

A publication of Duncan Aviation

# Duncan Debrief

Fall 2014



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Todd and Connie Duncan with their twin sons Harrison (left) and PK (right).

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In one spot, we provide the latest in Duncan Aviation news, industry trends and technical questions.

## From the Chairman Todd Duncan

### Doing the Right Thing for Our Customers, Our Facility and Our People

Investing. It's a bit of a gamble, but if done well, the rewards are worth the risks. At Duncan Aviation, we invest in our facilities and our people. We know those key elements lead to an incredible customer experience.

### Our Facilities

As part of our strategic plan, we invested \$100 million in updating and improving our facilities during the past 10 years and plan to invest another \$100 million during the next decade.

Two years ago, customer requests and the trend toward larger, long-range business jets resulted in the building of a larger, more modern paint facility. Once it was complete, we considered our maintenance hangars. They were full. Actually, they were bursting at the seams. We knew we needed more space to meet customer demand.

So we built an additional hangar facility. Yes, it was a huge investment during a time when the economy wasn't booming. Yes, it was a bit risky. Yes, we chose materials that would make the facility environmentally responsible.

The first hangar bay opened in January. The second was complete in May. Since then, the new hangars have been full of large business jets while our recently updated older hangars still service the light and very light jets. It's already apparent the addition was vital to remain flexible enough to provide services for our customers.

### Our People

In order to provide the best customer service, we also need to invest in our people. By providing a great work culture, maintaining a focus on wellness and safety and investing in the proper training, our team members will benefit professionally and personally. They will also make careers at Duncan Aviation and provide a wealth of knowledge and experience to our customers that they simply can't find elsewhere.

So far, that belief has worked, evidenced by the fact that we have 245 people in our Silver Wings Club, which honors those who have dedicated 25 or more years to the company.

In order to provide top-notch service, we need to be up-to-date on all aircraft training. That technical training accounts for a large portion of our training budget. The rest is dedicated to training leaders, helping our team members move into new, more diversified roles and broaden their knowledge.

Besides the traditional technical and "soft skills" training, we have a subsidy program that reimburses team members for some of the expenses they occur when obtaining private pilot licenses and instrument ratings. After all, Duncan Aviation was founded with a passion for flight, and we want team members interested in flying to have the opportunity to do so.

When I reflect on the business we have built around our passion for aviation, I see proud team members, an immaculate facility and customers who love their experience so much that they refer friends and colleagues. That tells me we are doing the right thing. We will continue that tradition, because we are Duncan Aviation. 



## A New Skyline at LNK

Just as our maintenance hangars rose up and changed the face of our Lincoln, Nebraska, location, we're always looking for ways to take our processes to the next level, to rise to the occasion and exceed our customers' expectations.



Nearly 20 months after Duncan Aviation broke ground on a new maintenance hangar complex at its Lincoln, Nebraska, facility, the hangar is bustling with activity.

The 175,000-square-foot facility, comprising of two 40,000-square-foot maintenance hangars and 95,000 square feet of office and shop space, provided even more shop and work area for services that cover most business aircraft.


The expansion was needed to meet customer requests and changing customer needs.

"We needed the additional hangar space to stay flexible enough for all of our customers. Before, we might not have been able to schedule a long-range jet for a smaller job because we already had several light jets with full interiors and airframe inspections scheduled," explains Chairman Todd Duncan.

As the industry continues to shift toward larger business aircraft, a trend fueled by technological advances and increased globalization, Duncan Aviation's previous hangars were unable to accommodate the volume of maintenance, modifications and completions work our customers require.

"The additional space let us rework some of our service logistics and create a more efficient work environment, consequently providing better service to our customers," says Todd. "We've also been able to accommodate more drop-ins."

Though the entire structure wasn't officially open until May 2014, the north hangar was complete and full of aircraft in early January.

"To properly prepare for the opening, we strategically located, hired and trained additional technicians throughout 2013, building up our teams," says Airframe Services Manager Chad Doehring. "We've continued to do so the same this year." 

# For the Team

We strive to be the best, 100 percent of the time. We want each customer to tell us the service we completed for them was outstanding, and that's why they return time and time again.



## Coordinate Capabilities

During Team Leader Troy Nail's 13 years at Duncan Aviation, he's seen a lot of changes—and one immediately recognizable change is the size of the facility. His Challenger airframe team was one of the first to start work in the new maintenance hangar.

As Duncan Aviation has grown and expanded over the last 58 years, the company added buildings and hangars all around the Lincoln Airport. With the investment in the new hangars, all areas of the company were evaluated and a plan to reorganize and relocate departments and teams for more efficient workflow was developed.

For example, the Bombardier Challenger and Global airframe teams will pair up in the south hangar bay (Hangar H) and Dassault Falcon teams will share resources in the north hangar (Hangar G).

"It just makes sense to have the same programs together so we can share tools, equipment and other resources," says Troy.

Troy says before the move, with aircraft spread among six hangars and schedules changing by the minute, it was difficult to ensure each technician had the tool he needed when he needed it. Now, with hangars grouped by aircraft make and model and increased supplies, the necessary tools are a few feet away instead of a few hangars away.

In addition to the scheduling and team changes, the facility itself is much more comfortable to work in. Heated floors make for a much warmer environment during bitter Nebraska winters, and the LED lighting combined with the skylights and abundant windows create a lighter and brighter space.

Of course, customers are requesting faster and faster turntimes on their aircraft. And more aircraft in general

means more team members, so Duncan Aviation is capitalizing on all its resources to turn aircraft in record time. Not only is the company adding team members, it is changing hours for several existing team members, allowing for more work to be done on second and even third shifts.

"We're increasing the size of our teams so we can have more people work on the second shift," says Troy. "Adding more skilled technicians to alternative shifts helps ensure we complete an aircraft on or before the delivery date."

## Engine Expertise

With the reorganization of teams, Duncan Aviation's new hangar facility also provides the engine line shop with its own dedicated space. Previously, engine line mechanics worked on the hangar floor; they now have their own custom 4,050-square-foot shop. (In addition to the 20,000 square foot TFE731 engine MPI shop.)

"Now when aircraft come and go, the aircraft hangar moves don't affect us. We don't have to move; we can just keep everything in one location until the job is done," says James Prater, manager of turbine engine services.

After just a few months, James says he's seen significant increase in work efficiency. The new shop space provides a dedicated place for engines to be torn-down and built up that is free from unnecessary interruptions.

That extra time has allowed technicians to focus on customer service and faster turntimes.

"More and more in-house customers are stopping by the shop to see their engines. I'm available to answer their questions or assist the engine techs with a project. Then I'm right back on the phone answering questions from customers who call in," says Shawn Schmitz, turbine engine tech rep. 📞

Duncan Aviation team members celebrated the maintenance hangar expansion with a variety of business aviation partners on July 15 with a full day of informational sessions, tours of the campus and visits with industry vendors and OEMs. The event concluded with an evening reception with music, food, drinks and socializing.





# TOP-NOTCH Training



In addition to ensuring knowledgeable and well-trained technicians work on the aircraft our customers have entrusted to us, Duncan Aviation is committed to providing a safe work environment for its team members. Toward those ends, Duncan Aviation invests in training—nearly 20 hours of training per team member per year.

“Our budget for this training covers everything from showing team members how to properly fit and use a respirator to teaching techs how to fix certain engine models,” says Professional Development Team (PDT) Manager Lance Odom.

### Required Training

Duncan Aviation’s PDT devotes a significant portion of its budget to enhancing team members’ technical skills. Some training fulfills mandates set by the Occupational Safety and Health Administration (OSHA), the Federal Aviation Administration (FAA) and the European Aviation Safety Agency (EASA). Other training in this area meets and exceeds requirements established by service agreements and contracts Duncan Aviation has with aircraft manufacturers and customers.

For example, Airframe Tech II Mike Trebelhorn went to Dallas, Texas, earlier this year for two weeks of Learjet 60 training. Mike’s team leader,

Darwin Godemann, an airframe master technician with 35 years of experience at Duncan Aviation, engages new airframe team members in basic hands-on experience with some of our equipment, processes and materials. His orientation training allows them to be more productive when they initially join their assigned teams.

