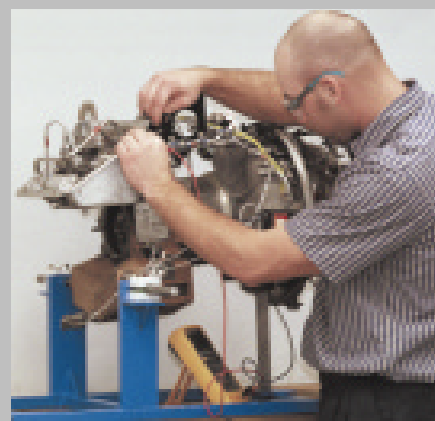


A Roundtable Discussion About AVPAC & Duncan Aviation

Several customers have called recently with questions regarding the relationship between AVPAC parts and components services and Duncan Aviation's avionics & instrument repair/overhaul services. So we assembled AVPAC avionics sales representatives Ted Miller, Steve Green and Jewell Chambers to answer the following questions in a roundtable discussion. We wanted to share the information with you.



Engine Technician Jason Burhoop works on a Hamilton/Sundstrand T62T-40 APU.

Duncan Aviation Can Troubleshoot & Repair APUs

For years, Duncan Aviation has certified and installed APU units in many different types of aircraft. In fact, we celebrated our 100th APU installation last fall. What many operators don't know, however, is that we have lots of experience in troubleshooting and repairing APUs, too.

Our factory trained technicians have years of experience troubleshooting and repairing Honeywell and Hamilton Sundstrand APU models. We perform Hot Section Inspections for Honeywell APUs, have an APU road crew available for on-site repairs and APU exchanges, offer send-in repairs, and can access APU rental units (ask about free shipping and our five-day turn time). State-of-the-art test equipment is available to Duncan technicians for troubleshooting including a Technetics tester used to diagnose problems in the electronic sequence units for the Sundstrand units and a Honeywell APU tester for the 36-100 and 36-150 units that simulates various engine faults.

Our Lincoln and Battle Creek locations are each factory authorized by Hamilton Sundstrand for line maintenance and repairs and Duncan's Lincoln location is factory authorized by Honeywell for line maintenance and repairs. Hamilton Sundstrand factory authorizations include repairs to APUs covered by Hamilton Sundstrand Service Plan (HSSP), which is a five-year contract warranty program. Honeywell has authorized Duncan to perform maintenance and repairs to APUs covered by Honeywell's Maintenance Service Plan (MSP).

For more information about our APU troubleshooting and repair capabilities, please contact **Mike Heazler** in Lincoln at **800.228.4277** or **402.475.2611** or **Dan Arrick** in Battle Creek at **800.525.2376** or **616.969.8400**.

Q: How closely does AVPAC work with Duncan Aviation's avionics team?

A: AVPAC is a part of Duncan Aviation. In fact, Duncan's Components Services group is in the same building as AVPAC. The two departments share information daily. AVPAC has complete access to all of Duncan Aviation's services and capabilities, including the extensive component capabilities and technical experience.

Q: So, what's the difference between AVPAC and Duncan's Components Services?

A: Because AVPAC is a part of Duncan Aviation and because both AVPAC and Duncan Components work out of the same building, there is very little difference. AVPAC's avionics section primarily locates and sells avionic units as well as arranges exchanges. Duncan's Components team is mostly in the business of repair and overhaul of avionic units. AVPAC's part professionals are heavily involved in the international aviation parts marketplace every day. Over the years, this has provided AVPAC with one of the most extensive parts and components networks in the world. So by combining AVPAC's network of worldwide contacts and Duncan's extensive component capabilities, virtually anything a customer needs can be handled by making a single call to AVPAC.

Q: How do customers benefit by using AVPAC over other avionic parts suppliers?

A: AVPAC's basic avionics business is in outright sales and exchange units. This benefits customers in several ways:

- An exchange unit only has to be changed once.
- If a customer has an economically

repairable unit, up-front costs are more predictable.

- There is a major downtime advantage when using an exchange unit.
- Units purchased outright require no core return. Later, the faulty unit can be sent in for repair/overhaul. This unit then becomes a spare for the customer, allowing them to do their own exchanges. This process saves downtime. And long-term cost may actually be low enough to pay for the unit.

In addition to the obvious advantages of exchanging units with AVPAC, the AVPAC avionic technical team knows the proper questions to ask an operator and will advise them on the best repair or purchase method for them and their aircraft. And the AVPAC avionics experts are backed up by Duncan's #1 rated avionics services and technical advice. It's a one-two punch that thousands of AVPAC customers have relied on for years.

Q: What if I'm not sure what to do with my unit, need it back fast but am 1,000 miles away from AVPAC and Duncan.

A: No company in the world can supply you with more technical support than AVPAC and Duncan Aviation. AVPAC's technical team of Steve Green and Ted Miller can help troubleshoot you out of your worst avionics nightmares. And with next-day air service available throughout the United States, the World Class Services of AVPAC and Duncan Aviation are just as close as any other facility in the country. So, using the best never costs you more in time or money.

For more information about AVPAC's avionics, components and parts services, call **AVPAC** at **800.228.1836** or **402.475.2611**. Or look them up on the Internet at **www.avpac.com**.

Team Training — Avionics Support

"It's not always enough to know how a unit works or what the part number is. Often, it's more important to understand the customer's needs and why one unit suits them better than another."

