A publication of Duncan Aviation

Duncan Debrief

Fall 2012

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from the chairman

Todd Duncan

This summer, Duncan Aviation celebrated the opening of its newest paint facility, a 45,000-square-foot structure that allows the Lincoln, Nebraska, location to paint ultra long range business aircraft. Now, our paint experts in both Battle Creek, Michigan, and Lincoln work in beautiful facilities, painting aircraft with the latest in airflow technologies and within environmentally safe atmospheres.

Improved paint services for our customers and the chance to support customers who fly some of the newest aircraft allow future business growth for all areas of Duncan Aviation. Given the nature of what we do, paint projects bring with them airframe or engine maintenance, interior refurbishments and avionics upgrades. Duncan Aviation has been anticipating the need for more space to house these larger aircraft.

Long-term plans for Duncan Aviation have always included additional, larger maintenance hangars along with more back-shop and office space. It is time to pursue those plans and Duncan Aviation will break ground this fall on a new maintenance facility in Lincoln.

We also realize the need for growth in nearly every Duncan Aviation location. We are seeing future needs for a full-service facility in Provo, Utah, capacity increases in Battle Creek and requests to keep up with customer support needs worldwide through avionics locations and engine Rapid Response Team placements. Our near-term growth plans are exciting. Yet we are also cautiously planning beyond the next few years, balancing the needs of every team member to provide the best customer service, turntimes and support for operators across the globe.

Robert and Todd Duncan

Operations Planning Coordinator

Doug Schmitt

As new business aircraft trend to larger models, hangar space has become somewhat of a premium in all Duncan Aviation locations; this has been most evident in Lincoln. For the past decade, Doug Schmitt has seen an increase in large Falcon, Challenger and Gulfstream projects in Lincoln. His scheduling team focuses on efficiently positioning the aircraft in the hangars while keeping in mind safety, workscope and timeline. "It is a matter of getting the right mix of aircraft and the right kinds of projects scheduled to maximize resources," says Doug.

The new paint facility in Lincoln has allowed for an increase in aircraft projects coming to Lincoln for maintenance and modifications. "Being able to offer paint services to airframes such as the Falcon 7X, Gulfstream V and Global XRS has increased capacity needs for the entire facility," explains Doug.

"While the paint facility's features allow for housing multiple aircraft in the paint bays, increasing flexibility and lessening the burden on the maintenance hangars, we are anxiously anticipating the increased hangar capacity next year," says Doug.

The new maintenance hangars will provide even more opportunities, increasing the number of multi-shop projects companywide. Doug believes that the new space will fill quickly. "We feel that trends to larger airframes will continue and with the completion of the new facility, Duncan Aviation will be poised to continue supporting customers well into the future."

Clearing the Way

DUNCAN AVIATION IS MAKING GROWTH PLANS

T-HANGARS

9/5.2012

T-hangars are currently being moved to make room for the new maintenance hangar. The space will be cleared by December and the foundation will be poured, starting on the south end, in October before the ground freezes. The process will be finished in the middle of January 2013.

Reflecting on the last 10 years, Duncan Aviation has achieved multiple improvements in service and processes. We have added capabilities, opened new locations and developed our established facilities and teams. Looking to the next 10 years, plans for further expansion are certain. Each Duncan Aviation facility is growing, planning for the future and looking at how we can best support our customers and the next generation of aircraft for years to come.

As each location develops, customers can be sure that their experience remains the same. Whether visiting Battle Creek, Michigan; Lincoln, Nebraska; Provo, Utah; or any of Duncan Aviation's more than 25 satellite locations, the customer service and experience that has made Duncan Aviation unlike any other remains the same.

We look forward to continuing to provide customers with the highest possible quality, attention to detail and safety for their aircraft. We have come to understand that the choice of Duncan Aviation facility is never a decision of quality, but rather a decision based on efficiency for the customer and distance for the aircraft.

State-of-the-Art Paint Facility Opens in Lincoln

Planning began in spring 2010 for a new paint facility in Lincoln. "During strategic planning and analysis, we looked ahead at deliveries and projected maintenance and modification events," says Jeff Lake, Chief Operating Officer in Lincoln. "We saw an increase in larger, long-range aircraft hitting our market and coming due for maintenance events. With eight years of operation underway, these aircraft would likely be looking for paint and interior refurbishment as well."

At that time, paint bays in Lincoln would not hold these ultra large aircraft. Jeff says it was time to expand paint service and capabilities and says that additional opportunities for technology advances were expected to increase efficiency and quality for core aircraft as well.

The construction took 13 months to complete and in May of 2012, the new 45,000-square-foot paint facility opened. It now provides space for large and ultra large aircraft and has meant more flexibility not only with paint scheduling, but aircraft scheduling throughout Duncan Aviation.

Doug Bohac, Paint Services Manager in Lincoln, explains, "Before the facility, we were scheduling around 52 small-to-medium paint projects and 26 large jobs annually. With the new facility, we have doubled our capacity for large projects to 52 per year."

The new facility offers customers even higher paint quality through state-of-the-art technology, such as down-draft airflow technology, automatic monitoring and alarms. Efficiency is increased through multiple bays and curtains that allow teams to perform stripping, sanding, painting and detail work on multiple aircraft simultaneously.

As a result of the paint service expansion in Lincoln, there has been a careful and steady increase in team members dedicated to paint services. "We have gone from 55 to 65 paint experts with plans to reach 70 specialists by the end of the year," says Doug.

The schedule for paint in Lincoln is strong. The teams completed paint on a GV in July and the schedule shows limited slots available through the end of the year. The two new paint bays extend our capacity, but have not replaced the existing bays.

> "With the new paint facility, we have doubled our capacity for large projects to 52 per year."
>
> Doug Bohac, Paint Services Manager

Just prior to the paint facility being built, Lincoln's two main paint bays were renovated and cleaned. Those two bays will continue to help support paint service and schedule. The third bay will be renovated in the near future and become Lincoln's new Ground Support Equipment (GSE) hub, which in turn will create expansion in our Landing Gear and Accessories area.

Additions and renovations are not new to Duncan Aviation. For the past 56 years, we have learned that with each expansion event, a domino effect of shifts and remodels occurs, offering even more chances to capitalize on efficiency gains, make improvements to the facility and offer new opportunities for our people.

Serving Customers in Lincoln

In recent years, Duncan Aviation has developed specific teams for CNC fabrications, specialized Engineering and Certification services and production planning groups. We continue to take advantage of all that technology can offer us, by transition to an electronic work order system and many other paperless applications.

Additions to our Operation Specifications for Global, Challenger 300, Gulfstream IV and V and Falcon 7X proves that Duncan Aviation is looking to the future. Our team members continue education so that these newer large airframes can quickly become an addition to what we refer to as our core market of expertise.

Each team expansion, new team development or innovative system keeps the customers' needs in mind. With the authorization of Duncan Aviation's ODA in 2009, the approval process for STCs and MRAs has been greatly enhanced.

myDuncan.aero continues to evolve, offering off-site customers the chance to approve squawks and review job status reports and production hours.

The hangar expansion in early 2000 provided the first designated customer lounge and office area for customers who decide to spend their maintenance

PAINT FACILITY

5/18.2012

The new 45,000-square-foot facility offers customers higher paint quality through state-of-the-art technology, such as down-draft airflow technology, automatic monitoring and alarms. Efficiency is increased through multiple bays and curtains that allow teams to perform stripping, sanding, painting and detail work on multiple aircraft simultaneously.

"The demand for our core fleet services continues to increase and it is time for growth once again in Lincoln."

Jeff Lake, Chief Operating Officer LNK

event on location. Due to limited space, an expansion of customer office space is currently underway, adding around eight additional office spaces. "We find that customers enjoy staying here, working with the teams and being involved in the process," says Jeff.

Lincoln's Next Large Expansion Announced

Limited customer space is directly related to limited space throughout the entire Lincoln facility. "The demand for our core fleet services continues to increase and it is time for growth once again in Lincoln," says Jeff.

In 2008 it was already becoming evident that the Lincoln facility was in need of growth. "The timing just wasn't right," says Jeff. "Now, in the short time that the paint facility has been operating, we are reminded every day how much additional hangar space is needed."

Duncan Aviation began ground preparations in September for its newest expansion, a 175,000-square-foot maintenance facility that includes two 40,000-square-foot maintenance bays and three two-story areas for offices and back shops.