Fred Most, believes training adds value on many levels.

“Training boosts the morale of the entire team and shows our customers that we have the Learjet training necessary to work on their aircraft,” says Fred. “Investing in our team members, especially our younger techs, is so meaningful. It tells the team and the tech that Duncan Aviation cares about us and our work, that the company is willing to invest this time and money in us to add value to our team. It helps team members buy in and gives our customer confidence in our abilities.”

Lance explains that very little production time is lost to training. “We make sure everyone who needs it gets the required classroom time, but we don’t take folks off the floor for more than an average of one percent of their total time,” says Lance. “We’re committed to ensuring that our highly skilled team members maintain their certification and receive the training they need, and we’re also determined to honor the deadlines and delivery dates we promise our customers.”

### Professional Training

Duncan Aviation team members are encouraged to explore classes designed for professional growth. Internally, the classes are taught by Duncan Aviation’s senior management team, professional development team or Human Resource specialists. Other courses are self-paced and available online through the company’s computer system. Externally, courses are also provided through partnerships with organizations,

such as Kaplan University, Southeast Community College, FlightSafety and Global Jet Services.

Human Resources and PDT specialists teach classes to raise team members’ awareness of cultural differences (Communicating Across Cultures), hone communication skills (Crucial Conversations) and calmly deal with potentially dicey situations (Performance Documentation & Progressive Discipline and Legal Issues).

Emergenetics and Leadership Dynamics are two in-depth classes taught and supported by the senior managers at Duncan Aviation. These classes promote a greater understanding of oneself and others throughout the company. Although people with many personality types work at Duncan Aviation, team members are often highly structured and tend to think analytically.

Leadership classes promote an understanding of different leadership styles and show how to harness those styles to effectively motivate and empower the various personality types of team members. Excerpts from these classes were presented by Duncan Aviation at last year’s NBAA convention.

### Training Reimbursements

Full-time team members who have been at the company for one year or more may also qualify for up to \$2,500 in tuition reimbursement annually. Qualifying classes need to apply toward a college degree and pertain to a team member’s job. Duncan Aviation also



reimburses up to \$3,000 for the cost of a private pilot license or instrument rating. Each year, Duncan Aviation spends about \$90,000 to reimburse team members pursuing degree-based classes and pilot licenses.

Through training, Duncan Aviation maintains compliance with various government agencies. However, training confers other, less quantifiable benefits on the organization, too, by helping team members feel more engaged and invested in. The company firmly believes that engaged employees will provide the best customer service and work hard to meet customer requests and needs.

“It’s important that team members feel valued and take pride in their roles at Duncan Aviation, and investing in their professional growth is a way we can build and foster those feelings,” says Lance. “We believe this is something that has a direct effect on the customer.”



# ON-TARGET TURNTIME

## ON-TARGET TURNTIME: 21-DAY C CHECK

The Duncan Aviation 21-day 1C inspection can be offered to operators with a Falcon 2000EX or 900EX series, using a standard Dassault Chapter 5 inspection program and a minimum two-month planning process.

Operators who take advantage of this offer can choose some additional work to be performed with the inspection without increasing turntime. Additional work can include Falcon Wing Tank Modifications, avionics installations and interior items. ✈️

RJ Riedel  
Falcon Crew Lead



**W**hen launching a rocket, every portion of the project must be planned and executed perfectly. And when things don't go exactly by the book, those in charge of managing the launch must have the flexibility, knowledge and authority to choose the best options from all available strategies.

At the core, rocket launches are not that different from business aircraft service projects. Squawks, parts availability, schedule changes, and additional work are all thrown at the typical project teams working on business aircraft in Duncan Aviation's hangars. Yet these teams know they need to find and explore all options and strategies to complete the projects when promised. After all, aircraft schedules are so vital that many CEOs, maintenance managers and flight directors cringe at the thought of putting an aircraft down for maintenance.

Based on customer requests and feedback, Duncan Aviation developed efficiency initiatives with the goal of reducing project turntimes and getting customers back in the air on their promised delivery date. Just as important as the faster turntimes, though, is the company's excellent project management record and the fact that Duncan Aviation completion dates really do mean out-dates for the aircraft.

### ON-TARGET TURNTIME

"One of our main goals for 2014 was to increase project efficiency and cut days off of major airframe work. This gets our customers back in the air faster. However, we keep our excellent customer service and same great quality work," says Dale Hawkins, a Falcon service sales representative for Duncan Aviation.

The first project under this plan was a Falcon 2000EX recently completed at Duncan Aviation. The workscope—a

1C Check inspection and due items, along with EASy II provisioning—was completed in just 21 days. That's a full *seven days* shorter than the typical Duncan Aviation turntime for that inspection. And that means the customer's asset was ready for use again a full week earlier than usual.

The on-target C Check was completed with lots of forethought and planning by Falcon crew lead RJ Riedel and his teams located at the company's Battle Creek, Michigan, facility. The same methods used to maximize efficiency on the project are repeatable for similar projects at other locations.

To meet the turntime goal, RJ and his team focused on efficiency and planning. They planned for necessary tooling, parts and support equipment to be available and ready when they needed it. They shifted their work schedules, changing technician hours and implementing staggered breaks and

alternate shifts, allowing the aircraft project to be in work nearly 24 hours a day. And they took advantage of tools like electronic work order enhancements and a smooth and pre-approved path for potential squawks, all with the goal of giving technicians uninterrupted time to complete the work.

"The energy on this project was amazing," RJ says. "All of the team members were excited to work on this, and we kept the promised delivery date in mind at all times while ensuring we kept our work standards at Duncan Aviation quality. We are able to deliver such top quality because we have dedicated team members who understand the value of time to our customers and who take pride in their work and our finished product."

RJ goes on to say the team was acutely aware that their work on this inspection was ground breaking.

"This particular project's turntime set a new standard for the industry,

along with a remarkable effort from the avionics installation teams to keep pace with the EASy II provisioning," Dale says. "The efforts of our teams to take the goal of reducing C Check turntimes and turn it in to a success story are astounding. Their creativity and follow-through is a great lesson and shows why Duncan Aviation technicians are a class apart from the norm."

In order to be counted as a true success, though, a project needs to be successful from the eyes of the customer.

### ON-TARGET CUSTOMER SATISFACTION

John Johnson, director of maintenance for LJ Aviation in Latrobe, Pennsylvania, and operator of the Falcon 2000EX, was committed to support the project from his end. He understood the importance of timely approvals during the event. By utilizing his myDuncan account, he was able to

provide immediate approval for most squawks and monitor the project daily.

"Time is everything," he says. "The time an aircraft is down is time it is not making money and serving our customers. That Falcon 2000EX has a steady schedule, so we were excited about the 21-day plan.

"However, timing is nothing if the work isn't safe. Safety is our top concern. We went over the process with Duncan Aviation, and we were comfortable that the proper procedures would be followed and the great quality they've provided on other projects would extend to this one as well. We ended up with the full package—fast turntime, high quality, excellent paperwork and great customer service."

Excellent project management, constant corrections by the technical teams to keep work on-target, and committed customer support and planning helped launch this 21-day Falcon C Check and get the aircraft on its way when promised. ✈️

# RED CARPET SERVICE

DUNCAN AVIATION PROVIDES INTERIOR SERVICE IN THE CUSTOMER'S HANGAR.



Keith Lang, Hagadone Corporation's aviation director and chief pilot, wanted the carpet replaced in his company's Gulfstream IV. Hagadone is a privately held company with operations that include hospitality, golf, restaurants, real estate, media and publishing, advertising, photography, marine and aviation.

Their aircraft stays busy flying many hours across the United States and around the world. And when it comes to interior refurbishment, such as carpet, it is not always worth the downtime and flight cost to have it addressed immediately.

Because of this tight flight schedule, Keith was looking for a facility with the most efficient downtime at the best value and performed at the highest quality. He wanted a creative solution.

Alan Huggett, Duncan Aviation's Northwestern regional manager, had one.