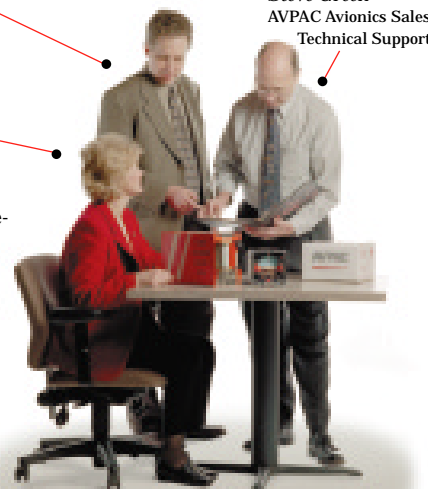
— **Ted Miller**
AVPAC Avionics Technical Sales/
Program Manager

"Sometimes it may be necessary to cross-reference a part number. Our experience combined with an extensive avionics library containing cross-reference materials, lets us quickly check our inventory or begin a worldwide parts search."

— **Steve Green**
AVPAC Avionics Sales/
Technical Support

"Understanding avionics is important, but I can clearly see how it's more important to understand how a unit fits the specific needs of the customer. That kind of knowledge is something that only comes through training and we're known industry-wide for our comprehensive training programs."

— **Jewell Chambers**
AVPAC Avionics Sales Associate



Duncan Aviation's unparalleled commitment to training reaches all areas of the company, including AVPAC. It's training that enriches a company with Unforgettable People. AVPAC's experienced avionics team makes one-stop avionics shopping easy. One call connects you to AVPAC's vast experience and Duncan's award-winning avionics shop just down the hallway. That's the Legendary Service every customer deserves. The next time you're in an avionics pinch, give AVPAC a call. We're trained to solve problems just like yours.

AVPAC

DUNCAN AVIATION AVPAC, your one-stop avionics problem solvers
800.228.1836 or 402.475.2611
www.avpac.com or E-mail us at sales@avpac.com

Unforgettable People —
Legendary Service

NBAA Issue

DUNCAN AVIATION

Duncan Debrief

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Stop by and see us at the NBAA
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Duncan Aviation Opens New Lincoln Facility This Fall



Construction of the new 123,000-square-foot modifications and completions complex at Duncan Aviation-Lincoln will be completed in October with an Open House celebration in November.



This October, Duncan Aviation's Lincoln, Nebraska, facility will unveil its largest hangar and shop facility yet as technicians begin work on the first aircraft projects in the 123,000-square-foot modifications, service and completions complex.

The new facility boasts nearly 60,000 square feet of hangar space divided into sections of 36,000 and 24,000 square feet—plenty of room to house some of the larger business aircraft Duncan supports. A hangar door that opens 28 feet high and 280 feet wide will allow entry to aircraft as large as a Global Express or a Gulfstream V and the hangar ceiling height will allow these aircraft to be placed on jack stands when necessary.

An adjoining, three-level shop facility provides an additional 63,000 square feet of shop space and will house the sheetmetal, completions, installations, upholstery, finish/cabinet shops as well as engineering, design and our fabrication/PMA (Parts Manufacturer Approval) team.

Before construction began in September 1999, many months were spent planning and evaluating needs for the complex.

"The new facility is an important component of Duncan Aviation's growth plan," explains President Aaron Hilkemann. "Capacity has been a limiting factor in our growth over the past several years. We have served our growing customer base by implementing evening and weekend shifts to maximize facility space and provide customers with greatly reduced downtimes. These innovative scheduling approaches were well-received by customers and we will continue them even now that space constraints aren't so apparent. The new facility provides us with more than increased capacity. Its design was created with increased productivity and efficiency in mind to improve project throughput and decrease customer downtime even more."

Technicians and team leaders were interviewed and asked to provide detailed input regarding shop space allocation, space efficiencies and shop locations to ensure improved production. Site visits to several recently constructed hangars around the United States were also conducted.

We are proud of this new facility and are looking forward to hosting an Open House and Intelli-Conference in November. We hope to see you there.

Intelli-Conference & Open House Slated for November

On November 7 and 8, Duncan Aviation will host an Intelli-Conference and customer Open House event dedicating the new hangar and increased facility space.

The Intelli-Conference includes a full day of classes Tuesday, November 7, about important industry topics and a comprehensive, half-day workshop on Wednesday morning, November 8. Topics we plan to cover include Avionics & Communication System Upgrades, Planning Large Completions & Maintenance Projects, Certification and FAA Regulations, Aging Aircraft Issues, Human Factors Resource Management, APU Troubleshooting, Autopilot/Gyro Troubleshooting, CF34 Troubleshooting, and TFE731 Troubleshooting.

The conference classes are wrapped around an Open House celebration Tuesday night when Duncan will provide comprehensive tours of the new 123,000-square-foot complex during a festive atmosphere with great conversation, good food and fun activities.

The event is modeled after two successful symposiums Duncan Aviation has offered to customers over the last 18 months. In fact, the topics were inspired by requests from customers who attended (or at least heard about) our previous symposium conferences.

In May of this year, we sponsored a TFE731 and JT15D/Citation 500 Series Troubleshooting Symposium at our Battle Creek, Michigan, facility. More than 70 customers attended. In May 1999, we hosted a TFE731 Symposium in Lincoln when we opened our then-new Engine Service Center. About 90 customers attended that event. Reviews from both events were very positive. In fact, we were asked to give additional symposiums on a wide range of business aviation issues.

If you have not received information about our Intelli-Conference & Open House event in November and would like to attend, please contact your local Service Marketing Representative or call **Connie Janak** at **800.228.4277** for more information.

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A Message From The Chief Pilot

The year 2000 has been an exciting one so far for Duncan Aviation. Many significant innovations and additions are coming to fruition and helping to propel us toward an equally exciting 21st Century.

As we explain in this issue of the *Duncan Debrief*, we have added many capabilities for Challenger aircraft, including the addition of Eddie Fincher, our dedicated Challenger Technical Representative. We have performed several first-in-industry wing demates on different models of aging aircraft to repair cracks and corrosion. Our APU repair capabilities continue to increase. We continue to lead the industry in avionics STCs and keep expanding the number of Duncan facilities that perform complicated installation services. We also keep looking for ways to shave time off our already-fast turntimes for component send-in work as well as major on-site projects.



