

A publication of Duncan Aviation

Duncan Debrief

Spring 2023



DUNCAN
AVIATION

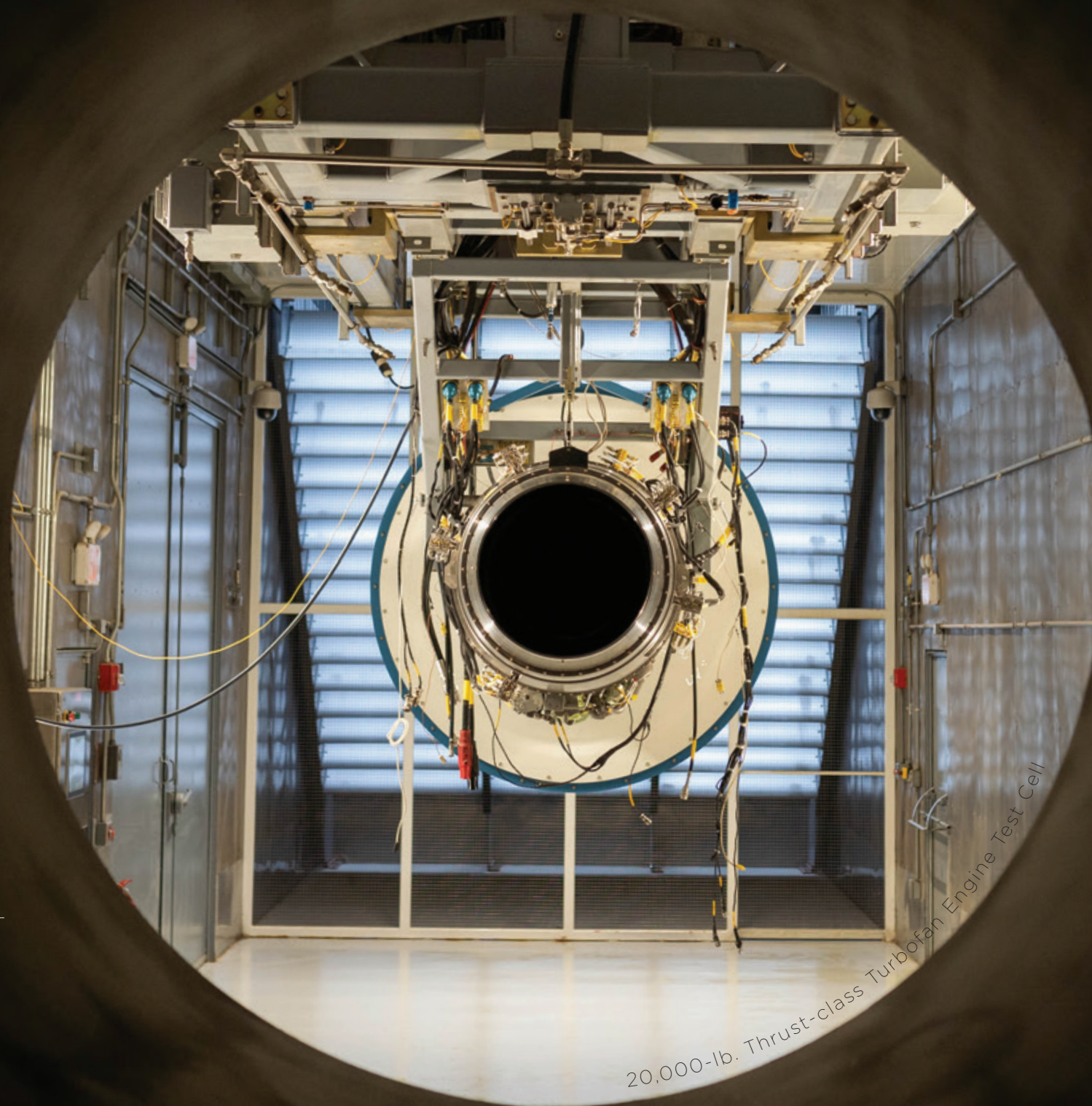


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Southwest Regional Manager Alfredo Garcia is featured on the front cover of the *Duncan Debrief*.

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20,000-lb. Thrust-class Turbofan Engine Test Cell

WATCH A MESSAGE FROM BOARD OF DIRECTORS CHAIRMAN TODD DUNCAN


www.DuncanAviation.aero/Industry-Outlook

WE HEAR YOU!

As we all know, events that happen across the globe can have profound effects on the rest of the world. It doesn't take long for changes to take root and multiply.

In order to thrive, businesses need to respond to dynamic environments in technology, economic conditions, and industry regulations. To change at the pace required, leaders must stay well-informed and gather data from advisors, experts, and futurists in a multitude of disciplines. They must listen to their industry partners and customers in order to remain relevant and explore ways to fulfill anticipated needs. They also require the agility to act on the advice and requests, pivoting to meet new needs and to mitigate potential pitfalls.

This issue of the *Duncan Debrief* magazine highlights some of the ways Duncan Aviation has listened and responded. We have invested in maintaining dozens of aircraft certifications and authorizations. We anticipated our current workforce shortage by developing a technician apprentice program. We recently opened a new Satellite and expanded services.

If you have ideas or needs that we might be able to help with, let us know. Not only will we listen; we will respond. 



Jeff Lake, President & CEO
Jeff.Lake@DuncanAviation.com

www.DuncanAviation.aero

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Donald Duncan (1922-1981)

FAR-

REACHING

When it comes to support services, business aircraft operators seek the highest quality, capacity, efficiency, and options possible for their aviation services.

They are turning to Duncan Aviation.

Duncan Aviation's three full-service MROs (in Battle Creek, Michigan; Lincoln, Nebraska; and Provo, Utah), and Satellite network hold 32 international certificates

covering 12 civil aviation authorities and 46 countries. These certificates authorize us to provide services for more than 90% of the world's registered business aircraft.

It is important to us to provide premier aircraft service no matter where the aircraft is based, and more than 25% of our annual business comes from supporting aircraft registered outside the United States.

SUPPORT



32

INTERNATIONAL CERTIFICATES

12

CIVIL AVIATION AUTHORITIES

46

COUNTRIES

IT'S

SUPPORTING AIRCRAFT COMPONENTS

On an annual basis, 10% of Duncan Aviation's 32,000 Component Services work orders are shipped to our repair facilities from outside of the U.S.



AFTER

A SMALL WORLD

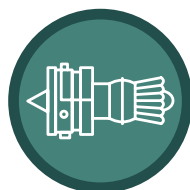
THE WORLD'S REGISTERED BUSINESS AIRCRAFT

(23,478 = TOTAL AS OF JANUARY 2023)

