
by Duncan Aviation

A PUBLICATION OF DUNCAN AVIATION

Duncan Debrief

Fall 2010

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Cover: Duncan Aviation Chairman Emeritus J. Robert Duncan was given the coveted call sign of "Dove 1" during the Cessna Citation Special Olympics Airlift this summer. His plaid mustang was the first aircraft to arrive in Lincoln, Nebraska, home to the Special Olympics USA National Games, on Saturday, July 17, as he and his co-pilot grandson, P.K., delivered an athlete contingent from Ohio.

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Donald Duncan (1922-1981)

from the chairman

Todd Duncan

I was scheduled to be co-pilot with Dad on the Dove 1 flight for the Cessna Citation Special Olympics Airlift. A couple of nights before the airlift, though, my youngest son, P.K., expressed intense interest in going.

Some of the fondest memories I have from when I was roughly P.K.'s age occurred while flying business trips with my grandfather, Duncan Aviation founder Donald Duncan. I learned so much about the business, the company and the man during those trips. So it was an easy decision for me to allow P.K. to represent me on the Dove 1 flight.

It was a great decision. I was at the Airlift Saturday morning when Dove 1 landed and felt the excitement and buzz from everyone on the ground awaiting that first athlete contingent. Whether it was the airlift's ground support team ready to jump into action, the community volunteers ready to welcome athletes and coaches, or the community members who showed up to watch, the excitement was contagious.

P.K. really enjoyed the experience. He went to dinner with Dad and some customers on Friday night and then woke up bright and early Saturday to meet the athletes and fly them in to Lincoln for a 7:30 a.m. landing. He said it was a great, smooth flight with no bumps but with excited, happy passengers.

He was also struck by how many people were there when they landed. On the ground, I ran in to hundreds of Duncan Aviation team members, Lincoln community leaders, customers, Cessna Aircraft Co. employees and management and even the heads of the AOPA, NBAA and GAMA industry associations.

Everyone pulled together and rallied around the event. And the best thing is that none of us did it for us, we did it for the athletes. It truly was about them and making the event something they will always remember and cherish. Judging by the athletes from Ohio who rode in Dove 1, I'd say we were all successful in that goal.

Pictured Above: Robert Duncan with his grandson, P.K., after they arrived in Lincoln, Nebraska, for the Cessna Citation Special Olympics Airlift.

customer service manager

Chad Doehring

Chad Doehring understands planning. As the Customer Service Manager at Duncan Aviation's Lincoln, Nebraska, location, he understands how important project planning and communication is in the success of the aircraft projects that flow through Duncan Aviation facilities.

From March 2009 until this July, Chad also helped coordinate the ground support equipment and volunteers for the Cessna Citation Special Olympics Airlift, which took place this summer at the Lincoln Airport on July 17 and 24.

"We sent a good-sized team from Duncan Aviation to the airlift four years ago in Des Moines," Chad says. "We learned from that experience and had an idea of what would be required to pull it off. The airlift fit well with the level of skills, experience and energy found in Duncan Aviation team members and I'm proud of how everyone pulled together and worked to make it happen.

"Personally," Chad adds, "it was an experience that I absolutely enjoyed. It was very rewarding to go through months of sometimes tedious planning and then witness everything come together just as it was supposed to on the day of the event. The whole operation flowed seamlessly and without a hitch.

"The benefits the athletes received from the Airlift were worn on their faces. The best part was seeing their smiles."

Volunteers Find

Special Olympics Airlift an Uplifing Experience

At 6:30 a.m. on Saturday, July 17, Brian Ryba, a Marketing Information Specialist with Duncan Aviation, gathered with 135 of his co-workers and countless volunteers from the community and Cessna Aircraft Co. at the Lincoln Airport to await the arrival of the first aircraft in the 2010 Cessna Citation Special Olympics Airlift.

The mission of the airlift was to fly 839 athletes and coaches from 26 states to the Special Olympics USA National Games, which were held July 18-23 in Duncan Aviation's headquarters city of Lincoln, Nebraska. To do this, 150 Cessna aircraft landed at the Lincoln Airport over a 10-hour period with one landing roughly every four minutes. The owners of the aircraft proved once again how generous and caring the business aviation community is by donating not only the use of their aircraft but also the crews and all associated costs, including fuel.

Piloted by Duncan Aviation Chairman Emeritus J. Robert Duncan, the first aircraft to arrive was a Citation Mustang carrying athletes representing Ohio. Designated "Dove One," the Mustang touched down at 7:30 a.m. and Brian and the other volunteers sprang into action. There were teams of "greeters" and "escorts" to welcome the athletes, cheer for them and ensure they maneuvered the tarmac area safely and quickly. Brian divided his time between unloading luggage and driving luggage-filled EZ-Gos and Gators to one of seven waiting UPS trucks for delivery to the various places the athletes would stay throughout the week.

In spite of the luggage demands and the drenching Nebraska heat and humidity, Brian was caught up in the celebratory mood of the day. He says, "It was just awesome. It was so cool to see the athletes get off the planes with big smiles on their faces."

He adds, "It was amazing to see how well-organized the event was, too. For the amount of activity, the number of people and airplanes, it all ran remarkably smoothly."

That is because the number of hours spent planning for the event is staggering. And the event has been going on long enough that experience has been an excellent teacher. It was the sixth Special Olympics Airlift coordinated by Cessna Aircraft Company and the second in which Duncan Aviation participated. It was the first in which, as the major FBO on the chosen city's airport, Duncan Aviation held such a pivotal role.

"The energy and emotional payout you get from helping so many people and seeing the joy on the faces of the athletes is the best payment you can receive."

Doyle Garrett, a Duncan Aviation Project Manager, spent nearly two years planning for the event and working with Cessna, the Federal Aviation Administration, the Lincoln Airport Authority, and the Special Olympics in the coordination of Duncan Aviation's 266 volunteers and community partners in the ground and flight logistics including the unloading, moving, fueling, and possible service for such a large number of corporate jets in such a short time span.

"It was lots and lots of work with a lot of long, full days," Doyle says. "But it was fun, rewarding work. The airlift logistics went well. The energy and emotional payout you get from helping so many people and seeing the joy on the faces of the athletes is the best payment you can receive. I was thrilled to be part of it."

The whole operation ran in reverse on Saturday, July 24, when 131 additional Duncan Aviation volunteers joined community members, Cessna employees and Cessna owners once again to return the athletes and coaches to their homes.

Brian says he would like to help again with the next Special Olympics Airlift in 2014. He says, "The experience was so moving. Everything that so many people were willing to put into this to make it all come together just amazed me."

"Everything that so many people were willing to put into this to make it all come together just amazed me."

Brian cares so deeply about the athletes who participate in the Special Olympics that he and three other Duncan Aviation team members participated in the Polar Bear Plunge at a local Lincoln lake in February of this year. They braved 27-degree air temperatures and frigid, ice-covered water without wet suits to raise $1,500 for the Nebraska Special Olympics team.

Brian says, "When you have a child with special needs, it makes you want to get more involved in events like the Special Olympics." Brian's eight-year-old son, Kolton, has Nager Syndrome, which is a rare condition that causes facial anomalies but doesn't usually affect cognitive development. Kolton is eligible for the Para Olympics as opposed to the Special Olympics because he doesn't have an intellectual disability. When asked if he'd like to see his son in the Para Olympics, Brian says, "As long as video games and eating are part of the 2022 Para Olympics, Kolton may be competing."

Airlift Creates

a Special Memory of a Special Friendship

Bill Wagner, now retired Chief Pilot for Townsend Vision in Des Moines, Iowa, wanted to make his final flights really special. He chose to retire after helping to fly two athlete contingents, a total of 16 athletes and coaches, home on Saturday, July 24, during the Cessna Citation Special Olympics Airlift.

With more than 18,000 hours, Wagner was the first pilot to taxi out of Lincoln Airport at 7 a.m. that day. He took Florida athletes and coaches home to Orlando.

He then came back to Lincoln for a second return flight in the airlift, this time to Oklahoma. Shortly before 2 p.m., Oklahoma athletes and coaches boarded his aircraft for what would be his last flight as a corporate pilot.

As a longtime customer of Duncan Aviation and friend to many Duncan Aviation team members, a crowd had gathered to say goodbye. He gave them a wide smile and waved goodbye as he boarded the aircraft for the final time. Doyle Garrett, a Project Manager for Duncan Aviation, a friend of Bill's since 1978 and a major organizer for Duncan Aviation's part in the airlift, ran alongside the aircraft to salute his longtime friend.

Photo Courtesy of Lincoln Journal Star

It made for a lasting memory.

"You know, leaving a career after 40 years isn't easy...especially flying," Bill says. "A year or so ago, I knew retiring was just around the corner. It was painful for me to think about. And then a lightning bolt struck me. Why not make the 2010 Special Olympics the last flight? After all, it would be the most important flight of my career."

He continues: "That moment. . . as I loaded the athletes on board. That moment. . . as I taxied out with Doyle Garrett saluting me. That moment . . .when the taxiways were lined with my friends from Duncan Aviation. That moment. . . I won't forget for the rest of my life!"