"Over the years, we have determined that it isn't enough to be accurate, responsive and credible when helping customers. We view customers as business aviation partners and believe we will be successful only if they are."

Probably the biggest news of the year, however, is that we are putting the finishing touches on a new 123,000-square-foot modifications, service and completions complex at our Lincoln location. The hangar doors will open for business this October, followed by an official Open House and Intelli-Conference symposium in early November.

It is our hope that the Intelli-Conference classes provided around the Open House event will give attendees straightforward answers to their most-asked questions regarding completions, avionics upgrades, engine/avionics system troubleshooting and many other important aviation topics. This educational approach was suggested by many regular customers through feedback on our *Duncan Intelligence* faxed newsletters and two previous engine troubleshooting symposiums.

Their suggestions match our perspective on customer service. Over the years, we have determined that it isn't enough to be accurate, responsive and credible when helping customers. We view customers as business aviation partners and believe we will be successful only if they are. So we provide them with as much information as possible to help them operate productive, successful flight departments.

That view is not marketing hype. It is an accurate look at how we view our customer relationships. It is also my pledge to you.

I hope to see you this fall at the NBAA Convention or at our Intelli-Conference and Open House event in Lincoln.

J. Robert Duncan

Our Accessory Team Thinks Like You Do

There are many phrases an operator with a weekend AOG accessory problem does not want to hear in their moment of need. Unfortunately, at some other facilities, they invariably do hear the following:

*"Well that's an overtime charge."
"We don't work weekends."
"Send it in. We'll start Monday."
"We don't have loaners or exchanges."
"Our shipping & receiving person isn't here on Saturdays and Sundays."
"What's an Accessory Time & Material Exchange?"*

At Duncan Aviation, we're aviation enthusiasts; we think like operators do. If you're AOG with an accessory problem, our goal is to get you back in the air as soon as possible. The phrases that operators hear from Duncan include:

*"There are no overtime charges for a normal weekend service."
"Duncan's Accessory Shop is open every Saturday-Sunday from 10 a.m. until 10 p.m."
"Send it on in. We'll start working on it as soon as it gets here."
"We have loaners and units ready for exchange."
"Our shipping and receiving team is always ready for your shipment."
"Yes. We have an Accessory Time & Material Exchange Program."*

At Duncan, we're not only proud of how we respond to customer requests, we're proud of the fast service we provide. With proper scheduling, current accessory turntimes include one to two days on stab actuators, two days on starter/generators, four to six days on King Air and Learjet landing gear, and the time-saving list goes on and on.

Duncan also reacts quickly to industry changes. For instance, when Duncan's Accessory team found out about the recent Challenger 120 month landing gear requirements, an advanced copy of the requirements was obtained. After that, in order to satisfy demand from our customers, required tools were purchased, testing capability was established, test equipment was built and an inventory was purchased to handle any corrosion that was found. As you can see, at Duncan Accessories we're not only here seven days a week, we're ready for your toughest and largest problems, too.

For more information about our weekend work and our fast accessory turntimes (even over weekends), give **Chris Gress**, Components Services Sales & Marketing Representative, a call at our toll-free number **(800.228.4277)**, his direct line **(402.479.1664)** or on his cellular phone during weekends **(402.450.5216)**.



Duncan-BTL Installs FDS-2000

Duncan Aviation-Battle Creek is installing one of the first Rockwell/Collins FDS-2000 multicolor LCD flat panel display systems ever placed in a Gulfstream II. The GII is slated to return to service in October with the recently released FDS-2000 system in place of its electro-mechanical indicators, attitude director indicators (ADI) and horizontal situation indicators (HSI).

Duncan Aviation will STC the FDS-2000 retrofit, which consists of four Adaptive Flight Displays, two Display Select Panels and two Data Concentrator Units. While providing the aircraft interface, data processing and control, the FDS-2000 can also display EGPWS directly in front of the pilot and co-pilot.

The EHSI has two display formats in addition to an HSI (Rose) and expanded-compass (Arc) mode. A "Compacted Display" is also incorporated to allow a "compressed" display of EADI and EHSI on the individual displays. The FDS-2000 system will allow updated state-of-the-art LCD displays using existing or new equipment and additional capabilities may be available depending on the installed avionics.

Customers Race for Duncan

On-site maintenance and completions customers at Duncan Aviation's Lincoln facility receive certificates for redemption at Speed Indoor Racing, a Lincoln business that boasts one of America's largest indoor race tracks. Good for one "Arrive & Drive" session in go-karts that can reach 47 miles per hour, these certificates let customers race each other and see how they place. Following is a list of recent record lap times:

*Dave Kelley, R. J. Reynolds, 27.48 sec
Joe Brannan, N Squared Aviation, L.L.C., 27.67 sec
Keith Anderson, Cross Timbers Oil Company, 28.89 sec
Charles Hartzell, Richmor Aviation, 29.37 sec
Milton McNeely, Cross Timbers Oil Company, 30.61 sec
Jerry Gleim, 31.16 sec*

Community Support Projects

Duncan Aviation believes in educating our youth and the general public about general aviation and business aviation. As part of this belief, the company and its employees give resources and time to various causes. Following are three significant donations made by Duncan Aviation over the last few months.

Learjet 23 to Kalamazoo Air Zoo

An original Learjet (1965 Learjet 23) was recently donated to the Kalamazoo Air Zoo in Kalamazoo, Michigan, by Duncan Aviation, which had owned the historical aircraft since 1989. Still sporting its original interior (complete with eight-track tape player), the Learjet was one of the original series invented by William Powell Lear, Sr. Because the roots of jet-powered corporate aviation can be traced back to the Lear, we felt the airplane should be on display, allowing visitors an up-close and personal view of corporate aviation in the 1960s.

