in our hangar not only allows us to keep our maintenance in-house, but it enables us to offer more comprehensive services to our managed aircraft because of their support."

Growth and Flexibility

Duncan Aviation has one of the highest-skilled in-house NDT teams (Level 2 or higher in all four



NDT Technician Casey Fix performing an optical prism inspection on a Challenger.

Authorized Dassault Falcon NDT

All of Duncan Aviation's NDT technicians are trained and certified for basic Falcon NDT. However, Dassault Aviation requires additional NDT certification training and requirements for all technicians who perform advanced Falcon NDT. These specialized inspections require extra classroom time and stringent hands-on practical testing to verify each technician's skill. Dassault limits the number of Falcon NDT technicians certified at any given time to ensure proficiency. Of the 22 Dassault-certified NDT technicians in the Western Hemisphere, five are from Duncan Aviation.

methods) in the industry providing eddy current, fluorescent penetrant, ultrasonics, and magnetic particle inspections on all makes and model aircraft, including helicopters.

All three NDT teams have experienced rapid growth as a byproduct of company expansion. In the last five years, Duncan Aviation has built or acquired more than 490,000 square feet of additional maintenance and operational space. These major capital investments in the company have had a ripple growth effect throughout all departments, including many of the support shops like aircraft accessories where NDT services are needed to

inspect wheels, brakes, actuators, weld repairs, and landing gear.

Skills Set Us Apart

Operators have many choices of where to go for NDT services.

NDT Team Lead Brian explains what sets Duncan Aviation apart from other service providers. "NDT is all we do full-time every day, day in, and day out. We don't divide our time with airframe maintenance and work NDT on the side."

He goes on to stress this high-level of experience and expertise comes into play when a skilled technician comes across invasive corrosion like inner granular corrosion. "This type of corrosion is deep

and has worked its way into the grain structure of the material, causing it to exfoliate and come apart. It can easily be missed if the technician lacks experience or isn't familiar with the anomaly. This level of understanding only comes from advanced NDT experience."

Trego/Dugan Aviation's Zach agrees with this assessment.

"I have never doubted the results or judgment of a Duncan Aviation NDT tech," he says. "They come to do their job, and they do it right. Their results have always stood up under added scrutiny."

The NDT teams believe being prepared to meet the smallest needs of every customer has the

"They come to do their job, and they do it right. Their results have always stood up under added scrutiny."

- Zach Thompson, Trego/Dugan Aviation V.P. of Maintenance

biggest impact. They have the backing of a company who has invested millions of dollars in tools, equipment, and talent to quickly and efficiently provide for the required NDT aviation maintenance services. Even on the road.

ASSET MANAGEMENT

"ASSET MANAGEMENT FREES UP OUR TEAM MEMBERS TO FOCUS ON THE TASK AT HAND, ENSURING OUR CUSTOMERS RECEIVE THE GREATEST RETURN ON THEIR INVESTMENT."

- JARED STAUFFER, LNK INTERIOR MANAGER



Duncan Aviation technicians are consistently asked to examine their work processes and look for potential improvements in efficiency and customer experience without affecting safety and quality. Locating and tracking assets used in aircraft projects was one thing that recently came to the forefront as an area for potential streamlining.

Jumping at an opportunity for continuous improvement in customer service internally and externally, Duncan Aviation put a system in place to effectively track assets.

Asset management can be complex for organizations with multiple locations, various department hand-offs, and in-field technicians. Being able to quickly and accurately locate assets enhances project coordination and better equips team members with the assets they need to hit project delivery goals.

Not only can assets be quickly and easily located at any time, and in real time, but reports can be generated on where assets are most often used and then strategically located so they're more convenient and better organized.

THE MISSION

At the beginning of 2018, a CIP (Continuous Improvement) committee, with the help of members from IT (Information Technology) and R&D (Research & Development), set out to develop a process for naming, organizing, and tracking cage storage in an effort to reduce by 50% the time searching for parts and often-used GSE equipment at our Lincoln, Nebraska, facility.

THE DELIVERABLES

Prior to the project, our storage cages were not consistently identified, and the storage areas were not clearly defined across the Lincoln campus. Now, all storage locations are consistently named and easily identifiable for team members within our equipment removal system.

Permanent labels have been affixed to three sides of all the cages, and they're numbered in sequential order with labels that are clearly visible from across the hangar floor.

While this was taking place, team members from R&D and IT were hard at work developing the asset trackers and programming within our internal databases to make finding equipment and parts even easier for team members on the floor.

R&D created a mapping device to store the Wi-Fi signatures of the hangars and storage locations. More than 100 locations were mapped into quadrants to make pin-pointing an asset easy across the campus. The asset tracking devices are installed on the top of items so the signals between the asset tracker and the Wi-Fi routers are not blocked. The R&D department designed the hardware and firmware for these devices, which are extremely power-efficient. The devices wake up 5 minutes after they've been moved or on a fixed-time interval if they haven't been moved, so they can report their current location to a database. The database then compares this information to previously stored signatures and reports the location of the device.

The software also enables us to schedule necessary and/or preventative maintenance. Within the software, the voltage is tracked and displays the current battery strength for each device. When it gets below a certain threshold, a work order is created for battery charging or replacement.

THE TEST

The goal set by the CIP committee was to reduce the time spent searching for parts and equipment by 50%. As a test, we sent a team member out to find Cage 72 without a tracker installed. It took him almost 12 minutes. Then, we asked him to find cage 77 with a tracker. It took him less than 2 minutes.

Lincoln's Interior Manager Jared Stauffer says, "Asset management allows Duncan Aviation to better keep track of moving assets that are passing through many departments and/or teams during the life of a project. It frees up our team members to focus on the task at hand, ensuring our customers receive the greatest return on their investment."

THE FUTURE

This asset tracking system is currently being implemented at our facilities in Battle Creek, Michigan, and Provo, Utah. Duncan Aviation's asset management efforts allow us to streamline services and improve customer relations. The system is also capable of administering health checks on equipment, for example the PSI levels of oxygen bottles. With the status, condition, and location reporting of assets easily accessible,

preventative maintenance can be optimized. And, the system is easily scaled upwards as the company continues to grow and add additional services.

Duncan Aviation's Chief Operating Officer Jeff Lake explains the importance of the asset tracking system: "Duncan Aviation offers business aircraft operators virtually every aircraft service they need and we require the real estate to do just that. With roughly 130 aircraft in-house every day across our three main facilities, the asset management system helps assure we can quickly track items needed to best serve our customers." 

Gulfstream GV-SP

From Photos to Reality

Designed with pictures the owner provided, Duncan Aviation's Interior Completions experts collaborated on the interior of this 2010 Gulfstream GV-SP to give him exactly what he requested. The completely refurbished interior is highlighted by a custom stand-alone credenza with a rounded waterfall edge and automated flip-up monitor designed by the Cabinet Shop and Engineering & Certifications Services. The automated flip-up monitor was a first for Duncan Aviation, and can be controlled by the galley master touch screen or from the passengers' controls at the conference table location.