"It would be the most important flight of my career."

Photo Courtesy of Lincoln Journal Star

THE RISE OF "CHROME-FREE" PAINT:

Why Aircraft Paint Systems are Going Green

Duncan Aviation has been researching and testing "green" paint processes for nearly two years, and by 2011 all aircraft painted at Duncan Aviation's facilities will use an FAA-approved, chrome-free paint process.

The company is not the first business aircraft maintenance, repair and overhaul service provider to make the transition, nor will it be the last. For customers who have come to rely on Duncan Aviation's quality and attention to detail, the change begs the question: why make the switch without a regulatory mandate?

Chrome, a.k.a. "Hexavalent Chromium"

Hexavalent chromium has served as the primary means of corrosion protection in the aircraft industry since 1936 and allowed for the distinctive bare-metal finishes of the World War II era.

Generally referred to as chrome, chromate, or chromium, hexavalent chromium is found in the surface preparation processes and primers of traditional aircraft paint systems.

Chromates function as "sacrificial anodes," or metals that protect an aircraft's aluminum skin by reacting to corrosion first. While chromates serve this purpose very effectively, questions have been raised regarding safety and possible environmental hazards. They also come with stringent regulatory requirements.

Environmental and Safety Considerations

Chromates are known cancer-causing agents, or carcinogens. According to the Occupational Safety and Health Administration (OSHA), health impairments from continued workplace exposure could include increased risk of lung cancer and irritation or damage to the nose, throat, lungs, eyes and skin.

Although there are no regulations requiring the adoption of chrome-free processes, OSHA and the Environmental Protection Agency (EPA) both have regulations for tolerance levels.

In a ruling in 2006, OSHA mandated a 52% reduction in permissible exposure limits (PEL) to all forms of hexavalent chromium in the aerospace industry.

The EPA also takes a keen interest in contaminants leaving a facility through waste water and exhaust vents. Chromates create hazardous waste streams "that cost the company dearly" to properly dispose of, explains Kelly Becker, Duncan Aviation's Environmental Director.

Paint processes that use chromates must capture waste streams and treat them at on-site pretreatment facilities. All contaminated materials, from waste water and exhaust filters to masking materials, must be properly disposed of as hazardous waste.

Doug Bohac is a paint industry veteran of 25 years and is the Paint Manager for Duncan Aviation's Lincoln, Nebraska, and Battle Creek, Michigan, paint facilities. He is a strong advocate for chrome-free paint systems.

A chrome-free paint process uses "safer products that perform just as well," Doug says. "It's environmentally conscious. It's good for the airplane. It's good for my customers. And it's excellent for my people."

Kelly Becker, Environmental Director

Doug Bohac, Paint Manager

"Chrome-free" Aircraft Paint Systems

While the industry tends to refer to chromate paint system alternatives as "chrome-free," they can contain trace amounts of chromium, says Kelly. Although hazardous materials like chromium and lead could be present in trace amounts, the levels are low enough to meet the tolerances for landfill disposal.

Traditional chromate paint systems use an acid etch to remove impurities, a chromate conversion coating to seal and protect the aluminum and its alloys, a solvent wipe and a zinc chromate primer as a second corrosion resistant barrier.

Chrome-free paint systems function in much the same way. Duncan Aviation's FAA-approved chrome-free paint process, available in both

> "It's environmentally conscious. It's good for the airplane. It's good for my customers. And it's excellent for my people."

Lincoln and Battle Creek, uses PreKote® as a pretreatment alternative and a Sherwin-Williams Chrome Hazard Free primer in place of traditional zinc chromate primer.

PreKote serves as an adhesion promoter, creating a stronger bond between the primer and substrate than traditional pretreatments. This results in fewer adhesion failures. The primer provides the corrosion resistance for this paint system. It is a more advanced product than its predecessors, providing corrosion protection without the use of chromate.

Every layer of the chrome-free paint system "adheres to itself," says Doug. "The combination of PreKote with a chrome-free primer achieves better adhesion, less mil thickness, and improved flexibility. This flexibility makes it more difficult for the intrusion of salt rain and water to cause corrosion."

Performance

Duncan Aviation's chrome-free paint system has been applied to 18 to 20 aircraft over the last year, says Doug, and has been used on Falcon 7Xs, 2000s, 900s and 50s, as well as Citation XLs, Citation 650s and some Learjets. The transition to this process has been in the works for more than two years and is backed by a long, collaborative relationship between Duncan Aviation and Sherwin-Williams Aerospace Coatings.

Like most new products, though, the development and testing of chrome-free paint systems had a rocky start. A decade ago, the systems were not as effective as their chromate counterparts. That reputation still lingers, even though they have become much more effective.

Extensive testing and evaluation in civil and military applications have yielded good results. Although test data is not available for the specific combination of PreKote and Sherwin-Williams Chrome Hazard Free primer, individual test results are very positive.

PreKote has passed several paint system specification tests by the United States Air Force

What to look for in a chrome-free paint service provider.

Chrome-free paint processes are relatively new to business aviation, and vigilance is essential when considering a service provider with a chrome-free paint system.

Proper surface preparation is critical to achieve the necessary adhesion and corrosion resistance.

Technician training on chrome-free paint processes and OEM requirements is essential. Knowing how to mix and apply products, and determine if proper application has been achieved, is essential to a quality paint job.

Paint supplier relationships are also important. The stronger

(USAF) and aircraft manufacturers. The USAF specified PreKote as the only replacement for chromated conversion coatings in the umbrella Technical Order for aircraft painting. When tested with different paint products, PreKote passed all test criteria and was tested safe on a variety of surfaces.

Sherwin William's Chrome Hazard Free primer passed all criteria and was found to conform to the Society of Automotive Engineers (SAE) requirements when tested on Alodine 1200 treated aluminum.

For test results and additional chrome-free paint system information, download "The Truth About Chrome-Free Paint Systems" field guide at *www.DuncanAviation.aero/interior*.

Maintenance Manual Considerations

For a service provider to be a FAA-certified repair station, they must paint aircraft according to the processes specified in an aircraft's maintenance manual. This poses a unique problem for manuals that do not specify a chrome-free paint process.

Using a paint manufacturer's process is not an FAA-accepted alternative, says Mike Mertens, Regulatory Compliance Manager at Duncan Aviation. The only legal way to provide a paint process that differs from the maintenance manual is to have an FAA-approved paint procedure.

"Since paint isn't considered a major repair or alteration, an FAA-approved process is usually accepted by foreign Civil Aviation Authorities," says Mike.

Duncan Aviation is among the few business aircraft maintenance, repair and overhaul companies with an FAA-approved chrome-free paint procedure. This ensures that no matter what is specified in an aircraft's maintenance manual, the paint procedure meets federal regulations.

"Our techs go through paint supplier and OEM completion training for the work they perform," says Doug. "Our training is there. We still stand behind our three-year paint warranty with this chrome-free system."

"Our training is there. We still stand behind our three-year paint warranty with this chrome-free system."

Additional Information

For more information about Duncan Aviation's "chrome-free" paint process, please call Doug Bohac at 402.429.2072.

To schedule your next paint event, please contact a Completions Sales Representative in Lincoln at 402.475.2611 or Battle Creek at 269.969.8400.

Detailed information about market drivers, performance and considerations for chrome-free paint processes is available in "The Truth About Chrome-Free Paint Systems." Download a free copy at www.DuncanAviation.aero/interior.

the relationship, the more likely a supplier will partner with a service provider to solve any potential problems.

How many aircraft the service provider has painted using chrome-free paint is an indicator of experience. Ask what makes and models they have painted and request customer references.

Watching a paint job in work can be valuable in assessing service quality and competence. Ask to observe a chrome-free paint application, if possible.

Ask if paint services comply with regulations. If a paint process isn't FAA-approved and it differs from the maintenance manual (or the manual doesn't specify a procedure), it doesn't comply with FAA regulations.

Dirty Fingerprint:

How detailed logbook entries benefit your aircraft.

When you think about the tools and equipment necessary to properly operate an aircraft, some of the first items on the list might be properly tuned engines, overhauled landing gear and the latest in flat-panel technology. There is one that is often given only cursory consideration but that can ground an aircraft faster than anything . . . paperwork.

Aircraft paperwork consists of log books, maintenance records, aircraft registration, airworthiness certificate, flight manual and ops books, among others. Not all have to be carried on the aircraft at all times, but must be up-to-date, complete and available for inspection. Without them, your aircraft is grounded.

Aircraft Logbooks: Safety & Compliance

Aircraft inspections are all about preventative maintenance. Because it is unwise and unsafe to allow certain critical parts to fail while they are in service, the Federal Aviation Administration (FAA) mandates that the owner/operator follow a Maintenance Program, one option would be the manufacturer Chapter 5 Requirements, or the operator could choose to use

an FAA approved Approved Aircraft Inspection Program (AAIP) program. The goal of Chapter 5 and the AAIP is to find and fix things before they go wrong and to keep an aircraft airworthy and in the air. It is the aircraft's logbook that provides the evidence everything is up-to-date with all maintenance and inspections. Of course this is nothing new to aircraft owners or operators. Logbooks have been required since the beginning of time, or so it seems.

