

A DUNCAN AVIATION PUBLICATION

# Duncan Debrief

Spring 2008



# FEATURES

## ON THE COVER

Team Leader Joep Cuppens inspects a modular cabinet panel produced on our CNC machine in the background.

## 2003 INTELLI-CONFERENCE SCHEDULE

Join Duncan Aviation at one of our 2003 Intelli-Conference symposium events in New Jersey, Michigan or California.

## DUNCAN INCORPORATES MODULAR DESIGN

What is "modular design?" Many have discovered the benefits of Duncan Design's modular design process.

## SYNCHRONICITY

This photographic showcase highlights Schering-Plough's G-IV project, which is detailed in the following pages.

## INNOVATIVE INTERIOR SOLUTIONS

This Gulfstream IV underwent an extensive workscope that took it to a new level of space and comfort.

## CUSTOMER TESTIMONIAL

Schering-Plough's Bill Lemon tells why they chose Duncan Aviation and what they think of their completed G-IV.

## PROPER PLANNING CAN ENSURE SUCCESS

Planning ahead can give you a distinct advantage for your major inspection or completions project.

## DEPARTMENTS

### THE CAPTAIN'S LOG

A message from Duncan Aviation Chairman Robert Duncan.

### NEWS BRIEFS

Some of the newsworthy events related to Duncan Aviation and the aviation industry.

### FACILITY LOCATOR MAP

Find a Duncan Aviation facility near you.

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## Planning for continued success

It is hard to believe that we are well into another year already. 2002 was a tough year for everyone. Having been in the aviation business for more than 35 years, I have seen tough times before. I am optimistic that the industry will come through this stronger than ever. I say that in part because Duncan Aviation continued to see plenty of success, even in a tough year like last year.

Duncan Aviation again received high marks from Professional Pilot readers in the magazine's annual PRASE survey as well as its new Completions Center survey published last fall. In 2002, we added more than 25 STCs to our list of more than 450. Our RVSM solutions advanced at a rapid pace. We opened new satellite avionics shops in Wheeling, Ill., and St. Paul, Minn. Our list could go on and on.

We believe Duncan Aviation continues to have successes like these because of our talented employees. Duncan Aviation is comprised of 1,800 aviation enthusiasts who have chosen careers they love and enjoy. On a daily basis, they strive to do their best and make sure their customers are served as best they can. They look for opportunities to

become more efficient, to provide even better services and to create innovative new solutions, products and processes. And they know how to work together as a team. We consider customers and vendors to be important components of our team as well. That is one of the main reasons we decided to print this special "Planning Edition" Debrief. In it, you will find tips to help your flight department plan for success and get the most value from the services you obtain. We also want you to be aware of some of the newer interior and completions products available. We look forward to working with you in the future and wish you a successful 2003.

J. Robert Duncan, Chairman



thanks...again.

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**Duncan Aviation Named Top Completion & Modification Service Provider**

Duncan Aviation was named the #1 Completion and Modification Center in a survey of *Professional Pilot* magazine readers, published in October 2002.

A random selection of 7,218 survey forms were sent to *Professional Pilot* readers asking them to evaluate the completion and modification centers they had used over the last five years. Customers were asked to rate centers in the following categories: Creativity & design, Quality of work, Customer attention, On-time delivery, Warranty & documentation, and Quoted vs. actual cost.

Readers were also given the opportunity to make comments about the services of the completion centers they rated. "Reader comments reflect a high regard for the (Duncan Aviation) organization," the magazine states. Both Duncan Aviation's Lincoln, Nebraska, and Battle Creek, Michigan, facilities received high scores and therefore share the #1 spot.

This new survey is conducted a little differently than the magazine's PRASE Survey, which has ballots bound into the December issue. In that survey, Duncan Aviation consistently places high in the Avionics and Maintenance categories. (In 2002, Duncan Aviation had three facilities rank in the Best Avionics category—LNK #1, BTL #2 and TEB #3. Both Duncan Aviation full-service facilities placed in the Best Maintenance category—LNK as #1 and BTL as #4).

"We have always been proud of the high ratings we receive from customers in *Professional Pilot's* PRASE survey of maintenance and avionics services. Yet, a Completions Center category has been missing from that survey for the last several years. We are glad that the magazine has polled the industry and proud that Duncan Aviation-Battle Creek and Duncan Aviation-Lincoln have placed #1 in yet another category," says Aaron Hilkemann, President of Duncan Aviation. "We appreciate the support of our customers and business partners and are happy that they trust us to perform their work."

**Duncan Aviation Offers New Hawker Airborne Exchange Pump Retrofit Program**

Duncan Aviation recently outlined a new Hawker Exchange Pump Retrofit Program that allows for the exchange of an Intertechnique pump (part numbers 2070C01 or 2070C11) for an Airborne pump (part number 2C40-2) at an incredible cost savings to Hawker 125 series operators. In addition to a great price, Duncan Aviation is offering an extended warranty of three years for all new Airborne exchange pumps when they are exchanged for an Intertechnique pump.

**Duncan Aviation Adds Satellite Avionics Facilities in Wheeling, Ill., and St. Paul, Minn.**

Duncan Aviation is pleased to announce that it has opened two new satellite avionics facilities at the busy corporate airports of Wheeling, Ill. (PWK-Palwaukee) and St. Paul, Minn. (STP).

These facilities were opened during the fall of 2002 to provide operators with easy access to Duncan Aviation-quality avionics and instrument repairs as well as our free avionics loaner pool.

The Palwaukee location has 450 square feet of shop space located at the Palwaukee Municipal Airport in North American Jet, 1005 South Wolf Road. The team leader there is Kendall Neeland. You may reach him at 847.459.0650.

The St. Paul location has 700 square feet of shop space located at the St. Paul Airport in Regent Aviation, 603 Eaton St. Contacts there are Manager Jeff Delisle or Technician Scott Peterson at 651.209.8430.

**Russ Meyer, Jr., Receives Fifth Annual Duncan Aviation Excellence Award**



Left to right: Duncan Aviation Chairman J. Robert Duncan, Cessna Chairman and CEO Russell W. Meyer, Jr., and Duncan Aviation President Aaron Hilkemann.

Duncan Aviation recognized Russell W. Meyer, Jr., current Chairman and CEO of Cessna Aircraft Co. and President of the Aircraft Sector of Textron Inc., for his dedication to the business aviation community by presenting him with Duncan Aviation's fifth Excellence Award.

"For 36 years, Russ has been one of the most consistent and persistent advocates for business aviation," says J. Robert Duncan, Chairman of Duncan Aviation. "I respect him both personally and professionally as a hands-on leader who keeps in touch with the industry by flying, talking to customers and staying engaged."

In his current position, Meyer oversees Cessna Aircraft Co., Bell Helicopter and Lycoming. Meyer joined Cessna in 1974 as Executive Vice President and served as CEO from 1975 to 2000 and as Chairman from 1975 until the present. Meyer worked tirelessly to gain passage of the General Aviation Revitalization Act of 1994, which included the then-new Statute of Repose benefit, which has had a huge, positive impact on business aviation.

*Focused companies create innovative customer solutions, energize happy employees and form strategic alliances throughout the world. Our multi-dimensional service capabilities continue to grow, while one thing remains constant:*

The focus of Duncan Aviation.



*focus.*

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**More Than 100 Operators Enjoyed Duncan Aviation's Fall 2002 Intelli-Conference**

Duncan Aviation hosted its sixth *Intelli-Conference* symposium October 1 and 2 at its Lincoln, Nebraska, location. The two-day symposium drew 104 aircraft operators and 28 vendors and media representatives to discuss aviation issues in their choice of 19 class topics.

Class topics included the following: Aging Aircraft Issues, Aircraft Acquisition & the Current Pre-owned Market, Cabin Communications & High-Speed Data, Citation Maintenance



Issues, Compass/Attitude Reference Systems Fault Diagnosis, Entertainment Soundproofing & Lighting, Effective Prebuys, Falcon Maintenance Issues, Flight Deck Upgrades & Flat Panel Displays, Human Factors—Crew, Human Factors—Maintenance, Mandates: RVSM & TAWS, FAA Form 8130 and Its Uses, Planning Large Completions & Maintenance Projects, Safety/Security Issues & International Operations, and four separate TFE731 Engine Troubleshooting topics. A majority of the classes offered Inspection Authorization renewal credit for participants.

"The main goal of our *Intelli-Conference* symposiums is to provide operators with technical and planning information

they can use to make their flight departments as successful as possible," says Aaron Hilkemann, President of Duncan Aviation. "Along the way, we introduce them to our experts, show them our facilities



and hopefully instill a sense of what Duncan Aviation is like to do with business with."

Duncan Aviation has offered *Intelli-Conference* symposiums to roughly 650 aircraft operators nationwide over the last several years in both Battle Creek, Michigan, and Lincoln, Nebraska. In addition, Duncan Aviation has teamed with PAMA (the Professional Aviation Maintenance Association) and the NBAA (National Business Aviation Association) to provide training at some of their regional meetings and conferences.