Watch the transformation in under 2 minutes:
www.DuncanAviation.aero/GV-SP



Before

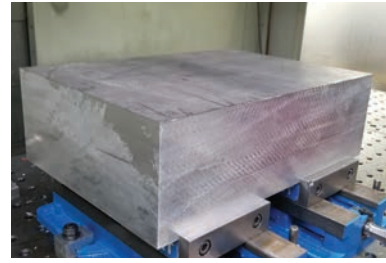
The aircraft came in for a 96-month airframe inspection, avionics upgrades that included a CMS (Cabin Management System), LED lighting, Gogo Avance L5 connectivity, complete interior and paint.



Custom
Stand-alone
Credenza



A Unique Sink



The aircraft is full of custom items created by the Interior Completions team to match the design requested by the customer, including PSUs (Passenger Service Units), cabin side ledges, and lower side walls. A special router bit was designed and fabricated in order to make the edge of the credenza end caps and custom side ledges. Custom cup holders were also fabricated to follow the contour of the custom side ledges. The customer had located a sink he liked, so the Fabrication Shop machined a 150-pound block of aluminum (pictured above) into a one-of-a-kind, 6-pound custom sink in which 95% of the cutoff was recycled and reused. New stone countertops were also installed and had to be designed around how the sink was going to be installed. Our teams stripped the old cabinets of the existing veneer and applied new veneer per the designer and customer request. Several of the seat bases were modified to be able to be put back into their properly stowed positions, and custom arm rests were created. We installed a patterned carpet, with a custom color combo. 🛩️



In addition, the outdated lights were replaced with longer-lasting, energy-efficient LED lights to match the color tones of the interior. Custom LED accent lights around the card table frames and credenza were designed by the Cabinet Shop and Engineering and Certification Services. This proved to be challenging due to the fact that standard aviation LED lighting is not designed to match the required contour needed to meet the design and look. 🛩️



EXPERT RESOURCES MAKE THE DIFFERENCE



AIRCRAFT SALES
REPS DOUG ROTH,
BOB MCCAMMON AND
RENE CARDONA

COMPLICATED AIRCRAFT SALE REQUIRES SPECIALIZED EXPERTISE

A long-time Duncan Aviation maintenance customer hired our Aircraft Sales and Acquisitions team to assist them in the acquisition of a late-model aircraft with low flight time and a cabin that had plenty of shoulder room. The acquisition team included Aircraft Sales Representatives Doug Roth, Bob McCammon, and Rene Cardona, in total representing 105 years of experience.

“As a team, we walked through the various attributes and financial considerations of different makes and models,” says Doug. “In order to stay within the acquisition price ranges, operational cost of ownership, and performance parameters the customer wanted, we determined they should focus on a Falcon 2000LX.”

After an extensive market search that included help from Duncan Aviation’s Regional Managers in and

outside the United States, we found a Falcon 2000LX for sale in Thailand with an attractive asking price provided the aircraft was in acceptable condition.

“On the buyer’s behalf, we made an offer, subject to a preliminary visual aircraft and records inspection and the acceptance of the terms and conditions of a formal pre-purchase inspection,” says Doug. The seller accepted the offer.

Before we could make our final recommendation to the buyer, we needed to look at the aircraft in Thailand and assess its condition. The buyer authorized us to send his chief pilot and Duncan Aviation’s Falcon Technical Specialist and Program Manager Ron Grose to evaluate the aircraft. Ron has 45 years of aviation experience, most of which have been associated with the Falcon product line.

Although the aircraft was registered and located in Thailand, the attorney for the Thai owner and the broker who was handling the sale were in Europe. Duncan Aviation and the buyer were in the US. That meant that nearly everyone party to the potential transaction was in a different time zone with up to 12 hours’ difference. The time differences slowed the pace of the negotiations, so messages back and forth needed to be succinct and forward-thinking.

“We were careful to make emails clear and to the point, and we tried to streamline communications,” says Doug.

After reviewing the aircraft and its documentation, Ron and the buyer’s chief pilot determined it had been well-maintained and the records were in order. They found only a few discrepancies. With the initial evaluation complete, we determined that the aircraft was a good candidate and we should invest in a complete pre-purchase evaluation.

The Challenges

The seller’s agent knows that Duncan Aviation is an authorized Falcon Service Center and is recognized worldwide, with 11 international authorizations. Because of these authorizations, the buyer also preferred to have the evaluation performed at the Duncan Aviation MRO facility in Lincoln, Nebraska.

“This condition was included in the purchase agreement, and the seller agreed to relocate the aircraft from Bangkok to Lincoln,” says Doug.

The time differences and location of the aircraft resolved for the moment, the Duncan Aviation sales team then had to determine how to efficiently and properly import the aircraft into the United States.

Steve Rothanzl, Duncan Aviation’s International Trade Compliance Officer, has an office down the hall from Doug’s.

“It’s nice to be able to walk down the hall and get immediate support when the timing was so critical,” says Doug. “We needed everything to be in order so there were no last-minute hurdles or surprises.”

Steve prepared and filed the necessary paperwork, so the import permit was available for the aircraft to clear US Customs as it landed in Anchorage, Alaska.

The timing of the pre-purchase evaluation flights were also a challenge for the team. To avoid

downtime and additional expenses, we negotiated with the seller, who agreed to have Avionics Crew Leader Eric Corbridge and Airframe Lead Tech Michael Stamm meet the aircraft in Anchorage. The two Duncan Aviation technicians then performed the evaluations during the 7-hour flight from Anchorage to Lincoln, saving time and expense.

The Resources

“This transaction had a multitude of complexities, but Duncan Aviation has expert resources in a variety of areas to help make it happen,” says Doug. “Because of Ron’s evaluation conducted in Thailand, we knew we were dealing with an aircraft that was in great shape. And because we have experts familiar with how to import an aircraft registered outside the United States, we were able to deal with these issues in a timely fashion, saving our buyers, and for that matter, potentially the seller, time and money.”

The Outcome

During the pre-purchase inspection, two major items were identified that required subsequent negotiations and an amendment to the purchase agreement. Eventually, the team worked out a solution that was agreeable to both the buyer and seller.

“After nearly four months of doing our homework, engaging our experts, and grinding out every detail, we accepted the aircraft and ultimately closed the sale,” says Doug.

The new owners are now ready to make the Falcon 2000LX entirely their own. Duncan Aviation is installing FANS 1/A (Future Air Navigation Systems), reconfiguring the interior, installing a new interior, and painting a custom scheme on the exterior. While this work is being completed, Duncan Aviation will also perform the 2C Inspection and Gear Overhaul to eliminate future downtime.

“The delivery date is mid-January, and everything is on schedule,” says Doug. “It’s going to be like a brand new airplane!” ✈️



READ THE FULL
CASE STUDY HERE:
[WWW.DUNCANAVIATION.AERO/
CASE-STUDY/EXPERT-RESOURCES](http://WWW.DUNCANAVIATION.AERO/CASE-STUDY/EXPERT-RESOURCES)

“HE (THE OWNER) OPTED FOR THIS SYSTEM (AVANCE L5) BECAUSE IT SUPPORTS UP TO 40 DEVICES, SO HE AND HIS PASSENGERS CAN NOW ALL STREAM AUDIO AND VIDEO AND CONNECT VIA VPN TO THEIR COMPANY’S NETWORK SO THEY CAN CONTINUE WORKING IN FLIGHT.”