"If it's not documented in the records, it's like it never happened."

The logbook is the written record and true representation of an aircraft's history. Whatever impacts an aircraft, whether maintenance, parts, life-limited components, inspections, etc., it requires documentation in the form of a logbook entry. In Federal Aviation Regulation (FAR) 43.9 and FAR 43.11, the FAA advises an operator to *write it down.* If maintenance is performed, *write it down.* Did you have it inspected? *Write it down.* FAR 43.9 regulates maintenance while FAR 43.11 regulates inspections. It is the law and failure to comply with either puts your aircraft in jeopardy of being grounded. According to the FAA, if it is not recorded, there is no proof it was ever done.

Paul Lewandowski, Duncan Aviation's Chief Inspector, likes to call it the *dirty fingerprint*. "If it's not documented in the records, it's like it never happened. You may have a perfectly safe aircraft but if you don't have it in your logbook, you can't prove it to the FAA. And if you can't prove it, the aircraft could be deemed unairworthy." Paul goes on to say, "Logbooks provide two things: safety & compliance with the law."

The FAA requires you to *write it down*, but it doesn't dictate how or to what level of detail. The only requirement is that a qualified person makes a statement about what inspections have been complied with along with a signature, date and an A&P or Repair Station number. It is not uncommon for Duncan Aviation's Maintenance Record Technicians to see entries with single-line statements such as, "We have complied with all Chapter 5 requirements logbooks entries at this time." Although these vague one-line entries fulfill the law, they often raise more questions down the road. Detailed logbook entries become critically important when an aircraft is in for life-limited component inspection, such as landing gear or the many parts within the landing gear that are life-limited. Were they overhauled? Repaired? Replaced? Was the replacement an overhauled component? How much life was remaining? What about Chapter 4 items?

In addition to detailed logbook entries, every operator should insist on having work order information included in the records. Just in case logbook entries don't cover everything required, a work order history is available to fall back on for proof. Many operators do not ask for this information and they should. It adds to the comprehensive history of the aircraft.

Impact on Pre-buy Evaluations

During a pre-purchase evaluation, the logbook plays a major role, and vague statements become a liability. The status of a logbook is a negotiable tool. The more complete and comprehensive, the more value it brings to the aircraft. If there is poor documentation and many items are left open with no record of completion, the buyer will negotiate based on those open items.

Doug Kvassay has facilitated many buyers and sellers through the pre-purchase evaluation. As one of Duncan Aviation's Aircraft Sales Representatives, he understands the impact a logbook can have when valuing an aircraft in the secondary market. "Lost logbooks have the potential to cost sellers up to 10% of the value of an aircraft. When valuing an aircraft, you either have complete, consecutive and original logs—or you do not. Although it doesn't happen often, potential buyers have walked away from a sale because of missing or incomplete logbooks."

An aircraft presented with a thorough and detailed logbook is more valuable in the secondary market than one that has vague entries that cannot prove maintenance was performed. If an inspection facility cannot determine from the log entries if a maintenance action was taken or a component overhauled or inspected, they will require the owner to complete it again. Inspections

and component overhauls are often recorded in the aircraft's maintenance tracking program as being done, however there is no documentation of it in the logbooks. Without that history on record, it is as if it never happened. The only option open to an owner is to spend the hundreds of thousands of dollars to have the maintenance performed again or try to contact all the maintenance facilities that touched the aircraft to recreate the missing maintenance history. Your logbooks are then at the mercy of how well these facilities maintain their work histories for their customers and the memory and willingness of the inspector who performed the work to sign off on his work again.

"Lost logbooks have the potential to cost sellers up to 10% of the value of an aircraft."

If you are considering putting your aircraft up for sale on the secondary market, it would be to your advantage to have a thorough and complete logbook research conducted to ensure all your bases are covered and no outstanding maintenance issues or holes remain. The cost of a comprehensive logbook research is considerably less than needing to have an inspection redone due to lack of documentation.

Logbook Research

A thorough logbook research will give the Director of Maintenance (DOM) a good idea of the state of maintenance the aircraft is in. This is accomplished by having your logbooks researched by someone who understands the requirements called out by the FAA, and the Original Equipment Manufacturer (OEM). This includes looking at the FAA mandated Airworthy Directives (ADs), Service Bulletins (SBs), inspection requirements and life limited components. It could go as far as an 8130-3 tag verification depending on how in-depth the DOM wants the aircraft research to be.

Duncan Aviation conducts AD and SB research on all aircraft that arrive for major inspection when the logbooks are provided. According to Penny Smith, Duncan Aviation Maintenance Record Technician, many of the issues found during logbook research are issues that aircraft DOMs may want to address. "As soon as the DOMs become aware of the outstanding AD, they allow us to do the work. It is a win/win situation. We are able to provide the operators a valuable service, and the customers avoid large fines from the FAA. Because the FAA monitors AD compliance very closely, we want every aircraft that leaves our hangars to be in complete compliance with the law."

Duncan Aviation has a team of Maintenance Record Technicians well-skilled in Chapter 4 and 5 requirements in addition to two full-time Chapter 4 and 5 experts dedicated to make sure the database is up-to-date with the latest ADs and SBs issued or any changes to airframe maintenance manuals. This ensures that the research is completed with

We make it easy. We make it hard.

Easy to understand

Duncan Aviation provides every customer with a good, clean, detailed logbook entry in a nice package where they can easily see all requirements have been complied with. They leave Duncan Aviation knowing they're flying safe and flying legal.

Hard to ignore

We provide every customer with a clear record of what is in compliance and what is pending, making it hard to ignore necessary maintenance requirements. There are no excuses for any aircraft to overfly its limits.

the latest information coming from the Original Equipment Manufacturers (OEMs) or the FAA.

Duncan Aviation is one of a few Maintenance, Repair and Overhaul (MRO) companies that can provide a customer with comprehensive aircraft maintenance service, thorough logbook research and maintenance tracking services. The combination provides an extra level of service that cannot be matched. Duncan Aviation has a clear understanding of the ins and outs of aircraft maintenance and how it translates into a logbook entry. The expertise and knowledge is first- hand and first-rate. Duncan Aviation provides every customer with exactly what is necessary, and the company stands behind its work. Knowing and understanding the maintenance history of the aircraft is beneficial to every customer that returns to Duncan Aviation for future work. Duncan Aviation maintains an aircraft's maintenance history in the Duncan Aviation Tracker Database for easy access for future work, whether or not the work was performed by Duncan Aviation.

Maintenance Tracking Services

Duncan Aviation is among a small number of maintenance repair facilities that has developed and maintains its own maintenance tracking system and database. Ours is called Tracker. Customers who take advantage of this service do not have any surprises when it comes to required maintenance. Tracker verifies that the necessary records are at hand, making it unnecessary to look elsewhere to get missing information from an outdated database.

Penny Smith says our typical Tracker customer is the one who wears lots of hats. "He is the pilot/DOM and responsible for all activities that surround the aircraft. He is the customer that we are able to help out the most. He can turn over his maintenance tracking needs to us and we will keep him informed of any and all necessary requirements that are pending and help him to develop a plan to meet his needs. He isn't required to come to Duncan Aviation for the work, we'd like him to come to us, but he isn't required to do so."

"He is the pilot/DOM and responsible for all activities that surround the aircraft. He is the customer we are able to help the most."

Duncan Aviation's Tracker service is set apart by the technical support available behind it. When a customer calls in and asks about a revision or an upcoming inspection that is due, all Duncan Aviation maintenance research technicians draw upon the comprehensive knowledge of in-house Tech Reps and Inspectors. They are ready to answer any questions an operator may have.

Whether it is an inspection, scheduled maintenance or meticulous detailed logbook entries, Duncan Aviation's goal is to keep you flying. *Wheels up!*

Common Pre-buy Concerns

During a pre-buy evaluation many aircraft have several appliance ADs that remain as open status items. This happens when an owner receives an AD on an appliance that is not installed on the aircraft. Instead of entering the AD into the logbooks and stating it is not applicable and then signing the entry, the AD is left undocumented. When it comes time to sell the aircraft, these open ADs will show up on the report as unfulfilled. If an appliance has been approved to be installed on your aircraft, even if it isn't, it will be in the database and the open status will need to be cleared. The simple solution is to notate every AD in the logbooks, whether or not they are applicable and then sign.

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Duncan Aviation Looks at Cabin Management

Late last year, a Duncan Aviation committee met for the first time to evaluate new aircraft cabin technologies. These new cabin management systems operate using digital technology to meet the demand for High Definition, Personal Electronic Device (PED) integration, as well as new technologies such as touch-screen control. With these major advancements due to hit the market soon, a team was created to evaluate the options. Quietly pulled together from across Duncan Aviation departments, they gathered to put their vast and varied experience to a focused task: select the best Cabin Management System (CMS) for Duncan Aviation clients.