Aspects of the hangar will mirror the Battle Creek facility with hangar doors on both the east and west end of the hangar. This creates flexibility and increases efficiency during hangar moves. Jeff says the facility will include fall protection, heated floors and pits in the hangar floor for electrical cords, cables and hoses. "We learned from our last hangar expansion just how much cleaner we can keep the hangars with these improvements. They also create a safer workplace for our team members," says Jeff.

Jeff says the first maintenance bay should be ready for aircraft in January 2014 and the final bay will be finished by the end of April 2014. The other areas of the facility will be completed in phases, beginning with an area for Engine Line services and several shared multi-purpose spaces. These multi-purpose spaces will include glue and paint booths and will serve teams working on small projects out of the maintenance bays.

For larger projects and pieces, a walkway will ease the transportation of parts and equipment to the current back shops. "The additional office and back shop areas will be completed at the end of June 2014," says Jeff.

Provo Continues Plans for Growth

In 2010, Duncan Aviation opened a facility in Provo to establish a presence in the western U.S. The facility opened offering airframe service, engine maintenance and avionics line and as an authorized service center for Bombardier and Embraer business jets.

Shortly after opening, a two-story edition was built on the east side of the facility. In December of 2011, a small hangar next door was purchased and has been renovated for back-shop capacity.

Bill Prochazka, Chief Operating Officer in Provo, says the first two years of operation are marked with success. "We've added capabilities in avionics and components, added authorizations for Pratt and Whitney products and, by the end of this year, will have new services for smaller interior add-ons, including full carpet and seat repairs, avionics installations, sheet metal and small paint services."

The renovations have also freed up space by producing more storage for the teams. Bill says that the space freed up in the hangar has in effect increased their capacity. "Renovations have allowed us to compete for more projects," says Bill. "We've been able to establish that one-stop-shop location that Duncan Aviation is known for."

Bringing on capabilities for installations, interior and paint will lead to more increases in team members and space. "In our current location, we have maxed out our footprint," explains Bill. "And we continue to talk about plans to build a new Duncan Aviation facility in Provo."

A new facility in Provo remains in Duncan Aviation's long-term plans. Duncan Aviation currently leases nearly 40 acres of land at the Provo Municipal Airport. "We are strategically looking to the future and taking careful account of the current state of the industry and economy," says Bill. "There has been uncertainty in the past; however, our past year has brought confidence and we are optimistic."

Battle Creek's Focus on Current Capacity

Just as Lincoln and Provo report growth, Duncan Aviation's Battle Creek facility has spent the past few years sharpening many services and systems. In 2007, Battle Creek completed a significant expansion that increased capacity by nearly 70 percent. It included maintenance bays, back shops and the renovation of paint facility services.

Battle Creek also sees a strong shift to larger airframes. Tom Burt, Chief Operating Officer in Battle Creek, says that in 2010, large airframes such as the Falcon 900 made up about 72 percent of Battle Creek's business. "We are now seeing between 75 and 80 percent and I expect to only see that number rise," reports Tom.

Long-range customers from Europe are also making the trip to Duncan Aviation. These include airframes such as Falcon 2000, GIV and the

Falcon 900 and 900EX as well as ultra-large airframes like Global, Falcon 7X and GV. Operators can fly non-stop from Geneva to Battle Creek and they are beginning to see the benefit of a trip to Duncan Aviation.

"Quality of service and customer focus bring many worldwide customers to us," says Tom. "They are typically bringing aircraft with multi-shop needs for interior, paint, installations, heavy Falcon C checks and winglets."

Throughout the entire company, opportunities to support operators in Europe and South America have been increasing steadily. "We see both of these areas as important and so we have established regional managers in the field in Europe and South America to educate operators about Duncan Aviation services, build relationships with other facilities and work with current customers as they work through projects and look to plan future events with us," Tom says.

Arjen Groeneveld, Duncan Aviation's Regional Manager in Europe, has been working there since 2009. Also, Allan Orsi and Rodolfo Rodriguez have recently been established in South America and Mexico as Duncan Aviation Regional Managers. Tom says, "These Regional Managers have been an excellent addition to our team and customers appreciate their service."

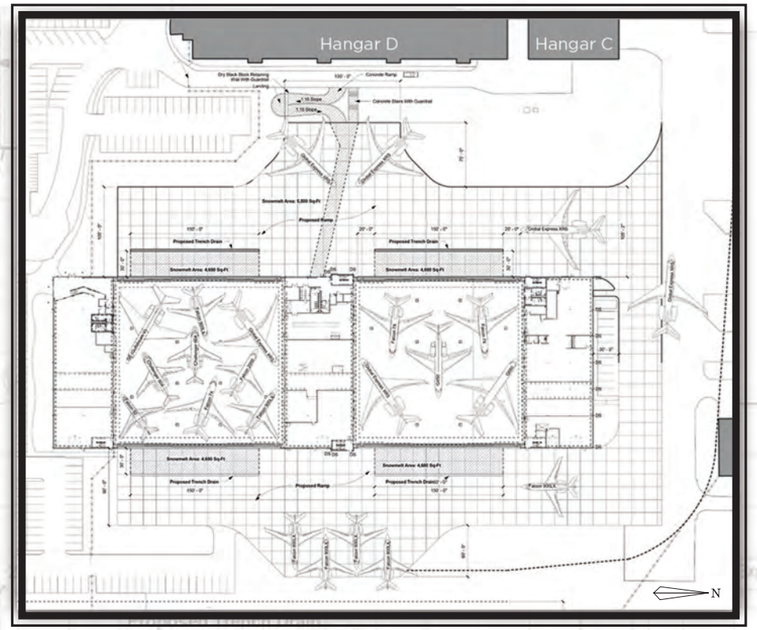
As growth continues in Battle Creek, teams are increasing in numbers and capabilities. Tom says that there have been around 120 new team members hired in Battle Creek since the beginning of 2011, and there is no indication that this will slow.

> "Quality of service and customer focus bring many world wide customers to us."
>
> Tom Burt, Chief Operating Officer BTL

The increase in team members is not so much an increase in teams, but an increase in team size, Tom explains. "With no immediate plans for expansion in Battle Creek, we have to take advantage of the time and space that we have, reducing the length of downtimes through alternate shift support."

Increasing alternate shifts in Battle Creek is expanding beyond production teams, which saw an increase by nearly 40% in recent years. Support teams such as Engineering and Design are planned to begin alternate shift support. Tom says, "Offering alternate shift support from these groups will greatly improve efficiency and prevent bottlenecks in the modification process."

In 2013, Battle Creek will be adding storage to its current facility. Tom says that the hangars needed in Lincoln and Provo's expansion will be important in the coming years. "Our storage expansion in Battle Creek will keep the hangar floors clean and will increase space for aircraft. This will create greater opportunities for through-put, reducing downtime for customers and taking advantage of the space that we have."



NEW HANGARS

8/1.2012

The new maintenance hangar will be completed in phases. The first hangar by January 2014 and the second hangar by the end of April 2014 with everything complete at the end of June 2014. The hangar will add 80,000-square-feet of space for maintenance and refurbishment and 95,000-square-feet of storage, back shop and office space.

Expanding our Satellite Support

Recent years have proved successful for Duncan Aviation's Engine Rapid Response network and avionics satellite shops. Since the first avionics satellite facility was established in 1985, more than 25 avionics satellites have been established at some of the United States' busiest General Aviation airports. These shops have quickly established themselves as the leaders in Airborne Broadband support services, and new initiatives such as NextGen will mean even more chance for expansion.

Matt Nelson, Satellite Operations Manager, says that after the successful addition of satellite support in Sacramento and Hayward, California, and a relocated satellite team in Atlanta, Georgia, Duncan Aviation began planning for several new locations.

In 2011, avionics shops were opened in Kansas City and Chesterfield, Missouri. "The teams in Missouri have started strong," says Matt. "They have established a strong base of customers."

Due to the expansions and the fact that the teams are remaining busy, Satellite Operations have added two dozen new team members since the beginning of 2010. These numbers will continue to increase. The Ft. Lauderdale shop moved to a new, larger location this summer.

Duncan Aviation's Engine Rapid Response is expanding as well. It began with an office in Dallas, Texas, in 1999. James Prater, Engine Services Manager, says the vision is to double in size by the year 2020, but he sees them moving quickly toward this goal. "We opened 2012 with 20 Engine Rapid Response technicians at eight launch offices around the United States," says James. "Today, that number has grown to 23."