ALL

300+

INTERNATIONAL ENGINE CUSTOMERS



380

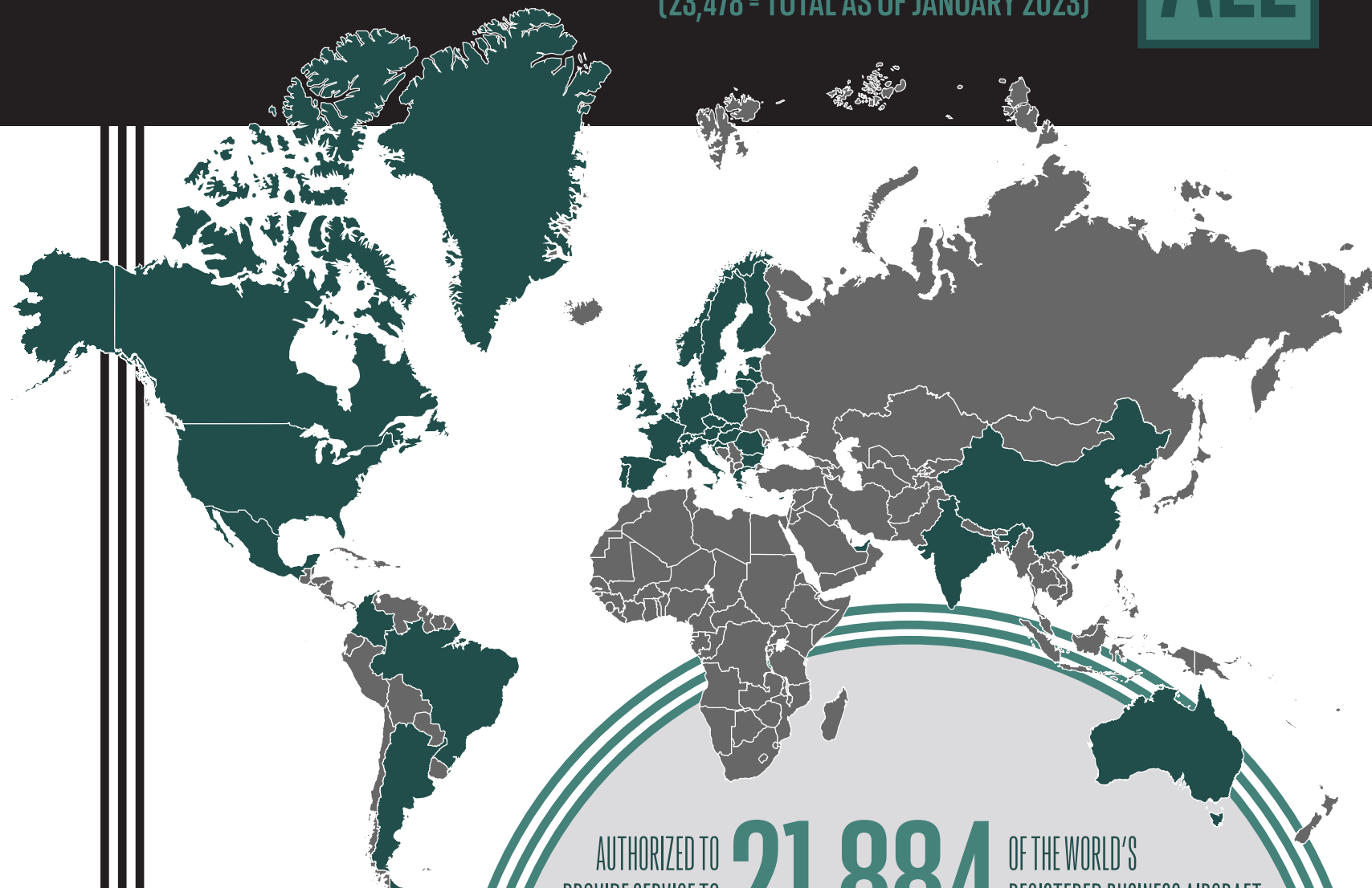
DIFFERENT AIRCRAFT

SEND US YOUR ENGINES!

Over the last 10 years, Duncan Aviation's Engine and Engine RRT teams have completed approximately 900 international engine work orders for more than 300 different customers with 380 different aircraft.

Nearly one-third of these work orders were for major engine events for Honeywell TFE731- or HTF7000-powered aircraft requiring TFE731 MPI, MPI/CZI, CZR, or major HTF7000 engine inspections, Service Bulletins, or repair.

Of these 245 engines requiring major events, 100 of them arrived at our Turbine Engine Maintenance facility in Lincoln in shipping crates. After the work was completed, they were shipped back without the aircraft having to be on-site at our MRO.



AUTHORIZED TO PROVIDE SERVICE TO **21,884** OF THE WORLD'S REGISTERED BUSINESS AIRCRAFT



A&P APPRENTICESHIP PROGRAM SEES SUCCESS

Recognizing that there was a coming shortage of aviation technicians, Duncan Aviation started its first cohort of apprentices in 2019 in Lincoln, Nebraska. The program received certification from the US DOL (Department of Labor) and approval from the Veterans Administration. Apprentices who successfully complete the 24-month program may earn an Airframe and/or Powerplant certificate, and they'll be awarded a DOL certificate.

Classes are in-person and there are webcasts online for technicians

who've missed a class. Duncan Aviation supplies an iPad for each registered apprentice and if they complete the program and earn their A&P (Airframe and/or Powerplant) certificate, it is theirs to keep.

ASSOCIATED COSTS

There are no costs to team members who complete the 24-month program and earn an Airframe or Powerplant certificate. This is approximately a \$32,000 per person investment.

Team members interested in joining the apprenticeship program must have worked for Duncan Aviation for at least 90 days, and they must be in good standing. No previous aviation experience is necessary, but it's considered highly beneficial to have some mechanical aptitude.

"They work full-time with paid wages, take classes, and are responsible for a considerable amount of studying on their own," says Darwin Godemann, Enterprise Team Leader for Duncan Aviation's

BY THE NUMBERS*



96 Tech Helpers are enrolled companywide in apprenticeship programs



Of the 19 Tech Helpers in Provo, 16 are Airframe and three are Engine apprentices



The 11th cohort started in Lincoln in February 2023 with 12 techs



The sixth cohort started in Provo, Utah, with four techs



The 3rd cohort started in Battle Creek, Michigan, with four techs

Technical Education Center. "Once they've finished the coursework and achieved the work-experience requirements, the FAA certification testing begins."

There are a series of proctored written, oral, and practical tests that are administered by representatives of the FAA. Apprentices must take and pass these tests within 24 months of taking their first test to receive their certification as an FAA A&P.

SAFETY FIRST

The experience, vetting, and testing requirements are rigorous for a reason. Once a tech is certificated, the certification lasts a lifetime unless the tech surrenders it to or it's revoked by the FAA.

"This is one reason today's air travel is the safest mode of transportation in the world. Regardless of your work or military experience, the FAA requires technicians to take these exams," says Darwin. "Work experience certainly helps, but the FAA doesn't accept that as a substitute for passing the exams."

Technicians who don't pass the tests or receive their certifications are not terminated, but it limits

their future opportunities. For technicians to become Qualified Inspectors or advance in their careers, they need to obtain an FAA Certificate—such as a permanent FAA-issued Airframe or Powerplant certificate, or a limited, specialized, FAA-issued Repairman's certificate, which is surrendered when a technician leaves Duncan Aviation.

LEGACY/AMT TEST PREP PROGRAM

Duncan Aviation also offers a Legacy/AMT Test Prep program for technicians who have work or military experience but lack FAA certification.

"We provide the books and necessary testing supplies as well as two, week-long test prep classes, during which time techs are paid but not required to work on the floor," says Provo Technical Training Coordinator Jeff Dale.

In exchange, technicians must sign a contract saying they'll stay at Duncan Aviation for at least a year after earning their A&P. Since the program's inception in November 2019, 73 Duncan Aviation technicians, most of whom came from the military, have taken advantage of the program.

CERTIFICATION FROM OTHER NATION'S CIVIL AVIATION AUTHORITIES

The FAA has high-level, reciprocal agreements with the civil aviation authorities of other nations so our certificated technicians can work on N-registered aircraft in their countries in certain situations. However, there is no FAA recognition of certification on an individual level. If a technician from Turkey holds an Airframe and/or Powerplant from the Turkish Directorate General of Civil Aviation, that tech will still have to take the FAA's written, oral, and practical exams for an FAA-issued Airframe and/or Powerplant certificate.