See pages 12 and 13 for information about our 2003 *Intelli-Conference* events April 10 in Secaucus, New Jersey, Sept. 9 in Battle Creek, and Oct. 29 in the Los Angeles area.

**Ted Miller Named Manager of AVPAC, Duncan Aviation's Parts Division**

Duncan Aviation is pleased to announce that Ted Miller has been named the Manager of AVPAC, Duncan Aviation's rotables, avionics, components and parts outsourcing solution. In this position, Ted oversees the day-to-day operations of AVPAC and manages its 13 salespeople and technical representatives.



"I am very pleased to be working with the AVPAC team here at Duncan Aviation," Miller says. "They are a highly motivated group of individuals who know excellence when they see it, and do their best to provide extraordinary customer service. I am excited about our future and where this team will take us in the next few years. Duncan Aviation has always been known for its attention to detail and its customer service-oriented approach to business. AVPAC continues to carry on that tradition in the world of material sales. I am proud to be a part of this effort and of this team."

Miller joined Duncan Aviation more than 16 years ago, most recently holding the position of Avionics Sales/Technical Services Representative with AVPAC. Before that, he was an Autopilot Technical Representative & Sales Representative for just over four years and the Avionics Manager of Duncan Aviation's satellite avionics shop in Chicago, Ill., for just over two years.

**Duncan Aviation's Components Services Adds Honeywell Directional Gyro Capabilities**

Duncan Aviation's Avionics and Instrument Repair/Overhaul area recently added a new series of Honeywell directional gyros used on legacy Gulfstreams, Challengers and Falcons to its long list of repair and overhaul capabilities. In addition, the company has several of the units available as loaners and exchanges.

Using Automated Test Equipment (ATE) purchased from InAir, Duncan Aviation technicians now have the capability and training to repair and overhaul the following series of Honeywell directional gyros:

- |                       |                     |
|-----------------------|---------------------|
| 613260-3 / DG-224     | 2588302-1 / DG-233  |
| 2586333-1 / C-12      | 2588302-2 / DG-241  |
| 2586333-2 / C-12      | 2588302-3 / DG-242  |
| 2586333-3 / C-12      | 2588302-4 / DG-206A |
| 2594401-901 / DG-207A | 2588302-5 / DG-234  |
|                       | 2588302-7 / DG-243  |
|                       | 2588302-8 / DG-244  |

**Duncan Aviation Installs Two Dassault Falcon 900 Firsts: Honeywell Television and Honeywell MCS-6000i Aero-I**

Duncan Aviation recently installed two firsts in the Dassault Falcon 900 airframe. Honeywell's greatly anticipated OneView AIS-1000 television system and Honeywell's MCS-6000i Aero-I communications system. These systems work in concert to keep travelers connected with the world below like never before.

Honeywell's OneView AIS-1000 Airborne Information System brings more than 60 channels of live news, sports, weather and business information and 40 music channels in the business aircraft via Direct Broadcast Satellites (DBS) service providers. On the ground or in the air, OneView delivers up to four channels for simultaneous viewing throughout the aircraft.

The MCS-6000i six-channel Aero-I system uses Inmarsat satellites to offer a wide range of communications services including voice, fax and PC data services worldwide.

**Bob Elrod Receives Local and Regional Maintenance Technician of the Year Awards**

Bob Elrod, Duncan Aviation's Technical Training Coordinator, was recently recognized by the Lincoln FSDO and the North Central Region FAA as their Maintenance Technician of the Year. Bob was recognized for his dedication to aviation maintenance, education and safety.

Bob began his career with the United States Air Force in 1955. After retiring from the military in 1985, he joined Duncan Aviation as a Sheet Metal Technician, but for the past six years he has been Duncan Aviation's Technical Training Coordinator. On the



wall in Bob's office hangs a plaque stating: "Pay for good training or pay for poor performance." That statement pretty much sums up Bob's philosophy of aircraft maintenance training. Over the years, Bob has encouraged classes aimed toward safety as well as technical proficiency. His years of experience in the field of aviation maintenance have allowed him to be an effective and proficient trainer and coordinator. Bob's willingness to share his expertise with fellow technicians is evident in the enthusiasm he brings to his profession. Congratulations, Bob!

**Duncan Aviation Adds Brad Lennemann to Airframe Service Sales Team**



Duncan Aviation welcomes Brad Lennemann as a member of our airframe service sales team. In this position, Brad will prepare detailed airframe maintenance proposals for Duncan Aviation's core airframe models, which include Hawkers, Learjets, Challengers, Citations, Falcons, Gulfstreams, Astra/G-100/Westwinds and Jetstars.

"Brad brings us a wealth of airframe experiences," says Jeff Manion, Airframe Service Sales Team Leader. "His hands-on experience will further the sales team's ability to assist customers in planning airframe service and ensure they are receiving the best value for their money."

Brad joined Duncan Aviation in 1992, most recently holding the position of Learjet Airframe Team Leader. Brad's aviation career began in the Air Force in 1986. He was subsequently employed as an A&P mechanic at a Kearney, Nebraska, maintenance facility.

**Duncan Aviation Sponsors U.S. Aerobatic Team Member Chandy Clanton**

Duncan Aviation is a proud sponsor of U.S. Aerobatic team member Chandy Clanton. Chandy will compete in her first World Aerobatic Championships in Florida this summer and will be one of six pilots showcased in the "Stars of Tomorrow" program during EAA's AirVenture in Oshkosh.



Born and raised in Lincoln, Nebraska, Chandy is the daughter of Harry Barr, a longtime pilot and employee of Duncan Aviation. She has flown 1,200 hours and holds several ratings, including: commercial, multi-engine with instrument and type ratings for a DC-3 and Learjets.

The mother of two young boys, Chandy was a competitive swimmer in college and has competed in aerobatic competitions for the last eight years. She flies an Edge 540.

**Duncan Aviation Earns Several STCs**

New STCs are constantly being issued to Duncan Aviation by the FAA. Every Duncan Aviation STC installation can be performed at any Duncan Aviation installation facility including Lincoln, Battle Creek, Teterboro, Van Nuys, Dallas/Ft. Worth, Denver and Las Vegas. Here are some of the most recent additions to our STC list.

**Citation 560XL - Honeywell Mark V EGPWS**

Duncan Aviation recently certified the Honeywell Mark V EGPWS with windshear and display for the Citation 560XL. This installation satisfies the upcoming Class A and Class B TAWS mandates.

**Citation 650 - Honeywell Mark VIII EGPWS**

Duncan Aviation recently certified the Honeywell Mark VIII EGPWS for the Cessna 650. This installation offers Cessna 650 operators an additional option for meeting the Class A TAWS mandate.

**Citation 750 - AirCell ST 3100 Iridium**

Duncan Aviation recently earned an STC for the installation of an AirCell ST 3100 Iridium Telecommunication System in a Cessna 750. This system offers worldwide air and ground voice and data communication through the Iridium Satellite LLC network of low-earth orbiting satellites. The network, once slated to be discontinued, has been purchased and is once again a viable option for aircraft telecommunications.

**Falcon 10 - RVSM Altimetry**

Duncan Aviation completed the first step in the Falcon 10 RVSM certification process with the installation of Air Data Display Units manufactured by Innovative Systems and Solutions (IS&S) and a Collins ADC-87 Air Data Computer.

**Gulfstream G-IV - EMTEQ LED Lighting**

Duncan Aviation was recently awarded an STC for the installation of LED lighting (from EMTEQ, Inc.) in a Gulfstream G-IV. This STC is the first to approve an LED lighting system as the emergency lighting system for the G-IV. It incorporates upwash, downwash, dome and reading lights. A matching air gasper was also designed by the Duncan Design team.

**Hawker 400, 600 and 700 Series - Universal TAWS and Multi-Functional Display**

Duncan Aviation recently certified Universal TAWS and MFD for the Hawker 400, 600 and 700 series. This satisfies upcoming Class A and B TAWS mandates.

**Hawker 700 - Rockwell Collins FDS-2000**

Duncan Aviation recently certified and installed the Rockwell Collins FDS-2000 flight display system in a Hawker 700. Duncan Aviation also certified and installed dual IS&S ADDUs (components of Duncan Aviation's Hawker 700 RVSM program), and dual Rockwell Collins AHS-3000S AHRS in the Hawker 700.

**Jetstar - Honeywell Mark VIII EGPWS**

Duncan Aviation recently certified and installed the Honeywell Mark VIII EGPWS in a Jetstar. Duncan Aviation also certified and installed the Collins AHC-3000 attitude heading reference system (AHRS) and the Honeywell Primus 880 weather radar.

**Learjet 31A - Honeywell Mark VIII EGPWS**

Duncan Aviation recently installed and certified the Honeywell Mark VIII EGPWS in a Learjet 31A. Terrain and obstacle displays are provided on the EFIS 50 MFD.

