

ALERT SERVICE BULLETIN REVISION TRANSMITTAL SHEET

MODEL BD-700-1A10 (BD-700)

Discard the Revision 01 of this Alert Service Bulletin dated Oct 03/2008 and replace in its entirety with this Revision 02

Service Bulletin No. A700-27-066
Date of Basic Issue Oct 02/2008
Revision No. 01 Dated Oct 03/2008
Revision No. 02 Dated Nov 10/2008

This revision has no effect for aircraft on which the Basic Issue or Revision 01 of this Alert Service Bulletin was done thus no other action is necessary.

This revision is issued to provide clarification on acceptance criteria and replacement of parts, thus reducing the need for some SRPSAs. Also, it clarifies the backlash check and introduces the Revision 2 of the Parker Service Bulletin 376100-27-306.

This revision is issued to:

1. Change, in Paragraph 1.K., the revision of RSI C700-01463 to Revision C.
2. Revise Paragraph 2.B.(1), to clarify the inspection/rejection criteria for the anti-rotation plate.
3. Revise Paragraph 2.B.(3) Note 2, to clarify the inspection/rejection criteria for the ball.
4. Revise Paragraph 2.B.(6) to clarify the backlash check.
5. Revise Paragraph 2.B.(8)(c) and (8)(e) and add (8)(f) and (8)(g) to provide more details for the acceptance rejection criteria when rotating the PCU around its axis.
6. Make miscellaneous minor changes, as necessary, with no change of context.

ALERT SERVICE BULLETIN SUMMARY

This Alert Service Bulletin is available at:

www.cic.bombardier.com

MODEL BD-700-1A10 (BD-700)

ATA 27-31

FLIGHT CONTROLS

**SPECIAL CHECK/REWORK – ELEVATOR CONTROL SYSTEM –
 INSPECTION OF ELEVATOR PCU, P/N GT411-3800-5 & -7,
 ATTACHMENT FITTINGS AND SLOTTED ENTRY BEARINGS**

The information below is provided for your reference. For full details, please see corresponding paragraph contained within this bulletin.

ALERT SPECIFIED TIME COMPLIANCE	COMPLIANCE TIME 10 flight cycles or 50 flight hours whichever comes first		
EFFECTIVITY: A/C Serial No. 9002 to 9222			
MANPOWER: 30 man-hours			
KITS and/or PARTS	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
TOOLING/GSE	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
PLANNING INFORMATION: See important information at the start of Paragraph 1.	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
DEDICATED SCHEDULE	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
PREREQUISITE SERVICE BULLETINS: N/A			

To place an order for parts or kits, please call Bombardier Parts Logistics at:

514-855-2999 or 1-866-538-1247

ALERT SERVICE BULLETIN

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www.cic.bombardier.com

MODEL BD-700-1A10 (BD-700)

ATA 27-31

FLIGHT CONTROLS

**SPECIAL CHECK/REWORK – ELEVATOR CONTROL SYSTEM –
INSPECTION OF ELEVATOR PCU, P/N GT411-3800-5 & -7,
ATTACHMENT FITTINGS AND SLOTTED ENTRY BEARINGS**

1. PLANNING INFORMATION

A. Effectivity

BD-700-1A10 aircraft, Serial No. **9002** to **9222**.

- NOTES:
1. This Alert Service Bulletin applies to PCUs, P/N GT411-3800-5 or GT411-3800-7, with Serial Nos. lower than 0616.
 2. This Alert Service Bulletin does not apply to PCUs, P/N GT411-3800-7, with Serial Nos. 0616 and higher.
 3. This Alert Service Bulletin does not apply to PCUs, P/N GT411-3800-7, with less than 1000 flight hours.
 4. This Alert Service Bulletin does not apply to PCUs P/N GT411-3800-9.
 5. The PCUs, P/N GT411-3800-7, with the Serial Nos below have grease and are exempt from this Alert Service Bulletin;

0030, 0031, 0033, 0041, 0046, 0060, 0062, 0066, 0081, 0083, 0087, 0092, 0097, 0101, 0105, 0108, 0109, 0110, 0111, 0119, 0130, 0138, 0141, 0145, 0156, 0161, 0163, 0164, 0165, 0171, 0173, 0174, 0178, 0179, 0181, 0183, 0188, 0190, 0191, 0197, 0198, 0199, 0202, 0205, 0206, 0208, 0210, 0214, 0218, 0222, 0223, 0240, 0262, 0265, 0281, 0296, 0301, 0310, 0323, 0365, 0369, 0406, 0407, 0408, 0413, 0420, 0427, 0429, 0430, 0431, 0433, 0435, 0438, 0453, 0491, 0495, 0504, 0506, 0513, 0533, 0536 and 0586.