SUPPORTS
UP TO
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DEVICES

9,500+
WAAS/GPS-BASED
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“WAAS/GPS-ENABLED PERFORMANCE-BASED APPROACHES SUCH AS LPV CAN GUIDE THE PILOT TO WITHIN 200 FEET OF THE GROUND WITH ½-MILE-VISIBILITY. THE FAA HAS ALREADY PUBLISHED MORE THAN 9,500 OF THESE NEW, HIGHLY ACCURATE WAAS/GPS-BASED INSTRUMENT APPROACHES, ARRIVALS, AND DEPARTURES.”

Avionics After ADS-B

For the last several years, one of the avionics pushes in the business aviation industry has been to ensure operators meet the FAA’s January 1, 2020, mandate deadline for upgrading to ADS-B (Automatic Dependent Surveillance-Broadcast). With their ADS-B requirements completed, many customers are turning their attention to other avionics upgrades, such as faster and more reliable Wi-Fi systems and newer cockpit LCDs that will support performance enhanced navigation, enhanced weather products and traffic information, and synthetic and night vision systems.

Connectivity

One of the most common requests for Wi-Fi is for speeds and reliability in the air to compare to what customers receive on the ground.

“We’ve done numerous quotes for the Gogo AVANCE L5 Wi-Fi system,” says Jeff Aman Manager of the Duncan Aviation Satellite Avionics Shop in Kansas City, Missouri. “The owner of a Global Express recently replaced a legacy ATG Wi-Fi system with the AVANCE L5. He opted for this system because it supports up to 40 devices, so he and his passengers can now all stream audio and video and connect via VPN to their company’s network so they can continue working in flight.”

Regional Avionics Sales Manager John Spellmeyer notes that customers are increasingly interested in connectivity and are already looking forward to systems that will be 5G network capable. Currently, there are numerous ways to take advantage of the greater speeds available, and Duncan Aviation owns or has access to STCs for a variety of systems on a great variety of aircraft makes/models.


“Speeds are definitely getting faster as aging infrastructure is replaced, and we’re anticipating new products that will take advantage of 5G. Right now, though, I’ve spoken to many customers who are turning their attention to avionics upgrades that reduce operating costs and enhance safety,” says John.

WAAS/LPV and Synthetic Vision

Many of the systems that support ADS-B In feature high-resolution cockpit LCDs that dramatically improve what pilots see through their synthetic vision and night vision cameras, John explains. “WAAS/GPS-enabled performance-based approaches such as LPV can guide the pilot to within 200 feet of the ground with ½-mile visibility. The FAA has already published more than 9,500 of these new, highly accurate WAAS/GPS-based instrument approaches, arrivals, and departures.”

The new high-resolution displays combined with low-light and infrared cameras bring dramatically increased clarity to the cockpit.

“When flying in the clouds, on approach for a landing in, say, Aspen, Colorado, these new synthetic vision systems give you not just an awareness of the mountainous terrain or potential obstacles, but actual visual images of them,” says John. “The cameras pick up and project remarkably clear images using low-light capabilities and thermal energy, so you see what amounts to a daylight image of a deer on the runway or a clear view of a really small, not well-lit runway in the mountains.”

As many cockpit displays such as CRTs and older LCDs are reaching obsolescence, upgrading them gives pilots and their passengers even more peace of mind. 

Flying After The ADS-B Mandate Deadline

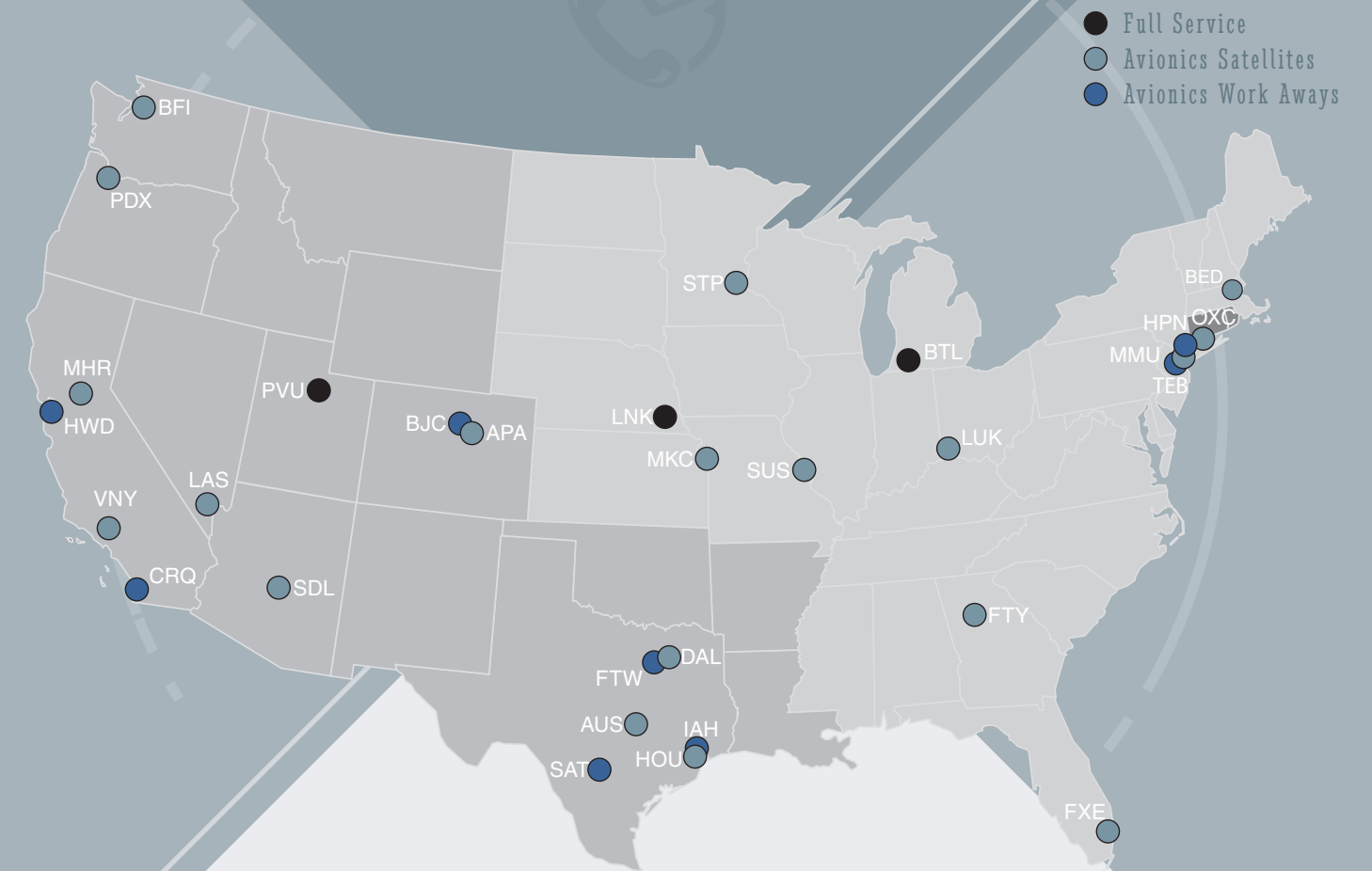
The FAA has issued instructions for non-compliant aircraft that want to fly in ADS-B airspace after January 1, 2020. The flight is supposed to be for aircraft relocation so it can be modified. Here's what the April 1, 2019, directive had to say:

After Jan. 1, 2020, all aircraft operating in the airspace identified in §91.225 must comply with the ADS-B Out equipment and performance requirements.