**Westwind 1124 - RVSM Group Certification**

On September 5, Duncan Aviation flew the fifth and final Westwind 1124 required for RVSM group certification. Duncan Aviation has also been awarded an STC for the installation of the Innovative Solutions and Support (IS&S) Air Data Display Unit (ADDU) in the Westwind 1124, a key component of Duncan's 1124 RVSM program.

**Westwind 1124 - Universal TAWS and Collins AHRS**

Duncan Aviation was recently awarded an STC for the installation of Universal TAWS with MFD and the Collins AHS-3000 (AHRS) in a Westwind 1124.

**Duncan Aviation Names Bob Brega Service Marketing Representative for the Northeast**

Bob Brega is the new Service Marketing Representative in the Northeast Region, which includes Virginia, West Virginia, Maryland, Delaware, New Jersey, Rhode Island, Connecticut, New York, Pennsylvania, Maine, Vermont, New Hampshire and Massachusetts.



Bob helps operators in the Northeastern United States understand the Duncan Aviation services that can help them, including airframe and engine maintenance, paint, interior, avionics installations, avionics, instrument and accessory repair and overhaul, and parts support.

Bob joined Duncan Aviation in 1987, most recently holding the position of Project Manager where he managed aircraft projects from arrival to delivery to ensure the highest in quality and customer service while maintaining the projected work schedule. He has also been an Interior Team Leader and a Cabinet and Finish Technician.

You can call Bob at 800.228.4277 or e-mail him at [Bob.Brega@duncanaviation.com](mailto:Bob.Brega@duncanaviation.com).

# Electromechanical Accessory Expertise



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**Robert Duncan Receives NBAA's Doswell Award at NBAA Convention in Orlando**

Duncan Aviation Chairman J. Robert Duncan was recognized for "lifelong achievement on behalf of and in support of the aims, goals and objectives of business aviation" with NBAA's Doswell Award at the annual NBAA Convention in Orlando.

In addition to managing Duncan Aviation since 1965, Robert has served on many industry boards and has more than 14,000 hours of flying time. He is type-rated in Falcons, Citations and Learjets as well as helicopters, gliders, floatplanes and balloons.

**Duncan Aviation Installs High-Speed Data Systems in Falcons and a Gulfstream IV**

**Falcon 900EX - EMS Technologies' HSD-128**

Duncan Aviation's Teterboro, New Jersey, location installed the first "stand-alone" HSD-128 High-Speed Data (HSD) system ever in a Falcon 900EX. "The EMS HSD-128 system was selected for its ability to deliver 128Kb/s of data concurrently with all voice channels," says Terry Markovich, Duncan Aviation-TEB Shop Manager. "The installation included configuration of the HSD data terminal, two EMS AMT-50 SATCOM antennae (mounted in the same radome), Cisco 803 router and 10 cabin ethernet ports. The router is configured to connect with the client's network and allow the client's laptop users network access without a special setup."

**Falcon 900 and 50 - EMS Technologies' HSD-128**

Duncan Aviation-TEB has also installed the EMS HSD system-128 in a Falcon 900 and a Falcon 50, integrating it with existing SATCOMs.

**Gulfstream IV - EMS Technologies' HSD-64**

Duncan Aviation-TEB installed the HSD-64 single-channel system in a Gulfstream IV.

EMS Technologies introduced the first "true" HSD system in Fourth Quarter 2001. Duncan Aviation is also working with Honeywell and Rockwell Collins to develop and install their HSD systems as they become available.

**Duncan Aviation Adds Service Authorization for Honeywell International DC Generators**

Duncan Aviation and Honeywell International recently reached an agreement naming Duncan Aviation as an Authorized Honeywell Overhaul and Service Center for the DC Generator M/N 30B107-19A and P/N 6608201-9 used on many Learjet models. This authorized Duncan Aviation to sell, repair and overhaul the 30B107-() products, parts and the components themselves.

**Duncan Aviation Named Authorized Service Center for Electromech Technologies, Inc. Components**

Duncan Aviation and Electromech Technologies, Inc. recently reached an agreement naming Duncan Aviation as an Authorized Electromech Technologies Service Center for the Electromech product line. The agreement authorizes Duncan Aviation and AVPAC to sell, repair, exchange and overhaul Electromech components.



Duncan Aviation and Electromech together are evaluating and developing solutions to increase component reliability and to lower operating costs.



"Duncan Aviation is pleased to represent Electromech Technologies and looks forward to broadening this relationship over many years to come," says Chris Gress, Duncan Aviation's Component Service Sales

Representative. "Electromech components are found on most of the Learjet and Raytheon (Beechcraft) aircraft serviced by Duncan Aviation and supported by AVPAC, Duncan Aviation's parts solution. This new service center appointment enhances the repair capabilities of Duncan Aviation and more clearly illustrates Duncan Aviation's one-stop-shop philosophy for all customer needs. In addition, Duncan Aviation is adding an extensive inventory of Electromech Components for outright sale, exchange and as Accessory Time & Material Exchange units. These items are immediately available to aircraft operators."

**Duncan Aviation Named #25 to FORTUNE Magazine's 2003 List of the "100 Best Companies in America to Work For."**

Duncan Aviation was named one of the "100 Best Companies to Work For in America" by FORTUNE magazine for the third year in a row, placing #25 on the 2003 list that was published in the Jan. 20, 2003, edition of FORTUNE. The ranking is up five places from 2002's #30 placement and up 37 spots from a #62 placement in 2000. This is the sixth year FORTUNE has compiled the list with assistance from best-selling authors Robert Levering and Milton Moskowitz.

"Duncan Aviation is consistently recognized with awards and titles in the business aviation industry from customers and vendors," says Aaron Hilkemann, President of Duncan Aviation. "Our recognition by FORTUNE is one of which we are very proud. Our employees are our best competitive edge and the reason we receive high recognition within the industry. So it is exciting for me to see confirmation through FORTUNE's list that they truly enjoy their jobs and understand and appreciate our sincere commitment to them."

# Avionics Expertise



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# Duncan Aviation Symposium INTELLI-CONFERENCE

## 2003 INTELLI-CONFERENCE SYMPOSIUM SCHEDULE

**Secaucus, New Jersey**  
**Thursday, April 10**  
at Radisson Suite Hotel Meadowlands

**Battle Creek, Michigan**  
**Tuesday, September 9**  
at Duncan Aviation's BTL facility

**Los Angeles area**  
**Wednesday, October 29**  
Location not yet confirmed

### SCHEDULE OF EVENTS

**7:30-8:30 am**—Welcome Breakfast,  
Registration and Sponsors' Exposition

**8:30-10:15 am**—**Session One:**  
Aging Aircraft Issues or  
Cockpit and Cabin Avionics Update

**10:30 am-12:15 pm**—**Session Two:**  
Effective Prepurchase Evaluation or  
Planning and Managing Completions Projects

**12:30-2 pm**—Lunch and Sponsors' Exposition

**2:15-5:15 pm**—**Session Three:**  
FlightSafety's Human Factors-Maintenance or  
Emergenetics Leadership Workshop

**5:15-5:45 pm**—Sponsors' Exposition


**6-8 pm**—Dinner with Keynote Speaker

*Space is limited!*

Register now online at  
[www.DuncanAviation.com/Conference](http://www.DuncanAviation.com/Conference)  
OR call 800.228.4277 or 402.475.2611,  
extension 1288 for more information.

Duncan Aviation is pleased to invite you to attend one of our *Intelli-Conference* symposiums taking place April 10 in Secaucus, New Jersey, September 9 in Battle Creek, Michigan, or October 29 in the Los Angeles area.

A natural extension of our Duncan Intelligence newsletters (faxed and e-mailed technical publications filled with valuable tips for the most-used makes and models of business aircraft), an *Intelli-Conference* symposium is your chance to discuss aviation issues with knowledgeable industry professionals in a face-to-face forum.

Over the years, hundreds have attended *Intelli-Conferences* at our facilities in Lincoln, Nebraska, and Battle Creek, Michigan. This year, we are bringing these information-filled events to the backyards of more operators by hosting one on each coast as well as one in Michigan. This year's symposiums include six unique sessions, three of which are approved for IA renewal credit. We hope one of these locations and dates will be a good fit for your schedule. We invite you to register today! 

# SESSIONS

### Aging Aircraft Issues (2 Hrs IA)

Real-world examples of age-related maintenance issues involving corrosion, cracking and brittle wiring and sealant. We share advice on preventing these problems and discuss engineering and parts support for the vintage aircraft.

### Cockpit and Cabin Avionics Upgrade

An expert panel will discuss current and future FAA mandates and emerging technologies like voice and data communications, cockpit displays, TAWS and RVSM. Classes will be tailored to the interests of attendees in each area, so share your "hot topics" when you register.

### Effective Prepurchase Evaluations (2 Hrs IA)

Real-world tips to consider when purchasing an aircraft, such as inspection strategies, logbook research, operational checks and FAA issues.