The ASTM International is working to standardize training curricula globally so technicians in countries where the standards are adopted are trained to the same criteria.

**Data through February 2023*

MAJOR CL300 MID-LIFE INSPECTION DELIVERED SQUAWK-FREE

NEARLY 800 CL300 AIRCRAFT ARE FLYING TODAY, WITH MANY APPROACHING THEIR 7500-LANDING INSPECTION MILESTONE. IT IS THE MOST COMPREHENSIVE INSPECTION FOR THE CL300, WHERE ALL PANELS ARE REMOVED, MANY PARTS REPLACED, AND THE ENTIRE AIRFRAME INSPECTED. IT IS A SIGNIFICANT UNDERTAKING.

THE WORKSCOPE

- 7500-LANDING INSPECTION
- 192-MONTH AIRFRAME INSPECTION
- 192-MONTH LANDING GEAR INSPECTION
- 30 SERVICE BULLETINS
- ENGINE R&R
- COMPLETE NEW INTERIOR
- COMPLETE NEW PAINT
- KU BAND AVIONICS UPGRADE

ENGINE APPRENTICE HANNA TAYLOR & ENGINE LINE TECH JASON BLASE



PLANNING

Duncan Aviation began preparing for the 7500-landing inspection years before any customers requested it. Adam Lauderback, Senior Airframe Service Sales Rep, spent weeks poring over the requirements, identifying essential tooling, and determining what in-house backshops would be called on to help. He worked with planning teams, Project Managers, and Team Leaders. This in-depth planning turned into flow charts, timelines, and milestones. The result was the most accurate and detailed quote possible.

“I don’t think there is anything left to quote,” says Adam. “We are doing everything there is to do on a CL300. There’s nothing left.”

Duncan Aviation’s Nondestructive Testing team plays a major role. With \$500,000 in new standards and probes, there are very few areas of the CL300 that NDT Master Tech (Level II) Rachel Baldwin will not touch.

When Duncan Aviation secured a customer commitment on July 8, 2022, and the workscope was finalized, Airframe Team Leader Nick Lovell and his team started their rigorous planning and preparation. Months ahead of the aircraft’s arrival, they spent

hundreds of hours planning, ordering parts, reading the tasks, and acquiring tooling.

Lead Technician Jake Hefner printed and read more than 700 pages of task cards, grouping and prioritizing them for efficiency and determining what milestones were necessary to hit and when.

All the planning made Project Manager Bill Collins confident in the upcoming work. “There was so much planning and communication that even if the technicians faced an unexpected or unknown issue, I knew they could pivot and continue to move forward. They are that good.”

“Preparation for this inspection was no different from others,” says Nick. “It’s just larger.”

EXECUTION

When the aircraft arrived on August 24, 2022, in Lincoln, Nebraska, so did a third-party consultant whose expertise is in organizing and managing service providers, suppliers, logistics, and details that lead to successful deliveries.

Because this was Duncan Aviation’s first time performing a 7500-landing inspection, our CL300 customer hired the consultant to observe the process to identify efficiencies, processes, or communication improvements. They were there only to offer a word of advice toward improvement, nothing more.

Before coming to Duncan Aviation, the consultant expected to encounter a small MRO with an attached FBO. On the first day, he found that Nick’s team had already put in several hours removing panels and parts



NDT MASTER TECH CASEY FIX

and was preparing to remove the horizontal stabilizer. He watched as everyone moved forward quickly and confidently.

Behind each panel removed, Rachel conducted the long list of NDT inspection tasks. Every day for two months, she crawled, reached, and stretched into tight spots she had never accessed before, leaving no area left untouched.

“Signing off on the last task (the wing inspection) was a great relief,” she says. She also set her sights on getting started on a second CL300 scheduled to arrive just a few weeks later for its 7500-landing. “I have a roadmap and directions to follow, with known expectations. I may do a few things differently and in a different order, but everything did go smoothly and to plan.”

It didn’t take a week of being at Duncan Aviation for the consultant to conclude that everyone was skilled in their craft and knew what they were doing.

“They are professionals with an impressive facility and a long list of in-house capabilities that includes everything from batteries, landing gear, and component repairs, to paint and interior refurbishments. Integrating these capabilities is a big benefit over sending out parts to be serviced by third-party vendors.”

He also observed how everyone worked with great humility and remarked, “If there was a delay in one area, it was felt throughout the project. But together, they reorganized the plan to keep progress moving forward and further delays to a minimum. The professionalism at Duncan Aviation is on a different level.”

He reported to the CL300 customer that they made the right decision to go to Duncan Aviation for their 7500-landing inspection.

AIRFRAME TECH DAVID CALLAHAN



NDT MASTER TECH RACHEL BALDWIN

RESULTS

The test flight crew knew the CL300 they were to fly had been dismantled down to the wings and put back together. While still on the ground, they thoroughly combed the maintenance records to test and retest everything. After two hours of this scrutiny, they felt satisfied and comfortable taking off. They flew squawk-free and reported only one minor interior issue.

Despite missing the delivery date due to parts delays, everyone was pleased with how smoothly the project went. “Our biggest challenge was getting parts,” says Nick. “I have no doubt we would have hit the original out-date if it weren’t for parts issues. Parts are already on order for the next one.”

The next 7500-landing inspection arrived in Lincoln on January 31st of this year, and Duncan Aviation has seven more scheduled through 2024 and into 2025.

Call now if you are flying one of the 800 CL300s approaching this major mid-life inspection. It’s the right decision. 📞



CL300 AIRFRAME TEAM: BRANDON HUSTED, DAVID CALLAHAN, NATHAN HOUSE, JAKE HEFNER, ANDY STUHLIK, DALLAS SMITH, JACOB BAJC, NICK LOVELL, EASTON TOWLE & DAN FULLERTON



(Left) Andrew Cummins, DOM, and Scott Thomas, Duncan Aviation Engine Project Manager, discuss a recently issued engine Service Bulletin

Duncan Aviation Engine Management

Less stress.
No surprises.
Exceptional value.

Aircraft operators deal with engine maintenance every 2½ to five years. Scott Thomas deals with it daily, managing 75-85 engine maintenance events every year.

Scott is Duncan Aviation's Engine Project Manager, overseeing all P&W (Pratt & Whitney) engine events for Duncan Aviation customers. When an R&R is performed for a P&W engine at one of the three main Duncan Aviation MRO facilities or in the field by our engine Rapid Response Teams, they become Scott's engines. As these engines get pulled, crated, and shipped to Pratt & Whitney for service, he remains close to the project, advocating

for his customers through every step. Sean Franzel, Maintenance Manager for Masco Flight Ops, was thoroughly impressed with how quickly Scott and his team got to work. "We came in with a PW308C engine that needed maintenance. Within hours, Scott secured a rental engine on a Duncan Aviation purchase order. It arrived three days later, and we returned to the business of flying within a week and a half."

Less Stress

Andrew Cummins is a DOM for a high-utilization operator flying two Falcon 2000EXs in excess of 900 hours a year. They are busy and rely heavily upon Scott and Duncan Aviation to track their engine requirements.

"Scott has earned my trust. I can hand off the project to him and not worry. He and his team do their jobs so I can do mine," Andrew says.

"I know what questions to ask, what programs apply, and when costs are fair," says Scott. "I review engine logbooks to identify Service Bulletins, Airworthiness Directives, and life-limited components that may be a factor in the event. With all of this information, I negotiate on behalf of my customers."