Operators of aircraft not equipped with ADS-B-Out must request a deviation at least 1 hour before the flight from the ATC facility with jurisdiction over the airspace. Requests are considered on a case-by-case basis, and authorizations may be declined due to workload, runway configurations, air-traffic flows, and weather conditions among other reasons.

“The FAA has made it clear that the mandate compliance date will not be extended or delayed, and that the process by which you can make an occasional flight through ADS-B airspace will be as cumbersome and uncertain as possible,” says Matt Nelson, Manager of Satellite Operations at Duncan Aviation.

Those operators not yet in compliance with ADS-B might have some struggles finding capacity at their preferred MRO facility. Duncan Aviation will do everything possible to try and help customers in this unfortunate position. Contact one of our Regional Avionics Sales Managers to see how we can help. 📞



“The FAA has made it clear that the mandate compliance date will not be extended or delayed, and that the process by which you can make an occasional flight through ADS-B airspace will be as cumbersome and uncertain as possible.”
Matt Nelson, Manager of Satellite Operations



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NEW FULL-SERVICE DUNCAN AVIATION FACILITY IN PROVO, UTAH



PROOF THAT IF YOU BUILD IT, THEY WILL COME!

Duncan Aviation's third full-service facility, this one at the beautiful Provo Airport in Provo, Utah, is fully operational. In January, we opened a new building and the first of three new hangars. Immediately, the spacious hangar filled with aircraft projects and the building was claimed by offices, conference rooms, and support areas. By the end of April, the new paint complex was open for business. And in June, a second maintenance hangar was online and operational. In the first quarter of 2020, the final building and all support areas and

back shops will be open and house more than 200 team members who will provide all aspects of aircraft service and support.

"Our team here is excited and energized by the growth and expansion because that's given us the opportunity to serve our customers in a more complete capacity," says Vice President of Provo Operations Chad Doehring. "We can now provide the full range of services for which Duncan Aviation is known. Our customers are excited to have this level of service here in Provo, and that in turn gets our team excited."



WWW.DUNCANAVIATION.AERO/VIDEOS/FIRST-PROVO-PAINT



GO PROVO, GO GREEN!

“The new paint hangar at the Duncan Aviation facility in Provo is the only truly green business aviation paint facility in the United States,” says Vice President of Provo Operations Chad Doehring. “It releases no waste products to the water or to the city of Provo. The facility meets the very strict air requirements set by the state of Utah and by the EPA. In fact, air from the hangar goes through an RTO (Regenerative Thermal Oxidizer) that burns off the VOCs (Volatile Organic Compounds), so more than 99.7% of the air we release is clean.”

The 53,000-square-foot green paint hangar was designed and built by long-time Duncan Aviation partner Tectonic Management Group. Its two-zone air system features down-draft air flow and automatic monitoring and alarms. The state-of-the-art hangar accommodates multiple aircraft at once, so the paint teams are able to strip, sand, paint, and detail on several aircraft simultaneously.

Within the first two months of its opening in April, the team has painted the following aircraft: Global, CJ3, Falcon 900, Challenger 604, and a Gulfstream 450. Among its upcoming projects are a Falcon 2000 and a G450. Although most aircraft are from businesses on the West Coast or elsewhere in the Southwest, one aircraft recently arrived from South America for a full paint. 🇺🇸



PROVO PAINT TEAM DEMONSTRATES ITS TALENT

In early May, a striking Global 5000 was the first aircraft to roll out of Duncan Aviation’s state-of-the-art Provo paint hangar with an eye-catching new exterior. As the newly painted Global sat on the ramp, Tom Indseth, Director of Maintenance for Skechers, explained why he was pleased to have been the first paint customer there.

“Although this project was the first aircraft painted here, it didn’t feel like it. Everyone working on our Global had such confidence,” says Tom. “The paint scheme turned out great! From the initial design vision everyone had to the delivery of the completed project, Duncan Aviation executed.”

Members of the Provo Paint Team had been training together for months at the Duncan Aviation facility in Lincoln, Nebraska, and many members of the team are veteran paint experts. In April, when the paint hangar opened, the team was fully trained and ready to go, and they were excited to work on such a unique and complicated paint scheme.

“The last 18 months of planning, building, and staffing our Paint Team in Provo has finally become a reality,” says Duncan Aviation Director of Paint Operations Doug Bohac. “I had the confidence in the team to take on a special request—this Global with a complicated fade scheme—for our first paint job. The Paint Team did a phenomenal job, and we have an extremely happy customer.”

The paint scheme featured a metallic black-to-charcoal fade that was designed by Duncan Aviation Aircraft Designer Teri Nekuda. She’s had a long

relationship with Tom Indseth and Skechers, so when they wanted their Global painted, she and Duncan Aviation 3D Designer Dan Ryba sat down with them to develop the right look for them. The Skechers’ team was sold on the design when they saw Dan’s 3D rendering, and Tom was delighted that the finished paint scheme held no surprises.

“It absolutely remained true to the vision and true to the rendering,” says Tom. “The new hangars here in Provo are great, too. We’ll definitely be back.”

GROWING TEAM STAYS BUSY

Since opening the first new hangar, the Airframe Team in Provo has been busy with a variety of airframe inspections, including several 120-month inspections on Globals, and inspections and scheduled maintenance work on several Challengers, Falcons, and Cessnas.

“Our Interior SWAT team has been busy, and we’ve replaced carpet and reupholstered passenger and cockpit seats. Install is keeping busy, too, with ADS-B upgrades and Gogo AVANCE L5 installations,” says Chad.

The Engine Shop has worked on Rolls Royce, Pratt & Whitney, and Honeywell engines, and Duncan Aviation has a Rapid Response Team based in Provo that performed a double engine short-duration engine change on a Falcon 7X.

“The Line Services Department, which recently received Stage I IS-BAH certification, has been building up base customers here locally, and we’re starting to see quite a bit of transient traffic now that our ARINC radio frequency (131.575MHz) is operational,” says Chad.

The Accessories Shop has performed wheel overhauls and hydraulic repairs, and the Provo facility’s NDT (Nondestructive Testing) lab is operational, performing eddy current, fluorescent penetration, ultrasonics, and magnetic particle testing and optical prism inspections.

“We’re pleased to provide this level of service in this part of the country, and our customers have been pretty vocal in their praise,” says Chad.

CUSTOMER COMPLIMENTS

Harlow Norvell, Chief Pilot for MRK, LLC, in Reno, Nevada, is a longtime customer of Duncan Aviation who is impressed with the new facility. “I was struck by the enormity of Duncan Aviation’s commitment out here. They made the new facility the best it could possibly be,” says Harlow. “The quality of the buildings is impressive; they are beautiful and sophisticated. I’m especially pleased to know that the new, state-of-the-art paint hangar meets all of the strict environmental laws in Utah.