As anyone who has been through a CMS installation knows, it can be a long, complex process. From the first spec session to designing and engineering the system to ordering the parts, installing them, checking them and training the crew to use them, it can take months to get it right. In the past, long lead times to accommodate engineering and parts availability, along with a multi-week downtime for installation, kept a new Cabin Management System out of reach for many aircraft operators. Thanks to new technology, that is about to change.

"Classic CMS are the definition of a one-off," says Justin Vena, a Duncan Aviation Avionics Installations Sales Rep. in Battle Creek, Michigan "Each installation is unique. In order to become more efficient, focus is required."

The committee met for the first time and did an initial ranking. The committee of engineers, designers, technicians and product experts looked at the latest offerings from nine manufacturers, evaluating them on 23 key criteria. Criteria included the following: product quality and durability; system scalability; ease of installation; lead time; specification time; specification flexibility; software pricing structure; warranty; ease of use; product line completeness; aesthetics; product support; certification pedigree; product maturity; audio/video noise

immunity; High Definition distribution ability; switch cover bezel removability; switch user interface; video latency management; rig testing; iPod interface; Original Equipment Manufacturer (OEM) completion history; and Universal Serial Bus (USB) media port interfacing and charging.

"I think we were very thorough and thoughtful in our approach to the evaluation," says Steve Elofson, Duncan Aviation's Avionics Installation Sales Manager in Lincoln, Nebraska "We wanted to ensure objectivity while evaluating the things that would really examine what makes a good system for our customers."

"With focus, we hope to reduce parts lead times by half and slash the total downtime..."

The results of the initial evaluation narrowed the original nine systems down to three. Now it was time for show and tell. The top three systems were brought to Duncan Aviation facilities so the committee could see how they worked and get a real feel for how they would be used inside an aircraft.

"Even with the on-site demo, it was difficult to imagine exactly how the systems would feel inside an aircraft," says Nate Klenke, a Completions Sales Rep in Lincoln. "To evaluate the functionality and aesthetics, I tried to imagine: What is it like to wake up when it is completely dark and find the switch to turn the light on? What is it like to watch a movie in the forward cabin while someone is using the Xbox in the aft cabin? How easy is it to see and use the switch panel in a specific location? What happens when I lay my pillow on the system? Does my elbow hit it when I'm sitting in the seat? These are some of the issues that tend to arise only after a system is installed and in use."

Once the committee had a chance to see and touch each system, the final evaluations began in earnest. Every detail was discussed and debated.

"We all had our favorites," says Justin. "It was interesting to share our varied points of view. All of the systems have very similar benefits. In the end, we'd be happy to install any of them."

But they knew they needed to narrow their selection to one top choice. With advances in technology and by focusing on installing one system a majority of the time, the teams at Duncan Aviation will be able to get very good not only at the installation, but better at designing, engineering and supporting it. The top systems were all designed to make the process easier for customers and installers. The focus on a single system goes beyond that, allowing for a process that will make the design easier and the engineering time shorter– providing a downtime that will make the decision easier for busy aircraft operators.

"The aircraft cabin is changing, really catching up with what our customers experience in their homes..."

"With focus, we hope to reduce parts lead times by half and slash the total downtime, putting a CMS installation within the realm of possibility for a standard downtime," Justin says.

These systems are designed for now and for the future. They are Ethernet-based systems that provide the most-desired entertainment options: HD, Blue-ray capability and Personal Electronic Device (PED) integration. The touch-screen controls are easy and intuitive to use and are easier to customize than ever before. The durability and streamlined box count equals lighter weight, less to install and less to troubleshoot if things go wrong. Perhaps best of all, the capability for future expansion in technology is well-thought out.

"It is really exciting," Justin says. "The aircraft cabin is changing, really catching up with what our customers experience in their homes: HD, touch-screen controls and wireless capability. I believe our program will make these systems accessible to more aircraft operators than ever before."

Or in other words, "The change is, there is no change," explains Nate. "With today's technology, the experience a passenger has on a jet shouldn't change from what we have all come to expect wherever we go. The mobile generation is here and moving at a pace faster than ever. Jet passengers are now expecting it to follow them on the aircraft. Cabin entertainment systems are becoming more and more integrated to the devices all of us carry in our pockets. With this new technology, passengers will be able to experience jet travel without the disappointment of not being connected."

To find out more about the process and the systems that landed at the top of Duncan Aviation's list, contact one of our Avionics Experts. You can find them at: *www.DuncanAviation.aero/contact/tech_reps-avionics.php*.

Malfunctioning Component?

You Can Trust the Experienced Duncan Aviation Team to Quickly & Efficiently Repair & Return It

Our customer calls with a component problem.

Obviously, pilots can see clear, blue skies. And they can usually see greenish, cumulonimbus tornado clouds and even those slate-gray, nimbostratus clouds looming on the horizon so they can arrange to fly around or above them. However, radar units help them prepare for what lies a little farther ahead. Typically, with the Honeywell Primus 870 Weather Radar unit, a pilot can see a sweep of a 300-mile radius on the screen, so he or she knows how to prepare for the near future.

Duncan Aviation radar technicians use the term "Radar Season" to describe the time of year when high winds and instability in the lower atmosphere collide with cooler air in the upper atmosphere to whip up severe thunderstorms capable of producing tornadoes. Radar Season hits North America around the beginning of April, and that's when pilots rely heavily on their radar units to perform perfectly and give them plenty of warning regarding any severe weather they may encounter.

Knowing this, when Duncan Aviation receives a radar unit to repair, the technicians strive to quickly isolate problems and get the much-needed radar system back to the waiting pilot. In fairness, though, Duncan Aviation technicians do that with every component they receive, not just radar units and not just during "Radar Season."

Everyone, from the Tech Reps who help customers troubleshoot to the Entry Specialists in Shipping & Receiving to the Radar Technicians who actually repair the radar unit know that the longer an aircraft is "Aircraft On Ground" (AOG), the more money it's costing the operator.

So every component, whether it's an autopilot system, a gyro, or a radar unit, receives the same efficient treatment from the experienced Duncan Aviation technicians. To show you what goes on behind the scenes, let's walk through the arrival of a unit for repair.

Not On The Radar

Let's say a chief pilot has been experiencing sporadic problems with a Primus 870. He calls Dan Magnus, a Duncan Aviation Tech Rep since 1976 and currently the Avionics Tech Rep Team Leader. If the pilot knows what's wrong with the unit, he'll probably tell Dan, who will open a tentative work order.

In all likelihood, the chief pilot will know what's wrong with the Primus 870 because it has an Electronic Flight Instrument System (EFIS), which displays error codes on-screen when the radar unit is malfunctioning.

If the pilot were dealing with a weather radar unit that didn't display error codes, though, he might describe the problem to Dan. For instance, he may describe the full sweep of the radar as having a pinwheel effect. Dan will note that in the work order as a "spoking" problem, typically caused by erratic frequency changes, which could be indicative of a magnetron failure.

When the pilot decides to send the faulty radar unit in for repair, he or she (or the company he works for) may request a loaner so there's no downtime for his aircraft. Dan or one of the Customer Account Reps can arrange to send a replacement "loaner" unit. If there are no loaners available or the pilot doesn't want one, Dan flags the work order in the system, noting that the aircraft is AOG, so everyone knows that component needs a quick turnaround.

A Component's Arrival

Once the work order has been opened, the Shipping & Receiving department knows who to direct the component

A work order is opened and noted loaner or AOG.

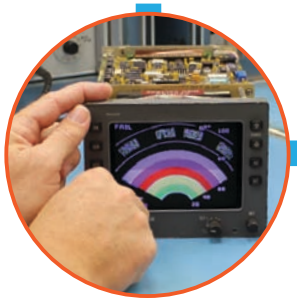
Component arrives in Shipping & Receiving and is delivered to the appropriate team lead.

to when it arrives. For problems with radar units, for instance, the unit will be delivered to Team Leader Rick Conner, who has been with Duncan Aviation for 22 years, 16 of those working on radar units. Rick will then assign the unit to one of the radar team's experienced technicians.

On any given day, roughly 70 components arrive in Shipping & Receiving for the avionics area. Most of these components have arrived because, as noted, the aircraft owner, chief pilot, or director of maintenance has contacted a Tech Rep, and the Tech Rep has opened a work order.

Jerry Gregis, Material Services Team Leader, explains that on rare occasions, Shipping will receive a component from a customer who has not yet contacted a Tech Rep. Without any contact information or paperwork explaining why the component is here, the folks in Shipping have to engage in a bit of detective work to trace the component back to its rightful owner. Often, that's easy to do by looking at the shipping order. There have been times, though, when even the name and address on the shipping order shed no light on who sent in the component. It may have

Team lead assigns the component to an experienced technician.



Technician determines the issue and informs the Customer Account Rep.

Loaner Program

Duncan Aviation has an inventory of loaner parts that now exceeds $7.5 million. In order to avoid aircraft downtime as your component is in for repair, you can borrow a replacement unit from the Duncan Aviation loaner program. Visit *www.DuncanAviation.aero/parts/loaners.php* for information about the program.