This year, the team in New York has established new leadership and a unique structure that has team members positioned in the Washington, D.C., Long Island, and Oxford, Connecticut areas. James says later this year, the team in Dallas will also expand and take on a similar structure. "We will add another technician to this team and they will be positioned in Ft. Worth, Texas.

"What we are learning in New York and Dallas, we will be applying to all of the teams," explains James, "always looking to improve our availability to the customer, no matter where they are."

Finding a Balance for the Future

Throughout all locations, 2011 brought successes for Duncan Aviation that are extending into this current year. Each location is growing in capabilities and numbers. We are providing even better support to our customers.

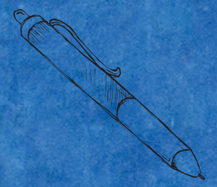
The expansion in Lincoln will provide customers more scheduling flexibility.

Bill says, "We are solidifying the base. Duncan Aviation continues to have new customers bring their aircraft to a facility, and we have heavy focus on retaining those customers. Each day, our teams are proving to customers that we want to have them back."

Duncan Aviation has a lot to celebrate. The completion of the new paint facility and announcement of a new maintenance facility in Lincoln, increasing capacity through storage expansion in Battle Creek, development of alternate shifts and talk of a campus in Provo in the next 10 years. These things all show that Duncan Aviation is ready to excel and take advantage of opportunities. Bill says, "No matter what comes our way, Duncan Aviation is in a strong position to stand tall."

Janet Beazley, Duncan Aviation Project Manager, compares planning a major aircraft refurbishment to building a home.

1 Determine the Project's Scope



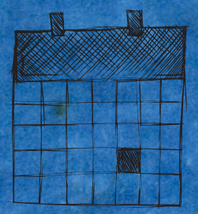
2 Organize Finances

3 Choose a Designer

4 Select a Project Manager

5 Choose the Builder and Other Tradespeople

6 Organize Contract



7 Get Building and Resource Consents (Permits)

8 Begin Construction

9 Final Inspection and Code Compliance

10 Loose-Ends and Follow-Up

Details Count When Planning a **Major Aircraft Refurbishment**

Planning and managing a major aircraft refurbishment can be an overwhelming chore that can closely parallel the building of a new house. According to Consumer Build, an independent New Zealand organization that provides information to consumers planning a home construction project, there are 10 steps in the planning process. By applying these same steps to a large aircraft project, we can give you a good idea of how to plan for major aircraft refurbishment.

1 Determine the Project's Scope

More and more operators are choosing to refurbish their current aircraft over purchasing a different one. This work is typically completed when the aircraft has a major maintenance event due because downtime, access time and costs can be drastically reduced by combining these events into one.

First, you will need to identify all upcoming required maintenance items. Your tracking program can assist with this. You will also need to consider time. Most maintenance events are performed on an hourly, monthly or annual basis, which determines the dates needed for aircraft input into a maintenance facility.

In addition to setting the input timeline, you need to decide what other work will be done, looking at the potential of new paint, interior updating and avionics upgrades. Things to consider include the following:

- Are there needs to be met for compliance mandates?
- Is the aircraft operated as Part 91 or Part 135?
- Are there special programs for tracking, maintenance, engines and parts?
- Do warranty programs apply?
- Are there service bulletins (SBs) that need to be accomplished?
- Are there airworthiness directives (ADs) that need to be cleared?

You will want to speak with potential service facilities and personnel because it is very important that they be brought on board early on for the project to have the best results.

Mary Lee, Senior Aircraft Interior Designer with Duncan Aviation's Lincoln, Nebraska, location, explains, "Our involvement occurs very early, when the project is in the sales phase. We need to assist in finding solutions for a customer in a timely fashion. The customer may need illustrations, a floor plan, cabinet drawings, material specifications, visual aids and color boards to present to their principals."

Mary adds that the extent of the project, the materials used and the design are all important planning aspects that often take place before an operator chooses a completions facility. The considerations include whether the interior will be re-configured, if you want new lighting, new entertainment, or a new sound-proofing package, and more. Pre-planning for a large refurbishment often starts as much as a year or more in advance, depending on the project's scope.

Certification can play an important role in the pre-planning time necessary. "It is important to know if and how the existing interior is certified," Mary notes. "This will help tremendously in certifying any new modifications that may be completed."

2 Organize Finances

Organization of finances is an obvious and very important step for operators. Once you have determined the scope of the project, the next step is to get quotes from different maintenance, repair and overhaul (MRO) facilities. You should share budget requirements with the MRO, as they can work with you to meet needs, schedules and budgets.

During the process, you will need to match all of your requirements with the many different capabilities of the MRO. MROs have varied capabilities, dictating that there may only be a few that will match all of your project needs.

If this area is new territory, a visit to some different facilities may be in order. A site visit will give you the opportunity to see the facilities first-hand, to visit with people from different areas of the company, and to make assessments based on what you have seen rather than what you are told.

Some questions to consider during this phase include:

- What are the needs surrounding the project?
- Is engineering needed?
- What are the structural needs?
- Does the MRO have all of the tooling required?
- What are the certification needs?
- Can the MRO support all of those needs?

When discussing these needs, you should include a detailed workscope along with photographs, if possible. It may be necessary for MRO representatives to visit your facility to gain access to the aircraft and ensure that in preparing their quote, they are as accurate as possible.

Besides looking at capabilities and requirements needed for the project at hand, you will want to consider value-added services, or intangibles, in your comparisons, including a wide variety of items from insurance to hazardous waste disposal.

To help you compare facilities, Duncan Aviation has an MRO comparison worksheet that might be useful at www.duncanaviation.aero/fieldguides/ –select MRO worksheet.

3 4 5 The Designer, Project Manager and Other Tradespeople

The next three steps can be combined for our purposes. As alluded to previously, the key step in a large aircraft refurbishment project is choosing the maintenance facility that will complete the work to the standard you expect.

As Mary states, planning is absolutely essential for major projects, and it starts well in advance of aircraft input. Besides determining just what will be done, the shop will need to plan project-flow and set periodic deadlines to keep the project on time. At Duncan Aviation, customers are assigned a project manager who will play a key role in managing the planning and day-to-day progress on major projects. The project manager is also the one main point of contact going forward for the customer.

Managing complex projects is where Duncan Aviation project managers really shine. Their goals are to meet the customers' expectations, to meet interim project milestones and, ultimately, to meet—or better—the promised delivery date of the aircraft.

6 Organize Contract

The organization of such a large undertaking is a culmination of effort from many parties and disciplines. It takes organizational skills from a management perspective. On a large refurbishment project, there will be a lot of things happening at one time, and a schedule needs to be set and adhered to.

The reality is that adjustments will need to be made to the schedule, and as a team you can meet and discuss these to find solutions and alternatives that keep the project on track. A firm grasp of the overall project is required, because in maintenance you never know what may come up or what could be uncovered.

7 Get Building and Resource Consents (Permits)

When considering a major aircraft refurbishment project, you will also need to determine any interior or avionics modifications that will be done, or any major changes that will be made. In an industry as regulated as aviation, this will include discussion about the approval path for those changes.

These can sometimes be complex, but are typically resolved and a solution found. When a Supplemental Type Certificate (STC) is required, however, facilities that have Organization Designation Authority (ODA) with Major Repair and Alterations (MRA) and STC approvals will be helpful. These delegations have allowed the industry more autonomy and efficiency.

8 Begin Construction

After all the planning, the day of input finally arrives and "construction" on the project begins. The first few days will be busy and you will meet many people. At Duncan Aviation, team members are encouraged to get to know the customers, and develop rapport directly with them.

You may choose to be on-site at the facility during a major event. Doing so allows you to see the progress and maybe see parts of the aircraft that you will not see while doing daily maintenance or smaller inspections at your own facility. It also can be good to be there to make decisions and approve work when needed.

For customers who cannot or would rather not remain with their aircraft, Duncan Aviation offers an online project communication and tracking tool called myDuncan. Available online and on mobile phones and tablets, myDuncan lets customers communicate directly with their project manager and share information, photos, item approvals and budgets.

9 Final Inspection and Code Compliance

It may seem that on a large project there will never be an end in sight, yet there always comes a point when you can really see things start to come together. It's exciting to see the new product, from the new woodwork, plating, carpet and seats to a new paint scheme.

