



**A Quarterly Publication Regarding the Maintenance and Operation of Westwind Aircraft**

**March 30, 2007 Volume 5, Issue 3**

**DIRECTOR'S MESSAGE**

---

By Greg Miller, Director, Product Support (GDAS)

**Westwind Product Support**

I would like to welcome our readers one last time to the Westwind quarterly newsletter as written under the General Dynamics Aviation Services (GDAS) banner. I'm sure you have heard by now that Worthington Aviation has become Israel Aerospace Industries' (IAI's) Worldwide Product Support provider for the Westwind Fleet of Aircraft.

The transition of Westwind Product Support was under consideration for some time, and after a thorough review by IAI, Gulfstream Aerospace and General Dynamics Aviation Services agreements were reached regarding how to proceed. Worthington became the official IAI product support provider as of March 6, 2007.

It is of utmost importance that the plan goes through in a manner to maintain product support levels expected by Westwind owner/operators, so GDAS has commitments in place that will ensure Worthington Aviation is successful. These include:

- Assisting Worthington with transitioning of the business
- Referring all existing and potential customers of the business to Worthington
- Providing reasonable advisory support for all material aspects of the business – parts, publications, technical support, etc.

I would like to thank all the individuals who have helped put the Westwind Fleet back on the map. When I was first given the opportunity to have overall Product Support responsibility for the Westwind Fleet, I identified the people who were holding the fleet together by providing an informal support network (pretty much independently) and went to them to get their support in my efforts. The customer advisory board members helped me understand the primary needs of the fleet, providing recommendations and guidance in getting the support levels to where they needed to be.

I am proud of every association I have had in regards to the Westwind Fleet. We moved on product improvements, publications updates, parts availability, reliability, and reduced costs. We did what we said we were going to do with the fleet, and I am confident that Worthington will continue improving on what we, as a group, have accomplished together.

In closing, I personally want to thank everyone who has contributed to this publication in making it the effective, successful communication tool it has become.

**WORTHINGTON AVIATION TECHNICAL SERVICES**

---

By Kevin Flood, Director of Technical Services

**Director's Notes**

As many of you know, General Dynamics Aviation Services (GDAS) has handed Worthington Aviation the "baton" to carry on as the new service and support organization for the Westwind Aircraft. We have been designated by the Westwind manufacturer, Israel Aerospace Industries (IAI), to provide parts support, service network management, technical assistance, and technical publications management.

Greg Miller and all of the staff at GDAS have been very gracious AND helpful with the transition, and continue support from the sidelines to assure the hand-off is transparent.

I would like to take this opportunity to highlight the services available from Worthington Aviation and introduce some of the people who will play a roll in the program.

Worthington Jet Services, Minneapolis International Airport, is an Authorized Westwind Service Center providing a full scope of maintenance services on the Westwind Aircraft. Brien Anders, General Manager, or Jeff Both, Director of Sales and Service, will be glad to answer questions about your specific service or inspection needs. They can be reached at: 612-727-3737, [banders@worthingtonav.com](mailto:banders@worthingtonav.com), or [jboth@worthingtonav.com](mailto:jboth@worthingtonav.com).

Worthington Aviation Parts Service stocks a large inventory of replacement parts to support the Westwind fleet. Barb Haviland, Director – Corporate Sales, or Ed Nesbitt, Manager – Corporate Sales, are available to help you with all of your parts needs. They can be reached at: 651-994-1600, [bhaviland@worthingtonav.com](mailto:bhaviland@worthingtonav.com), or [enesbitt@worthingtonav.com](mailto:enesbitt@worthingtonav.com).

I (Kevin Flood) will oversee the Westwind technical support, technical publications, and the Authorized Service Center network. My contact information is: 651-393-3300 Direct, 651-261-7202 Cell, 651-994-1600 Switchboard, or [kflood@worthingtonav.com](mailto:kflood@worthingtonav.com).

The Worthington team looks forward to working with the Westwind fleet of operators.