While making a stop in Coere d'Alene, Idaho, to see Keith, Alan learned the Hagadone Gulfstream was in need of new carpet. Keith asked him to have someone call with more information and a quote for service. Alan immediately called Dan Malone with the lead, knowing it was the right time, price and event for Duncan Aviation.

Dan Malone, interior completions crew leader for Duncan Aviation in Provo, Utah, saw this as the perfect opportunity for his team to go mobile. The workscope didn't require any seat reupholstering and could be performed in the customer's hangar.

Dan contacted Keith and suggested he bring Duncan Aviation's interior services to the Hagadone hangar. Keith liked the idea and after a little bit of negotiating, a date was set for the work to begin.

In preparation for the roadtrip from Provo to Coeure d'Alene, Dan shipped the necessary equipment ahead. When he and Interior Completions Technician Dennis Peterson arrived, they began work immediately.

"DUNCAN AVIATION'S INTERIOR SERVICE WAS FIRST RATE FROM THE VERY BEGINNING. THEY [DAN AND DENNIS] WERE PROFESSIONAL IN EVERY ASPECT FROM THE MOMENT GO. WORKMANSHIP AND ATTENTION TO DETAIL IS PARAMOUNT WHEN IT COMES TO MEETING OUR EXPECTATIONS AND THEY WERE ABLE TO DO SO."

<< KEITH LANG, AVIATION DIRECTOR AND CHIEF PILOT, HAGADONE CORPORATION



DAN MALONE  
INTERIOR COMPLETIONS CREW LEADER

On a GIV, carpet extends 45 feet from behind the cockpit all the way back to the lav and baggage compartment. That is a long piece of carpet. They spent several days binding and sealing the edges with epoxy to prevent fraying and installing the carpet in the aircraft, making sure the seams were tight and edges secure.

When they stood back and were satisfied with their finished work, they immediately uninstalled it and started all over. You see, Keith didn't want just one carpet, he wanted two sets.

The carpet is swapped out every 12 months to reduce carpet wear and increase its life.

At the end of nine days, Dan and Dennis had installed 70 yards of carpet. That's a lot of carpet in a short amount of time.

The Hagadone Corporation is founded on the ethics of hard work, attention to detail and a relentless drive for excellence in all things. Keith recognized a similar work ethic in Dan and Dennis and was pleased with the overall result.

"Duncan Aviation's interior service was first rate from the very beginning. They [Dan and Dennis] were professional in every aspect from the moment go. Workmanship and attention to detail is paramount when it comes to meeting our expectations and they were able to do so," says Keith.

He also mentions having Duncan Aviation bring interior services to Hagadone gave them the ability to monitor the process and make quick decisions, resolving any unforeseen issues as they arose. It also allowed the Hagadone aviation maintenance department to continue performing routine maintenance during the time the aircraft was down.

Having a creative solution for a customer need separates Duncan Aviation from the rest.

Keith agrees. "In the event there comes a time to do additional interior refurbishments, Duncan Aviation will be the first phone call." 📞

## INTERIOR SERVICES ON THE ROAD

All of Duncan Aviation's locations are able to offer the following aircraft interior services in a customer's hangar:

- >> Full carpet
- >> Finish touch-up
- >> Upholstery repair
- >> Light upholstery

### R&R

With adequate space and ventilation, Duncan Aviation can also recover panels with soft goods.

And within the next year, Duncan Aviation will be able to recover soft goods and provide a full finish. 🛠️



# CREATING A BUSINESS TRAVELER'S CABIN

A few thousand miles in a couple of hours—it's an itinerary impossible to keep using any other mode of transportation.

Business aviation connects the world in a way that's unthinkable if attempted commercially. And within the business aviation community, customers and corporations have a variety of needs. Some fly weekly with large groups of passengers. Others fly daily with one or two individuals. Regardless, this tool increases productivity and allows businesses that wouldn't otherwise have a global presence access to that ability.

Even in a continually connected world with Skype and cell phones, that face-to-face meeting and tangible handshake cannot be replicated. That's why one customer came to Duncan Aviation's Battle Creek, Michigan, location with his Bombardier Global Express and requested we convert it into his own flying hotel room and office.

"Our customer essentially lives on his aircraft. He is constantly flying from one meeting to another, so he needs a place to work, rest and reboot," explains Designer Lori Browning.

"We completed many reconfigurations in the cabin to give our customer the storage space he needed."

## Immaculate Interior

Interior reconfigurations and design updates allow for some of the most creative modifications in an aircraft. Add Duncan Aviation's in-house engineering team to the mix, along with the company's Organization Designation Authorization, and we can make pretty much anything a reality.

As one of the most frequently flown Global Express aircraft in the world, this exceptionally





“It was essentially a brand new aircraft by the time we were done, and there’s nothing out there quite like it.”

Rockwell Collins Venue Audio/HD Video Entertainment and Cabin Management System



EMTEQ Quasar II Cabin Upwash and Downwash Lighting

mobile jet needed to be highly personalized for the individuals who spend countless hours on board.

“We completed many reconfigurations in the cabin to give our customer the storage space he needed for a wardrobe and everything else one needs when they travel constantly for business, while still retaining enough seating for other passengers,” says Lori.

After completing the aircraft’s required 2A and 1C inspections, Lori and a team of engineers worked to remove two club seats toward the rear of the aircraft and added an entertainment cabinet with a counter and drink ledge. In the mid-cabin area, they swapped out a single seat and work station for a credenza to increase storage space. Along with all of these changes, the look and feel of the cabin’s interior was updated. The aircraft started with a very warm color scheme—creams and red wood—and the final scheme used high-contrasting dark wood and taupe.

With this color swap, the owner decided to add new seats, new veneer, install electric windows with a single-control panel and reconfigure the PSUs, as well as the switches.

“It was essentially a brand new aircraft by the time we were done, and there’s nothing out there quite like it,” says Lori.

## Avionics

Avionics can subtly add to the comfort of an aircraft cabin as well as create the perfect work environment for a business aviation traveler. Choosing the right combination isn’t an easy task. Nearly every aspect is customized in one fashion or another.

After milling over numerous options, the customer went with a Rockwell Collins Venue Audio/HD Video Entertainment and Cabin Management System, an HD-capable, touchscreen-controlled system.

While adding this upgrade, the customer also decided on EMTEQ Quasar II cabin upwash and downwash lighting. It was the first time these two options had been combined, so Duncan Aviation worked with Rockwell Collins and EMTEQ to ensure the two systems operated seamlessly.

“It’s always a challenge to set a precedent when installing new systems, but the customer chose

this combination because it was the best option for him, so there’s a great sense of satisfaction in making it work,” says Avionics Sales Representative Justin Vena.

The installation also included an Alto Technologies Audio System, which was the icing on the cake.

While the CMS works well for entertainment purposes during downtime, for a business aviation traveler, the data network, wireless and wired options make the cabin an airborne office.

To view Duncan Aviation’s review of the Rockwell Collins CMS, visit [www.DuncanAviation.aero/videos/CMS\\_review](http://www.DuncanAviation.aero/videos/CMS_review).

## Customer Satisfaction is Key

When a project is slotted for more than five months, it’s difficult to keep a multi-shop project moving like a well-oiled machine.

That’s where Project Manager Dominic Buschini comes in. At Duncan Aviation, it’s the project manager’s job to watch the project schedule and ensure we deliver the aircraft on time, regardless of hiccups or delays outside of Duncan Aviation’s control.

“We delivered on March 25, just as promised,” he says.

While project managers are an added value Duncan Aviation has boasted for years, one part of the process that has changed is how much is done in-house.


“The more we do here, the more we have control over how long it will take. We plan ahead for our customers and we have a vested interest in hitting deadlines,” explains Dominic.

“Being able to engineer and certify in-house makes the process faster,” says Lori.

And as Duncan Aviation adds another customer to the ever-growing list of thousands of delivered aircraft, the process becomes more streamlined.

“Each one is better. Each one is smoother. Each one teaches us something,” says Lori.

Along with that growing bank of knowledge come content customers.

“When I receive an e-mail from the Director of Maintenance that the customer ‘loved the aircraft’ and was ‘incredibly impressed with the final result,’ that’s when I know we’ve done everything right,” says Dominic. 