Scott admits it can be a complicated process. "It would take a lot longer and potentially cost significantly more if customers were left to navigate the process alone."

"I can't say enough about how easy this event was," says Sean. "I was completely hands-off, saving me a substantial amount of time. Scott had a plan and he executed it perfectly."

No Surprises

Customers may be hands-off, but they are not uninformed.

Scott doesn't like surprises, and his customers like them even less. He stays informed with project updates, performance analysis, and parts costs, discussing potential issues that could slow the progress or bring it to a halt. What he learns is openly shared with his customers.


If the event involves an insurance claim, he takes the lead to work directly with the insurance company, negotiating costs and ensuring that all proper coverage is applied.

Exceptional Value

If FOD (Foreign Object Debris) damage or corrosion is discovered on a program engine, Duncan Aviation covers the cost of over-and-above work and bills it back to the customer with no markup, thus providing this professional oversight service at no cost to Duncan Aviation customers.

Many customers who take advantage of this service already have an aircraft in-house at Duncan Aviation for airframe maintenance, scheduled R&R, or an AOG engine event.

"It is such a convenient service," says Andrew. "Scott is a great help when our Falcon 2000EX engines (PW308Cs) require service. They (Duncan Aviation technicians) are knowledgeable, and I trust them."

Sean readily agrees. "This was my first experience with this program. Should the need arise, my experience with this event removed any doubt that we will return to Duncan Aviation." 

White, Bright & Cozy

Every shop at our full-service facility in Provo, Utah, had a role in the complete transformation of this 2001 GLEX. The aircraft's interior was completely gutted and the paint stripped before it was transformed into something truly spectacular. The team also performed a 240-month inspection and installed new LED lighting, a Honeywell RDR-7000 radar upgrade, and KA Connectivity System.

The result is undoubtedly the nicest aircraft of its age.

Preparation work for this aircraft project began nearly two years before the major event for Regional Manager Joe LaCorte, who partnered with Stef Sedam, then part of the Airframe Services Sales Team, Matt Spain for Paint and Interior Sales,

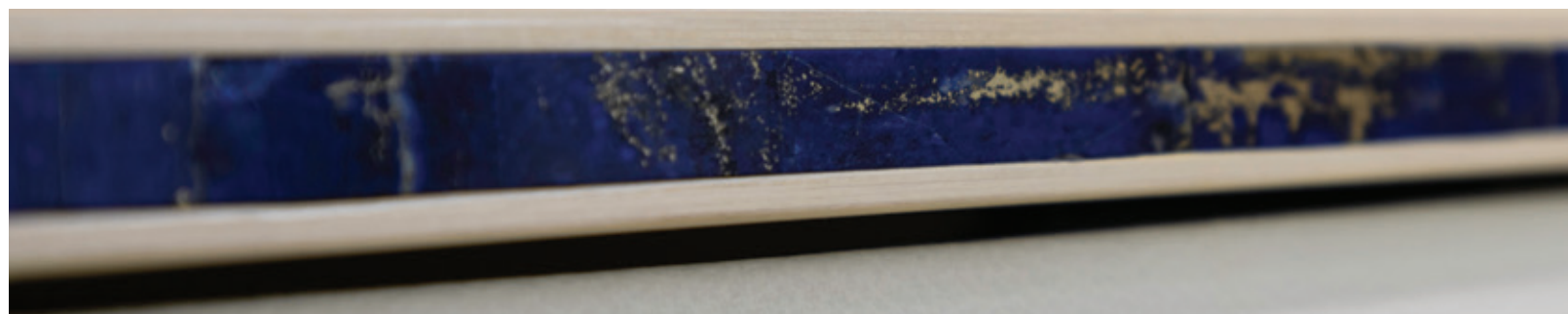
and Steve Elofson for Avionics Sales on the quoting process.

"We were given the opportunity by the Director of Maintenance to perform a 3,000-hour inspection at our Provo facility as a test run about a year before the major inspection project," says Joe. "After a successful event, he trusted us with the complete refurbishment of his GLEX."

Lead Designer Molly Pfeiffer mocked up a full interior spec presentation for the owner before finalizing his slot nearly 18 months later.

Modern, Timeless & Clean

Over the years, the interior of the aircraft became worn. It featured a mixture of whites and they all



**The only thing
that stayed was
the blue stone
inlay in the
drinkrails.**



“Molly was extremely important in the process and helped us to achieve this beautiful project... The quality of work by Duncan Aviation is really flawless.”

Designer Olivia Putman at Studio Putman

had different undertones. The materials didn’t age well together. To prevent this from happening again, Molly ensured the whites have a similar yellow undertone so as they age, the cabin will still present as a cohesive design.

The owner wanted his new interior to be modernized with white, bright, and cozy finishes. The difficulty with whites is finding a way to bring warmth to the interior. To do this, Molly focused on creating clean modern lines in the cabin. The bulkheads, which used to have a rounded, hardwood, bullnose trim were simplified to a squared-off fabric insert that is surrounded by new veneer.

“We brought in two different fabrics throughout the cabin; one on the divan and one for the bulkhead inserts,” says Molly. “Both fabrics feature grey and white patterns that help bring some texture and depth into the cabin.”

The entire interior was gutted. The only thing that stayed was the blue stone inlay in the drinkrails.

The blue inlay was a beautiful detail that got lost with the Birdseye Maple used previously,” explains Molly. “When placed against the new light veneer, it became a really striking detail.”

Typically, the seats in an aircraft are leather. But in this aircraft, they are sheepskin cushions. This was a first for Molly.

“The owner specifically requested sheepskin for the seats because he likes the softness and comfort,” says Molly. “It was the first time I’ve seen this, so we updated the seat design to be more modern and from there we decided to make the entire seat cushion sheepskin, rather than just having the top part of the cushion sheepskin.”

This gave the seats a very modern, timeless, and clean look.

The white carpet was also a challenge for the Duncan Aviation team.

“Since this was a white carpet and we didn’t want to risk it getting dirty from footprints or tool bags, we had to wait until the very end to install it,” explains Molly. “While it proved to be more work for us, the carpet really brought the entire interior together.”

Olivia Putman Collaboration

Olivia Putman at Studio Putman has a well-established relationship with the owners that has been filled with trust and respect. The design studio has been working with the family for a long time, and they knew what was expected in the final product.

“Olivia knows the owners very well, so we worked together to bring their vision to life,” says Molly. “For example, they sent me a regular veneer they liked for the design so I went on a hunt to find the aviation equivalent of it. I would send them different design options and they’d

choose the best fit for the owner. I truly enjoyed working with them.” Molly and Olivia complemented each other in a way that resulted in the owners being more than pleased with the design choices, the incredible quality of work, and the overall refurbishment.

“Molly was extremely important in the process and helped us to achieve this beautiful project with the best craftsmanship she could provide,” says Olivia. “The quality of work by Duncan Aviation is really flawless. It was an incredible pleasure to bring our design to the sky. In the history of Studio Putman, my mother, Andrée Putman, designed the Concorde. This was the first time I’ve designed an aircraft, and it was an honor.”

Challenging, But Worth It

Molly says this was one of the most challenging projects she’s worked on.

“Working with all white, and making the owners vision come together without creating a stark and cold environment was a challenge,” says Molly. “When you fly, you are in the aircraft for a long time. You want the space to be comforting and inviting.”

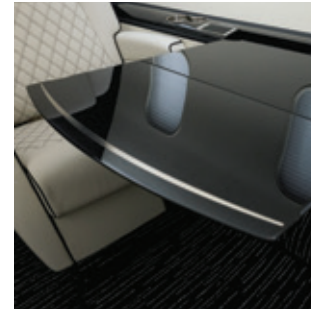
The owner was very particular, so the Duncan Aviation team had to ensure they were meticulous in every detail. Molly says she could not be happier with the entire Provo Interior Team for their care and execution of this project.