It's also reassuring to know what lies beneath all of that is safe and airworthy because you have chosen a facility with a great reputation, and that really knows your aircraft and is confident in their ability to put out a very safe product. Inspections will assure that all supporting data and documentation is prepared and available for the customer.

10 Loose-Ends and Follow-Up

The last step for a large project is to follow up. Feedback—good or bad—is important to all parties; we all need to know how we did otherwise improvements will be difficult to make. At Duncan Aviation, we carefully review this information and continually tweak and improve our processes to make our service better and more responsive for customers.

Janet Beazley, Duncan Aviation Project Manager, following up with a customer next to his aircraft.

Current Aircraft Designs Feature Function and Form

Today's aircraft operator considers their aircraft not just a mode of transportation, but an extension of their office and their home. They want the aircraft to allow them to be productive. Beyond functionality, though, the aesthetic effects of the aircraft interior are often equally important. They want the aircraft interior and paint scheme to complement that of their home or office as well. That mindset affects the way aircraft interior designers combine aviation materials, fabrics and paint to create the overall aircraft design, both inside and outside the fuselage.

Duncan Aviation has seven experienced aircraft design experts. In discussing the customer requests they have received, some current aircraft design trends have emerged. Here, we share with you some of their insights and observations.

"Operators are opting for perforated leathers, contrasting leather stitching, and seats covered with two complementing leather colors, which many manufacturers are using in the new aircraft coming out of production as well."

"Customers tend to choose soft, light earth tones for their interiors with options for reconstituted wood veneers that replicate the wonderful veneers produced from natural woods."

Functionality

Emerging technology in the cabin over the last few years has had an effect on the interior design of the aircraft. Designers need to be vigilant about the compatibility of systems when converging new technology with current systems and existing technology. To help with this task, Duncan Aviation's interior sales teams and designers work closely with the avionics installation teams, systems engineers and certification teams to ensure compliance with oversight agencies, like the Federal Aviation Administration.

For example, it is becoming standard to incorporate iPad technology and personal monitors into the design of each passenger seat, thus eliminating the need for large monitors, especially in the smaller business aircraft. Operators of larger business aircraft are still opting for full monitors to take advantage of the high-definition (HD) technology, and they want large but thin monitors mounted in their aircraft. Many operators also expect the convenience of using Wi-Fi for personal and seamless carry-on technology.

Bolder Accent Colors

Fifteen to 20 years ago, aircraft owners were more conservative with colors, textures, and materials. Today, they want practicality in their aircraft, yet they want it to be stylish and personal. They are mindful of the limitations and regulations within business aviation, and they want stylish designs that are within the regulations. Aircraft interior designers use their creativity, while considering the style and preferences of the customer, to provide options the customer hasn't even considered.

Duncan Aviation Senior Aircraft Interior Designer Mary Lee says, "Customers tend to choose soft, light earth tones for their interiors. But we're starting to see the resurgence of light, warm grays and charcoals as a popular alternative."

Senior Aircraft Interior Designer Teri Nekuda adds, "Our international customers often opt for more flashy colors and gold trim, while our customers from the United States tend to stay with more subtle colors and silvers."

That said, Duncan Aviation's design team members agree that "every customer is different and it's all about personal preference." What's fun and exciting for them is that some customers are choosing to make a statement and really show off their individuality with the accent colors in the aircraft. Grass green, turquoise blue, oranges and yellows are some of the latest accent colors adding a nice, extraordinary finish to aircraft interiors rolling out of Duncan Aviation hangars.

Eco-Friendly Products

Another fairly recent change is consideration for the environment when choosing interior products for an aircraft. According to Mary, "Today, when we work with customers wanting to update and upgrade their interiors, we see a strong push for eco-friendly fabrics and materials. Our customers are demanding more "green" products and processes. And, it's not all about the carbon footprints. They're also concerned with the toxins and gasses emitted by manufactured products and materials."

Designers are incorporating these requests into all facets of the interior, including cabinetry, veneer, flooring and upholstery.

Aircraft operators have options for composite and reconstituted wood veneers that replicate the wonderful veneers produced from natural woods. Some operators are uncomfortable with the depletion of natural

A new variation is a take on a European method of using non-standard materials, like leathers, in cabinet construction and designing drink rails that use contrasting woods and undertones.

forests as a result of harvesting trees to furnish the veneers, Mary says. Composite and reconstituted wood veneers are equally durable and upkeep and care is comparable to that of the natural wood veneers.

Wood Veneer

For those customers who prefer the natural wood veneer, Senior Aircraft Interior Designer Lori Browning says, "Straight-grain species such as a walnut or eucalyptus are very popular for their neutral brown color and availability of high-quality logs." Whether composite, reconstituted wood, or natural wood veneer, changing cabinet veneers has a dramatic effect on the interior of the aircraft.

A new variation is a take on a European method of using non-standard materials, like leathers, in cabinet construction and designing drink rails that use contrasting woods and undertones.

Tailored Lines and Seat Designs

Overall, operators want clean, simple, tailored lines in their cabinet and seat designs.

Seat design trends are similar to what we are currently seeing in the auto industry. Operators are opting for perforated leathers, contrasting leather stitching, and seats covered with two complementing leather colors, which many manufacturers are using in the new aircraft coming out of production as well.

Operators are also pleased with the introduction of new flooring products that simulate wood and stone, and requesting that these materials be added into their aircraft. Manufacturers are applying new, non-slippery finishes that make these products adaptable to aircraft. These new flooring products are a nice complement to the fabulous carpet options that are available.

What's on the Outside Counts

In addition to updating interior designs, operators are putting a renewed emphasis on their aircraft exterior as well. Customers want new paint schemes to show off their true personalities.

"Customers try to verbalize a concept they have in their minds and ask the designer to use their creativity and expertise to take a blank canvas and make that concept come alive," Teri says. This lets designers show off their true creativity. "Our customers want paint schemes that

"Customers are steering away from the traditional paint scheme and using non-traditional colors to add character and individuality."

make their airplane look sleek and fast. If they have a 'chubby' airframe, they want it to look slim and sleek."

In addition, Teri says, many are steering away from the traditional paint scheme and using non-traditional colors to add character and individuality. Looking out on the ramp, we can expect to see a lot more color!

Vendor's Support can Encourage Trends

Manufacturers of aircraft interior fabrics, carpets and other products are receptive to the changing demands of operators and respond with products that meet new needs. We are seeing more materials that promote environmental sustainability. Additionally, we see vendors doing their part to reduce their environmental impact by finding new uses for remnants, recycling by-products and reducing wastes.

Another particularly favorable trend that we're seeing from vendors is reduced lead times for product and material orders. Some of this is the result of choosing composites that are manufactured and readily available. Traditionally, and particularly during the recent downturn in the economy, materials for interiors included long lead times. Fortunately, Duncan Aviation has worked with vendors to increase their on-hand stock of fabrics and materials, giving them the ability to respond with more quick ships. This is a win-win. It makes the vendor more competitive, makes them a vendor of choice, and more importantly, reduces downtime for operators.

When Downtime is a Factor

For many operators, downtime on the aircraft is critical. So timing and scheduling can be important factors in an interior project. "Duncan Aviation has built a reputation for maintenance and modification on being a "one-stop shop," says Completions Sales Rep Nate Klenke. "First and foremost, operators bring their aircraft to Duncan Aviation based on the quality of the work performed, the excellent customer service they receive before, during and after the work is performed, and because they know we're going to be around to stand behind our work and provide future support. In addition, Duncan Aviation is able to reduce the overall downtime for interior modifications by providing multi-shop support."

When operators schedule their aircraft for maintenance, it's a convenient time to look at updating the interior. Interior teams are currently focusing their efforts on interiors that provide for easy accessibility for removal and reinstallation, reducing downtime and cost for the customer's maintenance events.

The importance of downtime caused Duncan Aviation to look at developing a short, guaranteed, interior program to help operators quickly update their aircraft interiors. Developed for certain model Citations and Learjets, this program provides a complete, 14-day replacement of all interior softgoods. It includes the flight deck, the cabin and the lavatory. And the downtime is guaranteed.

"For this program," Nate says, "Duncan Aviation combined its extensive knowledge of aircraft interior refurbishments with its efficient completions processes to develop a method that allows for a 14-day transformation for certain aircraft models and with proper pre-planning and scheduling."