Refer to applicable governmental agency regulations and requirements and make sure that the work described in this Service Bulletin is performed in compliance with manufacturer's recommendations and/or acceptable industry standards.

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MODEL BD-700-1A10 (BD-700)

6. The PCUs, P/N GT411-3800-7, with the Serial Nos below were upgraded to P/N GT411-3800-9 and are exempt from this Alert Service Bulletin;

0004, 0005, 0006, 0010, 0014, 0016, 0017, 0028, 0043, 0096, 0098, 0102, 0106, 0118, 0123, 0132, 0150, 0168, 0170, 0177, 0184, 0200, 0231, 0246, 0254, 0269, 0371, 0432, 0440, 0446, 0452, 0455, 0458, 0507, 0508, 0540 and 0587.

The intent of this Alert Service Bulletin was met on the aircraft that follow with the Repair Non-Incorporated Engineering Orders (RNIEO) OR Service Requests for Product Support Action (SRPSA) listed below:

AIRCRAFT SERIAL NO.	DRAWING GS258-0001 SNIEO NO.	SRPSA NO.
9003	#S14	96088
9050	#S09	91054
9062	#S10	96083
9066	#S07	96080
9070	#S11	96084
9074	#S13	96087
9091	#S05	95619
9095	#S12	96085
9105	#S15	96078
9124	#S08	96435
9162	#S06	96079

All other subsequent BD700-1A10 aircraft are scheduled for the modification in production (Ref.: Modification Summaries 700T02247).

NOTE: The instructions given in this Alert Service Bulletin are only applicable to the systems and parts installed at the time of delivery of the aircraft or as changed by Bombardier Aerospace Alert Service Bulletin(s).

Before you do this bulletin, examine all STC, STA or equivalent action changes to make sure that this bulletin can be completed.

B. Reason

The elevator PCU bearings have shown susceptibility to seizure caused by in-service contamination, corrosion or a breakdown of the nitrided bearing race . In the case of one aircraft in service, this condition has led to escalation of failure within the attachment hardware that resulted in the bolt failure.

This Alert Service Bulletin introduces the requirement to inspect and identify any elevator PCU that may exhibit any bearing seizure condition or onset of seizure, so that appropriate action can be taken to ensure that damage will not propagate to failure of the attachment hardware. This special check/rework is intended to ensure the continued safe operation of the PCUs and Elevators and will reduce the potential of expensive maintenance costs.

C. Description

This Alert Service Bulletin gives instructions to:

- Get access to the elevator PCUs,
- Remove and examine the PCU hardware as necessary,
- Lubricate the components as indicated,
- Install the hardware and PCUs, and
- Do the necessary tests to make sure the system operate correctly.

D. Compliance

Recommended in less than 10 flight cycles or 50 flight hours, whichever comes first.

- NOTES:**
1. Once this Alert Service Bulletin is completed, the PCU will be allowed to operate for 90 days or 200 flight hours, whichever comes first, after which this Alert Service Bulletin must be repeated.
 2. This Alert Service Bulletin may be repeated up to a maximum of 2 more times. Each time this Alert Service Bulletin is repeated, the PCU will be allowed to operate for 45 days or 100 flight hours, whichever comes first.
 3. The above inspections will allow operation for a maximum of 180 days or 400 flight hours, whichever comes first, after which SB 700-27-067 must be accomplished.
 4. This Service Bulletin is in reference to Advisory Wire AW700-27-0256.

E. Approval

The technical content of this Alert Service Bulletin has been approved under the authority of Transport Canada Civil Aviation (TCCA) Design Approval Organization (DAO) No. DAO #93-Q-02.

- NOTES:**
1. The technical content of this Alert Service Bulletin is accepted by the FAA under the Canada/USA bilateral Aviation Safety Agreement.
 2. The technical content of this Alert Service Bulletin is accepted by the JAA and by EASA in accordance with established procedures.

F. Manpower

- NOTES:**
1. The man-hours given are estimates to help you schedule the tasks given in this bulletin. The estimates are for direct labor performed by an experienced crew and do not include the time for familiarization, planning, aircraft preparation in hangar such as towing and positioning of scaffolds, removal of interior furnishings, repainting, supervision and inspection.