“I have the vision, but they are the ones that truly bring my designs to life,” she says. “I couldn’t do it without their support.”

Molly says that every shop at Duncan Aviation played a very important role.

“This was a true Duncan Aviation airplane,” says Molly. “It was a surreal feeling as we watched the aircraft fly away. It was special.”

www.DuncanAviation.aero/gallery/paint



www.DuncanAviation.aero/interiors-showcase



INTERIOR & PAINT SHOWCASE

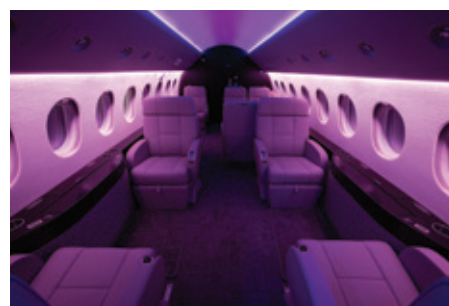
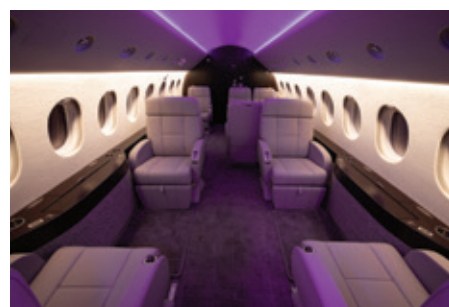


Our professional design team, in collaboration with our skilled and experienced technicians, ensures your interior and exterior is not only exquisite and fulfills your every desire, but also has the fit and finish to last for years.



Duncan Aviation offers exclusive and unique interior upgrades, such as hydrographic, vinyl-wrapped, and high-gloss veneer finishes.

Duncan Aviation paints more than 200 aircraft per year in our state-of-the-art facilities. Our locations are capable of painting all sizes of business jets utilizing the latest in paint products, equipment, and technology.



MOOD
(Multicolor)
LIGHTING

Duncan Aviation provides information on topics that affect business aviation in clear, concise language. Our *Straight Talk* series includes information about CMS (Cabin Management Systems), Airspace Modernization, Navigating Supply Chain Challenges, Burn Testing, and much more, in formats that include books, videos, podcasts, and webinars (www.DuncanAviation.aero/straighttalk).

Our technical experts periodically update the existing *Straight Talk* resources and produce new information on services, equipment, technologies, or standards that are of interest to our customers and industry experts.

In 2022, a team of Avionics Sales Representatives including Adrian Chene, Steve Elofson, and Dennis Kruse, researched and wrote a *Straight Talk* book about *Aircraft Lighting*. The book provides a quick

about talk talk

straight

aircraft lighting

EFFECTS
OF COLOR
CHANGING
LEDs

reference guide for those considering upgrades to their aircraft lighting due to obsolete technologies or personal preference.

Pros & Cons of Lighting Options

Delving into the three types of lighting currently available (incandescent, fluorescent, and LED), the book points out the drawbacks of incandescent and fluorescent lighting and the benefits of LEDs. Incandescent bulbs create heat and burn out quickly, and fluorescent bulbs are hot, inefficient, and easily broken. LEDs (Light Emitting Diodes) are semiconductors that emit light, so they produce very little heat, have quite long, efficient lives, and use relatively little power compared to the other two types of lights.

Along with the other benefits, LEDs are easy and intuitive to control when integrated with newer CMSes. Color-changing LEDs mix red, green, and blue diodes within the same bulb to create almost any color in the cabin to promote sleep (soft blue lighting) or simulate a bright, sunny day, among many other settings.

Seeing is believing, so on your next visit to any of our full-service facilities, stop into the Design Center

and see the various light samples in our lighting booths. The booths let you see how different lights and colors affect materials you may be considering for your aircraft interior.

We've captured some of the effects of aircraft lighting in this video (www.DuncanAviation.aero/videos/prizm-booth).

For more information on aircraft lighting, future lighting technologies, necessary interior modifications, and current manufacturers of aircraft lighting, download your free copy of *Straight Talk Book About Aircraft Lighting* (www.DuncanAviation.aero/straighttalk/aircraft-lighting). 📖



Avionics Updates & Info

Here are a few quick hits from Duncan Aviation's avionics team.



Garmin GI 275



ALTO Aviation Cadence Switches

Aging Electronic Standby Solution

Duncan Aviation Pilot Michael Kussatz is back with another timely, informative video about your options for replacing aging aircraft components. Here (www.DuncanAviation.aero/videos/aging-electronic-standbys), he fills you in on the details regarding aging electronic standby units and the many reasons you might consider upgrading to the Garmin GI 275.

In addition to Duncan Aviation's three full-service facilities in Lincoln, Nebraska; Battle Creek, Michigan; and Provo, Utah; we have dozens of Satellite facilities (www.DuncanAviation.aero/locations/#satellites) located at business aviation airports throughout the country. Our talented, experienced avionics technicians use an STC that

allows them to install a new Garmin GI 275 in the following business jets with very little downtime:

- CL300
- Citation 550, 560, 560XL
- Falcon 50
- Galaxy & Gulfstream G200, GIV, GV
- Hawker 700-1000 Series
- Learjet 60

Is 5G Interference An Issue?

The potential for 5G cell phone towers to interfere with an aircraft's RadAlt (Radio Altimeter) during low visibility landings is a significant concern for the FAA and the safe operation around these locations. Aircraft landing in close proximity to towers broadcasting signals near the same frequency range as those used by cockpit devices raise concerns that 5G signals from cell-phone towers could prevent certain aircraft systems that rely on information from the RadAlt from performing correctly.

During the past year, the FAA and telecommunications companies have been evaluating the affect 5G has on aircraft operations in close proximity to these 5G towers and have provided guidance through Airworthiness Directives and NOTAMS. On June 30, 2023, the 5G towers will begin broadcasting at a higher power rate, which

may affect the reliability of the information being received and communicated to the cockpit. At this point, much is still being done to define what impact the increase in power from the 5G towers will have on flight systems.

The FAA has initially focused on commercial transportation due to the volume and frequency of flights requiring low-visibility approaches in known areas of 5G interference. Business aviation will also be affected in these 5G areas, and we anticipate more information to be released from various governing agencies and aircraft manufacturers to provide guidance for safe operations.

Most recently, the FAA issued AD 2023-03-06, prohibiting autopilot and autothrottle operation below 400 feet when near 5G C-band interference in GLEX, GLXRS, GL5000, GL5500, GL6000, and GL6500 jets. It also

prohibits dispatch with certain weight-on-wheels CAS messages.

We anticipate more Airworthiness Directives or service advisories to be issued by various governing agencies and/or aircraft manufacturers to provide additional guidance for operators. We don't know the full extent of what systems will be affected as there are numerous systems on the aircraft that use the RadAlt data for safe operations, including terrain alerting, autopilot systems, and much more.

Duncan Aviation will continue to educate our customers about the potential affect 5G frequencies may have on business aircraft and the safety of air travel, and we will communicate the most current information available to us.

CMS (Cabin Management System) Innovations

Concern with obsolescence and interest in new, innovative features are driving a strong demand for upgrades to CMSes (Cabin Management Systems).