“Duncan Aviation’s commitment to the area extends beyond the impressive new facilities to the experienced team they’ve assembled out here,” continues Harlow. “It’s pretty impressive to me that so many long-term employees are so committed and loyal to Duncan Aviation that they’re willing to pick up and relocate their families to Provo and start over to help fulfill the company’s mission. Every business investment is a gamble, and this was a big one. Duncan Aviation has established a nice footprint out here, and we will definitely take advantage of their presence.” 🇺🇸



LINE SERVICES & IS-BAH

RECOGNIZING & CERTIFYING THE SAFETY OF OUR FACILITIES

A commitment to safety is one of Duncan Aviation’s core business values. We are committed to making our facilities safe for our customers and our team members and to providing safe products and services.

In addition to enshrining these principles in our core values, the Duncan Aviation FBO (Fixed Base Operator) Services teams in Lincoln, Nebraska, and Provo, Utah, have taken the rigorous steps necessary to achieve Stage I certification from IS-BAH (International Standard-Business Aircraft Handlers). The Duncan Aviation FBO facilities in Battle Creek and Kalamazoo, Michigan, are currently working toward this certification.

WHAT IS IS-BAH?

IS-BAH certification means that the FBOs have met all international standards to promote and provide safe environments for customers and workers. Developed by IBAC (International Business Aviation Council) and the NATA (National Air Transportation Association), IS-BAH requires sustainable use of an SMS (Safety Management System). There are four pillars to an SMS: Safety Policy, Risk Management, Safety Assurance, and Safety Promotion.

“The reason for an organization to have an SMS is that it coordinates all safety-related activities to help us better manage hazards and continually improve the safety of our products,” says Mike Brown, Manager of Audit Programs. “We work in a highly visible industry where you can never completely eliminate hazards. An

SMS lets us, as a company, develop plans and methods to learn from history, mitigate risks and hazards, and make informed decisions.”

THE IS-BAH CERTIFICATION PROCESS

With the help of his team, Manager of FBO Services Troy Hyberger undertook the process to achieve this certification for the Lincoln facility in 2018. In May 2019, the new full-service Duncan Aviation facility in Provo, Utah, led by Manager of FBO Services Bob Cornett and his Line Services team, also passed the Stage I IS-BAH audit.

Stage I IS-BAH certification confirms the existence of an active SMS, that safety management activities are set up, and that all supporting standards and infrastructure have been established. Audits are conducted to ensure conformance with the certification requirements.

When auditing FBOs for Stage I IS-BAH certification, the auditors look to make sure the company has General Operations Manual policies in place, and that team members are following them. They also make certain the company has an SMS in place, and that it’s in use at the facility. Another key function of the audit is to make sure the team members in Line Services all know what the policies are, where to find them, and how to react if there’s an incident. Auditors talk to members of the team and ask questions regarding Duncan Aviation policies and procedures. In order to pass the audit, team members, supervisors, and managers must all know and be able to articulate this information.

“Duncan Aviation has always been serious about safety and customer care in all aspects of our aircraft service,” says Troy. “The rigorous standards established through the IS-BAH program set a high bar for the industry. With more than 60 years of experience, Duncan Aviation was already meeting the majority of those standards. To earn the accreditation, we took all of our tribal knowledge and turned it into official, written policies that can be tracked and measured. Customers who look for the IS-BAH rating will also know what to expect when they utilize our services.

“As a large MRO provider, attaining IS-BAH certification is a little different for us,” Troy continues. “For example, we often tow aircraft in atypical configurations, like with the tail removed or no interior in place. Best practice policies for all of the variants are documented, tracked, and consistently applied.”

The policies document the routine, daily tasks that the team members in the Line Services Department perform every day. They also provide a road map for how to handle any incidents.

“The best part of preparing for the audit was that it raised awareness and put us all in a safety-conscious, safety-aware frame of mind,” says Troy. “For instance, if chocks had been left on a ramp after an airplane left, we’d want our team members who may be driving by to notice them and remove them immediately. The whole point of the audit and certification is to raise situational awareness, to make sure team members’ awareness is functioning at a higher level so they can anticipate problems and find ways to reduce potential incidents.”

SERVICE	AZO	BTL	LNK	PVU
24-hour, Full-Service FBO	•	•	•	*
De-Ice/Pre-heat	•	•	•	*
GPU Starts with Fuel	•	•	•	•
Baggage Handling	•	•	•	•
Computer Room/Phone Rooms	•	•	•	*
On-Site Rental Cars	•	•	•	•
Corporate Hotel Rates	•	•	•	•
AVFUEL Dealer	•	•	•	•
Biobore Kathon Treatments	•	•	•	•
Quick Turn Service	•	•	•	•
Airstart	•	•	•	•
Detailing and Lav Service	•	•	•	•
Modern Lobby and Pilots’ Lounge	•	•	•	*
Catering Service	•	•	•	•
Courtesy Cars	•	•	•	•
On-Site Fitness Room	•	•	•	*
NATA Safety 1st Certified Reps	•	•	•	•
AVTRIP Participant	•	•	•	•
Anti-Ice Capabilities	•	•	•	•
Coffee & Ice	•	•	•	•
Weather Planning/Radar	•	•	•	•
Sleeping Room	•	•	•	*
Complimentary Van Rides	•	•	•	•
Wireless Internet Access	•	•	•	•
Regulated Garbage Service	•	•	•	•
IS-BAH	**	**	•	•

* Services coming soon
** In-process



Managed Rotable Inventory

Too Good To Be True.

Oh, but it is true.

Stock Evaluations & Recommendations

All part numbers offered through the MRI program have gone through a thorough evaluation. “We make sure

We understand you may have a healthy dose of skepticism after learning about Duncan Aviation’s Managed Rotable Inventory program or MRI. It’s a pretty unique program that allows you to sell your aircraft rotatable inventory to Duncan Aviation’s customer base while still maintaining ownership, price control, and oversight. Many clients think it is too good to be true.

Chris Gress, Duncan Aviation Parts & Rotables Sales Business Development Manager, hears that a lot. “Most people think they are missing something when we begin to discuss the basics of the MRI Program. But once they decide to become an MRI client, they’re sure glad they did.”

Here’s how it works. MRI clients select aircraft components from their rotatable inventory to be shipped and warehoused at Duncan Aviation in Lincoln, Nebraska. Daily operations such as customer service, sales, marketing, shipping, exchange, repair, insurance, and billing, are managed by Duncan Aviation PRS (Parts and Rotables Sales) while clients maintain ownership of their inventory and make all pricing and stock level decisions.

the part numbers we choose are part numbers our customers need,” says Vince Cruickshank, Rotable Consignment Manager. Chris and Vince work directly with each MRI client to counsel and recommend what to offer to ensure the quality and value of the inventory is relevant. “Are there customers inquiring about these part numbers? Have we been quoting them? Are these parts on an aircraft that is no longer flying?”

There are even opportunities for clients with part numbers we already have in inventory. “If we already have our client’s part numbers in inventory, there are other options we consider; such as is this an overhauled or repaired unit? Will this be an exchange unit or only available for outright sale? Ultimately, we want all our clients to be successful,” Vince says.

Market Penetration

Once MRI clients are part of the program, they immediately experience the broad reach of Duncan Aviation’s customer base. Inventories are marketed and sold to operators of helicopter, turboprop, and business, regional, and commercial aircraft.

One of our first MRI clients, a Director of Operations for an aviation materials company, had this to say about the program:

“We have increased our sales by 10% directly related to being in the Duncan Aviation MRI program. Because we have a different customer base, we are not just moving dollars around; we are experiencing new market penetration that we wouldn’t have been able to reach without the MRI program.”