For more information related to the manpower estimates, refer to SB 700-00-002.

2. This Alert Service Bulletin may require consumable materials that have specific curing times (refer to Paragraph 3.). The accumulated curing time is not included in the labor estimates and should be considered for planning purposes before you schedule this Alert Service Bulletin.

30 man-hours are necessary to do this special check/rework.

The labor required to do this Alert Service Bulletin is at no cost if the work is done at Bombardier Business Aviation Services (BBAS) or Authorized Service Facilities (ASF) or for those customers with authorized in-house warranty agreement.

G. Material – Cost and Availability

No kit or parts are necessary to do this special check/rework. For material data, refer to Paragraph 3.

H. Tooling – Price and Availability

GSE REFERENCE NO.	PART NO.	DESCRIPTION
27X-00-03	-	Kit, Rigging Pin
-	Commercially Available	Dial Indicator (0.001 in accuracy)

- NOTES:**
1. Refer to the Global Express or Global Express XRS BD-700 Illustrated Tool and Equipment Manual to make sure you use the correct equipment configuration.
 2. Refer to the Liability Statement for the GX, XRS of the publication listed in NOTE 1 for acceptable GSE equivalents.

I. Weight and Balance

No change.

J. Electrical Load Data

No change.

K. References

- Bombardier Aerospace, Restriction and/or Special Instruction (RSI), C-700-01463, Rev. C.
- Global Express BD-700 Aircraft Maintenance Manual, Chapters 20, 27 and 29.
- Global Express BD-700 Aircraft Illustrated Parts Catalog (AIPC), Chapter 27.
- Global Express XRS BD-700 Aircraft Maintenance Manual, Chapters 20, 27 and 29.
- Global Express XRS BD-700 Aircraft Illustrated Parts Catalog (AIPC), Chapter 27.
- Global Express or Global Express XRS Illustrated Tool and Equipment Manual (ITEM), Chapter 20.
- Parker Service Bulletin 376100-27-306, “Inspect, Clean, Grease Rod End, and Tailstock Bearings; Introduce 376100-1009 Configuration”.

L. Other Publications Affected

None.

M. Equivalent Alert Service Bulletin

For the Global 5000 BD-700-1A11 aircraft, use SB A700-1A11-27-024.

2. ACCOMPLISHMENT INSTRUCTIONS

- NOTES:
1. All TASKs given in the procedures that follow are from the Global Express or Global Express XRS Aircraft Maintenance Manual unless otherwise specified.
 2. All references made to zones, access panels and/or doors, are from the Global Express or Global Express XRS Aircraft Maintenance Manual, Chapter 6.

A. Aircraft Setup

- (1) Obey all the flight control safety precautions. Refer to TASK 27-00-00-910-801.
- (2) Install the applicable warning placards on the pilot and copilot control columns.
- (3) Remove the access panels 352AB and 352BB for the left elevator PCUs.
Note: It may be necessary to remove the upper access panels to see the PCU bearings.
- (4) Remove the access panels 362AB and 362BB for the right elevator PCUs.
Note: It may be necessary to remove the upper access panels to see the PCU bearings.

B. Special Check/Rework

Note: The procedure that follows is to be done on each PCU, one at a time. Refer to the Figure in the AIPC 27-31-21 for bearing and race details.

- (1) Examine the condition of the anti-rotation plate for wear damage due to the bolt fretting or deformation of the 12 points that contact the hexagonal head of the bolt. Minor fretting wear is acceptable providing the anti-rotation plate can fully engage with the bolt. If the condition is unsatisfactory and a replacement part is not available, send an SRPSA for disposition to Bombardier with details of the condition.
- (2) Pressurize the hydraulic system No. 3. Refer to TASK 29-10-00-862-803.
- (3) Slowly move the control column to command the elevator full up and full down while observing the slotted entry ball within the clevis of the elevator to ensure the ball rotates in the PCU rod end race.

- Notes:
1. Use appropriate lighting to make the observation.
 2. If the ball is not rotating, partially dismantle and examine its condition as given in the Parker SB 376100-27-306. If the ball does not meet the criteria in the Parker SB 376100-27-306, send an SRPSA with all the details of the condition.

- (4) Set the elevators to the neutral position.
- (5) Release the hydraulic pressure from system No. 3. Refer to TASK 29-10-00-862-804.

- (6) Do only the functional test (backlash) check given in the TASK of the functional test of the elevator PCUs. Refer to TASK 27-31-21-720-801.