For those who face issues with obsolete switch panels, ALTO Aviation's Cadence switching is an innovative option available in the market today. Designed as a direct replacement for many of the older, non-supported cabin switching systems, it is a cost-effective and simple upgrade, minimizing both installation labor and completion time.

For those seeking the latest in cabin technology, look to the

Collins Aerospace Venue CMS upgrade options. Installed in more than 1,500 aircraft to date, Venue offers features such as HD/4K video display, intuitive touchscreen switching with a new GUI (graphical user interface), HD moving maps on cabin displays and on mobile devices, and wireless integration with passenger smartphones and tablet computers.

The CMS trend is moving away from installing traditional media players and toward allowing passengers to integrate their personal electronic devices

and the content they bring with them to the cabin streaming devices.

Moving maps, such as Airshow, are still incredibly important to passengers who want to know flight details during their flight. The latest Airshow software packages are now available, setting a new bar in dynamic presentation and display resolution.



Collins Aerospace Venue ASXi-5 Airshow



DUNCAN AVIATION

SATELLITES SEE GROWTH

Throughout its 66-year history, Duncan Aviation has made a point of listening to its customers, especially when they say they'd appreciate having a Duncan Aviation presence nearby. In the last few years, at customers' requests, the company has opened Satellites/workaway stations in Aurora, Oregon; Nashville, Tennessee; Manassas, Virginia; and now, the newest fixed location at the Republic Airport (FRG) in Farmingdale on Long Island, New York.

▲ NEW LOCATION

After Duncan Aviation closed its hangar doors at the MacArthur Airport (ISP) on Long Island in 2008, customers have been asking about a new Duncan Aviation Satellite to provide avionics support in

the area. In late 2022, the company found the right location at the Republic Airport, and in January 2023, the FAA approved the space. For the first time in 14 years, Duncan Aviation has a presence on Long Island.

Housed in the spacious hangars of Atlantic Aviation, the Satellite operates under the capable management of Pete Marte, a 19-year team member and Manager of several other Duncan Aviation Satellites including Oxford, Connecticut; Bedford, Massachusetts; and White Plains, New York. Its technical team is led by Satellite Avionics Tech Pedro Roque.

"Growth in the area has been significant since we closed our shop at MacArthur, and there was truly

a great need for avionics support in the area," says Manager of Satellite Operations Matt Nelson. "There are few shops anywhere in the area, so Pedro and the team make a big difference to customers at Republic Airport."


The team serves scheduled customers and those with drop-in needs.

"I'm excited to see and work with old friends and clients from years ago," says Pete. "I'm confident that we'll have a successful go of it and give clients in the area the high-quality, Duncan Aviation service they're expecting."

Prospective customers are welcome to stop by and see what Duncan Aviation's skilled technicians can do for them. Duncan Aviation Farmingdale is located at 9100 Republic Airport, Rt 109, Hangar 5, Suite 5 in

Farmingdale. The techs can be reached by phone at +1 631.465.0144

NEW SERVICES

Customers of Duncan Aviation's Satellites and workaway stations can expect a few more changes at the shops in their areas. Duncan Aviation is always surveying the market and asking operators how we can best support them. In 2020, the Satellite in Teterboro, New Jersey, added limited airframe services. Helping support Meridian, the FBO the shop is located within, with all of its oxygen and nitrogen needs, Duncan Aviation Airframe Tech Devin Marchesani has been working wheels and brakes and providing customers in Teterboro assistance with their additional airframe needs. 

Making Money With Aircraft Parts Consignment

For more information, email WeConsignParts@DuncanAviation.com



The Duncan Aviation Parts Consignment Program began in 1984 with one aircraft operator selling Piper aircraft parts. Today, the program helps nearly 300 operators free up space in their hangars and warehouses while earning money with consignment payouts totaling over \$3 million last year.

Accessories, avionics systems, instruments, components, consumables, and GSE equipment are sold every day by the Parts & Rotables Sales experts at Duncan Aviation. It's a unique solution for operators looking to sell spare parts or reduce their surplus inventories after purchasing a new aircraft or upgrading to a new avionics system.

Lucrative Offer

While preparing a quote for an avionics system upgrade, Avionics Sales Rep Adrian Chene proposed that his customer consider selling the removed system through the consignment program rather than accepting a \$40,000 lump sum trade-in value offered elsewhere.

The removed system was inspected, cataloged, and made available for immediate sale in the Duncan Aviation parts inventory. Within nine months, he's received more than \$100,000 for one-third of the inventory sold.

"That's a 250% higher return on investment than the competing offer," says Phil Ozenbaugh, Consignment Program Manager. "And he still has more to sell. It's a lucrative offer that only Duncan Aviation can make."

The Program


The Parts Consignment Program is quite simple. Duncan Aviation takes possession of, and all responsibility

for, a client's inventory. We do the heavy lifting, traveling miles to inspect, pack, and transport the new inventory. If we cannot be on-site, we will make arrangements with a shipping company to assist.

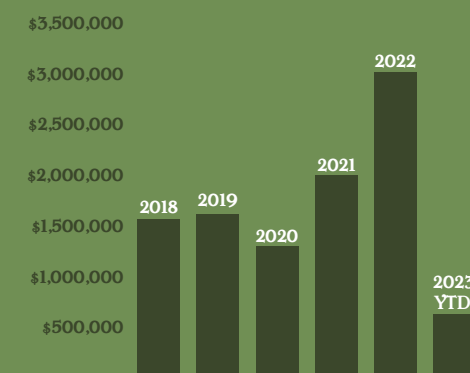
"We are accountable for the entire process," says Phil, "from receiving the inventory to the final sale, while customers maintain ownership and collect checks. We warehouse, insure, advertise, sell, invoice, collect payment, package, and ship, so they don't have to."

Consignment inventories are stored on-site in an environmentally controlled warehouse at Duncan Aviation's Lincoln, Nebraska, facility. Having the part on-site leads to quicker sales, immediate overnight delivery, and better support for both the consigner and the buyer.

Duncan Aviation's customer base, marketing strategies, and reputation help parts sell faster. Inventories listed in nearly a dozen locator services, including PartsBase, ILS (Parts Inventory Locator Service), and Controller, are updated daily, creating confidence in a buyer that inventory reports are accurate.

For more information about Duncan Aviation's Consignment Program, email WeConsignParts@DuncanAviation.com 

Total Consignment Sales



Parts Consignment Program Highlights:

- Customer inventory is located at Duncan Aviation's Lincoln facility
- Duncan Aviation Parts & Rotables Sales team is staffed 24/7/365
- Live customer service is available by phone, email, and chat
- Immediate and AOG shipping, 24/7/365
- Duncan Aviation collects payment for all sales transactions
- Multiple consignment payout options
- Duncan Aviation provides sales and quote history reports
- Each sale comes with a 30-day guarantee

Duncan Aviation Advantages:

- We are a well-established aircraft parts resource
- Customer inventory is made available to our in-house and Satellite customers
- Customer inventory is available to our worldwide customer base
- We treat your inventory as our own
- We determine a fair market value using historical pricing, sales, and quoting data specific to each part
- We are selective regarding the inventory we accept; It must have good traceability and paperwork
- Inventory shipments made 24/7/365
- Live customer service around the clock, every day 



News & Tech Updates

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

www.DuncanAviation.aero/news



Honeywell Air Data Computer AZ-800/810

Honeywell Air Data Computer AZ-800/810 Service Expanded

Duncan Aviation recently entered into a service agreement with Honeywell Aerospace that transfers the repair capabilities and exchange inventory of ADC (Air Data Computer) AZ-800/810 product lines to our component repair facility in Lincoln. The product line consists of the AZ-800 and AZ-810 ADC Systems for the business, general, and commercial market segments. As a licensed Honeywell Authorized Service Center and Channel Partner, this expanded service builds upon our existing Honeywell authorizations by adding specified part numbers. 🛠️

Citation VII Acquisition & Refurbishment

Duncan Aviation is excited to showcase this Citation VII that was purchased through Duncan Aviation's Aircraft Sales & Acquisition team and immediately taken to Duncan Aviation's full-service facility in Battle Creek, Michigan, to receive new paint, full interior refurbishment, Universal Insight Flight Deck install, Gogo AVANCE L3, and USB power ports.