Lincoln Children's Museum

Children visiting the Lincoln, Nebraska, Children's Museum can now learn about airplanes, airports, air transportation, weather and Nebraska aviation history through a new exhibit called the Sky High Airport. Sponsored by Duncan Aviation, the exhibit includes a real Cessna 152 aircraft (donated by Duncan) that the kids can explore and "fly." Other exhibit attractions



include a smaller pretend aircraft for toddlers, a wheelchair-accessible cockpit, working communications between all three aircraft and the "control tower," a hangar, a live computer link offering weather information, navigational maps and instruction, and a mechanic's corner where children can view real tools and make repairs to a pretend engine.

An Unusual After-School Project

Several Duncan Aviation-Lincoln employees volunteered at Lincoln's

Duncan Satellite Shop Program Celebrates 15 Years

Fifteen years ago, Duncan Aviation opened its first satellite avionics shop in Houston. Today, our satellite shop network has grown to more than 80 technical and support people in 18 locations throughout the United States.

Sixteen years ago, aircraft owner and operator Robert Duncan recognized a need for more high-quality regional avionics shops and began thinking about filling this need by starting small avionics repair sites. The idea was to locate a facility that performed high-quality maintenance work but had no avionics support, and partner with them.

Don Fiedler, Duncan's Avionics Satellite Coordinator, and Rick Whitesell, Components Sales and Marketing Manager, conducted market research on the state of the avionics business and potential satellite locations.

Beckett Aviation in Houston (TX) was chosen as the best launching point. After negotiating with Beckett's President, our first satellite facility was started by Terry Markovich (currently Duncan's Teterboro Satellite Shop Manager) in 1985. Within 18 months, we had satellite shops in all of Beckett Aviation's locations—Cleveland (OH), Chicago (IL) and White Plains (NY). Then came Van Nuys (CA), Ft. Lauderdale (FL), Scottsdale (AZ), Santa Ana (CA), Long Island (NY), Dallas (TX), Teterboro (NJ), Seattle (WA), Denver (CO) and Las Vegas (NV). Most shops flourished, but

Cleveland and a couple of other short-lived facilities were closed because of changes in the economy, not enough aircraft at the base airport or the wrong mix of aircraft.

Initially, Duncan performed only avionics line service, although some shops quickly expanded into bench work. At the time, the small shops were not able to do installations. Since the inception of the Teterboro shop in 1995, however, that has changed. We now have five shops that do major installations and several other performing almost to that level. Most of the others will soon do installations.

Another satellite change in recent times is the introduction of subsatellite locations. The difference between a satellite and a sub-satellite is that the sub-satellite doesn't have bench repair capabilities and operates under the repair station of its main satellite. The subs have ramp test equipment and perform avionics line maintenance and biannual certificates. They require minimal space and are usually located at an airport close to a satellite facility—usually within 45 minutes. That way, we can share technical personnel as needed.

We are proud of the effects our satellite avionics shops have had on the industry. We saw a need and reacted to it by providing high-quality work close to our customers. For more information, contact **Don Fiedler** at **402.479.1538**.

Satellites Expand For Installs

Many operators have discovered the flexible scheduling, on-site service and minimal downtime offered by Duncan's nationwide network of satellite avionics shops. Quality repairs and accurate troubleshooting make our satellites the first choice for their regional customers.

In addition to this role, a growing number of satellites have become viable options for customers seeking professional installation of complex avionics systems. Currently, Duncan shops in Teterboro, Van Nuys, Denver, Dallas and Las Vegas are designated as installation centers as well as line/bench maintenance facilities. We also have a traveling install team that regularly performs installations at satellites without install teams of their own. Recent satellite shop-installed systems include TCAS II, EGPWS Magnastar Telephone, SatCom, Radar and Flight Management Systems.

Though the satellite facilities are smaller than Duncan's two nose-to-tail support facilities, every aircraft receives the same award-winning service it would in Lincoln or Battle Creek. We accomplish this by backing each satellite team with the same wealth of materials, engineering, experience and manpower available to the Lincoln and Battle Creek teams. Several STCs have been completed on-site at satellite locations and have been added to the extensive library of more than 450 individual STCs awarded to Duncan Aviation.

For more information, contact **Dave Pleskac** at **402.479.1509**.

Airshow TV International Takes Flight

Who needs a window seat when you have Live Airshow TV International in your aircraft? The much-heralded system has arrived—or should we say departed—for the first time in a retrofitted Falcon 50 completed by avionics installation experts at Duncan Aviation's Lincoln, Nebraska, location.

When it comes to staying connected to the world's latest breaking news, financial information, weather, sports or movies, nothing compares to the instant information of television. Using a sophisticated satellite tracking system, the revolutionary Airshow TV International receives the same signals used by U.S. and European homes and delivers them to the monitors in the Falcon 50. The system is effective in more regions of the globe than ever before and plans are in place to expand into Asia, South America, and others.

The multi-channel Airshow TV system can deliver different signals to multiple monitors within the aircraft. This allows passengers in the forward section of the aircraft to watch CNN, while those in the back flip between HBO and ESPN—keeping everyone in tune with the events occurring six miles below.

Duncan Aviation has already completed television system installations on the Falcon 50 and 900, and is ready to do the same for Falcon 2000s, Gulfstreams, Challengers and others with vertical stabilizers sturdy enough to house the antenna assembly. For more information, please contact **Steve Elofson** in Lincoln at **800.228.4277** or **Dennis DeCook** in Battle Creek, Michigan, at **800.525.2376**.