To fill out a Loaner Agreement, go to *www.DuncanAviation.aero/credit/open_account.php* to find printable forms, including an Avionics Loaner Agreement and a Credit Application.

For more information, visit *www.DuncanAviation.aero/credit/contact-credit.php* for a list of Credit Analysts and their direct phone numbers.

If you don't have Internet access, but you'd like information on the loaner program, call Duncan Aviation in Lincoln, Nebraska (402.475.2611) and ask for the Credit Department.

If you already have a loaner agreement on file, you can call an account representative directly and arrange to have a loaner sent (800.562.6377) while your component is being repaired.

arrived from a company or individual with whom Duncan Aviation has never done business, so the address on the shipping order is not in the system.

Jordec Cramer, Entry Specialist with the Shipping & Receiving department, says when that happens, he checks the data plate on the component. The data plate contains part and serial numbers, and with that information, he can usually trace the component back to the aircraft it came from. Jerry admits, "That scenario can be pretty perplexing."

With most components, the expense of the unit and its necessity to the aircraft mean that the chief pilot or director of maintenance will contact a Tech Rep prior to sending in a component.

When the Tech Rep notes in the tentative work order that an aircraft is AOG, Shipping posts the name and address of the company on a board so the minute the component arrives, it's logged in and routed to the appropriate bench.

Repairing The Unit

Once the unit has been received, entered into the work order system, and sent to the appropriate bench, a technician will ascertain what's wrong. As soon as that determination has been made, a Duncan Aviation Customer Account Rep will enter a quote with the cost of the repair into the system and contact the customer. There are three ways for the Account Reps to send quotes to customers.

First, if a company/individual has set up an account with *myDuncan.aero*, the Duncan Aviation project management system, the quote is immediately posted to the electronic account. The customer can log in, read the quote, and instantly approve the work. Setting up a *myDuncan.aero* account is quick and easy. To request access, visit *www.myDuncan.aero*.

Second, a customer may request that the quote be printed out and faxed. This is also a fairly speedy option.

Third, a customer may ask that a quote be printed out and mailed through the United States Postal Service. This option is understandably the slowest, and by the time the quote has been received by the customer, reviewed, approved, signed, and mailed back, a couple of weeks may have elapsed, and the component is still awaiting repair.

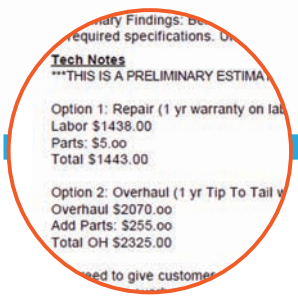
Quick Turnaround

Once a quote has been approved, the repair will begin immediately. Once the technician has finished the repairs, the component will be checked, recertified, and sent to the appropriate Account Rep.

The Account Rep will bill the work order and work with the Shipping & Receiving department to return the repaired component to its owner as quickly as possible.

Typically, this entire process takes mere days. At every step of the way, Duncan Aviation team members are committed to getting your faulty component repaired and returned as quickly as possible so you can be back in the air instead of sitting on the ground.

A Customer Account Rep enters a quote with costs and sends it to the customer who can approve via fax, mail, or myDuncan.aero. The Rep can also arrange for an exchange unit if that's a better option for the customer. Exchanges make sense when a new unit is not available or when the cost of repair exceeds the value of the unit.



The customer is back in business.

Customer Account Rep bills the work order and works with Shipping & Receiving to return the component.

Component is repaired, checked, recertified and sent to the Customer Account Rep.

Accessory Repair Troubleshooting Contacts

Call one of the Duncan Aviation Technical Representatives to receive free, 24/7 advice or troubleshooting information; to send in a component for repair; and/or to arrange for a loaner. Our Tech Reps include the following:

Jerry Cable, Accessory Rep. Jerry is an expert in accessory units, including hydraulic equipment and pumps, pneumatic valves, wheels and brakes, emergency power supplies, electric motors, mechanical actuators, landing gear and accessory components. He is also a system specialist. You may reach him at his direct number, 402.479.8112.

Curt Campbell, Avionics Tech Rep. Curt is an expert with air data computers, autopilot systems, EFIS, roll modules, mode couplers and selectors, static inverters, servos, spoiler system, tool calibrations, flight guidance computers, cabin displays and electronic flight display components. He is a system specialist and his direct line is 402.479.4220.

Dan Magnus, Avionics Tech Rep. Dan is an expert with automatic direction finders, comms, control heads, cockpit voice recorders, distance measuring equipment, gables, control heads, receivers, nav-comm/receivers, radar systems, global positioning systems, global navigation systems and transponders. He is a system specialist and you can reach Dan at 402.479.4217.

Gerry Shultz, Avionics Tech Rep. Gerry is an expert in instrumentation, vertical and directional gyros, airspeed indicators, horizontal situation indicators, attitude director indicators, encoders, course indicators, rate gyros, directisyns, vertisyns, radio magnetic indicators and pitot static components. Gerry is a systems specialist. You can reach Gerry at 402.479.4212.

Larry Troyer, Avionics Tech Rep. Larry has expertise with air data computers, autopilot systems, EFIS, roll modules, mode couplers and selectors, static inverters, servos, spoiler systems, cabin displays and electronic flight display components. Larry is a system specialist and you can reach him at 402.479.4219.

Buying For A Fleet:

Duncan Aviation's JetResources Team Can Help You Build Your Business

When Bob Sullivan, Chief Pilot and Aviation Manager for Oklahoma City-based natural gas company SandRidge Energy, was looking for a Challenger 601-3A in 2009, he picked up the phone and called Rene Cardona, Aircraft Sales Representative for Duncan Aviation. Bob had done business with Rene in the past, and as he says, "Rene has always treated us really well. I can take his word to the bank."

In 2007, SandRidge Energy needed a Citation SII to shuttle its employees, including drilling engineers, Information Technology and Human Resource specialists and field workers, from the company in Oklahoma City to its oil fields in Midland and Fort Stockton, Texas.

Bob says, "We choose to live in Oklahoma, but our work is in Texas. So we have to have reliable transportation in order for our people to support our operations in the field. I called a friend of mine who was the chief pilot for another company and told him what we were looking for. Without hesitation he said, 'You need to call Rene Cardona over at Duncan Aviation. He's a good guy, and he'll give you an honest answer.'"

Rene says, "When a director of flight operations calls to inquire about potential jet requirements, it's my responsibility to provide the most accurate information regarding cost and operation and research the market to find the best aircraft value." This

is what he did for Bob. After Rene thoroughly explored the market, the best SII value was determined to be a Canadian-owned aircraft. He then assisted SandRidge with the purchase of the aircraft and the start of its operation.

Rene has been selling aircraft for 30 years, 23 of them with Duncan Aviation. He says he got into aircraft sales for the same two reasons that have kept him there: "I really like airplanes, and I enjoy the relationships I've built over the years."

The business jet community is a relatively small community, and business relationships frequently evolve into friendships. Rene values those friendships. Getting to know a potential client helps Rene meet his or her unique buying needs. Rene adds, "My clients know they can use me as a resource. I'm here to research the aircraft market, keep my ear to the ground and negotiate with sellers so I can get the best aircraft value for them."

In late 2007, Rene says he and Bob discussed acquiring a CL-601-3A for SandRidge Energy, too. Bob says, "We decided rather than continue to spend on outsourcing our executive business travel, we had the resources, flight department and the infrastructure in place to bring it in-house."

After extensively researching and tracking various Challengers on the market in 2007, they decided it wasn't a good time to buy. During the next couple of years, Rene and Bob spoke frequently, and they continued to discuss the Challenger market. In May 2009, Bob's management wanted to look at purchasing a CL-601-3A. Bob asked Rene to put in front of him the four best value alternatives in that market segment. Once Bob met with his management, they decided to place an offer on one of the alternatives, and that aircraft was purchased.

Bob says of the Challenger, "We wanted a big, wide-bodied airplane suited to executive-business travel. Our Citations are perfect for shuttling our folks back and forth on short trips, but our principal frequently has much longer-range flights. Regardless of whether he's in the air or on the ground, he has to continue to perform his duties as Chairman of the Board. The Challenger is literally an extension of his office; it has wireless Internet access, a bathroom and a cabin suited for long hours of work. When it's wheels up, his laptop is open. He works the whole flight, and that's something he's not able to do with other modes of transportation."

Bob decided to bring his executive business travel in-house rather than spending resources to outsource it.

"Often, as was the situation with Bob at SandRidge," Rene says, "clients know exactly what they want to buy. They know a particular model has the airspeed, occupancy or cabin size they need, so they call up, and I research the market and find that airplane for them. Other times, knowing generally what clients want, I propose alternatives and make comparisons. The bottom line is, I want to work hard, take care of my clients' needs and get them the best aircraft on the market."