The business partners who own the aircraft had been jet-card/charter users until 2020 when the Duncan Aviation Aircraft Sales & Acquisitions team helped them purchase a Citation S/II. Leah Alexander, Aircraft Sales & Acquisitions, says that the owners

had been flying a bit under 200 hours per year, but once they owned their own aircraft, that number jumped to just over 360 hours per year. As their needs changed, they needed a new aircraft. After a rigorous comparison of potential models and market research, Leah helped them purchase the Citation VII. About the transformation from the dated aircraft they purchased to the fresh, beautiful aircraft they operate today, the owner had this to say: "We were extremely impressed with the work, and more importantly, we are grateful we chose Duncan Aviation for this refurbishment. The project was simply too complex to go anywhere else." 🛠️

¿Como Puedo Ayudarlo? Latin Customer Support Added

Our Component Services has added to its bilingual customer service and sales team to increase support for our rapidly growing Latin customer base in Mexico, Central, and South America. The growth in the team comes in response to the steady increase in demand for parts and rotables sales and reliable component repair and overhaul services.

"Having a team fluent in Spanish makes it easier for our customers to do business with us," says Keith Schell, Duncan Aviation Component Services Manager. "Customers can reach a live person who speaks their language and shares cultural similarities."

Latin Customer Support: Parts & Rotables Sales

Matthews Pastor: +1 402.479.4218

Matthews.Pastor@DuncanAviation.com

Christian Avelino: +1 402.479.1560

Christian.Avelino@DuncanAviation.com

Component Repair Services

Erika Jimenez Johnson: +1 402.470.4625

Erika.JimenezJohnson@DuncanAviation.com

Alexander Menjivar-Valverde: +1 402.470.4561

Alexander.MenjivarValverde@DuncanAviation.com 🛠️



Left to right: Alexander Menjivar-Valverde, Erika Jimenez Johnson, Matthews Pastor & Christian Avelino



First PC-24 Painted Outside Pilatus Production Facility

Duncan Aviation recently painted the first PC-24 to be completed outside of a Pilatus production facility. The aircraft was brought to Duncan Aviation's full-service facility in Lincoln to be repainted to better meet the style of the owner.

"As the leader in painting business jet aircraft, we often take on the challenge to be the first to provide paint services on newer business jet models," says Duncan Aviation Completions & Modifications Sales Rep Adam Beach. "It requires a trusted team to perform the additional research and planning on the front end to make sure all of the requirements for the aircraft are met."

Hardy Hay, the Director of Maintenance/Chief Pilot with Det 9 Aviation, was more than pleased at the time of delivery. "Being a new design aircraft to the industry with very little history, this turned out to be a challenging project," he says. "The professional service I received from the hospitality suite, fuel, maintenance, project coordination and all the way until delivery was impeccable. The Duncan Aviation team went above and beyond coordinating with Pilatus service centers, Pilatus in Switzerland, and Pilatus North America in Colorado

www.DuncanAviation.aero/gallery

Parts & Rotables Sales: www.DuncanAviation.aero/parts



CL300 PMA Approved Switch Panel manufactured by DMS (Duncan Manufacturing Solutions)

to ensure every process was done according to the Pilatus aircraft specifications. I will use only Duncan Aviation to paint my aircraft from this point forward.” 🛩️

PMA Approved Switch Panels For Low Serial CL300s

In an effort to fill a need in the industry, we recently created a Parts Manufacturer Approval (PMA) part for the bezel surrounding the odd-shaped cutout left when replacing the obsolete Audio International switch panel in CL300 aircraft with serial numbers 20003 through 20123. In the past, upgrading to a newer Collins Aerospace Venue™ CMS (Cabin Management System) required making modifications to the drinkrails because of an odd, dog-ear-shaped cutout. This added to the expense of the replacement.

Our Engineering team and DMS (Duncan Manufacturing Solutions) collaborated to create not just the STC but also a part that will house the new Collins Aerospace touchscreen panel. The STC covers the part necessary to fill the cutout and Duncan Aviation will provide whatever finish the customer envisions. Our Interior teams can paint, plate, or apply hydrographics to the panels to make the new panels flow with the aesthetics of the interior design.

Duncan Aviation has replaced several of the old switch panels and bezels to date. The STC is completed and the parts, manufactured by DMS, are available with the Collins Aerospace Service Bulletin (CSBRS-210054-01 (Rev. A)). 🛩️

Bombardier Tech Rep Support Team Expanded

We recently added two Technical Representatives at our Lincoln, Nebraska, location to provide advanced technical troubleshooting and technical support for customers who operate Bombardier aircraft. They also provide in-depth support to our airframe maintenance teams.

Duncan Aviation has had a strong business relationship with Bombardier for decades. As an Authorized Service Facility for all Bombardier Learjet* models, all Bombardier Challenger* models, and Global 5000, Global 5500, Global 6000, Global 6500, and Global Express, Global XRS* model aircraft at all our MRO locations, we are committed to providing top-notch service and support for the Bombardier fleet.

Duncan Aviation Tech Reps are some of the industry's most experienced and highly respected experts. They use their talents and knowledge to advise, teach, and support customers and internal Duncan Aviation technicians while adeptly liaising with OEMs.

Trevor Bartlett and **Max McElroy** are Duncan Aviation's latest members of the Tech Rep team.

Since joining Duncan Aviation in 1995, Trevor Bartlett has had years of hands-on experience leading teams and projects on all models of Challenger and Learjet aircraft. As a Duncan Aviation Tech Rep, he supports the Challenger 300* aircraft series and Learjet aircraft. Contact Trevor at Trevor.Bartlett@DuncanAviation.com or +1 402.470.4636.

Shortly after joining Duncan Aviation in 2015, Max McElroy led airframe maintenance teams and

projects and grew his knowledge of the Bombardier program. As a Tech Rep, he supports the Global* and Challenger 600* aircraft. Contact Max at Max.McElroy@DuncanAviation.com or +1 402.536.9662.

Trevor and Max join Todd Shriner, who has been instrumental in Duncan Aviation's Bombardier program since 2007, advancing to the Tech Rep position in 2019. Todd focuses on continuing to grow Duncan Aviation's Bombardier program, supporting OEM relationships, and helping create solutions for internal and external customers. He continues to be a top-tier troubleshooting resource for Duncan Aviation and our customers. Contact Todd at Todd.Shriner@DuncanAviation.com or +1 402.479.1681.

* Trademarks of Bombardier Inc. or its subsidiaries. 🛩️

Quality & Continuous Improvement Specialists

We recently added two members to our Continuous Improvement (CI) team: **Nathan Hansen** joined the team at our Provo facility and **Justin Morgan** joined the team in Battle Creek. Innovation and Continuous Improvement Manager Erin Hart has been soliciting ideas to help eliminate waste, increase efficiency, maintain safety, and reduce costs at the Duncan Aviation facility in Lincoln since October 2015.