AMPLE EXPERIENCE — ABUNDANT KNOWLEDGE

"During my 24 years with the Modifications Team, I've helped with thousands of installs—many of which were the first of their kind. This broad base of experience has made me more proficient with every system I wire—whether it's my first or 50th of its type."

— **Chuck Eighmy**,
Modifications Team Leader,
24 years Avionics Experience

"One thing about aviation is that no two jobs are ever quite the same. Our customers request it all. From TCAS to Proline 4, from RVSM to satellite TV & telephones. Our award-winning Installation and Engineering Teams give me the confidence to offer solutions to satisfy our customers' needs."

— **Ron Hall**,
Modifications Sales,
34 years Avionics Experience

"Virtually all aircraft systems interface differently, and the 400 STCs we have developed help us meet the demands of today's business aircraft operators. Our expertise and preplanning allow us to offer the industry's quickest turntimes. Additionally, post-sale support — including detailed wiring diagrams — ensure that our customers have all the information they need to make their next project simpler and less expensive."

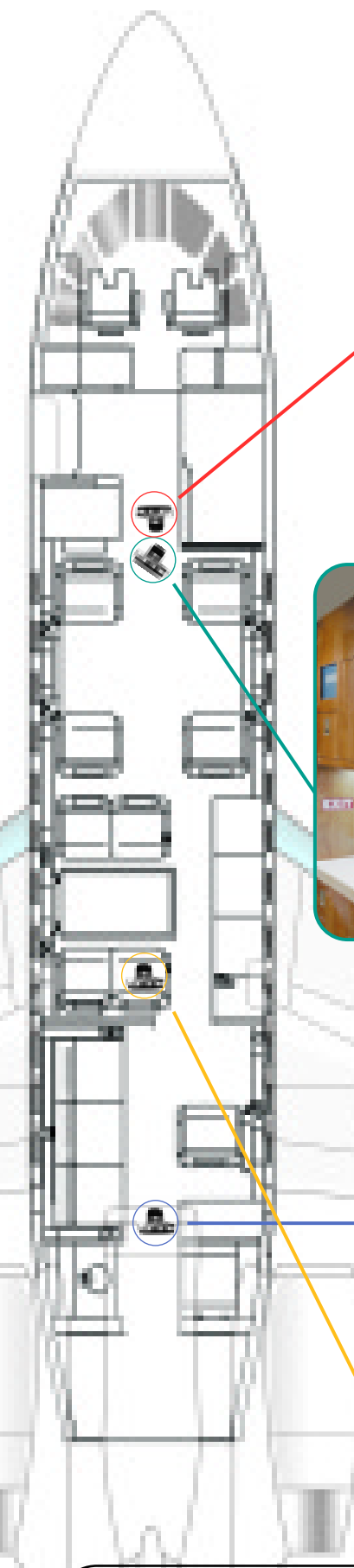
— **Dan Buzz**,
Senior Systems Engineer—DER,
23 years Avionics Experience



In 1966, Duncan Aviation began installing avionics with a 10-member team. For 34 years the team has refined its methods, grown to include 301 members and is an award-winning component of the 1,600 member Duncan Aviation team. Duncan Aviation offers nose-to-tail support at its facilities in Battle Creek, Michigan, and Lincoln, Nebraska, and supports 18 avionics bench and install satellite facilities located across North America. For the best scheduling options and the fastest turntimes available—get wired. Call Duncan Aviation today.

DUNCAN AVIATION
Duncan Aviation-BTL
Battle Creek, Michigan
800.525.2376
616.969.8400
Duncan Aviation-LNK
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800.228.4277
402.475.2611
www.DuncanAviation.com

UNFORGETTABLE PEOPLE — LEGENDARY SERVICE



Duncan Design combined custom serpentine cabinetry, a comprehensive entertainment package, updated communications equipment and new covering throughout, to redefine the elegance and increase the functionality of this Falcon 900 cabin space.



Strategically placed touchscreen control panels operate every function of the entertainment system from key locations throughout the aircraft. Flat-screen monitors deliver video from the VCR, DVD or Airshow 400, a CD player renders the selected soundtrack of flight and 15 speakers bathe the cabin with perfect sound. This well-designed ensemble effectively creates a refuge from the bustle below.



In addition, an all-inclusive workstation and communication system provides contact with clients and co-workers on earth. Satcom, data ports, and a fax machine keep the lines of communication open at any altitude.



Falcon 900

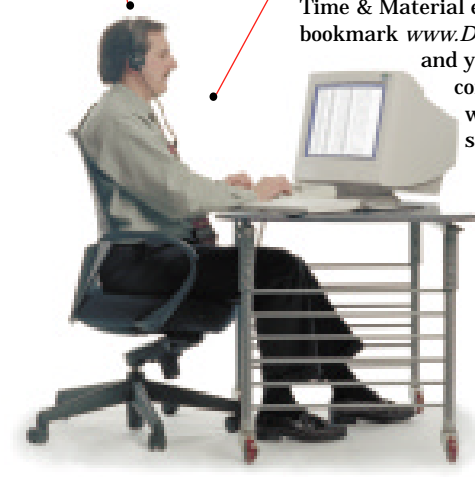
CUSTOMER FOCUSED — ACCESSORY ASSISTANCE

"Our aircraft is coming up on an inspection. Because of flight schedules, we haven't had time to get the generators, servos and landing gear overhauled. Do you have these capabilities and how fast can you turn them? Also, what do I do if I need to check on something after regular business hours?"

— A Frantic Customer

"Duncan's accessory capabilities include everything you're looking for—and our new weekend team ensures that your turntimes will be better than industry norms. You can use our internet guide to check our capabilities and whether we have a loaner or a Time & Material exchange available. Just bookmark www.DuncanComponents.com and you'll have the best components service in the world at your fingertips seven days a week."