- Notes:
1. Do not do the remainder of the TASK.
 2. If the GSE for supporting the dial indicator is not available, an alternative method to mount the dial indicator is as follows;
Mount the dial indicator base on the outboard edge of the elevator fairing under a protective tape. Clamp the base to the elevator fairing. Refer to Figure 1 and use the procedure in TASK 27-31-21-720-801 to determine the backlash.
 3. If the backlash is in excess of AMM requirements, send an SRPSA with the details.

- (7) Disengage the aft bolt from the PCU at the elevator, as follows;

- (a) Remove and discard the cotter pin from the rod end of the PCU. Refer to TASK 20-50-00-000-802.
- (b) Loosen the castellated nut sufficiently to allow the head of the bolt to be free of the anti-rotation plate.

Note: Do not remove the bolt.

- (8) Do a check of the slotted entry bearings for seizure as follows;

- (a) Hold the PCU with one hand and rotate it about its rod axis within the limits of the stops in the PCU tailstock.
- (b) If the PCU rotates with hand force, the bearings are acceptable.
- (c) If excessive force is required or if the PCU does not rotate at all do as follows:

Note: This will check the clearance between the tailstock anti-rotation stops and the HSTAB lug fitting (some anti-rotation stop clearances may not be easily detectable with this check).

- (i) Remove the aft PCU attachment bolt and make sure that the PCU can be moved up and down and rotates freely around its forward mounting bolt axis.
 - (ii) If the PCU can be easily moved, it is satisfactory.
 - (iii) If the PCU cannot be moved freely due to tailstock anti-rotation stops hard fouling against the HSTAB lug fitting, raise an SRPSA for disposition.
 - (iv) If the PCU cannot be moved due to seizure, partially dismantle and examine the condition as given in the Parker SB 376100-27-306. For any condition outside the limits in the Parker SB, send an SRPSA to Bombardier with all the details of the condition.
- (d) Use a torque wrench on the aft bolt in the clevis end fitting on the elevator and rotate the bolt.

- (e) If the torque is greater than 200 lbf in, the bearing is not acceptable and you should partially dismantle and examine the condition as given in the Parker SB 376100-27-306. Record the torque value on the Alert Service Bulletin Incorporation Sheet and send it to Bombardier.
 - (f) For any condition outside the limits in the Parker SB, send an SRPSA to Bombardier with all the details of the condition.
 - (g) If any of the hardware is damaged (bolt, nut washer, bushings) and replacement parts are not available, send an SRPSA to Bombardier with all the details of the condition.
- (9) Liberally apply LPS-2 to the exposed section of the aft bolt and to the bushing, ball and the race and to the ball and race at the forward end of the PCU without further removing the hardware.
 - (10) Insert the bolt in the clevis fitting and torque the castellated nut from 550 to 650 lbf in. Refer to TASK 20-21-00-910-801.
 - (11) Install a new cotter pin. Refer to TASK 20-50-00-400-802.

C. Testing

Do the operational test of the elevator control system. Refer to TASK 27-31-00-710-801.

D. Close-out

- (1) Remove all tools, equipment and unwanted materials from the aircraft.
- (2) Install the access panels 352AB and 352BB for the left elevator PCUs.
- (3) Install the access panels 362AB and 362BB for the right elevator PCUs.
- (4) Remove the applicable warning placards on the pilot and copilot control columns.

E. Recording

When this Alert Service Bulletin is completed, make an entry in the aircraft log and send the attached Incorporation Notice to Bombardier Business Aircraft Customer Services (BBACS).

3. MATERIAL INFORMATION

A. Kit

No kits required.

B. Parts

No parts required.

C. Material

The materials that follow, or equivalent, are necessary to do this Alert Service Bulletin. These can be purchased from a local supplier: Bombardier Aerospace does not pay for these consumables:

DESCRIPTION	PART No./NAME	SPECIFICATION	QUANTITY	SUPPLIER (See Note)
Release Agent	LPS-2	–	As Necessary	Code: A
Cotter Pin	MS24665-372	–	As Necessary	Code: B

- NOTES:**
1. Refer to the next table for each supplier's address listed by codes.
 2. The Curing Time (CT), if applicable, for each consumable material is indicated with the description of each product.
 3. At time of release of this Alert Service Bulletin, the information on the supplier was valid and accurate. In the event that this information has changed, the operator is encouraged to use the World Wide Web to find a local supplier.