## Dates You Need To Know

### Deadlines For NextGen Mandates

OPEN TO VIEW TIMELINE



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### Cost/Benefit Analysis of the Upgrade

When you consider the cost of upgrading your avionics equipment and are tempted to take advantage of the exemption, be sure to weigh the following factors and remember that you'll usually be flying these routes at night.

Without the upgrade, you will:

- Fly outside the six, optimal tracks
- Use more fuel per trip, increasing costs
- Fly less safe routes—less situational awareness from flying crowded routes at night, relying solely on sight as opposed to air-traffic control (ATC) guidance
- Experience flight delays—priority is given to aircraft that are in compliance

If you go with the upgrade, here are a few of the benefits—tangible and intangible:

- Faster flight times—priority given to aircraft in compliance
- Use one of the six North Atlantic tracks (NAT), increasing fuel efficiency and time
- Enhance safety with constant pings from ATC 

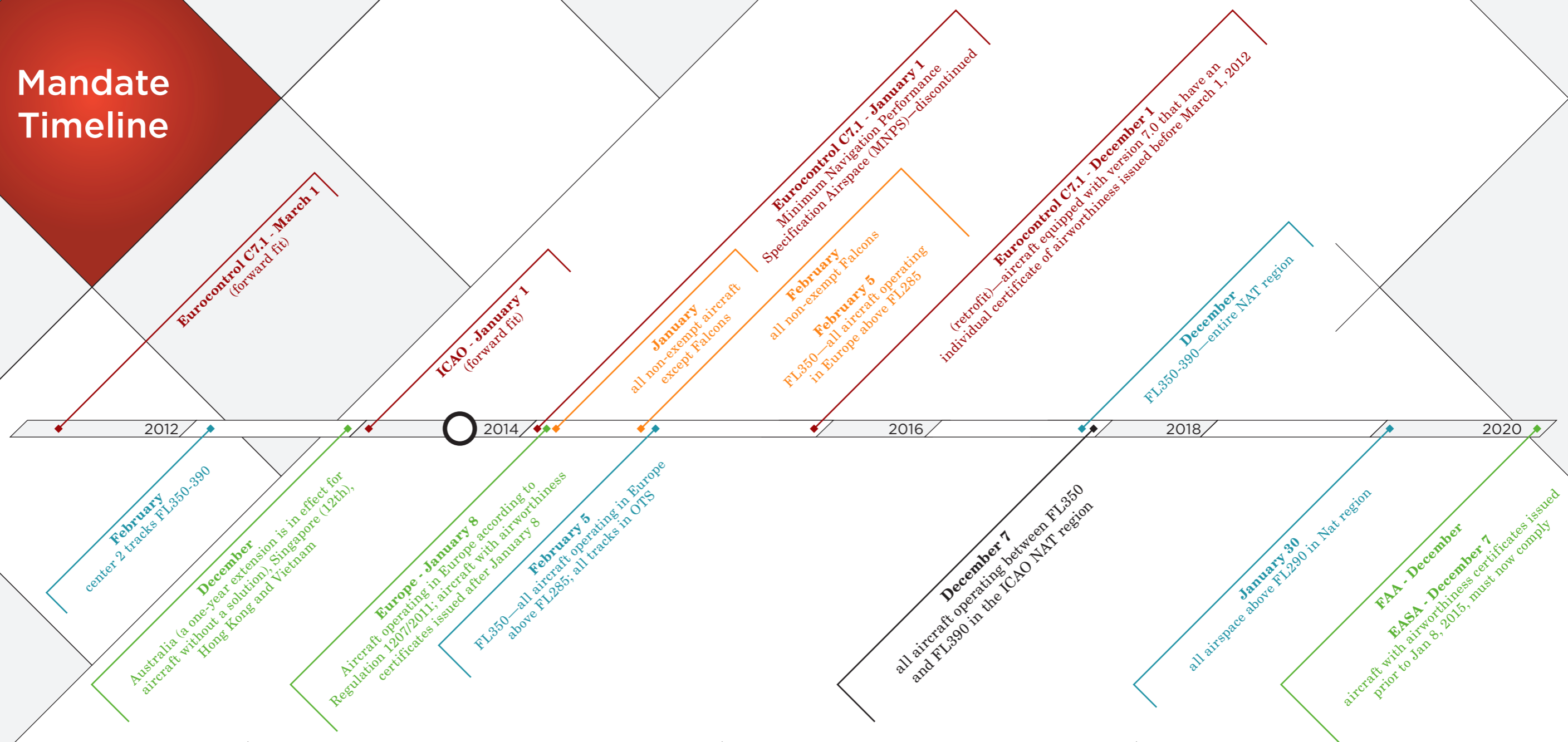
DOWNLOAD STRAIGHT TALKS  
[www.DuncanAviation.aero/straighttalk](http://www.DuncanAviation.aero/straighttalk)

# Mandate Timeline

DUNCAN  
AVIATION



AS OF 9/5/2014



## ADS-B Out

Automatic Dependent Surveillance-Broadcast (ADS-B) gives aircraft the ability to transmit messages that are properly formatted to air-traffic stations on the ground and ADS-B In-equipped aircraft within 150-nautical miles. This provides highly accurate (within one mile) position reporting to properly equipped aircraft and air traffic control (ATC) over land.

## FANS

Future Air Navigation System (FANS) North Atlantic Organized Track System (OTS)—Each set has four to seven parallel or nearly parallel tracks, positioned according to prevailing winds.

FANS standard of communication that uses Next Generation technology to improve communication (Controller-Pilot DataLink Communications—CPDLC) and surveillance (Automatic Dependent Surveillance-Contract—ADS-C) during flights over remote areas, including oceans.

## FANS 1/A, CPDLC & ADS-B

## ATN-B1-CPDLC

Aeronautical Telecommunication Network-Baseline 1-Controller Pilot DataLink Communications (ATN-B1-CPDLC)—European Aviation Safety Agency (EASA) this allows aircraft crews to communicate with air traffic control (ATC) centers using datalink messages, which are similar to text messages. Initially, the messages will complement traditional very high frequency (VHF) communications; eventually, the datalink messages will replace VHF.

## TCAS II 7.1- EASA

Traffic Alert and Collision Avoidance System (TCAS), also known as the Airborne Collision Avoidance System, this alert system is designed to warn pilots of the presence of nearby aircraft. The system monitors the air around an aircraft for other transponder-equipped aircraft and warns the cockpit of a potential collision *and* gives them guidance on action to take to avoid the collision. The 7.1 upgrade specifically provides the ability to reverse commands to the flight crew. For example: If one aircraft is told to descend and the other to climb but they both descend, the TCAS onboard the aircraft that listened to the system will reverse the command to the affected aircraft and follow the directions to avoid a collision.

# Avionics NextGen Mandates: We Have You Covered

## Duncan Aviation Avionics Satellite Network

In addition to your everyday and AOG avionics needs, Duncan Aviation is a leader in the industry for avionics installations to meet upcoming NextGen Mandates. Duncan Aviation is where you are and where you need us.

This expertise and experience is exemplified by our Avionics Satellite locations. Located within 200nm of 90 percent of the 50 busiest general aviation airports in the United States, Duncan Aviation is where you are and where you need us. 