— Chris Gress
Components Service Sales & Marketing Representative



Every business should be "focused" on customers. The Unforgettable People of Duncan Aviation are way ahead of the curve when it comes to customer focus, providing different types of accessory capabilities for multiple airframes. New customers are often shocked to find all their accessory needs can be handled at one place, Duncan Aviation. And with our new accessory weekend team, your turntimes never looked better. Extensive capabilities. World-class turntimes. And Legendary Service. At Duncan Aviation, we're focused on the needs of customers seven days a week.

DUNCAN AVIATION

Duncan Aviation-LNK
Lincoln, Nebraska
800.228.4277
402.475.2611

Duncan Aviation-BTL
Battle Creek, Michigan
800.525.2376
616.969.8400

www.DuncanComponents.com

UNFORGETTABLE PEOPLE — LEGENDARY SERVICE

AT-A-GLANCE

Fredstrom Elementary School to help 36 members of the sixth grade class build a single-seat, 40-horsepower ultralight aircraft.



Underwritten by a grant from Duncan Aviation, an ultralight kit, nosecone and instrument panel were purchased, instruments for the project were donated by Jim Sensale of Aviation Instrument Services in Miami, Fla., and tools were donated by Lincoln's Sears store. Students and Duncan volunteers then spent two hours two days a week for an entire semester building the aircraft. The project gave the kids a chance to learn to read blueprints and building instructions, brainstorm ideas, work through solutions as a team, learn from mistakes, and gain confidence in completing a complicated project all on their own. The ultralight was completed in May and successfully test flown by Duncan employee Ted Miller while the sixth grade class watched and cheered.

Our Hawker Services Go Beyond Maintenance & Completions

Duncan's Accessory Shop has many Hawker services to help support our Authorized Hawker Service Center status in Lincoln and Battle Creek. We can comply with the Hawker 4000 landing gear overhaul and have added a large APPH inventory. Our extensive Hawker capabilities include fuel and hydraulic pumps as well as many different air valves. We have been able to reduce the price on some air valve overhauls and are working hard to reduce the cost and turntimes for air valve motor rewinds.

RVSM Certification for Challengers, Jetstars and Falcons

In response to numerous customer requests, Duncan Aviation has formed an RVSM program for Canadair Challenger 600, Jetstar and Falcon 20 aircraft. We have begun the engineering and design

phase of the program and will develop a working schedule for cooperating aircraft owners/operators willing to participate in the data collection, flight test, and certification phase. Duncan Aviation's engineering department is working with an outside aerospace engineering firm for data collection and analysis and Duncan will certify the altimetry equipment for the aircraft by STC. Upon completion, the outside firm will perform RVSM certification by an accompanying STC. When both STCs are complete, the FAA will grant group certification, which will include continuing airworthiness certification instructions. Interested aircraft operators in need of RVSM certification are encouraged to contact the Duncan Aviation Modification Sales group at **800.228.4277** (Lincoln) or **800.525.2376** (Battle Creek) for further details.

Duncan Aviation Excellence Award

The third annual Duncan Aviation Excellence Award will be announced in October at the NBAA Convention in New Orleans. Established in 1998, this award recognizes an individual for his or her significant commitment and leadership to the business aviation industry. As part of the award, \$2,500 is donated in the recipient's name to his or her favorite charity. Past recipients include William "Bill" Wagner, Chief Pilot of Townsend Engineering and former Chairman of the NBAA Board of Directors, and Albert Lee Ueltschi, Chairman and Chief Executive Officer of FlightSafety International, Inc. If you would like to nominate candidates for the award in 2001, please call **Steve Gade**, Duncan's Vice President of Marketing & Sales, at **800.228.4277** or **402.475.2611**.

Do You Have TAWS Questions?

A planned FAA mandate for certain aircraft has made TAWS, Terrain Awareness Warning System, a hot topic in recent aviation media. To learn how this mandate could affect you and how TAWS systems will interface with your aircraft's existing systems, contact our award-winning avionics sales team today. In addition to providing accurate quotes, they provide operators with straight answers to their tough avionic questions and help them plan for future

system upgrades. Call **800.228.4277** to talk to your Lincoln representatives or **800.525.2376** to reach our Battle Creek team.

Duncan Installing Universal MFD-640

Duncan Aviation is in the process of installing the Universal MFD-640 system in several aircraft, including the Falcon 50, Gulfstream II and Challenger 600 with others to follow. The MFD-640 can be integrated with the Primus 880, 660, 440, 400 and 300SL radars, UNS-1 series and GNS-XLS Flight Management systems, MK-V and MK-VII EGPWS, UNS TAWS, CAS 66A, CAS 67A and other avionics systems.

Duncan Performs Hawker Wing Demates

Duncan Aviation's Lincoln facility recently performed wing demates on two Hawker 800XP aircraft—a first in the industry. Because of an incorrect heat-treat process of numerous wing bolts, some 40-45 aircraft may be required to have these bolts replaced. Duncan is assisting Raytheon in the inspection and replacement process of these bolts. In order to accomplish this, the wing must be lowered from the fuselage and the fuselage must be raised, providing access to the bolts. This is a first of its kind field procedure. Besides having the knowledge to perform this procedure, our Duncan teams acquired and designed fixtures to accomplish the demates in record time.

Duncan Performs Falcon Demate

Duncan Aviation's Lincoln facility also recently performed the first field demate on a Falcon 50. Because of severe corrosion in the wings and wing junction plate, demate was required to replace the corroded junction plate. This was no small feat as support fixtures were shipped in from various locations throughout the country. Our teams aggressively accomplished this task, setting yet another Duncan milestone.