“At Duncan Aviation, we're proud of our position as an industry leader, and we work hard to maintain that. We never take for granted that we're doing things as efficiently as possible and look for ways to improve how we do things,” says Erin. “The whole idea behind CI at Duncan Aviation is to make meaningful changes that will have a positive effect on every aspect of our customers' experiences.”

CI is an integrated philosophy that helps managers harness the creative ideas of the team members who are doing the work to help identify areas in which quality, products, and services can be improved.

Nate brings a wealth of knowledge and experience to his position as Innovation and Continuous Improvement Manager in Provo. After serving in the United States Air Force, where he was a mechanic working on F-16s, he took classes at Embry-



Left to right: Max McElroy, Todd Shriner & Trevor Bartlett

Riddle Aeronautical University and graduated with a Bachelor's Degree in Logistics and Supply Chain Management. In 2020, Nate graduated with his MBA from Park University and took a position with ADDX Corporation, where he worked primarily on modernizing communications systems in A-10 aircraft. He also developed a new corporate-wide quality management system based on ISO9001 and AS9100 Quality Management Systems.

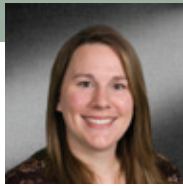
Justin also brings relevant experience and knowledge to the Duncan Aviation facility in Battle Creek. Having graduated from Western Michigan University with a Bachelor's Degree in Electrical Engineering, Justin joined the team at Stryker, a medical device manufacturer, as a Quality Engineer. There, he delved into the concepts of LEAN management, where he learned all about Continuous Improvement. 🛩️

People On The Move

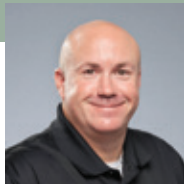
Tracy Bohaboj has moved to the position of Sales Representative for Government Programs in Lincoln. Tracy focuses on assisting the company's Government Programs team in pursuing additional opportunities with US and international government agencies. In her nearly 16 years at Duncan Aviation, Tracy has worked with the Structural and Interior Engineering teams and most recently has served as Team Leader and Certification Coordinator for Engineering, leading her team in the design, analysis, FAA certification, and international validation efforts on a range of engineering projects.

Bob Cornett has accepted the Airframe Manager position in Provo. Bob joined the Duncan Aviation team in Lincoln in 1999 as a Line Service Representative, after having

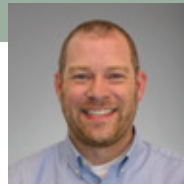
AIRCRAFT SALES & ACQUISITIONS



Tracy Bohaboj



Bob Cornett



Nathan Hansen



Jonathan Heiss



Justin Morgan



Micah Pfeiffer



Stef Sedam



Terry Stehlik



Robert Suarez



Phil Suglia

performed roughly the same duties in the United States Navy. In 2018, Bob was asked to move to the company's facility in Provo and build the location's FBO Services from the ground up. He jumped at the chance and took on the responsibilities as Manager of FBO Services. In January 2021, he added Manager of the Accessories Shop.

Jonathan Heiss is the company's newest Airframe Service Sales Rep in Battle Creek, Michigan. In his new position, Heiss assists Falcon operators in planning for large airframe maintenance events, providing detailed technical quotes, answering service and capability questions, and scheduling maintenance visits.

Micah Pfeiffer has also joined the Airframe Service Sales team. Located in Provo, Utah, Micah assists Textron customers in planning and scheduling maintenance events and provides detailed technical quotes. Micah's aviation career began at Duncan Aviation in 2012 as a paint technician in Lincoln. He rose quickly to Master Technician, gaining valuable skills and experience along the way. After the new hangars were built in Provo, he saw an opportunity to advance further and decided to relocate in 2019 to become a Team Leader and help the paint department grow.

Stef Sedam, based at our Provo, Utah, location, has accepted the position as Manager of the company's Regional Managers. There are eight domestic Regional Managers and five international Regional Managers at Duncan Aviation, each representing their respective geographic territories, within which they are actively involved with the companies, aircraft, and various industry partners. They engage in these regions by serving on boards, attending conferences, meeting with industry professionals, and traveling to personally call on customers. With their extensive

knowledge of the cultural landscapes, client needs, and of Duncan Aviation's resources, the Regional Managers are uniquely qualified to provide excellent support in the field.

Terry Stehlik has accepted the position of Program Manager for Government & Special Programs at our Lincoln facility. In this position, she manages a multi-year contract for a large fleet of aircraft. For the last 14 years, Terry has been a Government Contracts Manager and Facility Security Officer, so she already understands the issues that face Government & Special Programs.

Robert Suarez has transitioned to a full-time Aircraft Sales & Acquisitions broker. Robert began his career at Duncan Aviation in 2016 and more recently joined the Aircraft Sales team as a Market Research Analyst in 2021. Suarez is eager for the opportunity to assist owners and operators in fulfilling their aircraft needs and necessities through Duncan Aviation's vast network of resources, industry-wide data, and the backing of a team that has been buying and selling aircraft for more than 66+ years.

Phil Suglia is the new Vice President of Modifications and Completions at the company's full-service facility in Provo. In this new role, Phil is responsible for the Interior, Avionics Install, and Avionics Line teams in Provo, in addition to serving on the company's Senior Management Team. Phil was previously located at our facility in Battle Creek, where he was responsible for Duncan Aviation Regional Managers located throughout the world. Hired as a Line Services Rep in February 2000, Phil has spent the last nearly 23 years of his career managing various teams and building a culture of quality and trust among Duncan Aviation team members and its clients in order to deliver the highest level of customer service and safety in the industry. 

Founded In
1956

As An Aircraft Sales
Organization

66+

Years Buying, Selling
& Supporting Aircraft
Owners & Operators

In The Last 36 Months,
Duncan Aviation Has
Conducted Business With

92%

Of The Fortune 100
Companies That Own
Business Aircraft

55,517

Service
Relationships
Globally

3,500+

Aircraft Sales/
Acquisition Transactions

2,500+

Team Members
Worldwide
Including In-house
Tech Reps, Regulatory
Support, and Import/
Export Experts

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Our Commitment:

To leverage the extensive experience and resources of Duncan Aviation for the benefit of business aircraft sales and acquisition clients worldwide.

8,496 Unique Aircraft Make, Model, Serial Numbers
Touched Enterprise Wide In 2022



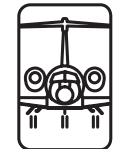
705
Learjet



352
Embraer



416
Hawker



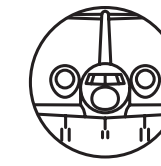
2,002
Cessna



979
Falcon



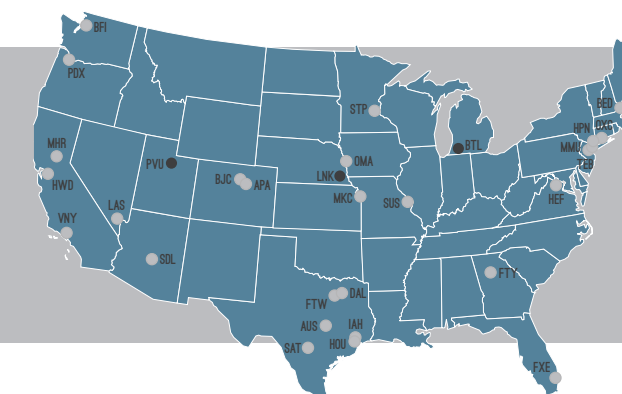
809
Challenger



1,092
Gulfstream



303
Global



36
Locations



96

Aircraft In-house (Daily Average)
BTL, LNK & PVU



In 2022, Worked On
Aircraft Based In
79
Countries/Territories