Making the "Old" Look "New" Again

Duncan Aviation designers note that customers are typically satisfied with the performance of their aircraft. They're just looking at tailoring it to give it a new look and feel. They want a new interior to freshen it up and to make the old look new again.

The designers enjoy looking for new solutions and new and different materials to use in aircraft. They receive tremendous satisfaction from hearing customers say, "Wow, I didn't think about that. I really like your ideas."

Duncan Aviation customers have grown accustomed to that service from the design team and the designers are always up for the challenge. The quality of the interior work performed at Duncan Aviation supports the creativity of the designers and makes for a customer experience that maintains our position as a leader in interior modifications and exterior paint services, and that keeps customers coming back for a fresh, new look.

Cabin Management Systems

{ Upgrade for the Future }

Cabin Source Equipment

- Aux Ports
- Blu-ray Players
- Camera Systems
- CD Players
- DVD Players
- iCabin Control through iPad/iPod
- Laptop Video
- Media Servers
- Moving Map Displays
- Satellite Radio
- Satellite Television

Modern computer and entertainment technology is moving so fast that it is sometimes difficult to keep up with the latest and greatest systems and equipment. Entertainment equipment for the modern business aircraft is no different. Operators wishing to stay up-to-date with current cabin entertainment options may run themselves dizzy sorting through numerous options for cabin displays, audio, lighting or entertainment systems.

Chad Ostertag and Steve Elofson, Avionics Installations Sales Reps, know too well that when it comes to cabin options, the flood of information overwhelms. Chad, Steve and their colleagues field questions daily from operators asking about High-Definition (HD), streaming video, cabin management systems and upcoming entertainment technology.

It is their goal to assist Directors of Maintenance (DOMs) and Chief Pilots in identifying the preferences and technology tendencies of their aircraft owners and operators. "There is a multitude of information and options available and the cost and complexity of an upgrade leaves operators seeking advice and guidance," Steve says.

Adrian Chene, Avionics Technical Representative, aims to offer intelligent, defendable options. "Asking the right questions and doing the research allows DOMs to identify the types of modifications the owner may be interested in," says Adrian. "We help them work through the steps."

Commit to the Decision to Upgrade

So many options are available and new ones are introduced on an almost daily basis. This explosion of new cabin entertainment and control options for business aircraft is exciting. Chad says, "A complete cabin management system (CMS) will allow operators to invest in modern technology while enabling them to accommodate future technologies geared toward the total control of their cabin entertainment."

CMS refers to any and all interfaces that will permit the passenger or crew to control some aspect of the cabin environment. This can include lights, environment, displays and source equipment, wireless streaming of movies and music via cabin Wi-Fi or digital audio systems.

Many options can require supplements to the type certificate (STCs) for the aircraft so research and education is important. "Due to the certification requirements for aviation equipment, it is sometimes hard to comprehend what is currently available for a specific aircraft," says Chad.

"To begin, you must have a clear vision of how you want the cabin to function," says Adrian. "These decisions should be made before you spec out the system."

And Steve advises operators to commit to the decision to upgrade. There are risks when an operator elects to pursue only a portion of an upgrade. Some existing systems are too dated and maintenance will be troublesome. Older systems are already pushed to the edge of maximum capacity. And when adding to or changing an existing system for new capabilities, caution should be used.

Understand Advantages in Your Options

As it refers to cabin displays, Adrian says, "Go digital or go home." Digital video sources like High-Definition Multimedia Interface (HDMI) will provide the best possible picture for your dollar and ensure a satisfied customer.

Steve says, "When replacing a monitor, a High-Definition Liquid Crystal Display (HD LCD) display is a must. It will be compatible with legacy, standard definition systems and prepare the aircraft for future HD equipment." Other considerations are HD ultra-thin LCDs, wide-screen formats, plug-in and carry-on.

And do not forget about carry-on equipment. With the recent advancements in Personal Electronic Devices (PEDs) and their ability to hold huge amounts of music and movie content, interface to the aircraft CMS is a nice option and is gaining in popularity. Understand the equipment and elect connectors and other interface options that won't become obsolete the next time the newest big thing in the PED world is introduced to the market.

Cabin lighting systems, new to the market, allow the operator to accommodate a request for changes in color, intensity and preset modes. However, these options aren't always necessary. Adrian advises to select a lighting system that reflects your primary focus. "Standard LED packages make the most sense for corporate operators looking for long life and virtually no maintenance."

"Brightness, color temperature and dimming options are the primary considerations when upgrading to LED," says Steve.

When considering audio upgrades, the first decision is standard or surround. The choice will depend on the needs and preferences of the operator. Steve's simple advice, "Do not retain existing speakers." Due to age and deterioration, upgrading speakers will make a world of difference.

Educate Yourself for the Future

No matter what options you consider, Chad encourages operators to purchase for the future. He says to look for options that give the maximum amount of flexibility for interfacing new source equipment and stay educated.

Duncan Aviation's free ebook, *Straight Talk About CMS*, gives customers a useful tool to assist in understanding the technologies, researching elements and choosing the best solutions available to them.

Whether operators want to learn about the advantages of a networked system or learn about the newest options available for cabin displays, the ebook will guide operators in their search for answers.

"The ebook focuses on general subjects that we have found arise when discussing upgrades with operators," explains Chad. "It was written to benefit the customer, through education on what could be possible."

Straight Talk About CMS can be downloaded at *www.duncanaviation.aero/straighttalk*. If you have additional questions, contact one of Duncan Aviation's avionics installation experts.

The best advice our team can give operators is to upgrade for the future. Plan for new technologies to ensure that the CMS you purchase now will prove compatible with future cabin control and entertainment technologies.

Taking to the Skies During

WINTER WEATHER

When the weather turns cold and the skies turn gray, winter is approaching; with it comes the possibility of significant snow and ice. Although this makes for great snowball fights and downhill sledding, ice and snow for those in aviation requires extra safety measures to get an aircraft safely in the air.

Before taking off in severe winter weather, pilots make sure all snow and ice are removed from the wings and tail sections of their aircraft. These surfaces are engineered to provide the proper lift for flight; any accumulation disrupts the airflow and obstructs the aircraft's ability to take off. The safest and quickest way to do this is with deicing methods.

Duncan Aviation's two full-service locations, Battle Creek, Michigan, and Lincoln, Nebraska, offer a two-step anti-icing / deicing process with Type 1 (T1) and Type 4 (T4) capabilities to battle the often-severe winter weathers experienced throughout the middle of the United States. T1 is an orange glycol deicing fluid that is heated to 180 degrees before application. It removes snow and ice and provides minimal protection from further accumulation. Depending on weather conditions, it is not uncommon to apply as much as 150 gallons of Type 1 for each deicing event. After application, the pilot has a seven- to 10- minute window to taxi to the runway and safely take off. If the aircraft is delayed by the tower or other aircraft traffic and unable to depart while the application is still effective, the aircraft will be forced to return to the ramp and be deiced again.

During times of active precipitation, a second step is often required. Where Type 1 removes snow and ice from the aircraft, Type 4 prevents more from accumulating. T4 is a green anti-icing agent that, when applied, clings to the aircraft surface and extends the amount of time the aircraft has before taking off to between 15 and 30 minutes, depending on weather conditions.

Duncan Aviation Deicing Services

All of Duncan Aviation's FBO services are available 24 hours a day, 365 days a year. As long as the airports remain open for operation, they are equipped and prepared to get an aircraft cleared for flying, even in the most severe weather conditions.

Duncan Aviation-Battle Creek has an FMC model TM-1800 that holds 1,800 gallons of T1 fluid and 400 gallons of T4. It dispenses the deicing / anti-icing agents under high pressure from a boom-height of 41 feet, making larger aircraft easy to service.

Duncan Aviation-Lincoln recently purchased a Premier Deicer with the capacity to hold 700 gallons of T1 and 150 gallons of T4. This high-pressure system with a 35-foot boom allows the truck to remain outside of the safety triangle of the aircraft and still be able to effectively cover the wings with enough time to taxi to the runway and safely take off.

The Pilot-In-Command is always responsible for making the call on whether his aircraft is good to go or if weather conditions prevent a safe departure. Duncan Aviation line service professionals give every pilot the best information available on the type of glycol fluid used and the expected hold-over times for them to make a safe and educated decision.