## **TECHNICAL UPDATE**

---

### **(ATA 25): 121.5 MHz ELT Deadline Reminder**

The FAA issued a notice in August 2005 reminding operators that satellite processing of distress signals from 121.5 and 243 MHz emergency locator transmitters (ELTs) is scheduled to end on February 1, 2009. Operators will have to switch to ELTs operating at 406 MHz, which are more reliable and provide search-and-rescue (SAR) agencies more complete information for detection by satellites.

The National Oceanic and Atmospheric Association (NOAA) reports that about 99 percent of the 121.5-MHz distress signals it receives each year are false alerts. As a result, rescuers normally wait for extra satellite passes over the alert area or some other verification of an actual emergency before activating a 121.5-MHz SAR response. The delay can mean hours before a SAR mission is initiated for a 121.5-MHz distress alert. In contrast, the response time for a 406-MHz alert is measured in minutes.

Because a 406-MHz beacon transmits its own unique digital identification code, the registered owner can be contacted for verification of an actual alert or asked to turn off a 406-MHz beacon transmitting a false alert signal. Quick verification capability means that in the event of a real emergency SAR personnel can be quickly mobilized.

## **SERVICE BULLETIN UPDATE**

---

By Gene Herrera, Customer Support Technical Bulletin Group

Here is the Westwind service bulletin update for March 2007.

### **Released**

#### **Service Bulletins 1123-27-059 Rev 1 and 1124-27-153 Rev 1**

Title: Flight Controls – Inspection and Repair of Inboard Flap Actuators, P/N 193544-1

Effectivity: All Serial Numbers

Released: May 25, 2006

Note: The original release of this service bulletin has created a misunderstanding among operators as to whether it is Mandatory or Optional. Revision 1 clarifies the Mandatory requirement to accomplish the service bulletin within the compliance time stated in the document.

Aircraft in compliance with the original issue of this service bulletin require no further action.

Description: Investigation into the failure of numerous flap actuators has revealed that the worm gear has worn beyond allowable limits due to excessive torque forces applied to the actuator. These excessive torque forces are being caused by corrosion on the internal tube assembly sleeve, ball nut dragging, and/or incorrect shimming. Due to the high number of flap actuator failures, the 10,000-hour Chapter 5 overhaul requirement will be reduced to 3,400 flight hours or 5 years of actuator service, whichever comes first. These service bulletins will provide instructions to remove the flap actuators and send them to Telair International® for overhaul.

Compliance with this service bulletin is mandatory. Currently installed inboard flap actuators, P/N 193554-1, must be replaced with new improved inboard flap actuators, P/N 193554-3 or vendor P/N V1390T100-7, by November 2007 or upon reaching the original life limit of 10,000 flight hours, whichever limit is reached first. P/N 193554-1 inboard flap actuators that have been previously repaired by Telair may remain in service until the next C check, not to exceed 800 flight hours or 3,200 flight hours component time in service, whichever comes first.

## **Pending**

### **Service Bulletin 1124-24-155**

Title: Electrical Power – Replacement of Remote Control Circuit Breaker in the Main and Alternate Fuel Boost Pump Electrical Circuits

Effectivity: 1124 and 1124A Westwind, serial numbers 187 through 234 except 226, 228, 230, and 231

Projected Release: TBD

Description: Provides instructions to replace the existing RCCB and modify the airframe wiring to accommodate the new RCCB. Additionally, instructions are provided to modify the left and right DC contactor boxes.

## **TECHNICAL PUBLICATIONS UPDATE**

---

According to John Taylor, Senior Technical Writer, Mid-Sized Cabin Aircraft, all files and Publications Change Requests (PCRs) for the Westwind manuals have been forwarded to Worthington Aviation. There is no update available for this issue.

## **FLIGHTSAFETY NEWS AND QUIZ**

---

Submitted by Tom Vail, FlightSafety International (FSI), Wilmington Learning Center

### **Looking Back and Looking Ahead at FlightSafety International's Westwind Maintenance Training**

It's hard to imagine, but a glance at the calendar tells us FlightSafety has been providing Maintenance Training for the 1124 operators for over thirty years. Lots of us remember our first instructor at FSI, Joe Brooks, with his magic tricks, great sense of humor, and vast knowledge of the Westwind. Joe continues to do what he loves with the FlightSafety/Gulfstream Total Technical Training (TTT) team at our DFW Learning Center on the G150 and G200 aircraft.