SUPPLIERS ADDRESSES BY CODES	
<p>Code: A</p> <p>LPS Laboratories 4647 Hugh Howell Road, Tucker, GA, 30085-5052 Tel.: 1-800-241-8334 Tel.: (770) 243-8800 E-mail: http://www.lpslabs.com</p>	<p>Code: B</p> <p>Commercially Available</p>

D. Publications

No publications required.

BOMBARDIER
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MODEL BD-700-1A10 (BD-700)



Elevator Backlash Check – Alternative Dial Indicator Mount
Figure 1

ALERT SERVICE BULLETIN EVALUATION FORM

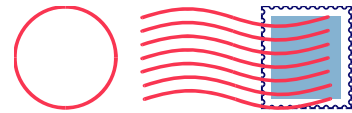
(Your ideas will help us provide better bulletins)

SERVICE BULLETIN: <u> A700-27-066 </u>	ISSUE: <u> Rev. 02 </u>	DATED: <u> Nov 10/2008 </u>
TITLE: Special Check/Rework – Elevator Control System – Inspection of Elevator PCU, P/N GT411-3800-5 & -7, Attachment Fittings and Slotted Entry Bearings		

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
<ul style="list-style-type: none"> • Instructions to do the Service Bulletin were accurate. Comments: 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> • Illustration(s), figure(s), and/or kit drawing(s) were helpful to carry out instructions. Comments: 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> • If a kit was required, did the kit contents received agree with the contents listed in the bulletin? Comments: 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> • The loose parts listed under Paragraph 3 were easily procured. Comments: 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> • Work was accomplished in the prescribed time. Comments: 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> • Overall, I was satisfied with this Service Bulletin. Comments: 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>For administrative use only</i>	PLEASE SUPPLY US WITH THE FOLLOWING DATA AND FAX TO: (514) 855-7634 or E-MAIL TO: MTL_BBAD_SB_Evaluation@aero.bombardier.com	
522DF	OPERATOR:	
	AIRCRAFT SERIAL NO.:	
	TELEPHONE:	
	FACSIMILE:	
	NAME: (Please print)	

THANK YOU FOR YOUR RESPONSE!
 PLEASE RETURN THIS COMPLETED EVALUATION FORM BY MAIL, E-MAIL OR FAX



Bombardier Business Aircraft Customer Services (BBACS)

P.O. Box 6087, Station Centre-ville
Montréal, Québec, Canada H3C 3G9

Attention: Customer Support Department

ALERT SERVICE BULLETIN INCORPORATION SHEET – “A700-27-066”

Upon completion of the Service Bulletin, please fill in this form and either fold and mail in the envelope provided, or fax to: (514) 855-8798, or e-mail to Fracas at fracas.montreal@aero.bombardier.com

NOTE: For configuration control purposes, please fill out one form for each Service Bulletin.

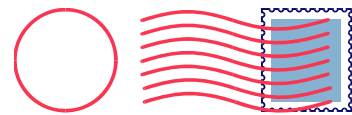
Service Bulletin Number	Rev.	* Parts Completed	COMPLIED WITH		Remarks
			YES	NO	
A700-27-066	02	-	<input type="checkbox"/>	<input type="checkbox"/>	_____
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>	_____
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>	_____
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>	_____

Actual hours to accomplish Service Bulletin: _____

* **NOTES:**

1. Where the Service Bulletin is divided into a number of parts (e.g., PARTS A, B, C, D, etc.) which can be carried out separately, indicate only those parts completed at this time.
2. For repetitive checks (usually PART A) only the initial check should be reported unless otherwise stated in the Service Bulletin.
3. When more than one part is carried out at the same time, each part should be reported.

Is the aircraft enrolled on the CAMP computerized maintenance program?		Yes	No
		<input type="checkbox"/>	<input type="checkbox"/>
Aircraft Serial No. _____	Aircraft Reg. No. _____		
Airframe Landings: _____	Airframe Hours _____		
LH Inb, Aft _____	LH Outb, Aft _____	RH Inb, Aft _____	RH Outb, Aft _____
PCU S/N _____	PCU S/N _____	PCU S/N _____	PCU S/N _____
Incorporation Date _____	Service Order No. _____		
(dd/mm/yy)			
Facility & Location of Incorporation _____			
Name _____	Signature _____	Date _____	



Bombardier Business Aircraft Customer Services (BBACS)

P.O. Box 6087, Station Centre-ville
Montréal, Québec, Canada H3C 3G9

Attention: Customer Support Department, Maintenance Engineering