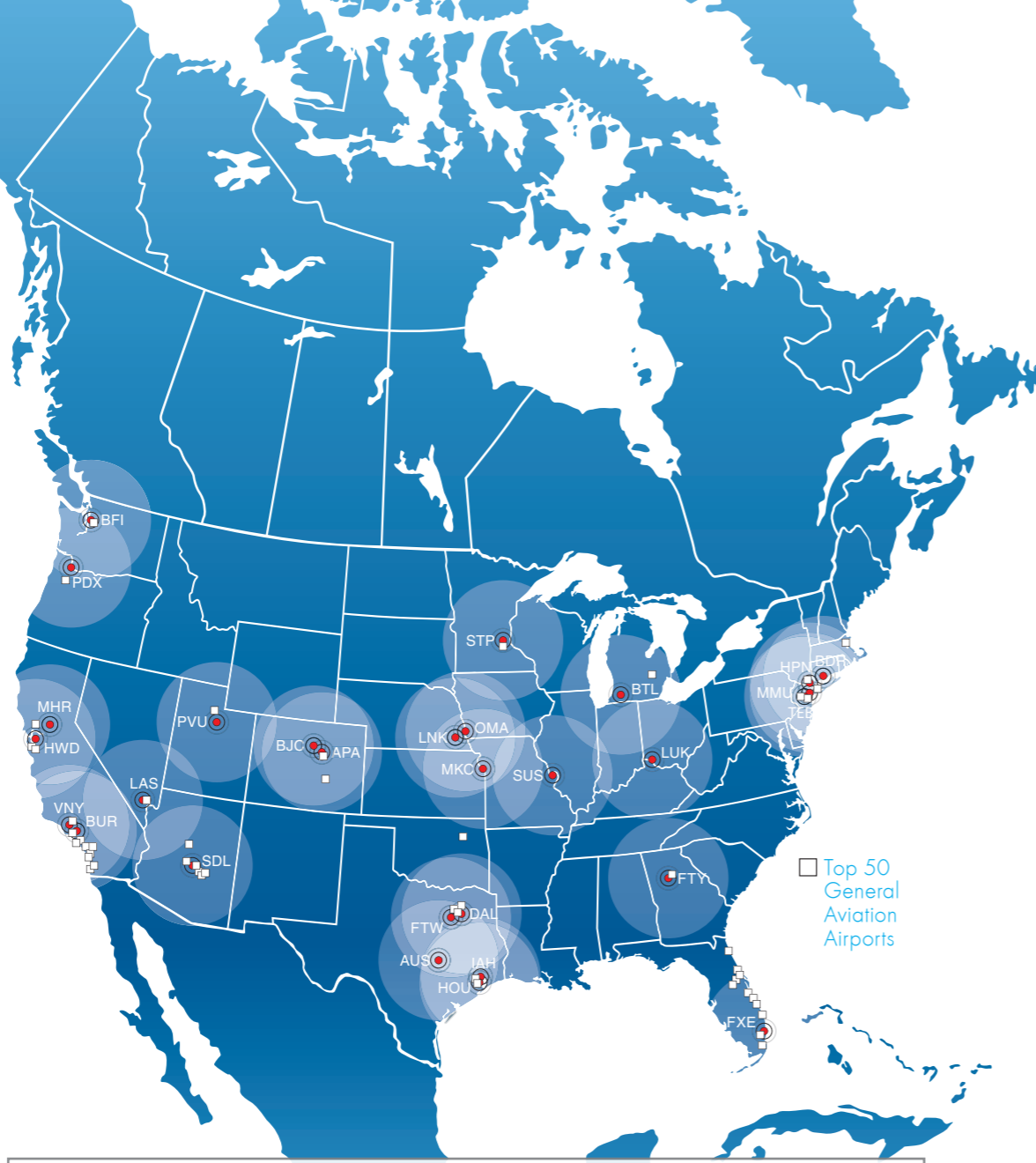
## Satellite Work Orders Opened in the Last Five Years

### Network As A Whole

56,798

### International Customers

1,024



## Featured Installs

- APA/BJC - Gulfstream IV: Aircell Axxess II with Gogo Biz® Wi-Fi install
- FXE - Broadband/Wi-Fi install on a charter fleet for flight in Caribbean
- HOU/IAH - Duncan Aviation's Wi-Fi STC for Learjet 45 aircraft was engineered in HOU on a customer's fleet
- MKC/SUS - Falcon 900B: Dual NZ-2000 6.1 software upgrade with WAAS/LPV in customer's hangar
- PDX - Global Express: First Inmarsat high speed data upgrade with Broadband/Wi-Fi router
- STP - Installing USB power port installations on a fleet of eight aircraft
- TEB/MMU - Falcon 2000: Broadband/Wi-Fi install
- VNY/BUR - Boeing 727: Future Air Navigation System (FANS) compliance including: Flight Management System (FMS), Universal UniLink, Iridium phone, Cockpit Voice Recorder (CVR), Traffic Alert and Collision Avoidance (TCAS) 7.1, Cobham SwiftBroadband and transponder (TDR) upgrades to Automatic Dependent Surveillance-Broadcast (ADS-B) DO260A

## Avionics Satellite Directory



### (FTY) Atlanta

**Edduyn Pita**  
Edduyn.Pita@DuncanAviation.com  
Mobile: +1 404.227.9766

Team Members: 3 | Years Experience: 52



### BDR/HPN (Bridgeport/White Plains)

**Bill Gunter**  
Bill.Gunter@DuncanAviation.com  
Direct: +1 203.386.0111  
Mobile: +1 914.830.4671

Team Members: 3 | Years Experience: 37



### LUK (Cincinnati)

**Bruce Miller**  
Bruce.Miller@DuncanAviation.com  
Direct: +1 513.873.7523  
Mobile: +1 513.384.9849

Team Members: 1 | Years Experience: 16



### DAL/FTW/AUS (Dallas/Fort Worth/Austin)

**Kent Beal**  
Kent.Beal@DuncanAviation.com  
Direct: +1 214.352.3468  
Mobile: +1 214.502.1265

Team Members: 10 | Years Experience: 243



### APA/BJC (Denver/Broomfield)

**Bob Hazy**  
Bob.Hazy@DuncanAviation.com  
Direct: +1 303.649.1790  
Mobile: +1 303.210.1668

Team Members: 16 | Years Experience: 335



### FXE (Fort Lauderdale)

**Brian Redondo**  
Brian.Redondo@DuncanAviation.com  
Direct: +1 954.771.6007  
Mobile: +1 954.410.1393

Team Members: 11 | Years Experience: 172



### HOU/IAH (Houston Hobby/Houston Bush Int'l)

**Mark Winter**  
Mark.Winter@DuncanAviation.com  
Direct: +1 713.644.0352  
Mobile: +1 713.539.7149

Team Members: 15 | Years Experience: 263



### MKC/SUS (Kansas City/St. Louis)

**Jeff Aman**  
Jeff.Aman@DuncanAviation.com  
Direct: +1 816.421.1836  
Mobile: +1 816.216.9440

Team Members: 6 | Years Experience: 162



### LAS (Las Vegas)

**Jack Robbins**  
Jack.Robbins@DuncanAviation.com  
Direct: +1 702.262.6142  
Mobile: +1 702.303.4217

Team Members: 5 | Years Experience: 119



### PDX (Portland)

**John Almeida**  
John.Almeida@DuncanAviation.com  
Direct: +1 503.287.7777  
Mobile: +1 503.703.5522

Team Members: 4 | Years Experience: 81



### MHR/HWD (Sacramento/Hayward)

**Scott Heath**  
Scott.Heath@DuncanAviation.com  
Direct: +1 916.231.0943  
Mobile: +1 916.224.4579

Team Members: 8 | Years Experience: 183



### SDL (Scottsdale)

**Jim Davis**  
Jim.Davis@DuncanAviation.com  
Direct: +1 480.922.3575  
Mobile: +1 480.390.6910

Team Members: 5 | Years Experience: 168



### BFI (Seattle)

**Mike White**  
Mike.White@DuncanAviation.com  
Direct: +1 206.764.3962  
Mobile: +1 206.255.2413

Team Members: 5 | Years Experience: 150



### STP (St. Paul)

**Tom Lieser**  
Tom.Lieser@DuncanAviation.com  
Direct: +1 651.209.8430  
Mobile: +1 651.755.3546

Team Members: 6 | Years Experience: 92



### TEB/MMU (Teterboro/Morristown)

**Jeff Glanville**  
Jeff.Glanville@DuncanAviation.com  
Direct: +1 201.288.1550  
Mobile: +1 201.697.1813

Team Members: 11 | Years Experience: 189



### VNY/BUR (Van Nuys/Burbank)

**Tony Russo**  
Tony.Russo@DuncanAviation.com  
Direct: +1 818.902.9961  
Mobile: +1 818.355.0761


Team Members: 8 | Years Experience: 167

## Meet Tyler



*Experience.*  
Unlike any other.

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

It's the people within a company who create such a strong brand. Duncan Aviation is an experience, unlike any other. We share stories like this one within the company daily as a reminder to all team members just how much our customers mean to us and what it takes to create that exceptional experience time and time again. 