Back then the Westwind was "new" and was the airplane to have in your hangar; maintenance classes were large. Today, the venerable Westwind continues to serve flight departments across the nation with over 230 flying.

Although our maintenance student flow has predictably lessened, FlightSafety continues to offer Maintenance Initial and Update courses along with engine run and taxi training in our simulator at the Wilmington Learning Center. Looking ahead to 2008, we will reduce the scheduled dates for our courses, but will always be available to meet our customers' maintenance training needs and requirements.

**FSI 2007 Westwind Maintenance Course Schedule**

Upcoming Westwind Maintenance Course dates are listed below. Off-site training may be arranged by contacting Tom Vail or Valerie Marvel using the information below.

**Westwind Maintenance Initial Course (10 days)**

April 9, July 30, November 26

**Westwind Maintenance Update Course (5 days)**

May 21, September 17, October 29

**Westwind Engine Run & Taxi Course**

Scheduled on Request



For more information or enrollment in any Westwind Maintenance Course, please call either Tom Vail or Valerie Marvel at 800-733-7548 or 302-221-5100. You may also reach them by e-mail at [Valerie.Marvel@flightsafety.com](mailto:Valerie.Marvel@flightsafety.com) or [Tom.Vail@flightsafety.com](mailto:Tom.Vail@flightsafety.com). To learn more about the Greater Philadelphia/Wilmington Learning Center, logon to [www.flightsafety.com](http://www.flightsafety.com), click "Training Location," and select Philadelphia/Wilmington.

**(ATA 32): Last Issue's Technical Quiz**

During a routine "B" inspection landing gear functional check, the landing gear will not remain in the up-and-locked configuration for the required 90 minutes. Name the three areas you should focus your troubleshooting attention on.

**Answers to Last Issue's Technical Quiz**

1. Any one or all of the three uplock cylinders could have internal bypass leakage. Uncap the return line from each uplock and look for flow when uplock pressure (gear is selected UP) is present.
2. The thermal relief check valve may be leaking. Locate the thermal relief valve external to the selector valve, remove the return line, and cap the valve. Retract the gear and test for proper operation.
3. The selector valve internal check valve is bypassing fluid. Eliminate the three uplocks and the thermal relief valve first. If the problem remains, replace the selector valve.

**ELCORTA UPDATE**

Submitted by Mike Melville, ELCORTA

**(ATA 29): Emergency Hydraulic Pump**

Are you noticing that your aircraft's emergency hydraulic pump is cycling too often and normal servicing does not seem to help? The thermal relief valve may be the culprit.

If there is no evidence of a hydraulic leak, first check the emergency hydraulic pump accumulator nitrogen servicing. Be sure to observe the procedures outlined in Westwind 1124/1124A Maintenance Manual Chapter 12 to ensure the accumulator piston is bottomed out. If this is correct, check the accumulator for proper operation. This can be accomplished by attaching a pressure gauge to the emergency accumulator nitrogen servicing port. With the port open, run the emergency hydraulic pump and witness the attached gauge reading full system pressure. If it reads correctly, then the thermal relief is likely leaking internally.

The thermal relief valve has two functions. It provides pressure relief if the system pressure becomes too high, and it has the only check valve in the system to prevent hydraulic fluid from returning to the emergency pump. If either side of this valve fails to operate properly, the cycle time will be high.

For more information on ELCORTA, Inc., contact them at 302-322-7757 (phone), 302-323-1959 (fax), [info@elcorta.com](mailto:info@elcorta.com) (e-mail), or online at [www.elcorta.com](http://www.elcorta.com) (Web site).

## TRIMEC UPDATE

---

Submitted by John Dunn, Trimec

### Maintenance Training

Trimec Aviation Inc. is offering Westwind maintenance training at our Ft. Worth, TX, facility through Scott Hill with AccuJet Aviation Maintenance Training. The course is FAA-approved for Inspection Authorization (IA) renewal. Contact Trimec for the 2007 training schedule.



