

SERVICE BULLETIN

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

ATA 32-43

LANDING GEAR

**MODIFICATION – BRAKE CONTROL SYSTEM – PART NO. CHANGE OF THE
BRAKE CONTROL UNIT TO GW415-7125-5**

1. PLANNING INFORMATION

A. Compliance

Recommended in less than 12 months from this Service Bulletin release date.

NOTE: When this Service Bulletin is done, the Airplane Flight Manual (AFM) Temporary Revisions (TRs) that follow will be applicable:

- Airplane Flight Manual, CSP 700-1, Temporary Revision BD 700/37-4.
- Airplane Flight Manual, CSP 700-1A, Temporary Revision BD 700/37-4.

B. Approval

The technical content of this 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 Service Bulletin is accepted by the Federal Aviation Administration (FAA) under the Canada/USA Bilateral Aviation Safety Agreement (BASA).
 2. The technical content of this Service Bulletin is accepted by the Joint Airworthiness Authority (JAA) and by the European Aviation Safety Agency (EASA) in accordance with established procedures.

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C. Effectivity

BD-700-1A10 aircraft, Serial No. **9002** to **9156**.

All other subsequent BD-700-1A10 aircraft are scheduled for the modification in production (Ref: Modification Summary, 700T02129 and 700T900097).

NOTE: The instructions given in this 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 Service Bulletin(s).

Before you do this bulletin, examine all Supplemental Type Certificates (STC), Supplemental Type Approvals (STA), or equivalent action changes to make sure that this bulletin can be completed.

D. Reason

In service, two aircraft experienced a Brake Control Unit (BCU) failure mode that resulted in the total loss of normal braking. On one aircraft, the Engine Indicating and Crew Alerting System (EICAS) advisory message BRAKE FAULT was posted instead of the expected NORM BRAKE FAIL warning message. Investigation and analysis determined that an intermittent and dormant failure can exist on a given BCU channel, which results in that channel being shut down without indication. This condition, when combined with a subsequent failure of the second channel, may result in total loss of normal braking with incorrect indication.

This Service Bulletin introduces a software upgrade of the BCU to correct the intermittent and dormant fault conditions that resulted in the total loss of normal braking and to ensure the proper indication in the failure mode.

The temporary revisions of the Airplane Flight Manuals (AFMs) listed below were released to advise the flight crew of a new procedure to verify the correct operation of each BCU channel before flight. When this Service Bulletin is done, the AFM Temporary Revisions (TRs) listed below are applicable:

- AFM, CSP 700-1, TR BD 700/37-4.
- AFM, CSP 700-1A, TR BD 700/37-4.

E. Description

This Service Bulletin gives instructions to:

- Get access to the main avionics compartment,
- Replace the BCU,
- Do the operational test of the brake system, and
- Install the access panel removed for access.

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

1.5 man-hours are necessary to do this modification.

Labor is at no cost if the work is done at Bombardier Business Aviation Services (BBAS) or Authorized Service Facilities. For Bombardier Aerospace to pay for the labor, this Service Bulletin must also be scheduled in less than 12 months from its release date.

G. Material - Cost and Availability

No kit or material is necessary to do this modification.

BCU, Part No. GW415-7125-5 is necessary to do this modification and is available at no cost if a no-charge purchase order is sent to Bombardier Aerospace in less than 12 months from this Service Bulletin release date.

Send the BCU, Part No. GW415-7125-3 (or -1), to the address shown below in exchange for a -5 BCU:

Attention: Global Express

Wichita DC: Challenger/Global

Learjet Inc.

7761 W. Kellogg, Dock 3

Wichita, Kansas 67209

U.S.A.

NOTES: 1. This Service Bulletin is covered by a dedicated campaign. To ensure a timely and effective return/upgrade program, advance scheduling is required through our Customer Support Project Office (CSPO). A Bombardier Aerospace representative will contact you soon to schedule your aircraft. If you have not been contacted within two months from the Service Bulletin release date and want to schedule your aircraft, please contact your RM, FSR or SAR.

2. On the no-charge purchase order, write: "For incorporation of SB 700-32-016".

During or after the above free period, Smart Parts Plus does not pay for the part.

NOTE: This Service Bulletin must be done for you to stay or enroll in the Smart Parts Plus Program.

H. Tooling - Price and Availability

No equipment or special tools are necessary.

I. Weight and Balance

No change

J. Electrical Load Data

No change

K. References

- Bombardier Aerospace, Modification Summary, 700T02129, Rev. A3
- Bombardier Aerospace, Modification Summary, 700T900097, Rev. A4
- Global Express BD-700 Aircraft Maintenance Manual (AMM), Chapters 6, 24, 32 and 52
- Global Express BD-700 Aircraft Illustrated Parts Catalog (IPC), Chapter 32
- Crane Co./Hydro-Aire, Inc, Landing Gear – Modification to Convert Brake Control Unit (BCU) P/N 42-965-1 to P/N 42-965-2, Service Bulletin No. 42-965-1-32-1 (not attached)

L. Other Publications Affected

- Global Express BD-700 Aircraft Illustrated Parts Catalog (IPC), Chapter 32
- AFM, CSP 700-1, TR 700/37-4
- AFM, CSP 700-1A, TR 700/37-4

M. Equivalent Service Bulletin

For the Global 5000 BD-700-1A11 aircraft, use SB 700-1A11-32-002.