When an aircraft is AOG and a component needs to be repaired or inspected, every minute counts. Duncan Aviation's shipping and receiving specialists work efficiently to ensure AOG parts get to the shop upon arrival and back to the customer when completed.


**Meet Tyler Lauer. Tyler and his team scan for AOG parts once FedEx delivers its typical daily shipment of roughly 200 boxes.**

Some AOG units have the official Duncan Aviation AOG sticker, while others take a moment to track down.

"Occasionally we have AOGs that have single-day turnarounds, so those need to get to the technician immediately," says Tyler. "It's one of those situations where a few minutes makes a difference."

Tyler gathers AOG parts, enters them into the computer system, tags them, reviews them for damage and immediately takes them to the service shop.

Because most customers call and speak with an avionics/instruments expert before shipping their part to the Lincoln, Nebraska, facility, there's already a tentative AOG work order in the system and a time slot scheduled with an experienced bench team member.

Once the service is completed and the unit is returned to service, Tyler is notified, packs up the part and ships it back to the waiting customer. 

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

## Meet Tracy



How does Duncan Aviation manage complex aircraft service projects to ensure they stay on time and on budget? With dedicated project managers.

**Meet Tracy Hein.**

Communication—it seems simple, yet a minor misunderstanding can account for hours or days of wasted time, especially in business aviation where the domino effect has serious repercussions.

Because Duncan Aviation recognizes the time and money saved when teams work efficiently, a project manager cares for every aircraft project that enters the facility.

Tracy Hein has managed a wide variety of projects in the past 20 years, but she approaches each aircraft service project the same way—with a lot of direct communication.

"It seems logical to keep all the teams on the same page, but when I have full interior, cabin management system (CMS) install, paint, airframe and a full cockpit upgrade, several teams would invariably like to be in the same spot at the same time, and it can get complicated really quickly," says Tracy.

Tracy says between meetings, emails, calendar updates, phone calls and being near the aircraft to coordinate, she's constantly reviewing the teams' processes to make sure they're utilizing time and space efficiently.


"With larger projects, toward the end, things can change by the hour," says Tracy. "I often have to take a step back and look at what we're doing through a variety of lenses before we, as a team, decide on the best approach."

They discuss what needs to happen first, what can happen later and walk through each step together. Tracy has the experience and knowledge to ask the right questions and pull together all the pertinent information.

The project manager is also the main contact for the customer. Tracy says setting realistic goals and immediately contacting the customer with both good and bad news is key.

"I never want to set false expectations for the customer, so I'm straightforward about what's happening," says Tracy.

She says it's rewarding to hear positive feedback from the customer and share the sense of satisfaction that comes with delivery day.

"It's really incredible to watch an aircraft that completed a large workscope on time and on budget fly away and know each of us played a pivotal role in its service success," she says. 

# Let's Chat

## Worldwide Parts Transactions in an Instant

“It’s a Small World” is no longer just a popular Disney song and attraction. It also accurately describes the world in which we live...small. We can thank technology for that.

Technology has had a major impact on how we live. Not only is the world smaller, but life moves faster, too. Things that once took hours or days to complete can be done in seconds. And communication has changed along the way. Long gone are the glory days of “snail mail,” and it could be argued that email isn’t fast enough anymore.

It is this life of convenience that feeds our desire for immediate access. If information is not instantly available, we move on and look elsewhere. In response, Duncan Aviation now provides immediate access to the information you need with Live Chat.

Live Chat is an instant message window providing immediate access to a Duncan Aviation parts and rotables expert who is able to answer questions and provide customers with fast parts quotes.

Duncan Aviation’s Parts & Rotables has always boasted 24-hour service every day of the year. The phones are always answered by a real person, no matter what time of day or night. The same people who answer the phones and conduct business are the same people who monitor the Live Chat windows. Chatters are not sent to a third party chat center.

Since this new feature was launched in January of 2013, customers have contacted us through 1,128 chat sessions from 63 countries. Its popularity continues to grow, especially with international customers in time zones around the world. And those who use it once enjoy the immediate response and typically use it again and again. 

### Salutations to Service in 10 Minutes!

Buying aircraft parts cannot get much easier than with Live Chat. Within just a few minutes, we can gather all the information we need and have your aircraft part on its way out the door.

The following is an example of a Live Chat.

|                        |  |
|------------------------|--|
| 11:26:49 AM [Joey]     | Hello. Thank you for contacting Duncan Aviation Parts and Rotables Sales. My name is Joey. How may I help you?   |
| 11:27:09 AM [Cecil C*] | Looking for cost on overhauled exchange P/N 4016341-903. Do you have rental/loaners available?   |
| 11:27:42 AM [Joey]     | What is your customer number?  |
| 11:29:19 AM [Cecil C]  | XXXXXX*  |
| 11:29:35 AM [Joey]     | Clymens Constant from Vilnius, Lithuania?  |
| 11:30:02 AM [Cecil C]  | Yes.   |
| 11:30:15 AM [Joey]     | I will be happy to check on that for you. One moment please. We have an overhauled exchange for \$1600. Other options for this P/N are repair and overhaul capabilities with loaners in stock. Overhaul costs are \$1,720 flat rate on labor plus parts. Loaner units are \$150 for the recertification fee. We can repair these units for \$875 plus parts as well. |
| 11:31:05 AM [Cecil C]  | Yes. I will take the overhauled exchange.  |
| 11:31:50 AM [Joey]     | Very good. I will run that order for you. What PO would you like to use?   |
| 11:32:20 AM [Cecil C]  | 14-0473  |
| 11:33:02 AM [Joey]     | How would you like this shipped: International Economy or Express?   |
| 11:33:33 AM [Cecil C]  | Economy.   |
| 11:34:11 AM [Joey]     | Excellent. This is scheduled to ship via FedEx International Economy to your Vilnius address tomorrow morning. Your order number is Zz7hK*   |
| 11:34:47 AM [Cecil C]  | Thank you. What is your e-mail address? I will send you a copy of our PO.  |
| 11:35:31 AM [Joey]     | Joey.Drennan@DuncanAviation.com. I will verify all information before we ship. Additionally, I will be emailing you our Core Return Instructions. Please have the core back to us within 21 days.  |
| 11:36:09 AM [Cecil C]  | OK.  |
| 11:36:27 AM [Joey]     | Looks like I have everything I need. Do you have any more questions?   |
| 11:36:48 AM [Cecil C]  | I do not. Thank you very much.   |
| 11:37:15 AM [Joey]     | My pleasure and thank you again for contacting Duncan Aviation. Let me know if there is anything else I can do to help in the future.  |

\*For customer privacy, all identifying information has been changed.

# Do Not Ignore Your Aircraft's + BATTERIES -

**They are your last line of defense in an emergency.**

An aircraft's battery is one of the highest-maintenance components on board. Not many other items are due every three months or 100 hours. And for organizations with heavy flight schedules, such as charter services or air ambulances, batteries could require the aircraft to be down nearly every month.

Yet this workhorse of a unit is continually ignored, left idle and unused for long stretches of time, pushed hard with low levels and occasionally allowed to deep discharge. Through it all, it is expected to function without fail.

And it is cursed when, during that one critical flight when the company's president is on board, the battery will not crank and the aircraft and passengers are stranded.

Although the first reaction may be to fault the battery, according to Brian Teeters, aircraft battery technician for Duncan Aviation in Lincoln, Nebraska, most premature battery failures can be contributed to one thing...human error.

## Buy the Correct Battery

On a regular basis, Brian fields phone calls from operators frustrated that their batteries have not provided the long life that was advertised when they purchased them. He explains a well-maintained battery will provide three to five years of dedicated service, maybe even more. And that premature failure is not a defect or fault on the part of the battery, but rather on the operator for not purchasing the correct battery required for their flying schedule.

"The best battery purchase for a charter company, air ambulance or any other company that flies short, frequent one- and two-hour flights many times a day or week is a nickel cadmium or lead acid battery. Sealed lead acid batteries are a great option, but are not designed to function with this heavy of use for a long period of time."