Bob notes that because Rene gets to know his clients and their needs, Rene has sold a lot of airplanes in Oklahoma City. Bob says, "Rene is dependable. Everyone at Duncan Aviation is. We do quite a lot of work there, and the guys on the floor are great, too."

Duncan Aviation JetResources

To reach Duncan Aviation's aircraft acquisition and sales experts, call any of the following numbers and ask for assistance with buying or selling an aircraft.

Rene Cardona
Aircraft Sales Representative
Aviation professional since 1983
Direct: 402.479.1529

Doug Kvassay
Aircraft Sales Representative
Aviation professional since 1980
Direct: 402.479.1530

Bob McCammon
Aircraft Sales Representative
Aviation professional since 1968
Direct: 402.479.1514

Doug Roth
Aircraft Sales Representative
Aviation professional since 1975
Direct: 402.479.1522

Marc McKenzie
Aircraft Sales Assistant
Aviation professional since 1989
Direct: 402.479.8108

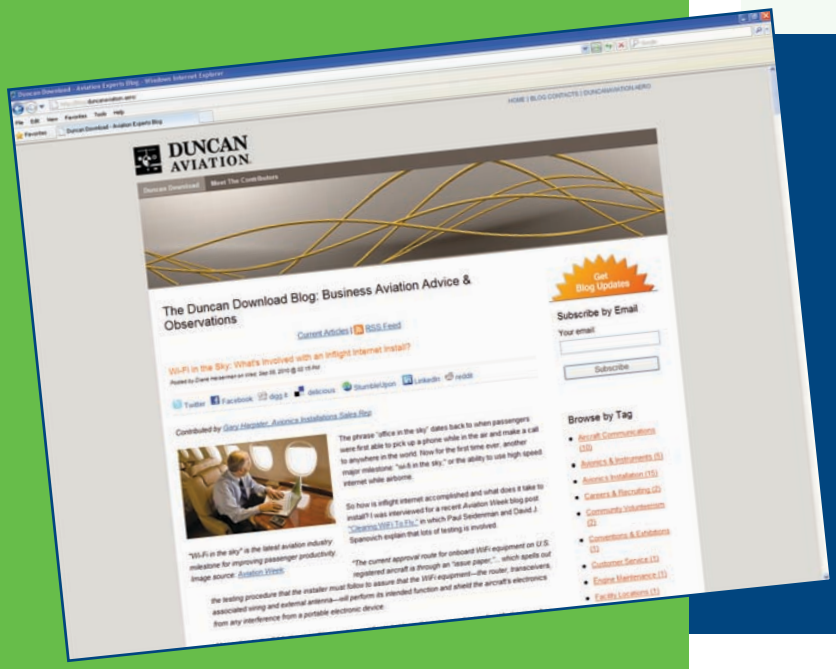
Steve Gade
Vice President of Marketing and Sales
Aviation professional since 1994
Direct: 402.479.1551

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.



CITATIONJET (CJII) CUSTOMER FLIES AIRCRAFT HALFWAY AROUND WORLD

Duncan Aviation recently had a customer fly his CitationJet (CJII) halfway around the world to arrive at the company's Lincoln, Nebraska, service center for a 36-month inspection, complete paint and interior and dual engine hot sections. The flight originated in New Delhi, India, and required 10 fuel stops and five days of flying.

Currently, the customer has a fleet that also includes a Global Express, a Citation XLS, a Pilatus and some helicopters.

Shobhit Srivastava, B.E., M.B.A. and Technical Manager/Director of Maintenance, says he was impressed with Duncan Aviation for a variety of reasons, including its longevity and history, one-stop comprehensive

READ THE DUNCAN DOWNLOAD BLOG

Duncan Aviation is known for the knowledge of its team members, and the sharing of that knowledge.

Our hangars and shops are overflowing with technical information residing in some of the best aviation brains working today. This expert knowledge comes from years of experience and the sheer volume of aircraft that we touch on a daily basis. In fact, every year, Duncan Aviation

capabilities and first-hand exposure through some work we did on a propeller he sent to Lincoln. He also has a great working relationship with Avionics Sales Rep Andy Fernandes.

"The employees are friendly and knowledgeable," Shobhit says. "They're also dedicated. To me, employee dedication is crucial because that equates to safety. If they're dedicated to their company, their work and their career, then they will do the job correctly and safely."

> v. (dedication): duncan aviation employees are committed to their work and carry out tasks correctly and safely.

Shobhit is also impressed with the *myDuncan.aero* project tracking system. myDuncan is a web-based system that makes information more accessible and streamlines communication throughout all phases of a project. It includes paperless approvals, item histories and custom viewing rights, among other features. Shobhit has used the system while in India to evaluate and approve squawks and keep abreast of how everything is going.

technicians work on thousands of aircraft from all over the world. Sounds unbelievable, doesn't it? But with two full-service aircraft maintenance facilities that each have up to 60 aircraft in work every day, 23 satellite avionics shops working avionics line and installation projects, eight Rapid Response engine teams that help operators in their hangars or out stuck in the field and a large send-in avionics, instrument and accessory repair facility, we literally support thousands of business aviators. Every day, our team members talk to hundreds of aviation professionals. So who better to update you about the technical information and aviation activity from around the world?

That is why we started a blog, called the *Duncan Download*. This blog is occasionally technical, but not always. In it, we provide a unique perspective on many facets of our industry–including reports from our satellite shops, aircraft sales market updates, the latest information from our parts, avionics, instruments and accessories team, and industry updates.

You can subscribe and receive an e-mail each time a new article is posted. Your comments, suggestions and candid feedback are expected and always appreciated. Tell us what you like, what you don't like or give us a tip on something you'd like to know more about. We look forward to interacting with you in a new way. Subscribe at *blog.DuncanAviation.aero*.

DUNCAN AVIATION'S FREE FIELD GUIDES TO BUSINESS AIRCRAFT ISSUES

Several whitepapers are now available on Duncan Aviation's website that serve as field guides to questions and pressing issues for business aircraft operators. Written by Duncan Aviation's own industry experts, the field guides address a variety of topics.

Upgrading to WAAS: Answers From Industry Experts addresses questions regarding when to upgrade, the difference between a Supplemental Type Certificate (STC) and field approval process, and the seemingly disparate costs to upgrade.

"WAAS is relatively new and there's a lot of confusion about unit compatibility, certification processes and cost," says Steve Elofson, Avionics Installation Sales Manager at Duncan Aviation-Lincoln. "My team wrote this whitepaper to help operators become familiar with the issues involved in an upgrade and make more informed decisions when they begin researching their options."

> n. (whitepaper): duncan aviation's field guides address topics of importance to business aircraft operators around the globe and are written by our very own technical experts.

Sealing Pandora's Box: Protecting Hawker RVSM Certification explores the issues surrounding Reduced Vertical Separation Minimum (RVSM) recertification, and ways to avoid disturbing RVSM critical areas when accessing the avionics nose bay of Hawker 800/800XP aircraft.

"Some Hawkers have continual problems with their avionics boxes, which can only be accessed through that panel," says Dan Fuoco, Airframe Sales Rep at Duncan Aviation's Lincoln, Nebraska, facility, a factory-authorized Hawker Service Center. "A solution is available that significantly reduces ground time

DUNCAN AVIATION'S "RAPID RESPONSE TEAM" ENGINE SERVICE CELEBRATES ITS 10TH ANNIVERSARY

This fall, Duncan Aviation's Rapid Response Teams celebrate an important milestone—the 10th anniversary of the opening of the first Duncan Aviation Rapid Response Team location.

In the fall of 2000, with the opening of an office location for Duncan Aviation engine technicians in the Dallas area, the Rapid Response Team concept was born. These teams consist of up to four engine technicians specializing in engine troubleshooting, regional support and AOG assistance. Team capabilities include routine inspections and vibration surveys, engine changes, on-the-wing repairs, engine removals & replacements (R&Rs), periodic inspections and line maintenance support for all Honeywell models, Pratt & Whitney JT15D, 300 and 500 series, General Electric CF34 and Williamson FJ44. In addition to AOG engine support, Rapid Response Team technicians are available for APU assistance.

The teams are strategically located so technicians can be quickly dispatched to a customer location or the location where a customer is AOG. Besides Dallas, Duncan Aviation Rapid Response Team locations have grown to include New York, Chicago, Denver,

and recertification expense when these boxes need service."

More Than Skin Deep: Paint Maintenance and Turbine Aircraft Value explores common misunderstandings surrounding routine maintenance and turbine aircraft market value, paint processes and criteria to consider when selecting an aircraft paint service provider.

"A lot of owners and operators judge the quality of a paint job by its gloss," says George Bajo, Aircraft Completions Sales Representative at Duncan Aviation-Battle Creek. "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."

Duncan Aviation's business aviation field guides are available for download at *http://www.DuncanAviation.aero/fieldguides*.

Ft. Lauderdale, Atlanta, Scottsdale and the latest addition this fall of Seattle. In many locations, the Rapid Response team is located near a Duncan Avionics satellite facility. The Duncan Avionics satellite network began 25 years ago with a similar quest, that of making expert avionics services more convenient for customers.