2. ACCOMPLISHMENT INSTRUCTIONS

- NOTES: 1. All TASKs referenced in the procedures that follow are from the Global Express BD-700 AMM, unless otherwise specified.
2. All references made to zones, access panels and/or doors, are from the Global Express BD-700 AMM, Chapter 6.

A. Aircraft Setup

- (1) Set the circuit breakers that follow to OUT (on aircraft pre SB 700-24-045) or LOCKED (on aircraft, Serial No. 9123 and subsequent or aircraft post SB 700-24-045) (refer to TASK 24-00-00-863-801):

SYSTEM NAME	CIRCUIT BREAKER NAME	BUS NAME
LDG GEAR	BRAKE CTL CH A	DC 1
LDG GEAR	BRAKE CTL CH B	BATT

- (2) Remove the access panel 140BB to the main avionics compartment. Refer to TASK 52-45-11-000-801.

B. Modification

CAUTION: OBEY ALL ELECTROSTATIC DISCHARGE SAFETY PRECAUTIONS WHEN YOU DO MAINTENANCE ON ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) COMPONENTS. STATIC VOLTAGE CAN CAUSE DAMAGE TO ESDS COMPONENTS.

- (1) Obey all electrostatic discharge (ESD) safety precautions. Refer to TASK 24-00-00-910-802.
- (2) Remove the Brake Control Unit (BCU), Part No. GW415-7125-1 or -3. Refer to TASK 32-43-01-000-801.
- (3) Record the Serial No. of the removed unit and send the unit to the address shown below in exchange for a -5 BCU:

Attention: Global Express

Wichita DC: Challenger/Global

Learjet Inc.

7761 W. Kellogg, Dock 3

Wichita, Kansas 67209

U.S.A.

- (4) Install the BCU, Part No. GW415-7125-5. Refer to TASK 32-43-01-400-801.

C. Testing

- (1) Set the circuit breakers that follow to IN (refer to TASK 24-00-00-863-802):

SYSTEM NAME	CIRCUIT BREAKER NAME	BUS NAME
LDG GEAR	BRAKE CTL CH A	DC 1
LDG GEAR	BRAKE CTL CH B	BATT

- (2) Connect and energize the external ac power. Refer to TASK 24-41-00-861-801.
- (3) Do the operational test of the brake system. Refer to TASK 32-43-00-710-801.
- (4) Remove the external ac power. Refer to TASK 24-41-00-861-802.

D. Close-out

- (1) Remove all tools, equipment and unwanted materials from the aircraft.
- (2) Install the access panel 140BB to the main avionics compartment. Refer to TASK 52-45-11-400-801.

E. Recording

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

3. MATERIAL INFORMATION

A. Parts

The part that follows is necessary to do this Service Bulletin:

ITEM	PART NUMBER	QTY	INSTRUCTIONS/ DISPOSITIONS
Brake Control Unit	GW415-7125-5	1	Refer to Paragraph 1.G.

NOTE: The part number for the item listed above is subject to change without revision to this Service Bulletin. In case of discrepancy between this list and any other list, the IPC prevails and shall be used to determine the latest part number.

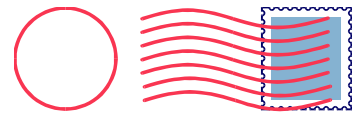
SERVICE BULLETIN EVALUATION FORM
(YOUR IDEAS WILL HELP US PROVIDE BETTER BULLETINS)

SERVICE BULLETIN <u>700-32-016</u>	ISSUE: <u>Basic</u>	DATED: <u>Feb 28/2005</u>
TITLE: Modification – Brake Control System – Part No. Change of the Brake Control Unit to GW415-7125-5		

	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"> • The kit(s) and/or the parts, (except consumable material), were accurately listed to accomplish this Service 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 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"/>

PLEASE SUPPLY US WITH THE FOLLOWING DATA AND FAX TO (514) 855-7894:	
OPERATOR:	_____
AIRCRAFT SERIAL NO.:	_____
TELEPHONE:	_____
FACSIMILE:	_____
NAME (Please print)	_____

**THANK YOU FOR ANSWERING THIS EVALUATION FORM!
UPON COMPLETION OF THIS EVALUATION FORM, PLEASE FOLD, AND RETURN**



Bombardier Business Aircraft Customer Support (BBACS)

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

Attention: Supervisor, Service Bulletin Group
Department 631

SERVICE BULLETIN INCORPORATION SHEET – “700-32-016”

Upon completion of the Service Bulletin, please fill-in, fold and return/or fax to (514) 855-8798 or email 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	Further Action Required	
			YES	NO
700-32-016	Basic	-	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>

* **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 _____
Date of Incorporation _____	Service Order No. _____
Facility & Location Incorporation Bulletin _____	
SIGNED: _____	DATE: _____



Bombardier Business Aircraft Customer Support (BBACS)

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

Attention: Maintenance Engineering
Department 051