### Lower Thrust Reverser Door Corrosion

During routine inspections, we have been finding several lower thrust reverser (T/R) doors with internal corrosion. This shows up on the outer skin as a rippling around the rivet heads. If the internal structure is inspected with a borescope, corrosion is evident between the skin and ribs. Some of the doors have been so severe that they had to be replaced.

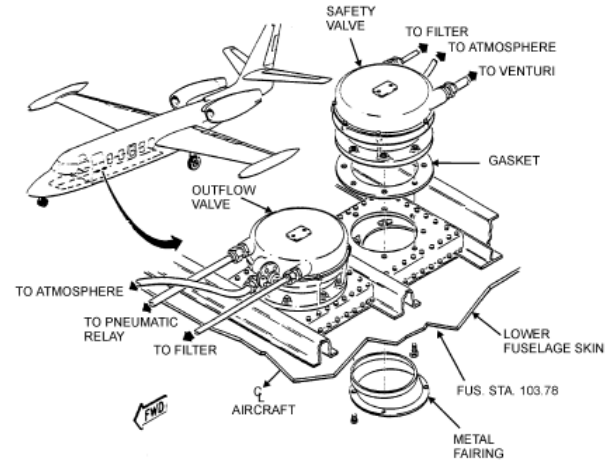
### Pressurization Tips

Due to the number of calls we receive, I thought I would provide a few tips for flight crews and maintenance people concerning the pressurization system.

The first thing to remember, especially for new crews, is anytime the aircraft is started, the DV window **MUST** be open. This is because both bleed switching valves are failed open, and they require electrical power **AND** bleed air pressure to close. Therefore, air is being pumped into the cabin as soon as the engine rotates, and no vacuum is being generated to open the outflow valves.

Keep the outflow valve **CLEAN**. Use mild soap or isopropyl alcohol to wipe the knife-edge seal. Spray a little LPS-1 into the vent hole and on the valve shaft.

Use the Ground Pressurization Control (GROUND PRESS) switch. If yours doesn't work, get it fixed!



**Outflow and Safety Valves**

Before trying to pressurize the aircraft, check the following items first:

1. Normal system – outflow valve opens during/after engine start (could be either valve)
2. After starting, close doors and DV window. GROUND PRESS switch engaged—outflow valve closes  $\frac{3}{4}$  of the way, safety valve starts to open, outflow valve closes almost fully.
3. Trip LH ground switch to flight—safety valve closes fully, outflow valve opens and meters (put controller below S/L and max rate).

To Pressurize:

1. Trip isobaric valve to close
2. Open manual dump valve fully
3. Start both engines
4. Select "Both" on bleed selector
5. Close DV window slowly
6. Pull LH pressurization circuit breaker
7. Close manual dump valve at whatever speed your ears can handle
8. You may have to increase engine speed or toggle temp to hot to reach max differential, but it should get there and operate on the outflow valve limiters. Now you can do all the door and window leakage checks. Don't forget the forward pressure bulkhead bungs and the flight control cable bungs.

To De-pressurize:

1. Slowly open the manual dump valve
2. Reset all circuit breakers and open and safety the isobaric valve
3. CLOSE the manual dump valve.

If you want to check the cabin leakage rate, just leave the aircraft pressurized to max differential and simply shut down the engines. One word of caution – If avionics technicians have been working in the instrument panel, make sure NO vacuum connections are open or loose because that would ruin your day.

One last thing—Do **not** replace the controller! In over 25 years of maintaining Westwinds, we have replaced controllers approximately 5 times. It is as trouble free as you can get. Look for vacuum leaks, Ty-Wraps or rags in the outflow valves, dirty ejector screens, weak dump solenoids, etc.

For more information on Trimec Aviation Inc., you can contact them at 888-303-1124 or 817-626-1376, send an e-mail to [jdunn@1124.com](mailto:jdunn@1124.com), or visit their Web site at [www.1124.com/](http://www.1124.com/).