Duncan Aviation PRS is also completely transparent about what is happening with each client’s inventory, providing monthly stock analysis. “Their pricing is always accurate, and their payments are on time. They don’t just tell me sales results; they tell me how often my units are searched, requested, quoted, and shipped. This information allows me to make decisions on adjustments to my MRI inventory to take advantage of trends and avoid spending time on things that are not productive.”

Whatever doubts our MRI clients have in the beginning, those doubts soon disappear as the program makes fans through its results. 🚁

More MRI Advantages:

- MRI clients are guaranteed payment regardless of the purchasing customer’s payment status
- Units are immediately drop-shipped, including HazMat or international compliance
- There are no associated insurance or warehouse fees
- Duncan Aviation is responsible for recovering the core unit

Sales are made 24 hours a day by 31 Duncan Aviation customer account representatives who answer the phones around the clock. If the purchase is made at 3am, the unit is immediately pulled and processed for shipping from a warehouse staffed 24 hours a day.

Clients have the choice to have all profits paid directly to them or put into a credit account for other Duncan Aviation services.



A SUCCESSFUL EVENT FULL OF FIRSTS

All of Duncan Aviation's RRTs (Rapid Response Teams) travel cross-country to perform needed engine services, whether it's for an AOG engine emergency, scheduled inspection, or to provide an extra pair of hands. They are also called upon when needed at Duncan Aviation's three full-service MRO facilities and other RRT launch sites. Between team members Martin Delisle, Jason Anderson, and Steve Gault, there are very few RRT and Duncan Aviation locations they have not visited. But during the summer of 2019, they all responded for the first time to Duncan Aviation's newest location—the MRO facility in Provo, Utah.

Martin, Team Leader from Long Beach, California, was excited to see the newest Duncan Aviation MRO facility. "It was super clean and still had the new hangar smell." He, along

with Jason and Steve, both RRT techs from Dallas, Texas, was equally as impressed with the PVU Line Team. "They were ready for us."

In the days leading up to the double rental engine removal, Eric Sorenson, PVU Engine Line Team Leader, had his team busily preparing. As soon as the customer's overhauled engines were received in Provo, they were mounted in engine stands. When the aircraft arrived, the rental engines were put through all necessary incoming engine runs. When the three RRT techs arrived, everything was set and ready to get started on the R&R.

Typically RRT techs perform these early activities. "It was great to have these logistics taken care of ahead of time," says Jason. "It enabled us to hit the ground running as soon as we arrived."

Steve agrees. "Eric and his team were of great help. They were quick to understand what needed to be done to make the event go a lot smoother."

MORE FIRSTS

It wasn't just the first experience at PVU for Martin, Steve, and Jason, it was the first Provo facility experience for an aircraft managed by Jet Aviation Services as well.

Jet Aviation Services manages more than 130 aircraft across the United States and has been bringing client aircraft to Duncan Aviation for years for a variety of scheduled

maintenance events. One Jet Aviation Assistant Maintenance Manager has this to say, "Duncan Aviation is great to work with. I think we've utilized nearly every service their Lincoln facility has to offer. Everyone is very accommodating and usually able work with our tight maintenance schedule."

This aircraft required a double R&R with a strict downtime to meet a tight flight schedule. The maintenance manager assigned called Duncan Aviation to see if we had the capacity to fit them in.

Shane Heier, RRT Assistant Manager—West Coast, worked diligently to arrange the event. "We were able to accommodate his timeframe at our Provo location."

The first hangar at Duncan Aviation's Provo facility officially opened at the beginning of 2019. The maintenance manager has always been able to rely on Duncan Aviation to come through for him before. He thought this double R&R was a good opportunity to give this new Duncan Aviation location a try.

Even with all the planning and preparations, scheduled maintenance events cannot prevent last-minute, unexpected flights. When the aircraft was delivered for maintenance, it was discovered an unexpected flight was added towards the end of the schedule. Knowing owners always prefer to travel in their own aircraft, the teams worked to deliver the aircraft early.

And that is exactly what they did. The RRT and PVU Engine techs came together as one team, working long hours until the job was done. The work was completed and the aircraft returned to service in three days, a full day and a half ahead of schedule. The principal was able to take his own aircraft on his flight.

This event was filled with many firsts, but if you weren't aware of it, you would have never known. Everyone took ownership of the work and didn't quit until the job was done. As a result, everything went smoothly.

According to the Jet Aviation Maintenance Manager, this Duncan Aviation team did everything right. "Duncan Aviation RRT technicians are professional, thorough, and they get the job done always within the required amount of time or less. I have never questioned their quality of work. I can rely on it to be done right the first time." 



NBAA Participation Helping Keep the Industry Strong & Responsive

The National Business Aviation Association has represented the interests of the business aviation industry for more than 70 years. Among the association's many activities and functions, the NBAA helps members stay on top of operational, technical, educational, and legislative issues; regulatory requirements; and issues facing businesses that operate aircraft.

Duncan Aviation has been a member of NBAA since 1966, and since joining, many team members have served in leadership roles on various NBAA committees and subcommittees. Duncan Aviation Chairman Todd Duncan has served as Chair of the NBAA Advisory Council and as a member of the NBAA Board; Vice President of Sales Mike Minchow is a Community Director on the CAM (Certified Aviation Manager) Governing Board; Manager of Service Sales in Battle Creek, Michigan, Phil Suglia is on the Maintenance committee and serves as the Chair for the Workforce Development subcommittee;

and Manager of Corporate and Marketing Communications Lori Johnson serves on the Business Aviation Management committee and is Co-Chair for the NBAA Leadership Conference in 2019 and 2020.

As a company, there are issues we face every day that other business aviation professionals have almost certainly dealt with. Through these committees, we share our expertise and glean valuable insight from others who have different experiences and perspectives.

Supporting NBAA's Efforts In DC

During Todd's tenure on the NBAA Advisory Council and Board, the business aviation industry was dealing with two important legislative issues: the attempt to privatize the FAA, and the bill that was necessary to reauthorize the FAA.

In October 2018, the bill reauthorizing the FAA for five more years cleared its final hurdle in the

United States Senate and was signed by the President. With workforces throughout the business aviation industry facing shortages of qualified technicians, the bill included grant programs to help fund training and education programs. It also maintained the BARR (Block Aircraft Registration Request) program that protects the privacy and security of owners and operators.

“Efforts by members of the NBAA, the Advisory Council, and businesses directly involved in business aviation were crucial in demonstrating to Congress that privatizing the FAA was not in the country’s best interest,” says Todd. “Privatizing would have restricted access to many airports and would have decreased the availability of the most favorable airspace for business aviation aircraft, too.”

Looking At Workforce Issues

One of the most critical issues the business aviation industry is currently grappling with is the expected shortage by 2022 of skilled aviation professionals. The committees Phil and Lori serve on are actively seeking ways to mitigate this workforce shortage.

The Maintenance committee is composed of representatives of aircraft management companies, OEMs, MROs, corporate flight departments, and individual operators.

“We serve on these committees and subcommittees with competitors, so

although it’s good for Duncan Aviation to be a part of these groups, what we’re doing is working for the good of the business aviation industry,” says Phil. “We want individual businesses and the

industry as a whole to be stronger as a result of the work we do.”