He goes on to say that extreme temperatures also impact the longevity and effectiveness of battery life. "If you fly primarily in extreme cold and hot climates, such as the northern territories of Canada or along the equator, nickel cadmium is a hard working battery and will provide the best performance."

Brian warns, however, that just having the correct battery for your flight operation will not prevent premature failure. Batteries still require regular maintenance and care.

## Properly Care for the Battery

When asked for one piece of advice regarding batteries, he was quick to point out "most problems could be avoided if the last one out of the cockpit would simply shut off the lights."

"The number one reason aircraft batteries fail at start-up is because they were allowed to deep discharge overnight when the master switch was left on."

An overnight deep discharge is especially devastating for lead acid batteries. When a small charge is left to pull from these batteries, even for just a few days, the cells are destroyed. There is no alternative but to replace them.

"Make sure all the switches are off before putting the aircraft to bed. It takes only a few seconds to shut it down, but many pilots miss that step," Brian says.

If powering down the aircraft continues to be a problem, Brian suggests changing to a nickel cadmium battery. Batteries will still need to charge before the aircraft is able to take flight, but the deep discharge does not do any immediate harm. However, constant discharge and recharging on a battery will take its toll.

To some, an aircraft battery is a simple purchase. However, based on the number of batteries that come



Brian Teeters (middle), Mike Noel (left) and Tim Smith (right) have 84 years of aviation experience combined.

to Duncan Aviation for maintenance and repair, it is a purchase that should be taken seriously.

Brian and the rest of the Duncan Aviation battery team see up to 150 batteries every week.

This two-room shop has every test set, battery charger and capacity gauge available to perform capacity checks, testing and maintenance for every aircraft battery in service on the various business aircraft in use today. About 75 percent of the batteries that arrive at the shop are checked, charged and returned to customers in fewer than five days, with many others in fewer than two.

Brian is the battery go-to guy in the business aviation industry. People from around the world have sought his advice. Aircraft engineers call him and talk avionics systems, capacity and the load required of certain aircraft. OEMs have asked him for input on other battery issues. He knows more about aircraft batteries than most. And he wishes operators would give batteries more credit.

Think about it. The batteries are the first component to engage an aircraft's electrical system and the last line of defense before everything shuts down in an emergency.

You want them to work.

You need them to work. 

## Battery expert Brian Teeter's advice for getting the most out of your aircraft battery includes the following:

- + If operating with lead-acid batteries, having the electrolytes at a proper level is necessary. Too often this gets checked only once a year.
- + Make sure the master switch is in the off position before shutting down the aircraft and walking away.
- + When on the ground, disconnect the aircraft batteries and use ground batteries.
- + Use ground power assist at start-up.
- + Perform periodic voltage and visual inspections. There should be no excessive voltage difference between cells, electrolyte build-up or bulging cells.
- + Don't ignore the 100-hour inspection requirement.

## COMPARING AIRCRAFT VALUES AND FEATURES

Quick Reference Guide Helps Buyers Make Decisions

Download the most recent Business Jet Model/Market Summary here: [www.DuncanAviation.aero/resources](http://www.DuncanAviation.aero/resources)

Duncan Aviation periodically compiles and publishes the Business Jet Model/Market Summary, a quick reference guide that shows the latest market intelligence in an easy-to-use and easy-to-compare format.

Duncan Aviation's Aircraft Sales and Acquisitions team summarizes the data from well-known industry sources and their own market knowledge and experience. They then compile it quarterly for the light jet, mid-size jet and long-range jet categories. Working with Vref Publishing's Aircraft Value Reference, Conklin de Decker Associates, Inc. and the aircraft manufacturers, the team regularly updates the data in these lists with the latest market intelligence on business aircraft models in operation today and how they compare to others in the same size category.

"When acquiring or upgrading a business aircraft, selecting the right make/model is one of your most important decisions," says Doug Kvassay, a longtime Aircraft Sales expert with Duncan Aviation. "I originally put this tool together for a client to help him easily identify the aircraft models he wanted to consider purchasing. It was such a quick and concise way to compare all the data that we decided others could benefit from it as well. So we expanded it for other size models and will be publishing it quarterly."

The Business Jet Model/Market Summary is sorted by the seats-full range for aircraft built in the last decade. It displays one-line descriptions detailing several attributes, including the following:

- **Years Produced.** The range of years the model was in production.
- **Vref Price Range.** The current marketing value according to the Vref—Aircraft Value Reference.

- **Variable Cost/Hour.** The estimated cost to operate the aircraft at full capacity.
- **Normal Cruise Speed.**
- **Cabin Volume/Length/Height.**
- **Cabin Seats.** The number of available seats on the aircraft.
- **Expected Avionics.** The expected avionics found in the Flightdeck.
- **NBAA IFR Range-Seats Full.** The list is sorted by this, the flight range in nautical miles with all seats full.
- **NBAA IFR Range-Ferry.** Flight range in nautical miles with no passengers.
- **Payload with Fuel Full.** In pounds.
- **Average Fuel Burn.** In gallons per hour.
- **Pilots Required.** The number of pilots required to fly the aircraft.

To access the most recent Business Jet Model/Market Summary, visit [www.DuncanAviation.aero/resources](http://www.DuncanAviation.aero/resources) or call one of Duncan Aviation's aircraft acquisitions representatives at +1 402.475.2611.

### DOUG KVASSAY

## MAKING A QUICK REFERENCE TOOL

Doug Kvassay first developed the Model/Market Summary when a client called asking for advice over lunch about upgrading his light business jet to one that had a little more payload and range. Doug wanted to make the process of narrowing down the search as easy as possible, so in the days leading up to their meeting, he created a listing of every model in the light jet category, taking care to detail several attributes. Through a process of simple elimination, by the end of their lunch, Doug and his customer had identified an aircraft model to investigate further. They closed on an available one just one month later.

Seeing how much easier this tool made the identification of the most appropriate model of aircraft for the specific needs of his client, Doug shared his concept with the rest of the Duncan Aviation Aircraft Sales and Acquisitions team. Since then, they have honed the information and expanded it to other size categories. Now, they publish it quarterly.



# 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.



# 500+ Installs!

## DUNCAN AVIATION HAS INSTALLED 500+ CONNECTIVITY SYSTEMS

We recently reached a milestone, installing the 500th in-flight connectivity system from Aircell, the business aviation division of Gogo. With more than 500 installations, we hold a prominent position as leader of the aftermarket installation of in-flight internet and Wi-Fi upgrades such as Aircell Gogo Biz and SwiftBroadband systems.

“There is strong market demand for products that increase the productivity

of business aircraft,” says Mike Minchow, completions and modifications marketing manager for Duncan Aviation. “Wireless internet certainly filled a need for business aviation, and Aircell has been a leader in that market. On-board Wi-Fi has completely transformed the travel experience, allowing operators to be much more efficient in the air and allowing for a true office-in-the-sky experience.

“Combining the benefits of our Organization Designation Authorization (ODA) and multiple locations, we’re able to offer owners a great deal of flexibility as well as the confidence that their aircraft is in the care of the most experienced technicians in the industry and a company known for its service and support,” he continues.

Duncan Aviation has invested heavily in the Wi-Fi market. We own 13 STCs for broadband with Wi-Fi. The Duncan Aviation Engineering Team completed the STCs under Duncan

Aviation’s ODA, which includes STC, Major Repair and Alterations (MRA) and Parts Manufacturing Approval (PMA) authority. Duncan Aviation holds STCs for in-flight Wi-Fi for

the following models: Hawker 800A, 800XP, 850XP, 900XP, the Falcon 2000, 2000EX, 2000EX EASy and 900EX, 900EX EASy, the Cessna CJ2, CJ2+ and CJ3, the Citation 680, 750, the Challenger 300, 601-3A/R, 604, 605, the Learjet 45, the Embraer Legacy 600, 650 and the Gulfstream GIV, GV.