### Planning and Managing Completions Projects

The FAA is requiring more and more documentation of interior components. In this session, a panel of sales, engineering and interior design experts will demystify the regulatory issues that operators face. Discussion of RFQs, material selection, cabinet finishes and the proper planning required to maximize the usability of cabin and galley space will occur. We will also look at strategies to minimize aircraft downtime.

### Human Factors - Maintenance (4 Hrs IA)

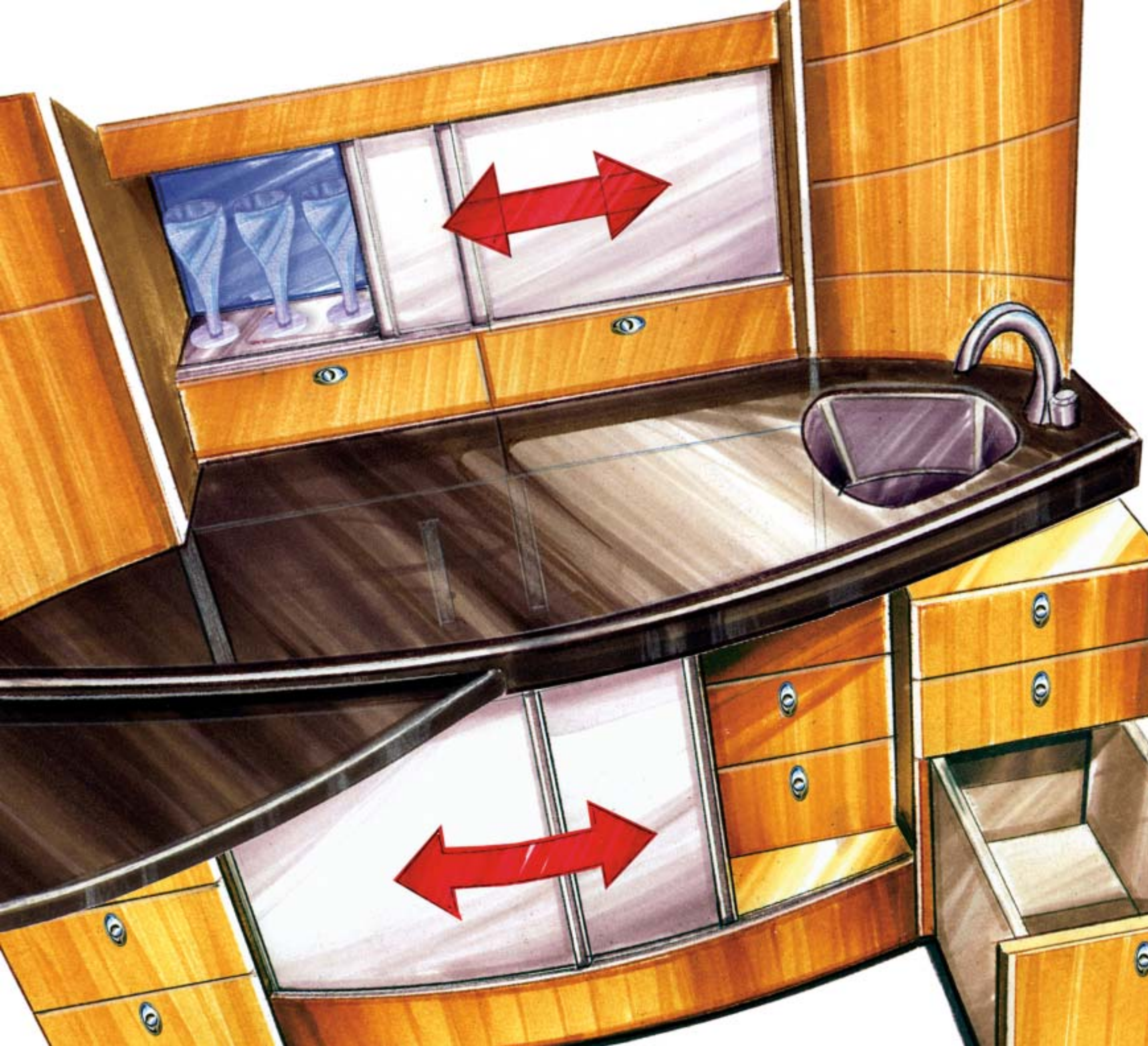
—Presented by *FlightSafety*  
This session teaches techniques to reduce exposure to human error with effective maintenance resource management.

### Emergenetics Leadership Workshop

Utilized as a key leadership development tool at Duncan Aviation, this workshop is presented by Duncan Aviation Vice Presidents trained and certified by the Browning Group as *Emergenetics Associates*. In this workshop, you will have fun learning to appreciate your thinking preferences and understand how your behavioral attributes affect others' perceptions of you. You will learn to appreciate and even embrace diversity among team members, leading to more creative and productive teams for planning, problem solving and decision making. Enrollees in this workshop will be required to complete an online survey no later than 10 days prior to the *Intelli-Conference* they plan to attend. This survey will be used to provide an *Emergenetics* profile of the attendee's thinking preferences. (All information will be kept confidential). Register and we will send you more information about this survey.

For more information, visit  
[www.DuncanAviation.com/Conference](http://www.DuncanAviation.com/Conference) or call  
800.228.4277 or 402.475.2611, ext. 1288.





## *Duncan Design Incorporates* Modular Design

Through history, aircraft galley and lavatory design has focused, almost exclusively, on function. The unusual spaces and limited real estate in aircraft have made creative styling secondary to weight, catering capacity and amenity storage considerations. That is changing. A recently sharpened focus on form, new and better building materials and the production advances born from kit and modular technology are empowering designers. Today Duncan Design is creating interior spaces that offer more versatility and function than ever before and this road is leading to even greater design possibilities.

### **Form vs. Function**

For designers, aircraft furniture design has exemplified the fundamental design principal of form following function. Recent signs of a shift toward form are evident. Now more than ever, style and detail are leading considerations when producing new designs for production aircraft as well as after market completions. Before the ink dries on that sentence, keep in mind the core emphases of function, weight, balance and maintenance accessibility are still driving forces. But today's designs incorporate these factors while providing innovative and attractive form and detail.

Form is receiving more attention for two key reasons. First, the industry as a whole is doing a better job of bridging the gap that separates aircraft owners and operators from interior component suppliers and manufacturers. Today's aircraft owners and operators are more savvy about aircraft interior design and are aware of the many options for everything from fabric to lighting technology and they are eager to explore new ideas and products. The second key factor is a new breed of aviation designers who effectively incorporate improved materials, components, and technology into designs.



### The Concept of Kits

Kits are perhaps today's most prevalent trend in aircraft interiors. The kit concept has revolutionized processes for interior production and installation. It allows manufacturers to produce repeatable products that yield production efficiencies that translate into radically reduced turntimes and costs for "standard" or "stock" interior kits. However, standard kit interiors offer little or no opportunity for design flexibility and rarely meet every need of an owner/operator.


### Modular Designs

To offer flexibility and customization, Duncan Aviation has progressed to the next phase of kit technology with the incorporation of modular design. In essence, modular design is much like a LEGO™ set. Each component combines with other components to create an endless array of unique assemblies within a predefined space. These components combine to meet nearly every need of the individual operator while preserving the advantages of repeatable "kit" production.

The value of modular design, at first glance, is somewhat difficult to appreciate, but it is key to creating "sustainable"

architecture/design for galleys and furniture. The term "sustainable" has been a buzz term in traditional architecture design for several years that refers to architecture capable of adapting to changing needs and uses over time. Modular designs offer this by allowing the replacement of components within a structure without having to rebuild the entire structure. While quality modular and sustainable designs are difficult to create, they translate into longer lasting and higher quality products that benefit passengers, flight attendants and maintenance personnel alike.

### The Road Behind and the Road Ahead

Knowledge of where aircraft interior design has been and where changing perspectives will take it in the years ahead makes it easy to get excited about our industry. Current trends benefit everyone involved: better solutions for functional and regulatory requirements. Better options to meet the needs and budgets of owners and operators. Experienced designers and vendors dedicated to working together to create sophisticated furniture style and detail. All of these trends light an exciting path that leads to continued growth, tremendous value and an appreciation for quality. 

*In essence, modular design is much like a LEGO™ set. Each component combines with other components to create an endless array of unique assemblies within a predefined space.*

### Modular Design: Now You're Cooking

Today's microwave and convection ovens are produced in a wide array of sizes and power configurations that fit well into most galleys. Modular design allows operators to interchange these ovens without re-engineering or redesigning the entire galley.