As a result of the prospect of critical shortages in the business aviation workforce, Phil also joined the NBAA’s Workforce Development subcommittee as its chair in 2017.

“Because schools that offer aviation maintenance programs have classes filled only

to half-capacity, we know there won’t be enough mechanics by 2022,” says Phil. “We’re addressing ways to get information about careers in aviation in front of students when they’re younger. We’re encouraging more kids to pursue A&P licenses and keep them in the aviation industry. Post graduation, we’re losing them to the oil and railroad industries and even to amusement parks.”

The subcommittee is also trying to help fill the schools again. Once kids start attending the aviation maintenance schools, representatives throughout the industry can talk to them and are already actively doing so, but the challenge is getting them in the schools in the first place.

“We know we’re effective when we talk to high-school students, but we also need to reach school guidance counselors so they’re aware of the



Todd Duncan

careers in business aviation and can tell kids about those opportunities.”

Phil feels that members of the NBAA committees and subcommittees are helping keep the business aviation industry healthy. It’s important to find ways to continue to supply the industry with talented technicians, to make sure the maintenance facilities are better aligned with the interests of the owner/operators, and that we can keep up with the demand that continues to grow year-over-year.

Supporting The CAM Program

Mike agrees that individual companies and employees throughout the business aviation industry are only as strong as the industry as a whole.

“My involvement indirectly benefits Duncan Aviation, but the point of the CAM Governing Board is to identify, mentor, and help maintain the high standards of leaders and professionals in business aviation in order to ensure the long-term success of the business aviation industry itself,” says Mike.

The CAM Governing Board identifies qualified industry professionals who want to lead flight departments and become leaders. Other NBAA members who serve on the committee are chief pilots, directors of aviation departments, consultants, corporate pilots, professors at universities, and representatives from other MROs.

“Our members represent a broad spectrum of the business aviation industry, and we’re all interested in grooming future leaders by focusing on leadership development and business management,” says Mike. “We help set up the framework by identifying and recruiting future leaders, and we talk about the value and benefits of their continued professional development.”

Developing Leadership

Leadership development is also one of the goals of the committee Lori is on: Raising the bar for professionalism in flight departments and companies that operate business aircraft. The 30 members of the Business Aviation Management committee are flight department managers, pilots, executives, and service professionals.

“We discuss ways business aviation companies can provide professional development opportunities and additional training and explore industry changes in an effort to prepare member companies for and to help craft where the industry is going. Additionally, we hope to better define available career paths and discuss how to recruit for the anticipated shortage of pilots and technicians in aviation.”

The workforce topic is so important to the industry, the theme for the Leadership Conference in February 2020 is Sustain Your Workforce and for 2021 it will be about attracting and developing leaders. The two-day events will focus on developing world-class leaders, attracting the best team members, technicians, and pilots, and creating the culture that makes people want to stay in business aviation.

All committee members believe the biggest reason for Duncan Aviation to take part in these important NBAA committees is that investing our time, experience, and expertise helps improve the quality of current and future leaders throughout the industry. As we recruit and retain more professionals, our customers have the opportunity to interact with other aviation professionals who are as committed as we are to the long-term success of the industry.

Duncan Aviation strives to keep you up-to-date on the continually changing aviation industry.

News & Tech Updates



NBAA Connectivity

Duncan Aviation's Avionics Sales Representative Justin Vena joined the NBAA's Connectivity Subcommittee after hearing about his customers' inconsistent experiences with in-flight connectivity. Customers noticed that during one flight, passengers watching Netflix on their iPads might see an entire movie without interruption. On another, they'd experience multiple interruptions resulting in constant buffering, apps timing out, and connections simply dropping.

"When we meet, we discuss what's working and what's not. We ask what issues MROs around the country are seeing, whether updates to various operating systems seem to cause errors, and what resources are available to work through and troubleshoot these issues," says Justin. "Our goals are to work with manufacturers and service providers to develop industrywide standards for integrating cabin electronic systems, identify best practices, and enhance the end-user experience."

To better understand the issues, the subcommittee has created a new survey about connectivity usage and concerns. It has 11 questions. If you are an NBAA member, log in and fill it out here: www.surveygizmo.com/s3/3334050/NBAA-Connectivity-Sub-Committee-Survey.



Cal Lab Fulfills Need for Aviation FBOs

Our Calibrations Lab recently invested in additional testing equipment and the purchase of standards to calibrate thermohydrometers, both working and masters. This investment allows the company to now offer the full spectrum of calibration services required for FBOs (Fixed Based Operations) to comply with the ATA 103 Standard for Jet Fuel Quality at Airports and Military compliance.

Duncan Aviation's Calibration Services uses NIST traceable standards to calibrate measuring and test equipment, including the following tools needed to maintain airport fuel trucks and fuel farms according to Sections 2.1.11 and 3.4.3(e) of the ATA 103 and Military compliance:

- Master Hydrometers
- Hydrometers
- Multimeters
- Torque wrenches
- Conductivity Meter
- Fuel Truck and Fuel Farm master fuel gauges



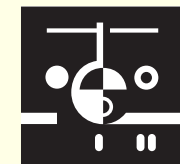
New Analytical Balance used to calibrate hydrometers for FBO ATA 103 compliance.

For more information, visit: www.DuncanAviation.aero/services/specialized-services.

CONTINUAL INVESTMENT IN CAPABILITIES, TOOLING, FACILITIES, AND PEOPLE HELPS ENSURE LONG-TERM CUSTOMER SUPPORT. DUNCAN AVIATION CONSISTENTLY INVESTS MORE THAN 80% OF ITS ANNUAL PROFIT BACK INTO THE BUSINESS AND OUR PEOPLE.



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David Moll named Master Pilot

A Duncan Aviation pilot, David Moll, recently earned The Wright Brothers Master Pilot Award from the FAA. From flying some of the most complex corporate business jets to doing aerobatics in the Pitts, Moll says in his 51 years of flying that he has experienced the best career ever imagined.

The Wright Brothers Master Pilot Award is the most prestigious award the FAA issues to pilots certified under Title 14 of the Code of Regulations (14 CFR) part 61. This award recognizes individuals who have exhibited professionalism, skill, and aviation expertise for at least 50 years while piloting aircraft as “Master Pilots.”

In 2008, another Duncan Aviation pilot, Chairman Emeritus Robert Duncan, also received this prestigious award.



FAA Office Manager Roger Zimmerman (left) presents the FAA Wright Brothers Master Pilot Award to Duncan Aviation pilot David Moll. David's wife, Nancy Moll, a Duncan Aviation team member for more than 41 years, joined them for the presentation.



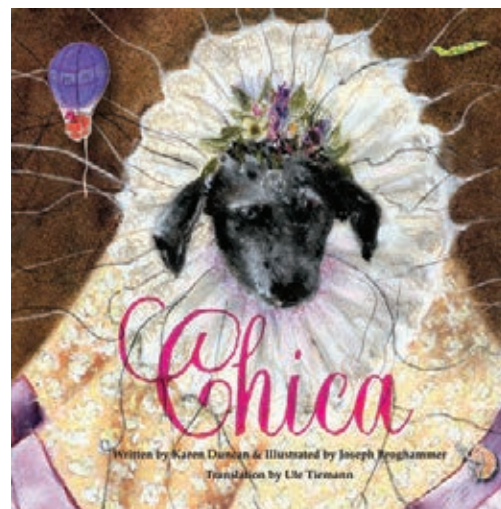
Chica, a Tale with Aviation Ties

Karen Duncan, wife of Robert Duncan, Chairman Emeritus of Duncan Aviation, recently published a children's book about the family's beloved dog, Chica.