John Wade, Aircell’s executive vice president and general

manager, says, “Duncan Aviation has now installed approximately 20 percent of all the Gogo Biz systems in service globally, making a significant contribution to the worldwide adoption of in-flight internet services in the business aviation market. They’ve fully embraced connectivity technologies on behalf of customers, invested in STCs and built deep technical expertise.”

n. (500+): With more than 500 installations, Duncan Aviation is the leader of in-flight internet and Wi-Fi upgrades such as Aircell Gogo Biz and SwiftBroadband systems.



## ATTITUDE ADJUSTMENTS AVAILABLE

Avionics and Instruments Gyro Team Leader Jerry Bremer.

Duncan Aviation’s avionics and instruments gyro team, led by Jerry Bremer, has access to new tech data and parts for Thales attitude indicator (AI) units. The company’s avionics and instrument shop is now offering a variety of services for the Thales indicators, ranging from the simple repair to full overhaul.

Thales AIs are a popular avionics instrument installed in many business aircraft and are very important for accurate and safe flight. AI

readings inform the pilot of the orientation of the aircraft relative to Earth’s horizon. Therefore, when a unit fails, operators seek a quality avionics shop where a unit will be repaired or overhauled quickly.

Several Thales units arrive at Duncan Aviation’s shop on a weekly basis, and we can offer fast turntimes and AOG service with a 12-month warranty on work.

Duncan Aviation now has full overhaul and repair capabilities

on the following Thales attitude indicator units:

- H341 series
- H140 Series
- H301 Series
- H221 Series
- 803 Series

To inquire about repair and overhaul capabilities, call an avionics customer account representative at 800.562.6377 or +1 402.475.2611.



## AUTOPILOT OVERHAUL CAPABILITIES EXPANDED

Duncan Aviation's avionics and instruments department has been acquiring new diagnostic test equipment to expand its autopilot capabilities. During the past two years, several Bendix King product lines have been added to our repair and overhaul capabilities. The latest addition includes Bendix King KS270C/271C/272C.

Autopilot Team Leader Eric Olson says the Bendix King "Charlie" series is a more advanced servo that uses a surface-mount technology to benefit many general aviation aircraft models including Beechcraft, Cessna and Piper. "It is lighter weight and because these units are still being manufactured, parts are easier to get than older servos with feed-through or post-to-post technology."

n. (Duncan Aviation FAA-approved avionics and instrument repair procedures): providing access to parts no longer available on the 200/250 autopilots.

Now with seven test sets specifically designed to troubleshoot and test Bendix King autopilots, Duncan Aviation has overhaul and repair capabilities on the

following Bendix King units:

- KFC 100/150 series (except KC190-15/191-15/192-15)
- KFC 200/250 series
- KFC 300 series
- Majority KFC 400 series (call for more information)

In addition to the added test sets, we have developed internal FAA-approved

repair procedures to replace parts that are no longer available on the 200/250 autopilots.

To inquire about repair and overhaul capabilities, call an avionics customer account representative at 800.562.6377 or +1 402.475.2611. ✈️

## 20 STUDENTS EARN KAREN K. DUNCAN SCHOLARSHIP

Supporting local communities is one of Duncan Aviation's core values. One way the company invests in its communities is through the children of its team members. Each year, Duncan Aviation advances the futures of 20 students through the Karen K. Duncan Scholarship program.

Each scholarship winner will receive up to \$4,000 for their college education—\$1,000 a semester for up to two years.

An independent committee reviewed applicants' essays and assigned point values to them. Students also earned points for academic achievement, leadership, citizenship, career goals and extracurricular activities.

The following students of Duncan Aviation team members will receive scholarships totaling \$80,000:

- Colin Bohac, son of Kurt and Karen Bohac
- Jamie Bohlen, daughter of Michael and Barbara Bohlen
- Brandon Bonsell, son of Cory and Nancy Bonsell
- Travis Carnahan, son of Stacy and Julie Carnahan
- Tiernan Creamer, son of Gene and Paula Creamer
- Hannah Dale, daughter of Jeffrey and Sue Dale
- Courtney Featherstone, daughter of Rick and Stephanie Hestermann
- Taylor Grendell, daughter of Chad and Stacey Doehring

n. (community): one way Duncan Aviation invests in its communities is through the children of its team members. each year, 20 students receive up to \$4,000 for their college education.

- Andrew Houk, son of Tony and Shelly Houk
- Cameron Johnson, son of Brad and Lori Johnson
- McKenna Leitschuck, daughter of Tony and Lisa Leitschuck
- Taylor Liesemeyer, daughter of Morris and Connie Liesemeyer
- Cale Miller, son of Robert and Amy Miller

- Mackenzie Oneth, daughter of Paul and Kris Oneth
- Devynn Patocka, daughter of Doug and Denise Patocka
- Kaitlyn Reimer, daughter of Mike and Jackie Reimer
- Angela Spencer, daughter of Ron and Denise Spencer
- Chase Stokey, son of Joe and Shari Stokey
- Emily Sulka, daughter of Mike and Tracey Sulka

• Issac Swager, son of Luke and Amy Swager  
The Karen K. Duncan Scholarship program was started in 1999 and is open to dependents of full-time Duncan Aviation team members. Up to 20 scholarships are awarded annually and can be used for tuition, fees, room, board or books. Since its inception, more than 200 scholarships totaling \$1,320,000 have been awarded through the Karen K. Duncan Scholarship Program. ✈️

## Aircraft Listings

Our inventory is always changing. Visit [www.DuncanAviation.aero/aircraftsales](http://www.DuncanAviation.aero/aircraftsales) for more information on our current aircraft listings.



2008 Gulfstream 200, SN 182



2008 Gulfstream 200, SN 195



1999 Challenger 604, SN 5395



1985 Falcon 50, SN 145



1999 Hawker 800XP, SN 258396



## UPDATED PAINT MAINTENANCE FIELD GUIDE

When it comes to maintenance requirements, paint isn't always top-of-mind for aircraft owners, but it's a jet's first line of defense against unforgiving elements.

Aircraft paint can beautifully reflect hours of painstaking care and preparation—or it can cover a multitude of sins. The trouble is, you can't always tell which applies to your aircraft until long after the job is finished.

To help aircraft owners identify a quality paint job and decide when to take an aircraft

in for a touch-up or full repaint, Duncan Aviation industry experts answer questions about pressing paint maintenance

n. (quality finish): the value is in the details. a visual inspection for dirt specs in the paint finish is one identifier of a quality job. a few dirt specs is expected, a large number is cause for concern.

issues in the recently updated “More Than Skin Deep: Paint Maintenance and Turbine Aircraft Value” field guide.

“A lot of owners and operators judge the quality of a paint job by its gloss,” says Aircraft Completions Sales Representative George Bajo “Gloss is an indicator, but it's not THE indicator. Surface preparation and application processes have a huge impact on how long a paint finish lasts and how well it protects an aircraft from the elements.”

The guide is written for business aircraft operators and explores common misunderstandings surrounding routine maintenance and turbine aircraft market value, paint processes and criteria to consider when selecting an aircraft paint service provider.

You can find this and other field guides at [www.DuncanAviation.aero/Resources](http://www.DuncanAviation.aero/Resources).

An exterior refurbishment is an investment, but it's necessary to prevent maintenance problems from developing.



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## DUNCAN TECH REP FOR EMBRAER AND GULFSTREAM

In response to customers' growing maintenance needs in large cabin Embraer and Gulfstream aircraft, Duncan Aviation has added a new



tech rep to support these airframes at its Lincoln, Nebraska, headquarters.

Brad Kluthe was selected to step into this position. As a

Duncan Aviation tech rep, Brad will provide troubleshooting and technical support to Gulfstream and Embraer aircraft customers and to Duncan Aviation airframe maintenance teams.

He will also serve as the formal Duncan Aviation liaison between Gulfstream and Embraer representatives ensuring technical issues are handled efficiently and developing a great working relationship with OEMs.

During his time at Duncan Aviation, Brad has worked on several airframe maintenance teams, advancing from mechanic to team leader. Last year, he stepped in to lead and train a newly formed 15-member Gulfstream team.

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Airframe Manager Chad Doehring (shown here) and his team members had significant influence on how the new maintenance hangar at Duncan Aviation's Lincoln, Nebraska, location was designed. One unique feature is that visitors may peer into the hangar through a window made with a 747 engine inlet.