Rapid Response Teams work with the full support of Duncan Aviation's engine service centers in Lincoln and Battle Creek, which can provide additional tooling and technicians as needed.

To schedule the Rapid Response Teams, call toll-free 877.522.0111.

THE FASTEST IN THE INDUSTRY - DUNCAN AVIATION CAN INSTALL INTERIOR SOFT GOODS IN JUST 14 DAYS, GUARANTEED

Duncan Aviation has combined its extensive knowledge of Citation aircraft with its efficient interior and completion processes to develop processes that will allow complete interior soft goods to be installed in a Citation X, Encore, Ultra, XL or XLS model aircraft in just 14 days. We'll even stand behind our schedule with a Downtime Guarantee.

"Downtime is still critical to many aircraft operators," says Duncan Aviation Completions Sales Representative Nate Klenke. "Providing industry-leading downtimes has always been something Duncan Aviation has excelled at. So we decided to put together a program that can provide operators with new soft goods in just two weeks."

> n. (downtime guarantee): duncan aviation developed a process that can provide Citation X, Encore, Ultra, XL or XLS model aircraft with complete interior soft goods in just two weeks.

How? Nate says the program requires some planning before an aircraft is input into the schedule. The rest relies on the model-specific experience of Duncan Aviation's interior technicians and capitalizes on the company's investments in efficient processes, pre-engineered seat designs and machinery like Computer Numeric Controlled cutting tools. Nate says the program is the fastest in the industry and provides power operators with a way to complete soft goods with the shortest possible downtime.

For more information or to schedule your soft good replacement with Duncan Aviation, contact Nate Klenke in Lincoln, Nebraska, at 402.479.4142 or Nate Darlington in Battle Creek, Michigan, at 269.969.8443.

Duncan Aviation's Leather CNC machine in work.

Aircraft Listings

Our inventory is always changing. Visit *www.DuncanAviation.aero* for more information on our current aircraft listings.

1998 Challenger 604, SN 5395

1985 Falcon 50, SN 153

GETTING REPAIRED IN PROVO

When the pilots of Eagle Canyon Leasing flew their Challenger 600 to Provo, Utah, on Sept. 1, they knew they had an electrical issue with the aircraft. So they called Sid Hurst, the company's Director of Maintenance. Knowing Duncan Aviation had just opened a maintenance facility in Provo, Sid called Duncan Aviation.

"It was a no-brainer," Sid says, because he knew Duncan Aviation's Provo facility had technicians familiar with Bombardier products.

Duncan Aviation-Provo opened August 1 with a small team of just under 15 aviation experts to provide full airframe services, including major and minor hourly and calendar inspections. The facility is an Authorized Service Facility for Bombardier Learjet (all models), Challenger (300, 600 series) and Global (line) aircraft and offers line-level engine and avionics support.

Sid called Brad Homeyer with Service Sales in Lincoln and explained the problem. Jeff Schipper, the Project Manager at Provo, called him back shortly and got the work started.

"I was very pleased with the quick response we received," Sid says. "They got the aircraft in quickly and they got the problem solved quickly." Technicians troubleshot the Challenger, found that the circuit breaker box assembly was malfunctioning, and replaced it. "We never missed a flight."

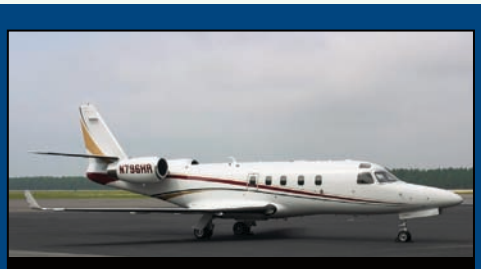
Sid says the Provo team has good Challenger experience and, just as technicians in Duncan Aviation's Lincoln and Battle Creek locations do, they used all the resources at their disposal, including technical representatives located at the other facilities, to repair the Challenger as efficiently as possible.

In addition to helping Sid get the Challenger back in the air, Duncan Aviation-Provo technicians spent their first few weeks performing a handful of scheduled inspections on a variety of aircraft and helping a drop-in Learjet with a nose steering issue.

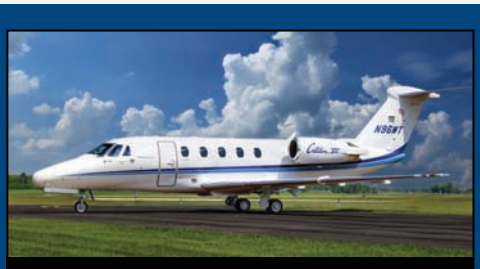
Duncan Aviation-Provo will soon begin the process of obtaining authorizations for the Embraer Phenom 100 and 300 and the Legacy.

For more information about Duncan Aviation-Provo, or to schedule work there, please call:

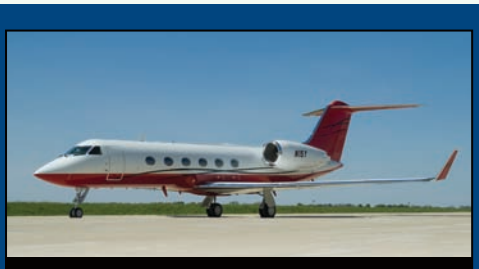
- Alan Huggett, Regional Manager, at 801.372.4635
- Brad Homeyer, Service Sales, at 402.475.2611
- Brad Lennemann, Service Sales, at 402.475.2611



1996 Astra SPX, SN 85

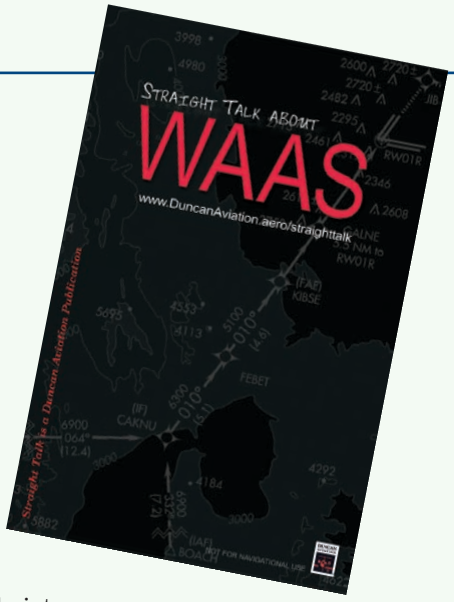


1996 Citation VII, SN 650-7065



1997 Gulfstream IV-SP, SN 1318

DUNCAN AVIATION COMPLETES FIRST EVER HONEYWELL NZ-2000 FMS WAAS/LPV CERTIFICATION



Duncan Aviation's Organization Designation Authorization (ODA) recently issued the first-ever Supplemental Type Certificate (STC) for the certification of Wide Area Augmentation Systems /Localizer Performance with Vertical Guidance (WAAS/LPV) upgrades. WAAS/LPV in the Bombardier Challenger 601-3A aircraft. This solution consists of a software upgrade to the Honeywell NZ-2000 Flight Management System (FMS) and the installation of GPS (Global Positioning System) WAAS/LPV receivers. The upgrade provides ILS-like guidance down to near CAT I ILS minimums (as low as 200 feet with 1/2 mile visibility).

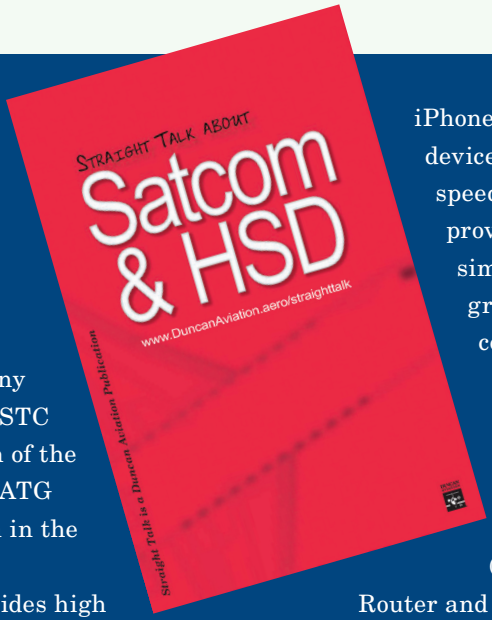
"We are very pleased to partner with Honeywell to bring the very first 6.1 software upgrade to the market," says Steve Elofson, Avionics Installation Sales Manager for Duncan Aviation. "We know that there are many Challenger operators who will be upgrading their systems this year and hundreds more operators with Honeywell NZ-2000 systems across multiple jet models that will upgrade in the coming years to take advantage of WAAS/LPV benefits. We are looking forward to our next NZ-2000 WAAS/LPV certification on the Falcon 900B."

> n. (Honeywell NZ-2000 Flight Management System upgrade): the upgrade provides ILS-like guidance down to near CAT I ILS minimums (as low as 200 feet with 1/2 mile visibility).