## ACCUJET'S QUARTERLY MAINTENANCE TIP

### Aileron Crossover Cable Maintenance *(Reprinted from the 9/30/04 Westwind News)*

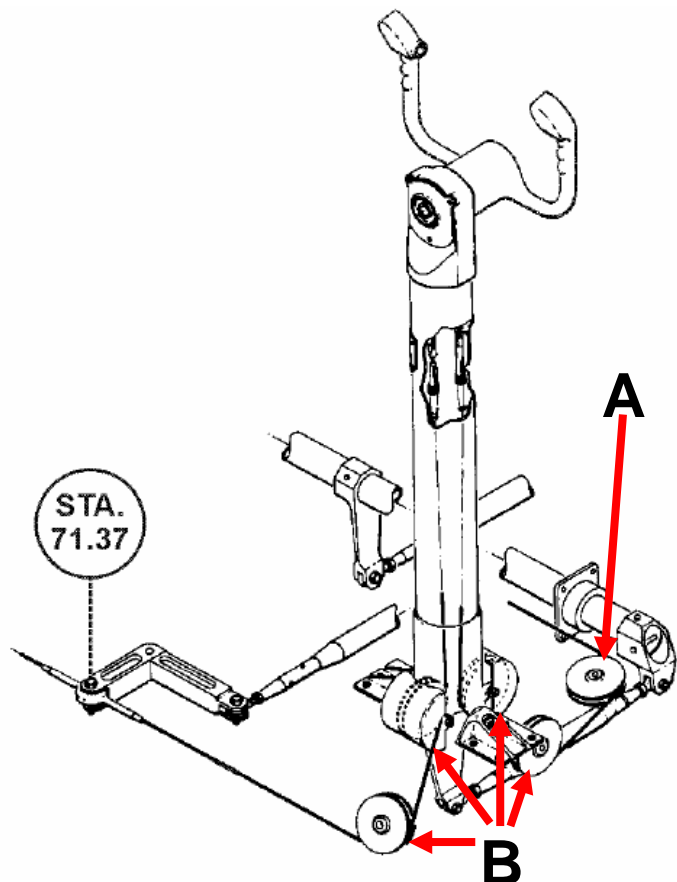
Recently, while working with Trimec Aviation, I noticed they had found three aileron crossover cables that were worn with broken cable strands in them. No big deal, except that it just so happened to be during the last three 800-hour "C" Inspections that they accomplished. Even though bad things seem to come in threes, I still sensed that there seemed to be a trend starting here. I chatted with the one of the lead technicians, Jay Stewart, about this in much more detail.

Jay gave me the rundown on his technique for inspecting the flight control cables. First and foremost, clean the cables thoroughly; there are no super mechanics with x-ray vision to see through the filth that collects all over the cables. Next, and you may note this to be a very important step, blow-dry the cables with compressed air to remove the grime stuck between the cable strands. Finally, once the cables are clean, they can be visually inspected.

Areas of importance to look at are on the rear crossover cable at the rear outboard pulleys (see detail "A"). While moving the ailerons through their full travel, look for shiny spots on the cable where it contacts the pulley assembly. A shiny spot may indicate wear, and it will need to be looked at through a magnifying lens. If wear on the cable strands is more than 40 to 50%, it will need to be replaced. What Trimec has been finding in this area is at least 50% wear with some broken strands as well.

Now for the weird part – upon replacing the rear cross-over cable, Trimec has been finding broken cable strands under the other pulleys in that system. The ones that I looked at had absolutely no wear at all, but a closer inspection revealed broken strands. Chapter 27 of the Westwind Maintenance Manual states that any broken strand at a pulley necessitates replacement of that cable as well.

If you have to replace the rear cable, it is



always a good idea to remove the forward cross-over cable as well for a detailed inspection. It takes only a few more minutes to remove it, once you have the aft one out; so it makes good sense to take the time to look at something that, more than likely, hasn't been thoroughly looked at in many years. As a matter of fact, every forward cable that Trimec has pulled out recently due to the rear one not passing inspection has broken strands in the pulley areas as well (see detail "B"). Those areas cannot be seen until the cable has been removed.