During winter operations and specifically during deicing operations, Duncan Aviation has a zero tolerance for failure. All locations are trained yearly on deicing procedures, FAA hold-over times, the types of freezing precipitation and how they affect performance of an aircraft.

With the proper equipment and experience, flying in the winter is very safe.

During winter operations and specifically during deicing operations, Duncan Aviation has a zero tolerance for failure. All locations are trained yearly on deicing procedures, FAA hold-over times, the types of freezing precipitation and how they affect performance of an aircraft.

Expert advice.

Invest.

Results.

Experience.

Sell.

Educate.

Client dedication.

Observations

Consulting the Experts

Simplifying the Complicated Process of Aircraft Sales & Acquisitions

When it comes to buying and selling corporate aircraft, Duncan Aviation's Aircraft Sales & Acquisitions representatives are among the most experienced in the industry, and they are known for their dedication to the interests of their clients. Understanding that one of the most difficult decisions a company or individual can make is whether to invest in a business aircraft, the Duncan Aviation Sales & Acquisition team members do everything they can to make the complex and risky process easier. This includes sharing their experience.

"Customers who understand what to expect when entering into a business aircraft transaction will navigate through the process easier and will be happier with the results," says Doug Kvassay, an Aircraft Acquisition and Sales Rep with Duncan Aviation. Doug and the rest of Duncan Aviation's Aircraft Acquisition and Consignment representatives have become regular contributors to the Duncan Download blog in an effort to help educate individuals considering the purchase or sale of corporate aircraft.

The Duncan Download blog is a weekly online publication written by Duncan Aviation's experts. When you sign up, you will receive in your email inbox blog posts filled with advice and observations about the business aviation industry, from maintenance to sales to new regulations. Roughly one article a month has an aircraft sales topic. Following are the titles of recent articles written by the Duncan Aviation's Aircraft Sales & Acquisitions experts providing information about some of the most common concerns their customers face on a daily basis.

Naked Brokerage Transactions

Avoid the high fees of purchasing a business aircraft by knowing how to recognize a naked brokerage transaction.

Your Business Aircraft is a Depreciating Asset

Business aircraft are sound business investments but are still depreciating assets with a useful life that is somewhat longer than most other capital equipment.

Know Your Business Aircraft Purchase Agreement

The Business Aircraft Purchase Agreement is the most important document to the transaction. It is in your best interest to understand it.

The Tightening of Bank Lending Rules

While banks protect themselves, they are choking small business opportunities.

How Interior Aesthetics Affect Business Aircraft Resale Values

First impressions make a big difference in the sale. A well-maintained interior will help a business aircraft sell faster at a better price.

Backward Lending Policies

How a change of perspective would ease the volatility of aircraft prices.

At Duncan Aviation, we believe that our customers are smarter just by doing business with us. So we encourage everyone who is considering the purchase or sale of a corporate aircraft to get as much information as possible before entering into any agreement. The Duncan Aviation Aircraft sales team will continue their educational series with some of the following topics. To receive the Duncan Download blog in your inbox, go to *blog.duncanaviation.aero* and enter a valid email address.

Here are some of the future subjects you can expect from the experts at Duncan Aviation's Aircraft Sales and Acquisitions:

What Lending Institutions Look for When Issuing Aircraft Loans

What do banks prefer, and not prefer, when looking at loaning money for aircraft assets.

Get Your Aircraft Records in Order

How missing records can impact the selling of your aircraft.

Aging Aircraft Engine Values

The advantage of engine maintenance programs and how they affect aircraft sales.

How Buying and Selling Aircraft has Changed in the Last 20 Years

The impact that technology, the internet and a global economy has had on the secondary business aircraft market.

How Do You Sell Your Aircraft in a Saturated Market?

What can you do to make your aircraft stand out among the crowd.

Advice for First-Time Aircraft Buyers

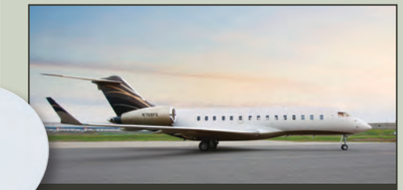
Tips to avoid the common pitfalls and roadblocks to purchasing your first corporate aircraft.

Selecting a Pre-Buy Facility

Selecting an experienced, knowledgeable pre-purchase facility makes all the difference in the world. Learn how to recognize one.

Aircraft Listings

Visit www.DuncanAviation.aero/aircraftsales for full listings.



2009 Global Express XRS, SN 9300

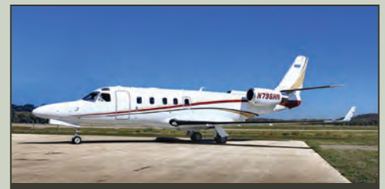
2004 Citation X, SN 236

1996 Challenger 604, SN 5307

1985 Falcon 50, SN 145

1984 Falcon 50, SN 146

1992 Learjet 31A, SN 051



1996 Astra SPX, SN 85

In Case of Emergency...

The very definition of "emergency" is a serious, unexpected, and often dangerous situation requiring immediate action. Emergencies are not planned and most often are very unwelcomed. In aviation, the dreaded Aircraft On Ground (AOG) is one such emergency situation.

Any maintenance problem that occurs in or away from the hangar that keeps an aircraft on the ground, thus inaccessible to those who need it, requires immediate attention and quick response. Duncan Aviation has the processes and the tools to ensure quick response when you're dealing with an AOG.

AOG "One-Call" Service

One call to 877.522.0111 makes all of Duncan Aviation's services available to you 24 hours a day, seven days a week. With airframe and engine factory authorizations from the major OEMs, we are able to service most AOG situations in the field so that you can get back in the air and back on schedule. A crew can be on the road or in flight headed to your destination within hours of your call.

Engine

Strategically located across the United States are eight specialized Rapid Response teams. They are called upon daily to assist operators who land at airports with little to no capacity for service, but need a quick response for getting back in the air if a problem arises. These teams have authorizations on all major OEM engines and APUs including: Honeywell, Pratt & Whitney, GE and Williams. Capabilities in-the-field include troubleshooting, repair, line replaceable unit (LRU) and engine changes.

Airframe

Engines are not the only aircraft system that may require emergency service while the aircraft is away from home base. Airframe issues often arise. AOG airframe issues are serviced out of Duncan Aviation's major repair facilities located in Battle Creek, Michigan; Lincoln, Nebraska; and Provo, Utah. With factory authorizations from all the major business aviation OEMS, qualified technicians are available to be dispatched anywhere in the world.

Avionics Installation

Duncan Aviation also has a highly mobile network of avionics satellite locations positioned at more than 25 of the busiest business airports across the United States. They are specialized in AOG situations and can get to just about anywhere you happen to land, live or hangar your aircraft to diagnose your avionics system squawk and get you flying again. Our capabilities include the latest in test equipment for fast and accurate squawk analysis and repair of avionics malfunctions on board the aircraft.

Parts

Not every AOG situation requires the dispatching of a team. Sometimes, operators need a quick response for an exchange, loaner, repair or overhaul. One call to 800.228.1836, also gets you instant emergency parts service. Duncan Aviation maintains a large and growing inventory of exchange and rotable units (more than $45 million) available 24/7/365.

AOG "Anywhere" Services

Duncan Aviation may be based in the United States, but we offer global service, touching nearly every continent. Technicians have serviced Challengers in Egypt, Falcons in Europe and Learjets in Brazil. We've performed maintenance on engines in Japan, Venezuela and Canada; and we have sent emergency exchange parts to Newfoundland, New Zealand and Hong Kong, among many other locations.

AOG Technical Support

Sometimes an AOG situation can be solved with a phone call to the right individual who is trained to ask the right questions. Duncan Aviation has 24 highly skilled and specialized technical representatives available for one-on-one phone calls to help you get to the bottom of what is keeping your aircraft on the ground. They are experienced and respected as industry experts and they are called upon to troubleshoot problems in all areas surrounding business aircraft ownership. Many have been invited by OEMs to participate in setting industry standards.

AOG Mobile Application

Duncan Aviation has launched a new AOG Service app that makes it easy for AOG operators to find the Duncan Aviation location that is nearest to their current position. It lists all 24/7 emergency phone numbers and technical representative contact information. This app is currently available for Apple® devices, and an Android version is planned for later this year. Visit *www.DuncanAviation.aero/apps* for more information.