This June, Duncan Aviation's ODA also issued the first STC for the installation of WAAS/LPV in the Learjet 31A aircraft. This solution consists of a single UNS-1Ew installation and a monitor unit for LPV approach capability which

DUNCAN AVIATION COMPLETES FIRST STC FOR AIRCELL SYSTEM WITH WI-FI IN CHALLENGER 300 AND 750

Duncan Aviation recently completed a Supplemental Type Certificate (STC) for the installation of Aircell High Speed Internet Router with Wi-Fi capability in the Challenger 300. This was the second Aircell STC for Duncan Aviation in the Second Quarter of 2010 as the company also completed an STC for the installation of the Aircell ATG-4000/ATG 5000 Wi-Fi system in the Citation 750.



The system provides high speed inflight connectivity in the cabin. Passengers will be able to use their laptops, Blackberrys, iPhones and other Wi-Fi devices at connection speeds of 1-3 MBPS, providing an experience similar to that of ground-based Wi-Fi connections.

The installed system consists of an aircraft certified High Speed Data (HSD) unit, wireless Router and two belly-mounted antennas. The STC was certified under Duncan Aviation's STC and Major Repair and Alterations

provides ILS-like guidance down to near CAT I ILS minimums (as low as 200 feet with 1/2 mile visibility).

Duncan Aviation also holds STCs for WAAS/LPV upgrades on the Learjet 45 and Challenger 600 aircraft.

To find out more about WAAS/LPV upgrades for your aircraft, please contact any member of the Duncan Aviation Avionics Sales Team at either of Duncan Aviation's full-service locations in Battle Creek, Michigan, or Lincoln, Nebraska.

For answers to common questions about WAAS/LPV, download Duncan Aviation's "WAAS Answers From Industry Experts" whitepaper. To learn more about WAAS and LPV certification, visit www.DuncanAviation.aero/waas.

(MRA) Organization Designation Authorization (ODA).

"We now have FAA Certified Wi-Fi solutions for two business aircraft models, the Challenger 300 and the Citation 750," says Steve Elofson, Manager of Avionics Installations Sales for Duncan Aviation. "This is only the beginning. We expect many operators will be upgrading to High Speed Internet with Wi-Fi to make the most productive use of their time in the air. In fact, we are planning for four additional Aircell High Speed Internet Wi-Fi certifications before the end of this year for Falcon, Citation and Hawker models."

DUNCAN AVIATION OFFERS J.E.T. PS835 EMERGENCY POWER SUPPLY REPLACEMENT WITH SPECIAL INTRODUCTORY PRICING

J.E.T. PS835 power supplies have been an industry standard for emergency batteries across many different airframes since the mid- to late-'70s. Problems with unit age, repair costs, parts availability and airworthiness requirements are becoming more challenging for operators.

"They're becoming unreliable, expensive to overhaul and harder to maintain," says Karl Detweiler, Accessory Product Development Manager at Duncan Aviation-Lincoln. "Older units aren't supported anymore. Replacements are hard to find and they're expensive."

Securaplane Technologies' XL244D emergency power supply provides an option to operators seeking an alternative. The unit is a new technology, DO160-certified unit that replaces the PS835 series and PS855 emergency power supplies in many applications that don't use an inverter.

Special introductory pricing is available through Duncan Aviation while supplies last, saving operators over $1,100 on the purchase price. Duncan Aviation is also giving an additional $500 credit on exchanges for the PS835 power supply. Securaplane and Duncan Aviation will furnish an 8110-3 for installation in a specific aircraft at no charge.

"The approved data from this engineering document makes it easier to install the battery and complete a 337," says Karl. "This makes a return to service easier."

Duncan Aviation is a Securaplane dealer and a full, authorized service center for warranty and repairs. It is the only authorized service provider outside of Securaplane that can support repair of Securaplane's emergency power supplies.

"We are still supporting the PS835," says Karl. "That's not going to go away as long as parts are available. If it's economical to repair these units, we will. If it's not, we can offer an operator options."

The new XL244D comes with a full 36-month warranty on the battery packs and a five-year warranty on the electronics. It is also PMA'd for installation in Beechcraft 1900 aircraft.

For more information, call Duncan Aviation's Component Solutions at 800.228.1836.

ALAN HUGGETT NAMED NORTHWEST REGIONAL MANAGER

Duncan Aviation is pleased to announce that Alan Huggett has accepted the position of Northwest Regional Manager. In this position, Huggett will help operators in Washington, Oregon, Idaho, Utah, northern California and northern Nevada become more familiar with the capabilities and services offered by Duncan Aviation, including airframe and engine maintenance, paint, interior, avionics installations, avionics/instrument/accessory repair and overhaul, and parts support.

Formerly a Service Sales Representative at Duncan Aviation's Battle Creek location, Alan has

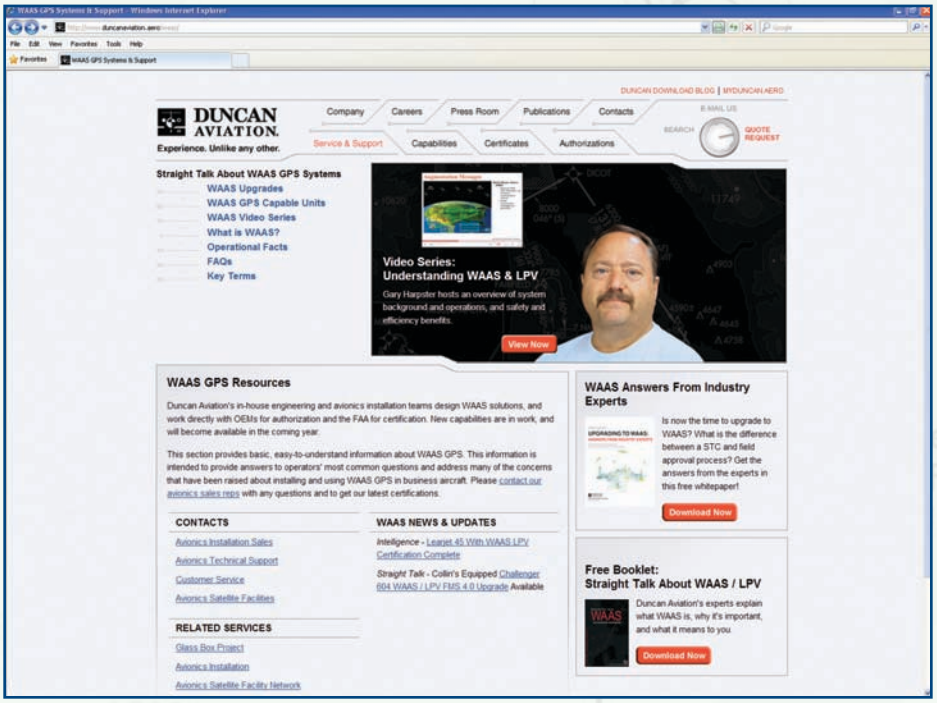
DUNCAN AVIATION PRESENTS "UNDERSTANDING WAAS & LPV" VIDEO SERIES

Duncan Aviation released a new video series this summer that tackles some of the more technical questions about WAAS/LPV upgrades.

Entitled "Understanding WAAS & LPV," the five-part video series explores legacy interface problems, field approvals, annunciators, NextGen criteria and how to determine if an aircraft is a candidate for an upgrade, among other topics.

"There are lots of questions and ambiguity about WAAS and LPV right now," says Gary Harpster, series host and Avionics Sales Rep at Duncan Aviation's Lincoln location. "Our goal with these videos is to give customers the information they need to make a sound decision."

The video series is available for viewing at *www.DuncanAviation.aero/waas*. The five segments include the following:



- WAAS Considerations (Introduction)
- What is WAAS?
- How WAAS Works
- WAAS Benefits
- What is LPV?

You can sign up to receive e-mail updates on new video postings and free technical advice at Duncan Aviation's blog, *blog.DuncanDownload.aero*.

The video series is based off Gary's WAAS presentations given at business aviation airports across the country, and complements Duncan Aviation's popular "WAAS Answers From Industry Experts" whitepaper and "Straight Talk About WAAS" booklet. Both are available at *www.DuncanAviation.aero/waas*.

relocated to Duncan Aviation's new Provo, Utah, facility.

Doug Alleman, Regional Manager Supervisor, says, "Alan has an excellent technical and customer service background, understanding both the aircraft and the business environment in which they must be operated. He will put these skills to use for his customers in the Northwest United States, helping them to get the most value possible out of their aircraft maintenance, service and upgrade expenditures."

A native of Battle Creek, Alan left Michigan after high school to join the Air Force as an F-15 Mechanic. That is where he, as a dock chief, began developing his program management skills. After the Air Force, he worked at Flight International as an A&P Learjet team member mainly working 12-Year and 12,000-hour inspections. His professional aeronautics training helped him expand his management skills and he worked for a time as a maintenance sales rep. He came to Duncan Aviation in 1998 and worked as a Tech III on a Learjet team and as a project manager. After six years, he moved to service sales to help expand the Bombardier business for Duncan Aviation-Battle Creek. To reach Alan, give him a call on his cell phone at 801.372.4635.