Chica joined the Duncan family 13 years ago when she found Karen near the El Tajin pyramids in Mexico. The stray eventually came to the United States through legal channels and now regularly travels by business jet. Chica is written in Spanish and English and brings attention to Mexican cultural events and places.

The book was published through the Clarinda Carnegie Art Museum, which is a nonprofit organization founded by the Duncans. Half of the book's \$20 purchase price goes to the museum.

Signed copies are sold at Duncan Aviation FBO services locations. For each \$20 book purchased at our Battle Creek and Kalamazoo, Michigan; Lincoln, Nebraska; or Provo, Utah; locations, we will donate an additional \$10 to the International Aircraft Dealers Association (IADA) Business Aviation Scholarship fund.



A Robust Intern Program

This summer, Duncan Aviation welcomed a total of 37 production interns to our three full-service facilities. Each year, we offer summer internships that allow students the opportunity to learn more about us and explore possible career paths in business aviation. Besides being paid for the summer, eligible interns receive a housing stipend and the possibility of a full-time job offer.

The number of interns has risen consistently from 17 in 2017 to 30 in 2018 and 37 in 2019. In 2018, Duncan Aviation made full-time employment offers to 12 of its 30 interns. To learn more about our internship opportunities, check out www.DuncanAviation.aero/careers.



AC Sales Dealmakers

Tim Barber and Jose Costas, who provide Aircraft Sales and Acquisitions services for operators in Europe, the Middle East, and Africa, were recognized by Corporate Jet Investor as two of the publication's Top 30 International Dealmakers.

Corporate Jet Investor surveyed more than 6,000 people in its search for the Top International Dealmakers with the qualifications being dealmakers who initiate deals and conduct jet transactions, reflecting the unique role of brokers and aircraft advisors.



Tim Barber and Jose Costas



Team Member Growth

Scott Stoki was recently named the new Engine Overhaul Manager. In this position, he oversees the day-to-day operations of our turbine engine maintenance facility located in Lincoln, Nebraska.



Scott Stoki

John Petersen is the new Regional Manager for the Northwest region of the United States. As an 11-year resident of Puyallup, Washington, John brings with him a vast knowledge of the area and strong relationships with many of our customers.



John Petersen

Luke Swager has transitioned to Manager of Customer Service for our Battle Creek location. “I truly enjoy being a part of a team whose passion is to build relationships,” he says. “It’s also great to help grow the team that communicates with our customers and provides them with such incredible work.”



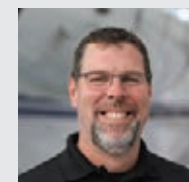
Luke Swager

Joe Cugnetti has joined the Aircraft Service Sales team as a Bombardier Service Sales Representative located at our Battle Creek facility. In this position, he will use his airframe technical experience and knowledge to help Bombardier operators plan and schedule maintenance for their aircraft.



Joe Cugnetti

Michael Kussatz is the new Regional Avionics Sales Manager, supporting avionics install sales for our East Coast Satellite Avionics Shop network. Having grown up in aviation, Michael has more than 26 years of experience working in the industry.



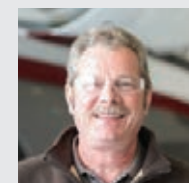
Michael Kussatz

Trevor Yuschyshyn is our new Regional Manager Representative for Canada. A lifelong resident of Calgary, Alberta, Trevor brings more than 23 years of aviation experience and knowledge to his new role.



Trevor Yuschyshyn

Jeff Schipper is now the Manager of Modifications at our Provo location where he provides leadership for the Interior, Avionics Install, and Avionics Line departments. In this new role, Jeff plans to build on the already strong base team, increase equipment capabilities, and help the team prepare for the completion of the facility's backshop areas in early 2020.



Jeff Schipper



ALTO Cadence CMS Install

We recently installed an ALTO Cadence Cabin Management System (CMS) and speaker system in a Challenger 604. The ALTO system was a perfect solution for this customer, who did not want to replace the existing switches with touchscreen cabin controls.

“Although the switches that were in the Challenger were no longer supported, the switches for the Cadence system fit in the Challenger’s existing cutouts, which saved the customer time and money because we didn’t have to perform a series of interior modifications,” says Avionics Sales Representative Justin Vena. “The ALTO Cadence is an affordable, scalable CMS for customers who like the retro look and tactile sensation of actual switches.”



Karen K Duncan Scholarships

For more than 20 years, Duncan Aviation has advanced the futures of students through the Duncan Family Trust’s Karen K. Duncan Scholarship program. In the years since we started this program, 322 scholarships totaling \$1,792,000 have been awarded.

We recently announced 20 new recipients for the fall of 2019. The following students from local communities received the 2019 scholarships that together could total up to \$80,000:

- Quincy Bashore, daughter of Paula and Michael Bashore
- Zoe Bohaty, daughter of Barbara and Philip Bohaty
- Sarah Bujarski, daughter of Sachie and Jeffrey Bujarski
- Simon Dang, son of Thuy Nguyen and Trung Dang
- Matthew Duhs, son of Kathy and Jason Duhs
- Morgan Framke, daughter of Aimee and Jeff Schlegel
- Kennedy Goldsmith, daughter of Jeanine Edwards and Michael Goldsmith
- Macy Homes, daughter of Kim and Brian Homes
- Cole Huss, son of Jennifer and Ryan Huss
- Wyatt Loga, son of Tammy and Martin Loga
- Angelina Nahorny, daughter of Shannon and Alex Nahorny
- Kylie Marie Ohrt, daughter of Melissa and James Ohrt
- Morgan Osmera, daughter of Jessica Johnson and Thomas Osmera
- Joshua Palensky, son of Mary and Gregory Palensky
- Sara Robson, daughter of Nancy and Mitchell Robson
- Whitney Scherer, daughter of Tammi and Matt Scherer
- Thomas Vue, son of Celina and Cha Vue
- Samantha Warren, daughter of Lydia and Shane Warren
- Josh Williams, son of Amanda and Louis Williams
- Colby Young, son of Andrea and Kirk Keller



*Lincoln, Nebraska's
Scholarship Recipients*

WMU Endowment for Aviation Scholarship

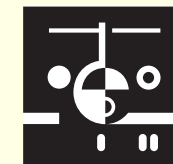
The Duncan Family Trust has gifted \$56,000 to Western Michigan University for the ongoing annual award of a Duncan Aviation Maintenance Scholarship.

With this endowment gift, WMU will make available an annual scholarship of up to \$2,500 for a student enrolled in the university’s four-year aviation maintenance program. In addition to receiving the scholarship, the chosen student will participate in a paid internship program at our Battle Creek location.

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OPPORTUNITY TO LEARN,
GROW, AND SUCCEED.
- BRAD WALES, ENGINE LINE
ASSISTANT MANAGER**



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