At Duncan Aviation, we address your needs so you can operate your aircraft specific to your situation. It is not unusual for us to dispatch our own aircraft to expedite AOG repairs, ferry parts and, if necessary, transport passengers to their next destination. Duncan Aviation is truly a one-stop shop. When you are AOG, all you need to remember is Duncan Aviation will find a way to solve your problem.

Duncan Aviation Launches 3 Apps

AOG Services

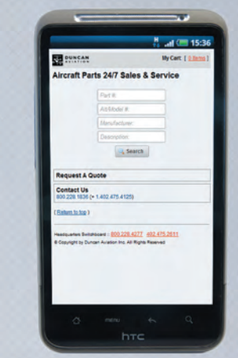
Duncan Aviation's "AOG Service" app makes it easy for AOG operators to find the nearest location to their current position, and offers 24/7 phone numbers and technical representative contact information. The first version of Duncan Aviation's app was launched September of last year. Since then, several improvements have been made, and more enhancements are planned.

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

Search aircraft parts inventory and capabilities.

Aircraft Parts Search

A mobile-friendly version of Duncan Aviation's parts search website has been developed, making it more compatible with tablets and mobile phones. The parts search website extends the ability to search Duncan Aviation's parts, accessories, avionics and instruments inventory and capabilities. With one touch, customers can enter all or part of a part number, with or without dashes, and find out if Duncan Aviation has the part in inventory for sale or exchange and whether Duncan Aviation has the capability to repair/test or overhaul the item. The customer will also be able to dial Duncan Aviation directly with one touch or send a quick email. It may be bookmarked on Apple and Android™ devices.



Aircraft project management, away from the hangar.

myDuncan

Duncan Aviation has created a mobile-friendly website for its myDuncan project management system, which streamlines the item approval process and communication for aircraft projects with photo attachments, job status reports, item histories and projected expenses. On-site aircraft representatives and off-site decision-makers are able to view approved sections of the project during prebuy evaluations on any mobile device.

To download the apps, please visit *www.DuncanAviation.aero/apps*.

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.

DUNCAN AVIATION DELIVERS FIRST MPI ON HONEYWELL TFE731-50

This summer, Duncan Aviation performed one of the first Major Periodic Inspections (MPI) in the industry on a pair of TFE731-50 engines. The -50 engine was engineered specifically for the Hawker 900XP aircraft to accommodate the tighter engine cavity and unique duct requirements but still deliver the same robust power of the -60.

GUARANTEED 14-DAY INTERIOR PROGRAM FOR CITATIONS AND LEARJETS

Duncan Aviation has developed and rolled out an interior program that guarantees a 14-day installation of new interior soft goods in the flight deck, cabin and lavatory on select aircraft models including the Learjet 45 and 60 and the Citation X, Encore, Ultra, XL, XLS and Sovereign. Additional services, like cabinetry touch-ups and minor airframe due items, can be added.

"Because Duncan Aviation has decades of experience with interior refurbishment and has completed thousands of interior projects, the company was able to create highly efficient interior completion processes and multiple shifts that allow for a 14-day aircraft transformation," says Matt Spain, Duncan Aviation Completions Sales Rep. "We even stand behind the 14-day downtime with a written guarantee."

> n. (14-day interior): Duncan Aviation guarantees a 14-day installation of new interior soft goods in the flight deck, cabin and lavatory on select aircraft models for the Citation and Learjet.

The key to the program starts with proper planning and coordination between Duncan Aviation and the operator before any work begins on the interior refurbishment. The rest relies on the experience of Duncan Aviation's interior craftsmen, capitalizing on the company's development of efficient processes, utilizing pre-engineered seat designs and state-of-the-art manufacturing technologies.

"Downtime is still one of the top concerns of many aircraft operators," says Duncan Aviation Completions Sales Rep. George Bajo. "Providing industry-leading downtimes has always been something at which Duncan Aviation has excelled."

Find out more about Duncan Aviation's 14-day interior programs at *www.DuncanAviation.aero/interior/promotions/14_day_interior.php*

OFF-SITE MAINTENANCE SERVICES NOW AVAILABLE

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

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

Duncan Aviation provides factory authorized service for Bombardier Challengers (300 and 600 series), Bombardier Globals, Bombardier Learjets, Cessna Citations (500s/550s/560s/650s/680s), Dassault Falcons, Embraer Legacys and Embraer Phenom 100s and 300s. The company also services Raytheon Hawkers and Gulfstreams. Airframe maintenance includes all inspections, heavy structural repair and modifications.

DUNCAN AVIATION INVESTS IN DRY ICE TECHNOLOGY FOR BOMBARDIER SERVICE BULLETIN

This summer, Duncan Aviation invested in and began using dry ice blasting machine technology to safely remove epoxy, corrosion and other materials without damaging existing aircraft surfaces. This move was in response to a recent Bombardier Service Bulletin affecting Challenger 600 Series operators.

Challenger Service Bulletin (SB) ATA 55-11, titled "Special Check/ Modification - Passenger Door-Epoxy Ramp Removal and Corrosion Prevention," calls for, in part, the removal of the epoxy ramp in the passenger door to prevent further corrosion. The SB recommends dry ice technology to achieve maximum results. After arranging for a product demonstration, Scott Shefke, Duncan Aviation's Challenger airframe tech rep, knew that a dry ice blasting machine was what Duncan Aviation needed to provide the best solution for Challenger 600 Series operators performing this SB.

"Duncan Aviation has an empowered workforce that is encouraged to proactively seek new, more efficient and technically advanced methods to improve or enhance how we approach our work and care for customers and their aircraft," says Aaron Hilkemann, Duncan Aviation's President. "Scott took the initiative to learn more about dry ice technology and concluded that this tool was needed to perform this Service Bulletin effectively and efficiently. We listened and, within a couple of weeks, all three Duncan Aviation maintenance facilities (LNK, BTL and PVU) were provided a cold jet Aero 40 Series dry ice blasting machine. Our willingness to listen closely to those with technological skill and knowledge and to respond quickly on things of this nature are what sets Duncan Aviation apart."

The dry ice blasting machine is integral in removing the epoxy ramp in an efficient manner while insuring that no collateral damage occurs to the existing door structure. Duncan Aviation has successfully completed this SB in-the-field with several more projects scheduled through the remainder of 2012. In addition, we are conducting further research to identify other applications for the technology.

DUNCAN AVIATION'S WORLDWIDE SUPPORT TEAM

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

In 2011, Arjen Groeneveld became Duncan Aviation's first International Regional Manager. Groeneveld, who lives in The Netherlands provides support to operators throughout Europe. He has more than 22 years of experience derived from positions in aerospace research, commercial airline and the aircraft leasing industries. Contact Arjen at +01.31.6.4672.7679.

Richard Gardner supports the regions of Australia and New Zealand. His experience includes employment with Air New Zealand and Pacific Turbine and owner of SinglePoint Assist, an international AOG support network. He holds many licenses including an FAA A&P, CAA airframe and engine license and licenses in New Zealand, Latvian, Trinidad and Tobago. Reach him in New Zealand at +64.4.479.3275.

Allan Orsi is located in Sao Paulo, Brazil. He has prior work experience with Honeywell do Brasil, Embraer, Bosch and Aerostation. Allan has a Bachelor of Science degree in Mechanical Engineering and an International Trade Technical degree. Contact him in Sao Paulo at +55.19.9214.1335.

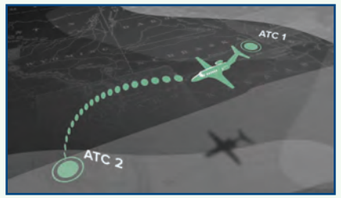
Andy Fernandes supports India. He has been with Duncan Aviation since 1999 and will continue his current responsibilities as Avionics Installations Sales Rep, serving a dual role as he supports operators in India, traveling to India several times a year. Andy holds a Bachelor's degree in Aviation Maintenance and a Master's degree in Aviation Safety. He has worked for Swiss Air and as a mechanic and project manager for Duncan Aviation in Lincoln. Contact Andy at Duncan Aviation-Lincoln at 402.479.4186.

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

NEW EDUCATIONAL RESOURCES RELEASED

Duncan Aviation is known in the industry for its educational endeavors. The company provides several resources, including newsletters, booklets, videos and classes, to help those in the industry better understand new technologies, mandates and industry topics.