Duncan Aviation Has Experience With Aging Aircraft

Over the last few years, the high demand for business aircraft has outpaced the production of new aircraft. This strong demand has increased the value of existing aircraft and has postponed the retirement of many older aircraft. Because of this, the business aviation fleet is showing signs of age. Many of the aircraft in daily use are more than 20 years old. Maintaining the reliability and safety of these "aging" aircraft presents a challenge to both operators and maintenance facilities alike. At Duncan Aviation, we are helping operators solve difficult, unusual, "new" challenges on older aircraft every day. We see the special maintenance challenges on these aircraft in two broad categories: aircraft age-related issues, and declining support issues.

As the structure, components and engines of an aircraft age, corrosion, brittle wiring, structural cracking, and deteriorating sealant can make maintenance very challenging (and more costly). **In an older aircraft corrosion is public enemy #1 . . . and it does not discriminate between aircraft makes.** If left undetected, over time small amounts of corrosion can grow to compromise the structural integrity of the airframe. The key to fighting corrosion is prevention and early detection. At Duncan, our technicians are very experienced at inspecting for all types of corrosion and skilled at the application of all the latest primers and corrosion fighting schemes. And if corrosion is found, our structural repair teams can handle even the most challenging repairs.

While corrosion is a major concern on older aircraft, electrical problems and leaking air or fuel may cause the biggest aggravation for operators. Older, brittle wiring can cause intermittent electrical glitches while old sealant can lead to hard-to-find fuel and air leaks. These aging aircraft problems require patience from both the operator and the technician. Troubleshooting can take time and even experienced, skilled technicians may inadvertently induce other problems when they disturb brittle wiring and sealant while making a repair, all due to the age of the aircraft!

Older aircraft that are out of production may also suffer from a decline in support by the OEM. Understandably, the manufacturer is more focused on the production and support of newer aircraft, so as an aircraft ages, the lack of availability of parts, technical support and engineering support becomes more of an issue. This decline in support, coupled with the problems discussed earlier, has really put a demand on our technical specialists. Our Tech Reps have become very skilled at

Aging Issues Found & Repaired by Duncan Technicians

Falcon:

- Corrosion in general aircraft structure
- Fuel tank corrosion at junction plate and sump areas
- APU exhaust area corrosion
- Lavatory area corrosion
- Corrosion cracks in the frames and skins due to fatigue
- Deterioration of protective treatments
- Corrosion in the upper wing recess area
- Cracking and corrosion in the S-duct area of the #2 engine on Falcon 50s
- Corrosion in the windshield frames

Hawker:

- Protective coating on metal flaking off
- Corrosion in the aileron flight controls
- Corrosion of the flap and flap vanes
- Corrosion in the vertical and horizontal stabilizer
- Corrosion between frames 6 & 13 along stringer 19
- Corrosion on the lower inside skins of aileron flight controls in 800 series
- Corrosion of the leading edge rebates of the wing
- Lavatory blue water causing fuselage corrosion

Learjet:

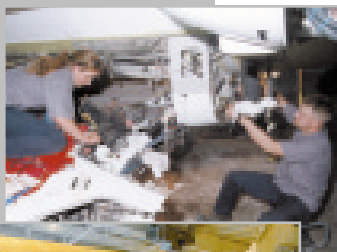
- Cracks in the main engine pylon
- Upper wing to fuselage faring chafing against the fuselage
- Concerns with glue holding the honeycomb in the baggage floor area

Citation:

- Corrosion in the Center belly B.L.O. 00 stringer
- Mechanical damage to cabin doorframes
- Premature cycling out of landing gear components
- Corrosion in wing "dry bay area"

Challenger:

- Composite fairing mess corrosion
- Lavatory leaks under Alt Branson Tank
- Floor beam and seat track corrosion
- 600 Hour T/R cracks



"finding" the support needed to address difficult parts issues, corrosion issues, or troubleshooting on older aircraft. But even with our experienced staff, customers must be aware that the unique problems presented by older aircraft will require extra time and expense to solve.

One last "aging issue" that may affect a few very old aircraft bears mentioning. On some aircraft there is a serious decline in maintenance and technical expertise. This happens as the aircraft count shrinks and maintenance shops see them less and less. Operators of these aircraft need to search out and find those few remaining shops that have the expertise, equipment, and desire to provide good care. This decline may be frustrating, but remember that many of our bright, young technicians were not born when these aircraft were delivered.

In any case, whether the age is 18 or 28 years, careful consideration needs to be taken when choosing a maintenance facility to care for your aircraft. You may think the aircraft is just in for a routine inspection, but a corrosion problem may come up. Significant repairs may be required. Many of these problems are impossible to forecast, and you don't want to find that the service facility you chose cannot finish the repair. You could be

faced with a very long repair or the need to move the aircraft to another facility. Both scenarios are hardly time or money savers.

When choosing a maintenance provider for your older aircraft, consider the amount of experience the technicians have had with your aircraft. If a facility has addressed these "aging" problems before, your job will conceivably go much faster. Additional technical support from the manufacturer is often required, so a good working relationship between the facility and the manufacturer's engineers will allow the technicians to get answers for your problems much more quickly. Beyond experience, issues such as securing parts and special tooling requirements can become huge factors also.

Finally, when dealing with your older aircraft, patience is a must. Although experience is vital, there are no quick solutions to these problems. Smart, well-informed decisions are needed. No facility will immediately have all the answers to problems that can surface with aging aircraft. So when you choose your facility, you will need to make knowledge and experience your primary objectives. For further information, please call any of our technical representatives for **FREE** advice.