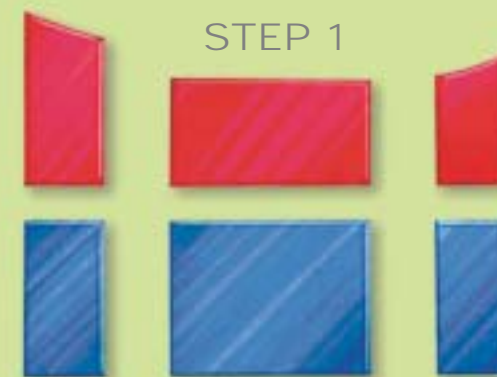
Beyond allowing relatively simple exchange, Duncan Design's modular galley designs often facilitate using the microwave oven as a coffee maker and hot liquid storage container. This allows the weight and space usually occupied by these items to be used for other amenities. Other areas Duncan Design has used the modular concept is in beverage and water storage, waste containment and catering storage.

DUNCAN  
DESIGN

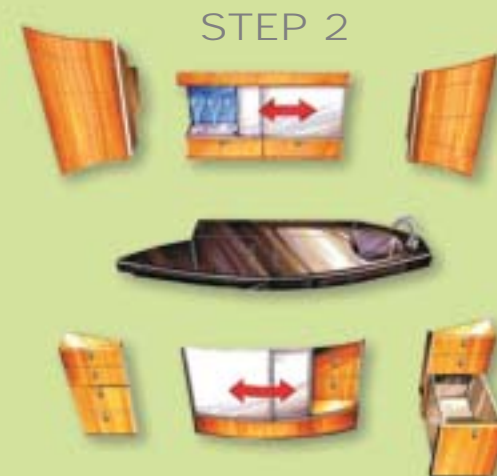


### THE MODULAR PROCESS

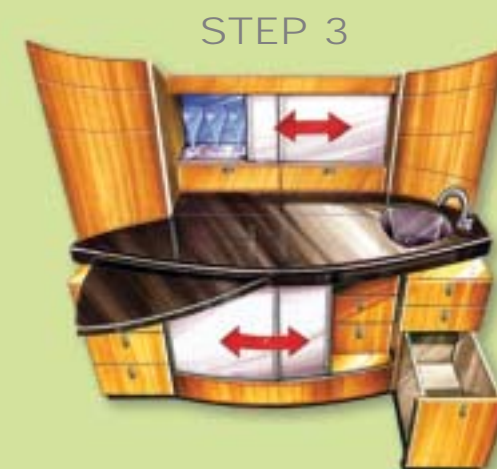
*Duncan Aviation uses the modular design process to create customized and pre-engineered galley and lavatory monuments that meet the unique needs of aircraft owners and operators.*



*Duncan Design defines the dimensions of the "shell" which will house the galley or lavatory monument.*



*Duncan Design works with Duncan Aviation's Engineering Team to certify the shell as well as countless configuration options within the shell.*



*Duncan Design meets with the owner/operator to define, among other things, the mission of the aircraft and the most common uses of the galley and lavatory monuments.*

### The Duncan Design Team

Our award-winning Duncan Design team has mastered the art of melding form and function. From the beginning to end, the team remains focused on the ultimate goal of creating an interior that is mindful of maintenance needs, meets the functional requirements of crew and passengers and is consistent with Duncan Design's reputation for creating visually stunning interiors.

Recent projects include the design of light-weight composite headliner, PSU panels and windowliners that maximize cabin height. These panels use quick release ball catches to allow easy maintenance access to lights, air vents and shade assemblies. Other designs include contoured drink rails, tables and sidewall panels that update and widen the cabin.

The Duncan Design team recently received the First Place award from the American Society of Interior Designers (ASID) for their Falcon 50 interior design and completion. The project updated the aircraft with cutting-edge equipment, materials and finishes to make the spectacular cabin equally effective for business and entertainment.



(Front-left to right): **Mary Lee, Christine Mann, Sherry Collin, Angela Leffers, Suzanne Hawes.** (Back-left to right): **Nate Klenke, Ken Reita, Teri Nekuda and Jeremy Lewis.**

Our modular design process retains many advantages of "kit" interiors while offering the flexibility of customization to meet most interior needs. The team is also experienced and eager to tackle the challenge of certifying completely custom interior designs.

The Duncan Design team is comprised of five designers in Lincoln and two in Battle Creek. The team uses the latest two- and three-dimensional CAD software to help owners and operators visualize proposed designs.



# Synchronicity

*Duncan Aviation  
and Schering-Plough*

*D*uncan Aviation was proud to work with Schering-Plough on the recent maintenance and refurbishment of their Gulfstream G-IV. Schering-Plough chose Duncan Aviation based on demonstrated strengths: quality, integrity, creativity, flexibility and a history of excellence in Gulfstream completions. The synchronicity of the Duncan Aviation and Schering-Plough teams was evident from early in the bidding stages through delivery of the aircraft. The G-IV's extensive workscope included a 72-month inspection, exterior paint, a soundproofing package, cabin entertainment and a completely redesigned interior that included a new interior shell, LED lighting, new seating, custom carpet, new window panels and walnut cabinetry.



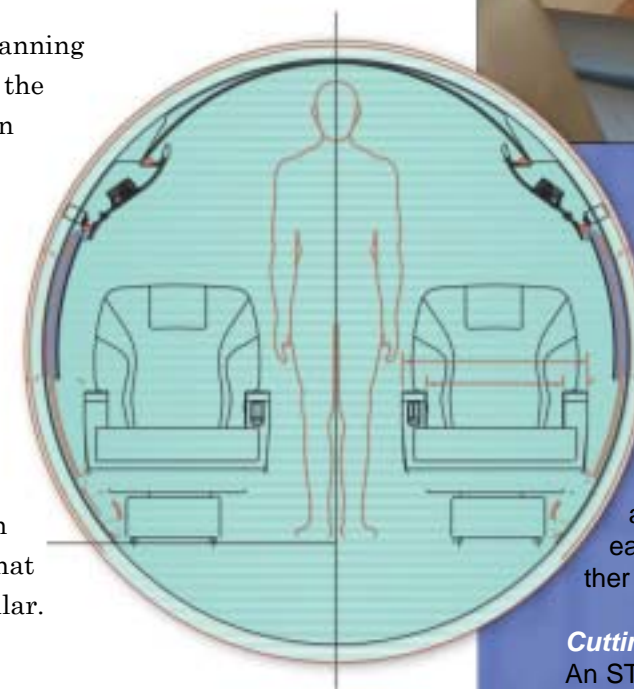
# Innovative Interior Solutions from Duncan Design

Collaboration and advance planning were key to the success of the extensive G-IV project. Duncan Aviation worked with the Schering-Plough team—Bill Lemon, Jim Healy and Curt Barsi—to plan all aspects of the project. For six months prior to the input of the aircraft, the Duncan Design and engineering teams worked closely with the Schering-Plough team to design the innovative interior systems that make this interior truly spectacular.

## **More Interior Volume**

Duncan Aviation designed the interior to increase the width between the drink rails by three and a half inches, allowing for larger, more comfortable seating and a roomier configuration. One inch of height was also realized in the cabin, allowing for plush carpet with a thicker pad. Duncan Aviation Interior experts removed the entire existing interior shell and replaced it with a new shell panel. The smooth design of the headliner and PSU panel not only created additional cabin volume, but also a spacious, elegant look.

**Exterior Paint**  
The Duncan Aviation Gulfstream Paint Team painted the aircraft to match the Schering-Plough fleet.



## **Windowline, Window Panels and Removable Cabin Divider**

Functionality meets beautiful design in these elements of the interior. A new one-piece windowline panel and slimline shades enhance the openness of the wider interior. Duncan Aviation's designers and engineers created an easy-to-remove cabin divider to further open up the cabin, if needed.

## **Cutting-Edge LED Lighting**

An STC was earned for the installation of the first-ever LED emergency lighting system for the G-IV. The system incorporates upwash, downwash, dome and reading lights, and a custom Art Deco air gasper. State-of-the-art lighting solutions provided a clean look and cool-to-the-touch reading lights.





**Cabinetry**

The new cabinetry is flat cut walnut veneer with inlays of satin almond gold and figured walnut. Duncan Aviation designers and interior technicians completed everything from design to construction using CAD three-dimensional modeling to create the cabinetry drawings, and then downloading them directly to an in-house CNC (Computer Numeric Controlled) cutting machine for production. Special attention was given

to the lower sidewalls. Schering-Plough requested a complex design of compound curves and inlays that required custom design and installation. The galley included several custom features such as a pressure-fit wine glass rack, Baltic Brown granite countertops, LED accent lighting and custom china storage and condiment drawers.

**Soundproofing**

A soundproofing system was installed to reduce noise in the cabin. Decibel measurements taken by an acoustical engineer before and after installation revealed a reduction of 10.2 decibels in the SIL, or Speech Interference Level.