Here are some of the more recent resources published by Duncan Aviation.



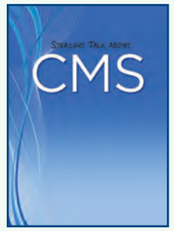
FANS Video Series

Duncan Aviation recently released a new resource explaining Future Air Navigation Systems (FANS). A four-part video series briefs viewers on the evolution of FANS, how FANS operates, certification and upcoming mandates. This information is provided in addition to the *Straight Talk About FANS 1/A* ebook released by Duncan Aviation just last year.

The FANS video series is hosted by Duncan Aviation's Avionics Installations Sales Rep Justin Vena. In it, he offers information and advice regarding FANS operations, answering some of the most common questions that operators bring to him.

Vena's passion for understanding the world's NextGen initiatives has led to extensive research on the subject. The FANS video series explains Controller Pilot Data Link (CPDLC), Automatic Dependent Surveillance Contract (ADS-C) and how they operate. Vena gives details about what happens with initial set-up and operation including air traffic controller pass-offs and explains the components included in a generic FANS system. The video series provides information on Certification involved with a FANS installation and information in regards to FANS mandates in Europe and the North Atlantic tracks.

To view Duncan Aviation's FANS video series, visit *www.DuncanAviation.aero/fans*. To download a copy of *Straight Talk About FANS 1/A*, visit *www.DuncanAviation.aero/straighttalk/fans*.



CMS Booklet

Duncan Aviation recently published *Straight Talk About Cabin Management Systems*, which serves as a guide to owners and operators wishing to understand more deeply all that an aircraft Cabin Management System (CMS) entails.

Chad Ostertag, Avionics Installations Sales Representative in Battle Creek, says that over the past few years, there has been an explosion of new and exciting cabin entertainment and control options for business aircraft. "We field questions daily on cabin management and entertainment. So our team has developed this booklet to explain what cabin management options are available and what will be available in the near future."

To download a copy of *Straight Talk About Cabin Management Systems*, visit *www.DuncanAviation.aero/straighttalk*.

In-Flight Wi-Fi Field Guide

A new field guide entitled *Making Sense of Wi-Fi: An Operator's Guide to Aircraft Internet Options* explores the various topics operators face when selecting in-flight Wi-Fi for business aircraft and includes a comparison of the major service providers and main equipment options.

"Wi-Fi is a hot topic for business aircraft operators and we field many questions," says Steve Elofson, Avionics Installation Sales Rep in Lincoln. "We're often asked which solution is right for each aircraft. What's more important are the needs and expectations of the passengers."

Written by industry experts and put together by the Duncan Aviation team, this guide helps operators weigh their options and compare various systems. As a leading Wi-Fi installer, Duncan Aviation has invested heavily in this market. The company owns 13 STCs for broadband with Wi-Fi and has performed nearly 350 installations so far. The STCs were completed by the Duncan Aviation Engineering Team under Duncan Aviation's Organization Designation Authorization (ODA), which includes STC, Major Repair and Alterations (MRA) and Parts Manufacturing Approval (PMA) authority. Duncan Aviation holds STCs for in-flight Wi-Fi for the following models:

- Hawker 800A, 800XP, 850XP, 900XP
- Falcon 2000, 2000EX, 2000EX EASy and 900EX, 900EX EASy
- Citation 560XL, 680, 750, XLS
- Challenger 300, 601-3A/R, 604, 605
- Learjet 45
- Embraer Legacy 600, 650, Phenom 300
- Gulfstream GIV, GV

To download a copy of the field guide, visit *www.DuncanAviation.aero/fieldguides*.

To find more resources compiled by Duncan Aviation's experts, visit *www.DuncanAviation.aero/resources*.

> n. (field guide): 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.

FALCON 900 WINGLET INSTALLATIONS POPULAR

Since Falcon 900 winglets became available nearly a year ago, Duncan Aviation has experienced good installation activity for the modification at our full-service facilities in Lincoln, Nebraska, and Battle Creek, Michigan.

Alan Monk, Airframe Service Sales Rep, says: "There's not a lot of difference between the winglets for Falcon 900 and 2000 aircraft, and we have a lot of experience with the 2000s. Although some additional interior access is required to run wiring in the 900s, the winglet kits themselves are very similar. There are a few aileron modifications, but otherwise the hardware is essentially the same."

Falcon 900 winglets can easily be installed during a C inspection without any impact to the maintenance schedule, Alan says. Since the interior has to be removed for the airframe inspection, it makes the wire runs more accessible for the winglet installation, which helps customers cut costs.

It's also a good opportunity for a dry bay modification, interior refurbishment and avionics upgrades like Wi-Fi or cabin entertainment systems; although more involved projects may impact the maintenance schedule.

"Duncan Aviation is the most experienced blended winglets installer for business aircraft," Alan continues. "We have performed nearly all of the modifications for the Falcon 2000 fleet, and are experienced in installations for Hawker 800 series and Falcon 900 series aircraft."

LANDING GEAR CAPABILITIES EXPANDED WITH NEW DIGITAL MACHINING MILL

Duncan Aviation landing gear technicians can now provide faster landing gear inspections, restorations and overhauls by utilizing a new digital machining mill that was installed in the Duncan Aviation machine shop this August.

The new mill, a Fryer Touch 2100 Control, has more rigidity and a larger base than the previous mill, and will allow technicians to machine landing gear castings and other large parts with better accuracy and efficiency. This mill is the latest addition to the capabilities of the machine shop, which has more than six milling machines, a waterjet, certified welding department and a fabrication shop.

Duncan Aviation completes landing gear restorations and overhauls for Challengers, Hawkers, Learjets and King Airs, both in conjunction with in-house airframe inspections and for units that are removed and sent in from all over the world. Duncan Aviation has 10 technicians dedicated to landing gear work and has significant landing gear parts inventory, as well as the needed tooling, crating and support equipment to control costs and manage turntimes.

> n. (Fryer Touch 2100 Control): the new mill allows Duncan Aviation technicians to machine landing gear castings and other large parts with better accuracy and efficiency.

"The new mill allows us to perform landing gear work with even shorter turntimes and, because we can perform the work here, we are not subject to shipping or premium charges," says Jerry Cable, Duncan Aviation Accessory Tech Rep. "We also maintain control over the work and timeline."

DUNCAN AVIATION ADDS G150, GIV AND G500 SERIES TO OPERATIONAL SPECIFICATIONS

The Operational Specifications for Duncan Aviation's Lincoln facility now include Gulfstream service and maintenance for the G150, GIV and G500 series model aircraft. The FAA limited capability includes small to large heavy airframe inspections on these airframes and line and heavy maintenance for TFE731-40.

To accompany the extensive amount of tooling and maintenance experience that Duncan Aviation has with the Astra and Gulfstream models, new tooling and test equipment specific to the G150, GIV and G500 series has been obtained. Those technicians familiar with the Astra and Gulfstream maintenance have completed factory training for the G150, GIV and 500 series.

DUNCAN AVIATION NAMED A GE AUTHORIZED SERVICE CENTER FOR CF34-3

GE recently named Duncan Aviation as an authorized service center for GE's CF34-3 engines that power the Bombardier Challenger series. Under this agreement, Duncan Aviation can perform line maintenance and engine maintenance, including front-end and hot-end entry, as well as provide On-Point (SM) solution agreement and warranty support and facilitate access to both GE parts and technical support.

"Duncan Aviation has more than 50 years of experience in the maintenance, repair and overhaul of business aircraft, and we are pleased to welcome the company to GE's CF34-3 network of authorized service centers," said Brad Mottier, vice president and general manager of GE Aviation's Business & General Aviation organization. "In the last few years, GE Aviation has expanded its network of authorized service centers to ensure we can meet the needs of our growing customer base."

"Duncan Aviation is pleased to provide customers with authorized service for GE's CF34-3 engines," says Doug Alleman, Engine and Service Sales Manager for Duncan Aviation. "We have a long history of working with GE and supporting the Bombardier Challenger airframe. This authorization is a welcome extension of those services."

Cover: Doug Bohac, Duncan Aviation Paint Services Manager, in the new 45,000-square-foot paint hangar. This Gulfstream IV has been chemically stripped and is being metal sanded and pre-treated, the two steps before primer can be applied on the aircraft.