Battle Creek Location

Falcon Technical Representative – **Kevin Bornhorst**, 616.969.8482
Hawker Technical Representative – **Roy Olson**, 616.969.8419
Citation Technical Representative – **Joe Austin**, 616.969.8422
Gulfstream Technical Representative – **Jim Overheul**, 616.969.8477

Lincoln Location

Falcon Technical Representative – **Ron Grose**, 402.479.1640
Hawker Technical Representative – **Dick Hyde**, 402.479.1561
Lear Technical Representative – **Bill Schroeder**, 402.479.1545
Citation Technical Representative – **Ed Johnson**, 402.479.1555
Challenger Technical Representative – **Eddie Fincher**, 402.479.4227

Expanding Challenger Capabilities

Through the years, Duncan Aviation has supported hundreds of customers as they have added to their fleet or upgraded to new airframe models. As the industry has grown and expanded, we have done the same. Once known primarily for Learjet expertise, we have successfully expanded our expertise to include Citation, Falcon, Hawker, Galaxy, Gulfstream, and Challenger aircraft. Each addition to our core airframe group has been done with careful consideration so that we could successfully provide "Duncan Quality" support.

Most recently Duncan has been building its Challenger team. A major step in this direction came in April of 2000 when Eddie Fincher accepted our newly created position of Challenger Technical Representative. Eddie's aviation and Challenger background is impressive. His aviation experience began with avionics modifications for police and medic helicopters. In 1987, Eddie began working for KC Aviation in Dallas. At KC, he was a member of the completion delivery team, specializing in Challenger and Gulfstream models. With this strong completions knowledge, Eddie then moved to the engine shop where he was in

charge of line maintenance for the ALF 502 and the CF34 engine lines. In November of 1998, Fincher joined Duncan Aviation and continued with line maintenance, specializing in CF34 engines in our new Engine Service Center. However, the appointment to Challenger Technical Representative in April is what Eddie sees as the high point in his career.



Eddie Fincher
Challenger Technical Representative

avionics installations including TCAS, EGPWS, Dual FMS upgrades, Airshow with flat-panel displays, and others.

A distinct advantage of Duncan Aviation is our ability to do the whole job. Eddie Fincher states that his goal is to be a "One stop shop for all Challenger work." Our new hangar is something that will help us achieve this goal. With the additional space, our goal is to expand our Challenger work to its greatest degree ever.

Over the last few years Duncan has also been assembling the remainder of the Challenger team. Challenger airframe support tooling and test equipment have been purchased. One of our experienced airframe teams has been schooled on the Challenger models and another team is being prepared to help meet the demand. Our Accessory shop has also expanded and is now approved and experienced at handling the 120 month landing gear restoration. Our APU team has been beefed up and now has good experience on the Challenger APU. With the team's effort and Eddie's expertise, Duncan has been able to expand and further define our Challenger capabilities. Our award-winning interior and paint packages are available, as well as all major airframe and engine inspections. Other capabilities include APU repair/inspection, and

Eddie's 28 years of aviation experience (13 with Challenger aircraft) and our new hangar and facilities in Lincoln create a powerful combination. Remember that Eddie is not only an asset for us; he and all of our technical representatives are available to you for FREE technical advice. For a complete explanation of our Challenger capabilities, please contact **Eddie Fincher** at **402.479.4227** or **800.228.4277** or **Skip Laney** at **402.479.1525** or **800.228.4277** in Lincoln, Nebraska.



At Duncan Aviation, we have positioned ourselves as a "one-stop shop" for Challenger work as well as for Learjet, Falcon, Citation, Hawker, Gulfstream and Galaxy aircraft.

Duncan is Prepared for Your Next Avionics Failure. . . Efficient Loaner Flow Increases Options

Anyone who uses ATM machines or writes checks for cash knows that extra services too often begin to cost money. In many cases, that is because those extras have become inefficient offerings because of neglect or poor planning. That is not the case at Duncan Aviation! Our free avionics loaner pool has been around for more than 20 years. And with 2,600 loaners available, we probably have what you need.

Duncan Aviation ships about 880 loaner units each month. These loaners let us work on your unit even while your aircraft is flying.

With so many loaner units coming and going, we employ a full-time loaner administrator to keep the loaner unit flow moving efficiently. **Cheri Burger** performs this duty for Duncan. . . and she takes her job very seriously. "As Duncan grows and customer demands increase, the necessity of moving returned loaners back into the pool fast becomes more and more important," Cheri says.

As Loaner Administrator, Cheri's duties include verifying that Duncan receives a unit to repair within seven days after shipping a loaner to a customer and making sure that the loaner is returned to Duncan within 14 days after we ship a customer their repaired unit. Doing so ensures that loaner units are available for as many Duncan customers as possible.



Loaner Administrator Cheri Burger and Components Services Technical Representative Team Leader Dan Magnus pose in Duncan's loaner pool storage area.

In order to keep customers from incurring late fees or rental charges, Cheri monitors the loaner pool carefully. Because of the volume of loaners being sent, it is important to keep them flowing through the system efficiently. It is also important to future Duncan customers that loaners are returned in a timely fashion. Cheri processes more than 30 incoming loaner returns a day, ensuring that each is returned to the pool. She has even helped customers track down loaners from aircraft that are sold while their units were still at Duncan for repair.

Cheri is completely customer driven. Give her a call at **800.LOANERS** (800.562.6377 ext.1674) when you have questions about loaner units or if you're having trouble making your return deadlines. She is always ready to help customers out and keep Duncan's loaner program the way it has always been—FREE.

"None of us really understands what's going on with all these numbers."

— David Stockman
On the United States Budget (1981)

Figures never lie, but they can be manipulated.

Duncan Aviation's JetResources has developed a proven analysis method ideal for those looking to evaluate and compare pre-owned aircraft much deeper than on price alone. With more than 3,000 completed transactions and 1,400 aviation experts in its employ, Duncan Aviation is an invaluable partner in helping you understand the price-value relationship and make an informed decision.

JETRESOURCESSM
A Service of Duncan Aviation
800.228.4277; 402.475.2611
www.DuncanAviation.com