**Cabin Entertainment**

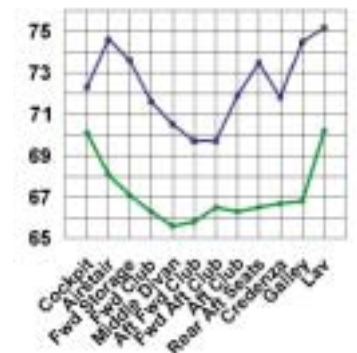
The workscope included installation of a Baker Entertainment System with dual DVD players, dual CD players and two 21-inch LCD monitors. A VIP in-arm 8.4-inch wide-screen monitor was also installed—a first for these seats, requiring a custom mounting system. Duncan Aviation designed custom switch panels to fit in minimum space, allowing for a maximum-width interior.

AirShow, AFIS and new Radio Control Heads rounded out the avionics package. The Duncan Aviation avionics team also refurbished the panels with new paint and decals.

**Custom Carpet**

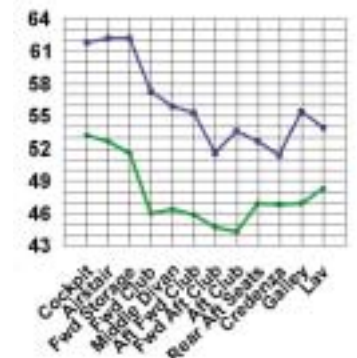
The “Elegant Diamond” carpet design created by Duncan Design was inspired by the divan fabric. Schering-Plough chose the final carpet from three hand-made samples in different color variations.

Original Insulation  
 Skandia Insulation  
 dB (A)

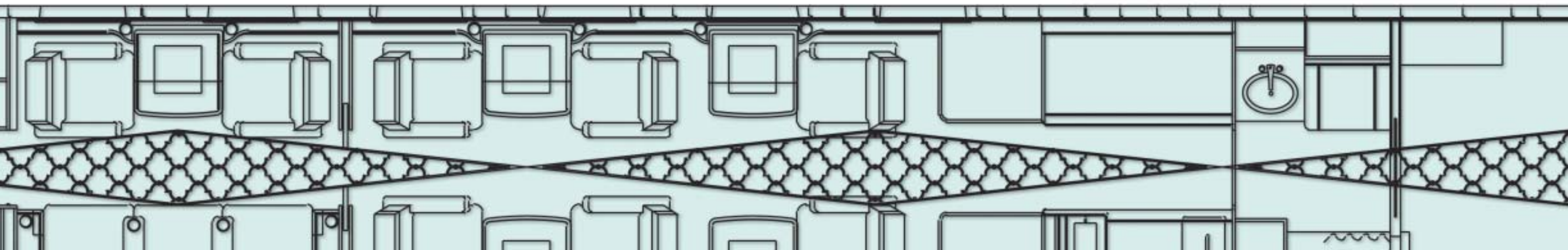


A dB (A) rating scale measures the sum of the overall perception of loudness across the entire audible frequency range (64-8,000 Hertz). This scale is weighted to diminish the value of lower frequencies and increase the value of higher frequencies.

dB (SIL)



A dB (SIL) rating scale measures the difficulty of hearing speech, averaging the 500, 1000, 2000 Hertz frequencies. This scale is indicative of the sound levels that are perceived as most annoying to the human ear.



This customer testimonial is based on an interview with William "Bill" Lemon, the Chief of Maintenance in Schering-Plough's Flight Operations department in Morristown, New Jersey. The interview was conducted nearly five months after the project was completed.



This was the largest project we have ever attempted, and we wanted to be sure that we chose a facility that would be able to complete the job with the quality we require. We conducted an extensive search, with the help of a professional design firm, Giasson Design. We interviewed nearly every facility with GIV capability. We narrowed the search down to three facilities. We chose Duncan Aviation.

We were impressed by Duncan Aviation from the start. The Duncan proposal was presented as we requested, included all items, and was priced competitively. All of the Duncan Aviation customer references were positive. The Duncan Aviation representatives were courteous and professional.

At first, we were a bit concerned that we were not working with the OEM. Those concerns quickly vanished as the project progressed. All of the Duncan Aviation employees were knowledgeable, courteous, and professional. Their "can do" attitudes during the project's challenges kept it fairly painless. And the Duncan Aviation facility was very impressive.

Now that the job is complete and we are flying the aircraft, we continue to be thrilled with the outcome of the project. Both our Director and our CEO were very impressed with the interior craftsmanship. Our passengers are our customers. To them, the interior quality is indicative of the aircraft quality. This interior is definitely a source of pride for us, and we are happy to refer other operators to Duncan Aviation.

  
William Lemon

## Aircraft Sales and Acquisitions with depth.



As a complete business aircraft service provider with 23 locations, Duncan Aviation has a wide spectrum of clients. This makes us a great choice when you're looking to buy or sell an aircraft. Unlike the majority of brokers and sales agents, whose service is limited to the buying and selling of airplanes, Duncan Aviation's Aircraft Sales and JetResources acquisitions experts are backed by the resources of North America's largest family-owned aircraft service center. Call today to discuss your aircraft sales needs. **800.228.4277.**



Phone: 402.475.2611  
Toll Free: 800.228.4277  
www.DuncanAviation.com



1988 Falcon 900B — s/n 33.  
7600 Total Time.  
MSP.  
Five-tube Honeywell SPZ-8000.  
Dual Honeywell NZ-2000.  
TCAS II w/ C7.  
AlliedSignal MK V EGPWS.  
Interior Updated 2001.



1980 Falcon 50 — s/n 10.  
6240 Total Time, 4756 Landings.  
One Owner Since New.  
Engines on JSSI 100%.  
Dual Universal UNS-1D FMS/GPS.  
AlliedSignal TCAS II w/ C7.  
Universal TAWS, MFD-640.  
Magnastar C-2000 w/ Fax - 115V.



1988 Falcon 50 — s/n 188.  
3100 Total Time, 2359 Landings.  
MSP.  
Dual EFIS-86C (14) 5-Tube System.  
Collins APS-85 Autopilot.  
AlliedSignal TCAS II w/ C7.  
New Interior by Duncan Aviation.  
EGPWS.



1983 Falcon 200 — s/n 479.  
5932 Total Time, 4583 Landings.  
MSP Gold.  
Silver Bullet Engine Modifications.  
AlliedSignal TCAS II w/ C7.  
Dual GNS-XLS.  
Airshow 400.  
Thrust Reversers.



1987 Citation III — s/n 650-0136.  
5708 Total Time.  
SPZ-8000 Digital Autopilot.  
Honeywell 5-Tube EFIS System.  
AlliedSignal 67A TCAS II.  
APU, APR & MSP.  
New Interior July 2000.  
Exterior 1998 by Duncan Aviation



1979 Citation II — s/n 550-0479.  
6290 Total Time.  
2963/2963 SOH, 1193/1193 SHSI.  
Phase 5 by Duncan Aviation 6/00.  
Universal UNS1- M.  
Thrust Reversers.  
Rear Baggage Modification.  
CESCOM.



1982 Westwind II — s/n 365.  
5104 Total Time.  
MSP Gold.  
TCAS II w/ C7.  
UNS-1K FMS.  
Fresh C-Check.  
New Wing Boots.  
2002 Paint/Interior by Duncan Aviation.



1979 Westwind I — s/n 263.  
5448 Total Time, 3199 Landings.  
One U.S. Owner Since New.  
Garrett MSP Gold.  
Collins ProLine II Radio Package.  
Primus 400 Color Weather Radar.  
Universal UNS-1M w/ GPS.  
TCAS I.



1992 KingAir B200 — s/n BB-1423.  
6630 Total Time.  
Engines 1563 Hours SMOH.  
Collins Avionics Package.  
KLN-900 GPS.  
AirCell Flightphone.  
High Float Gear.  
Dual Aft Jump Seats.

# Proper Planning Can Ensure Success

*“An intelligent plan is the first step to success. The man who plans knows where he is going, knows what progress he is making and has a pretty good idea when he will arrive. Planning is the open road to your destination.” — Basil S. Walsh*