Please visit [www.accujet.net](http://www.accujet.net) for more information about our Westwind Maintenance Training Courses and schedules.

Scott L. Hill  
 AccuJet Aviation Maintenance Training  
 Office: (817) 581-7999  
 Toll free: (866) 581-7999  
 Cell: (817) 781-5612  
 Email: [scott@accujet.net](mailto:scott@accujet.net)

**AccuJet**  
**Aviation Maintenance Training**  
[www.accujet.net](http://www.accujet.net)  
 P.O. Box 163011  
 Ft. Worth, TX 76161  
 Toll Free: 1-866-581-7999  
 Office: 817-581-7999  
 Fax: 817-581-7902  
 E-mail: [info@accujet.net](mailto:info@accujet.net)

## **WESTWIND / COMMODORE JET FLEET STATUS**

---

By Martin Manning, Reliability Engineer

Following is the status of the **1124/A Westwind** fleet as of March 31, 2007, based on our records:

- In-service Operations – 1,955,532 hours; 1,476,329 landings
- Fleet Leader(s) – 32,695 hours; 23,526 landings
- In-service Aircraft – 223 North America, 4 Central America, 3 South America, 2 Middle East, 1 Europe, 8 Australia = 242 total
- Twelve-month Dispatch Reliability Average – 99.91%

Following is the status of the **1123 Westwind** fleet as of March 31, 2007, based on our records:

- In-service Operations – 77,329 hours; 46,111 landings
- Fleet Leader(s) – 9,494 hours; 9,324 landings
- In-service Aircraft – 12 North America, 1 Central America, 3 South America = 16 total

Following is the status of the **1121/B Commodore Jet** fleet as of March 31, 2007, based on our records:

- In-service Operations – 249,912 hours; 87,451 landings
- Fleet Leader(s) – 11,169 hours; 10,609 landings
- In-service Aircraft – 37 North America, 2 Central America, 3 South America, 1 Africa, 1 Caribbean = 44 total

Editor's Note: Although Gulfstream has sent out monthly Reliability sheets to all operators requesting current flight data and component issues, we have received minimal response from Westwind operators and no data from the others.

## **GENERAL INFORMATION**

---

- **Westwind News on the Web** — Archived issues of *Westwind News* can be found in the "Resources" menu on the [www.gdaviationservices.com](http://www.gdaviationservices.com) Web site.

## MOLs

---

The following Maintenance and Operations Letters (MOLs) have been released since the last update:

- **Westwind-MOL-07-0001**, 3/1/07, Incorrect Orientation of the Right Nose Landing Gear Door Upper Control Rod End
- **Westwind-MOL-07-0002**, 3/7/07, Worthington Aviation to Provide Worldwide Support for Westwind Aircraft

## SBS

---

No Alert/Service Bulletins (ASBs/SBs) have been released since the last update.



## WESTWIND NEWS

**Senior Editor** – Gary Arms

**Contributors** – John Dunn (Trimec), Kevin Flood (Worthington), Gene Herrera, Scott Hill (AccuJet), Jim Korzik, Martin Manning, Mike Melville (ELCORTA), Greg Miller, Charles Spurlock, John Taylor, and Tom Vail (FSI)

The *Westwind News* is intended to provide quarterly updates on technical and product support, service, training, publications, events, and operational insights for the Westwind series of aircraft.

**Copyright 2007** by General Dynamics Aviation Services, P.O. Box 2206, M/S D-25, Savannah, GA 31402-2206.

**Disclaimer** – This document is intended to provide Westwind operators an update on current safety/technical issues affecting their aircraft. **It is for information purposes only.** Any technical content in this publication, where so noted, will be submitted for inclusion in the next possible revision of a related technical publication, i.e., Maintenance Manual, Wiring Diagram Manual, Illustrated Parts Catalog, Computerized Maintenance Program Work Cards, Airplane Flight Manual, etc. (Technical Publications are recognized as the only official publications for maintenance and service of Westwind aircraft.)