**T**he industry is full of horror stories. Every flight department member has heard them.

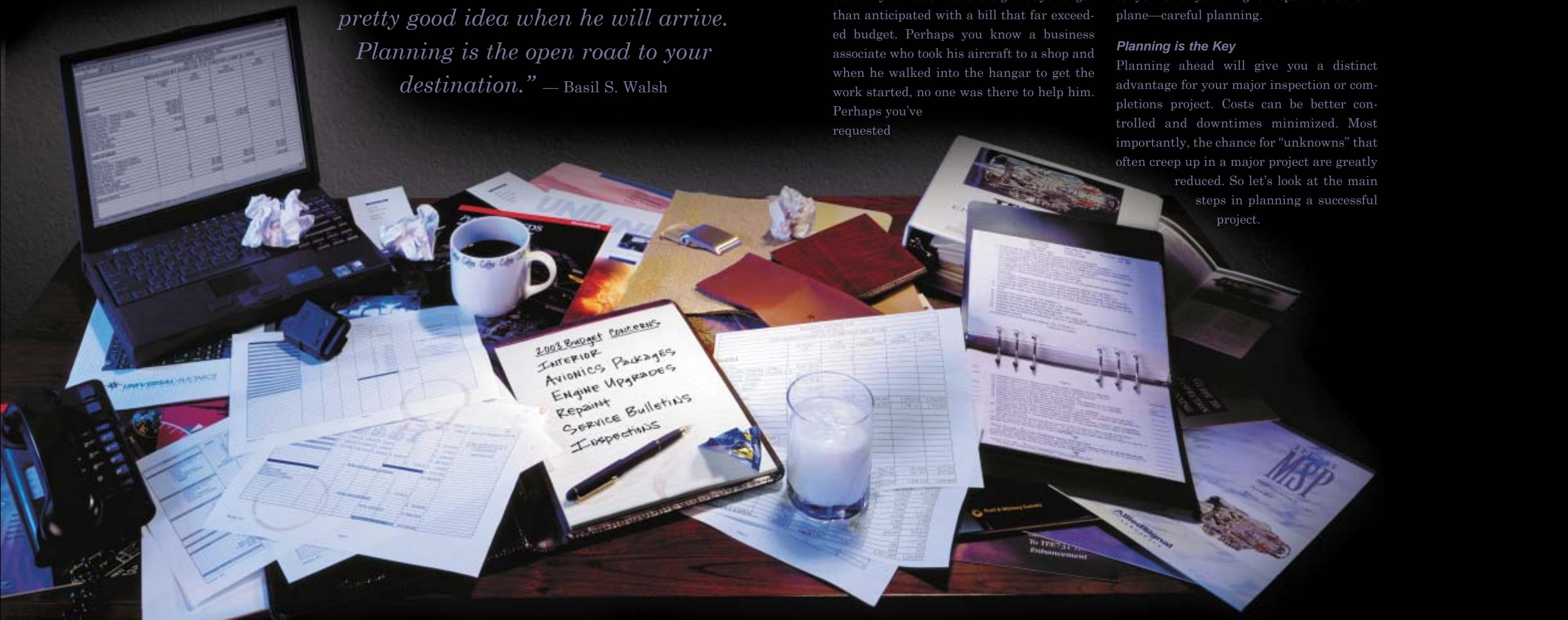
Perhaps you have a friend who took his aircraft to a service center for a regular inspection only to have it there eight days longer than anticipated with a bill that far exceeded budget. Perhaps you know a business associate who took his aircraft to a shop and when he walked into the hangar to get the work started, no one was there to help him. Perhaps you've requested

proposals from several facilities only to receive radically different quotes, making an apples-to-apples comparison impossible.

Bad things do happen. However, there is a way to prevent these things from happening to you and your flight department's airplane—careful planning.

## **Planning is the Key**

Planning ahead will give you a distinct advantage for your major inspection or completions project. Costs can be better controlled and downtimes minimized. Most importantly, the chance for “unknowns” that often creep up in a major project are greatly reduced. So let's look at the main steps in planning a successful project.





### **The Steps of Successful Planning**

Obviously, most flight departments request proposals from a handful of service facilities and then compare the benefits and drawbacks of each. How you go about this process can dramatically alter the way a project turns out. By carefully determining your needs before you pick up the phone, you can save valuable time by obtaining accurate quotes that give a better picture of how your project will go and what the final bill will be.

There are several important steps in project planning. The first is the development of your workscope.

#### **Step One: Develop The Workscope**

Of course you have a general idea of what you need to have done. By providing more detail, you can minimize surprises and make sure everyone involved is “on the same page.” This is best accomplished by outlining a detailed workscope for every area of the aircraft that will be touched.

#### **Airframe/Engine Workscopes**

If your project includes routine airframe and engine maintenance, you will need to compare and anticipate hours flown and engines cycled with a monthly calendar to determine the best time to input the aircraft for work. You will want to write a detailed description of the required maintenance. Most service centers quote the manufacturer’s Chapter 5 requirements. However, you may prefer a slightly different inspection. For example, if you are using a tracking service or the aircraft is operated on an AAIP program, you need to mention that. Otherwise, you may not receive all the detail you need for the particular inspection.

In addition to including all required maintenance, evaluate the current state of your aircraft. There may be additional maintenance items that you need or want to have done. Maybe there are Airworthiness Directives,

Service Bulletins, or other service items that you want performed. You’ll want to be sure and check the times for all Time Change items. If overhauls are needed, is now the best time to have them done? And don’t forget about discrepancies.

#### **Paint**

A paint quote should provide an overview of the facility’s standard processes, from strip to delivery. It is important to know that a standard process exists for your aircraft type so that each step is completed properly. This will ensure a beautiful finish that lasts longer. Paint adhesion and finish are largely a function of good preparatory work by experienced technicians skilled in working on your aircraft type. For example, composites should be prepped differently than metals to provide the longest lasting finish.

Proper protection of the aircraft prior to strip is very important. Failure to do so may result in damage that is not immediately apparent, resulting in costly fixes and downtime at some point in the future.

If you’re having a major inspection performed, you’ll want the final paint to be performed after the inspection is complete. However, you may choose to have the aircraft stripped prior to the inspection allowing for the best possible skin inspection. That way, if repairs are required, they can be handled prior to paint. This is also the best time to clearly identify and address fuel leaks. Even if a scheduled inspection is not involved, the paint techs should be experts at reviewing the aircraft while stripped to alert you of possible corrosion should it exist. Certain types of screw-head corrosion cannot be eliminated by standard processes. If not addressed, those areas will continue to corrode and eventually affect the paint.

Also while the aircraft is stripped, you may wish to have the facility’s avionics line group

perform a P-Static and Bonding test on all of the static wicks, particularly if you have noticed interference on comm or nav radios.

RVSM-compliant aircraft will require adherence to the manufacturers’ continuing maintenance instructions for RVSM, which stress the importance of keeping paint around the static ports in excellent condition so airflow over the static-sensing areas isn’t disrupted, possibly causing altitude errors.

Registration numbers are required to be a certain size and style in order to meet FAA compliance, and all exits must be clearly identified. A quality facility will be aware of these issues and will have processes in place to be certain they are met. Other items to consider include wing walk application, gear painting, door jambs, silk-screened placards, and polishing bright work. Inner gear wells do not usually require paint, but should be inspected. This is also an ideal time for replacement of any fasteners with stainless steel fasteners if you prefer the maintenance advantages they offer.

Planning ahead when changing your paint scheme is a necessity to meet the shortest downtime schedule possible. Working with a designer who has experience with your particular type of aircraft will assure that your scheme is one that will provide the look you’re trying to achieve, as well as being easily maintainable. For example, solid base colors are more easily touched up and maintained in areas that may sustain frequent chip damage or contact with corrosive fluids than metallic base colors.

Proper planning, design, and experienced, skilled technicians following proven processes will assure you of a shiny, durable finish, that looks exactly as you’d hoped.

RVSM-COMPLIANT AIRCRAFT WILL REQUIRE ADHERENCE TO THE MANUFACTURERS’ CONTINUING MAINTENANCE INSTRUCTIONS FOR RVSM.

ADDITIONAL MAINTENANCE-FRIENDLY TIPS INCLUDE REMOVING INSPECTION PANELS AND FASTENERS THAT WILL BE ACCESSED FREQUENTLY DURING FUTURE INSPECTIONS AND HAVING THEM PAINTED WHILE OFF OF THE AIRFRAME. THIS ASSURES NO BREAK IN THE PAINT OR CHIPPING AROUND THE EDGES THE FIRST TIME THEY ARE REMOVED.



### Interior

Whether you want a simple refurbishment or a complete interior upgrade with cabinetry or a configuration change, the interior workscope needs to be as detailed as possible and should consider all areas of the

aircraft, including the flight deck, entry, cabin, lavatory and baggage. Outline what your aircraft has and what you would like to have done, from nose to tail and top to bottom.

Inspect the aircraft so you know what shape it is currently in. Evaluate your long-term plans for the aircraft. Will you retain the aircraft for several years and perform a major completion to upgrade to the newest styling including new cabinetry, shell panels and configuration changes? Or do you just want to update the look with new soft goods?

Interview those who use the aircraft the most. What do they require to make the aircraft most functional? Think about how the interior and galley work now and how they could be altered to better serve you and your passengers. Do you need to consider noise-reduction packages? Don't be afraid to call some completion centers for suggestions on how to accomplish your goals while you are still developing your workscope.

Certification issues are also very important with interior work, as they are becoming more and more complex. You must have the certification for the existing interior as a starting point when modifying existing

cabinetry or interior components; the existing certification needs to be referenced when the service facility seeks certification for the modified areas. Higher levels of interior certification are required, including Interior Arrangement certification, 16G-certified seats and fire-blocking in some instances.

### Avionics

As you are well aware, there are upcoming mandates that need to be considered when evaluating avionics upgrades. RVSM and TAWS deadlines are coming fast and when you consider the number of aircraft that need upgrades and the number of facilities that perform this work, planning is crucial. If you need to put the aircraft down for a major inspection, think about upgrading these systems at the same time.

There are plenty of new avionics systems to consider as well. These include office technology like high-speed data access, workstation ports, printers and fax machines. You'll also want to look at entertainment products like Moving Maps/AirShow, Live TV, DVD and CD players, flat-screen monitors, Nintendo video games, phone systems, etc. After all, you want your passengers to be happy and your

aircraft to be in demand.

### Step Two: Narrow the Field

Depending on your workscope, there are dozens of potential service centers that you can utilize. We encourage you to thoroughly check out those centers to make sure you choose a reputable facility.

Ask for a referral list of operators of your aircraft type. Then call them to find out what they thought about the work they had performed. Review other sources, too. Look through industry magazines to determine who the contenders should be. Carefully look at the detailed list of your project, then match your needs with the capabilities of prospective centers. And never throw a facility out of the running because you heard they were expensive; prices are based on the market and now more than ever many aircraft service markets favor the buyer. Instead, share your budget requirements and project objectives with the facility. Together, you may come up with efficiency savings to get your project completed within your budget and with all of your desires.

Once you determine your "short-list," contact the facilities and submit an RFQ.

INTERIOR CERTIFICATION ISSUES ARE BECOMING MORE AND MORE COMPLEX. YOU MUST HAVE THE CERTIFICATION FOR THE EXISTING INTERIOR AS A STARTING POINT WHEN MODIFYING EXISTING CABINETRY OR INTERIOR COMPONENTS; THE EXISTING CERTIFICATION NEEDS TO BE REFERENCED WHEN THE SERVICE FACILITY SEEKS CERTIFICATION FOR THE MODIFIED AREAS. HIGHER LEVELS OF INTERIOR CERTIFICATION ARE REQUIRED, INCLUDING INTERIOR ARRANGEMENT CERTIFICATION, 16G-CERTIFIED SEATS AND FIRE BLOCKING IN SOME INSTANCES.

## A Quick Checklist Showing the Main Steps in Planning Multi-Shop Projects

# 1	Airframe/Engine	Paint	Interior	Avionics	# 2	# 3	# 4	# 5
<b>Develop a Detailed Workscope</b> Carefully determine your needs and what you want the finished project to include by developing a detailed workscope that includes a hard look at areas that often add expense and time to projects. Here are a few things to consider, divided by area.	→ Determine best input date → Describe required maintenance in detail → Make note if you are using a tracking service or if the aircraft is operated on an AAIP program → Evaluate the state of the aircraft including ADs, SBs and other service items as well as Time Change items that may be up for overhaul, etc.	→ What paint processes are used? → Are P-Static or Bonding tests needed? → Is the aircraft RVSM compliant? → Are design services included? → Does the facility know how to handle FAA requirements? → What about wing walk application, gear painting, door jams, etc.? → Will the inner gear wells be checked?	→ Detail workscope for all areas including flight deck, entry, cabin, lav and baggage → Do you want to upgrade to a newer style with cabinetry, shell panels, configuration changes or update soft goods only? → Consider passenger amenities and noise reduction → How does the facility handle certification issues?	→ What is your plan for RVSM mandate compliance? → What about TAWS? → Have you considered high-speed data access or computer, printer, fax needs? → Do you need new entertainment systems? Moving Maps, Live TV, DVD/CD players and video game systems are all popular choices.	<b>Narrow the Field</b> Choose a "short list" of service providers by getting referrals and looking through publications. Be sure to look at your needs and match them with a facility that has them. If budget is a big factor, share that with the facility. Together you may find some cost-saving solutions.	<b>Submit the RFQ</b> Send an RFQ to the facilities on your "short list" that includes your detailed workscope with photos. You may want to submit the RFQ in a format you like and request that the facilities all use the same format. You may also want to request the proposals within a reasonable deadline.	<b>Evaluate the Proposals</b> Evaluate the facilities and quotes by asking questions and determining priorities. Evaluate quality, service, downtime, taxes, leadtime, labor rates, warranty, and change orders. Make sure you are comparing like products and services. Again, ask questions if you aren't sure.	<b>Award the Job and Get on the Schedule</b> Notify the facilities that quoted the work who will be performing it and get on the schedule. But don't quit communicating. The better you are at sharing your expectations and desires, the better your chances of being satisfied with the project and the service you receive.





### Step Three: Submit the RFQ

When submitting a Request For Quote, include the detailed workscope you have been compiling along with photographs of the current interior (or allow the centers access to the aircraft so they can inspect it and take necessary measurements). You may consider submitting a quotation format that you particularly like (with the facility name and prices blocked out, of course) and request proposals in similar formats. That way, your proposals will be easier to compare. You may also want to give the facilities a deadline for submission, just make sure it allows them the time necessary to evaluate your workscope and answer the questions they need to in order to provide an accurate estimate.

### Step Four: Evaluate Proposals & Service Centers

This is the most complicated part of the process because you will need to ask tough questions and determine your priorities. In addition to



comparing the cost of the project and making sure the quotes price “like” products and services, you will need to weigh other variables like quality, downtime expectations, the service you will receive, the support you will have after the project, warranty, and extra charges.

**Quality.** Visit the facilities you are comparing. Look at what they have in work and ask questions about the processes you see. Get references from operators who fly the same aircraft you do and make sure they were satisfied with the work they had done. Walk through airplanes the facility has worked on, not just in the last year but several years



ago; nothing else will give you a feel for how the workmanship holds up.


**Downtime.** Obviously, the shortest downtime is the best. However, as you probably know, not all service facilities estimate accurate downtimes. Complex projects require a service facility to evaluate resources and how the different areas will interface and work through a project. Parts leadtimes, engineering and design all need to be evaluated to determine a precise downtime. A service provider with a good track record for making deliveries will provide you with an accurate downtime. If you have reservations and need to ensure a certain downtime, consider requesting a downtime guarantee; not all facilities will sign one.

**Service.** This is a generic word that describes just about anything you want from project management to communication and from complimentary design services to how accurate and easy to follow the invoices are.

**Other Factors.** Lots of small factors can impact the bottom line of a project as well as your satisfaction. These include things like taxes, leadtime, labor rates, references, warranty, fees, additional charges, and change orders. Ask up-front how the facility handles these issues and never assume anything.

### The Final Step

Once you receive answers to all of your questions, you can decide which facility is best for you and your aircraft. You still have one step left, though: get on the schedule!

After you are scheduled, don't take a break from communicating with the facility. The better you are about sharing your expectations and desires, the better your chances that the service provider will know your wishes and what will make your life easier. In turn, that will better your odds of being satisfied with the outcome. 

# What Is High Quality?

Everyone has a different definition of “quality.” That is because quality is based on the value of how something meets our needs. What might be high quality to one person may not be high enough quality to another.

When it comes to performing “high-quality” work on aircraft, the tangible aspects of quality are obvious—expensive leathers or carpets are most likely of higher quality than inexpensive ones. However, there are several underlying, intangible aspects that service centers can focus on that impact the quality of your project. These include experience, innovation and creativity, and the ability to help you plan ahead for future requirements and use of the aircraft. Following is a list of pointers to help you evaluate each.

### Experience

Spend some time getting to know the service centers, the specific STCs they have developed for your aircraft, and the experience and technical expertise they have to back them up.

Some questions to ask include:

- Has the facility performed this inspection before?*
- How many projects of this type has the facility completed in the last few months?*
- Is the facility experienced at coordinating and managing large, multi-shop projects?*
- Do they have specialists on your airframe?*
- Are their specialists familiar with the systems on your aircraft?*

### Innovation and Creativity

The world is getting more and more complex and seems to be moving at a faster pace every day. In order to continue to provide quality service and products, a service center needs to continually evolve and change to meet customer demands.

Some things to think about are:

- Is the service provider innovative and do they employ creative solutions?*
- Are they constantly trying to improve things?*
- Do they invest time and money in developing STCs, new technology, training, etc.?*

### Designing for the Future

No one has a crystal ball, but you don't want your aircraft to come out of a major project to find out it has components that will be obsolete in the next year or so.

Some things to consider include:

- Are the cabinets and panels easy to remove and provide easy access for maintenance?*
- Are the avionics systems and components designed to allow for future upgrades?*
- Does the facility offer creative paint processes when dealing with inspection panels, exterior latches, and pressure bulkhead seams to increase the longevity of your paint?*
- Is the product of a quality that it is “built to last?”*

### Finding Answers

Finding answers to the questions that show a service center's true quality are not easy. But when you're talking about expensive projects with lots of downtime, it's best to understand fully what you are getting. The best way to get answers to these questions is to personally visit the facilities you are considering, take a tour inside some of the aircraft they have recently worked on, and obtain references for your aircraft type.

# PROCEED WITH CAUTION



Purchasing or selling aircraft are daunting tasks, especially in today's market. There are lots of available aircraft, with widely varying quality and prices. It can be overwhelming when your knowledge of the aircraft and the market is limited.

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