

BOMBARDIER

SERVICE BULLETIN SUMMARY

This Service Bulletin is available at:
my.businessaircraft.bombardier.com

MODEL BD-700-1A11 (BD-700)

ATA 32-43

LANDING GEAR

MODIFICATION – BRAKE CONTROL SYSTEM – INTRODUCTION OF RESTRICTOR ON THE CYLINDER PORT OF BRAKE SHUT-OFF VALVE (BSOV)

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

| RECOMMENDED | COMPLIANCE TIME | |
|---|--|---|
| RELIABILITY/DISPATCHABILITY/COST AVOIDANCE | Not Applicable | |
| EFFECTIVITY: A/C Serial No. 9127 to 9383, 9389 to 9400, 9404 to 9431 and 9998 | | |
| MANPOWER: 7 man-hours | | |
| CONTINUED AIRWORTHINESS (CAW) FLEET CAMPAIGN | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| TLMC, CH 5 AFFECTED | YES <input type="checkbox"/> | NO <input checked="" type="checkbox"/> |
| KITS and/or PARTS | YES <input checked="" type="checkbox"/> | NO <input 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 checked="" type="checkbox"/> | NO <input type="checkbox"/> |
| DEDICATED SCHEDULE | YES <input checked="" type="checkbox"/> | NO <input type="checkbox"/> |
| PREREQUISITE SERVICE BULLETINS: N/A | | |

To place an order for parts, please call Bombardier Aviation Parts Services at:

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

SERVICE BULLETIN

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MODEL BD-700-1A11 (BD-700)

ATA 32-43

LANDING GEAR

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| MODIFICATION – BRAKE CONTROL SYSTEM – INTRODUCTION OF RESTRICTOR ON THE CYLINDER PORT OF BRAKE SHUT-OFF VALVE (BSOV) |
|---|

1. PLANNING INFORMATION

- NOTES:
1. **Before you do this Service Bulletin, examine all STC, STA or equivalent action changes to make sure that this Service Bulletin can be completed.**
 2. This Service Bulletin is applicable only to the aircraft with Brake Shut-Off Valve (BSOV), Part No. GW415-6175-1 (Crane Part No. 38-797500, Safran Part No. 24450-101).
 3. This Service Bulletin is covered by a dedicated schedule. Dedicated schedules are used to reserve and manage inventory due to limited availability of rotatable stock, parts and/or kits. Parts are limited, therefore, advance part scheduling with our In-Service Implementation Team (ISIT) is recommended prior to a maintenance visit. They can be reached at bacs_isit@aero.bombardier.com. The parts will be allocated on a first come first serve basis.

Should you require additional information, please contact your Regional Sales Manager (RM) or Field Service Representative (FSR).

For more information on dedicated schedules, refer to SB 700-1A11-00-002.

A. Effectivity

BD-700-1A11 aircraft, Serial No. **9127 to 9383, 9389 to 9400, 9404 to 9431 and 9998.**

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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All other subsequent BD-700-1A11 aircraft are scheduled for the modification in production (Ref.: Modification Summary 700T901683).

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 Aviation Service Bulletin(s).

B. Reason

1. Condition:

There have been reports of degrading effects on the Brake Control Valve's (BCV) as well as brake system hydraulic fittings that contribute to system failure conditions leading to BRAKE 50% DEGRADED caution messages. These failures are understood to be the result of high pressure transients during Brake Shut-Off Valve (BSOV) opening.

2. Objective/Benefit:

This Service Bulletin introduces a restrictor fitting (Crane Part No. 138-22101) on the CYL port of the BSOV to reduce the inrush flow into the brake control system on BSOV opening. This will reduce the resultant peak pressure transient of the reflected pressure rise at the BCV inlet to within allowable limits.

C. Description

This Service Bulletin gives instructions to:

- Gain access to BSOV,
- Do the modification of BSOV as given in the Crane Aerospace & Electronics, Hydro-Aire Aerospace Corp., Service Bulletin No. 38-797500-32-02, and
- Do the necessary AMM tests to make sure that the BSOV was modified correctly and the brake control system operates as intended.

D. Compliance

Recommended – Reliability/Dispatchability/Cost Avoidance

- NOTES:**
1. Bombardier Aviation recommends that this Service Bulletin be done at the operator's earliest convenience, unless otherwise directed by the airworthiness authority of the operator.
 2. If it is not possible to complete all the instructions in this Service Bulletin because of the aircraft configuration, submit an SRPSA for analysis and to get an approved disposition to complete this Service Bulletin. Standard SRPSA fees may apply. Refer to the Services section of the Bombardier customer portal for the latest prices, rates and fees.

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E. 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 FAA under the Canada/USA bilateral Aviation Safety Agreement.
 2. The technical content of this Service Bulletin is accepted by EASA under the Canada/EU bilateral Aviation Safety Agreement.

F. Manpower

NOTE: The man-hours given are to help you schedule the tasks given in this Service Bulletin. The man-hours 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, refer to SB 700-1A11-00-002.

7 man-hours are necessary to do this modification.

Bombardier Aviation does not pay for the labor to do this Service Bulletin.

G. Material – Cost and Availability

No BA kit is necessary to do this modification. For material data refer to Paragraph 3.C.

The part listed in Paragraph 3.B is necessary to do this Service Bulletin.

Bombardier Aviation does not pay for the part to do this Service Bulletin.

This Service Bulletin is covered by a dedicated schedule. Dedicated schedules are used to reserve and manage inventory due to limited availability of rotatable stock, parts and/or kits. Parts are limited, therefore, advance part scheduling with our In-Service Implementation Team (ISIT) is recommended prior to a maintenance visit. They can be reached at bacs_isit@aero.bombardier.com. The parts will be allocated on a first come first serve basis.

Should you require additional information, please contact your Regional Sales Manager (RM) or Field Service Representative (FSR).

For more information on dedicated schedules, refer to SB 700-1A11-00-002.

For those aircraft out of new aircraft warranty at the time of Service Bulletin distribution, Smart Parts pays for the part for up to 30 months from the Service Bulletin distribution date (Basic Issue).

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H. Tooling

The equipment and tools listed below are necessary to do this modification:

| GSE REFERENCE NO. | PART NO. | DESCRIPTION |
|------------------------|----------|---|
| Commercially Available | – | Container, Hydraulic Fluid, 0.5 gal US (1.89 L) |
| Commercially Available | – | Wrench, Torque 5 to 190 lbf in (0.5 to 21.5 Nm) |

- NOTES:**
1. Refer to the Global 5000 Illustrated Tool and Equipment Manual (ITEM) to make sure that you use the correct equipment configuration.
 2. Refer to the Liability Statement in the ITEM for the G5000, for acceptable GSE equivalents.
 3. This list is provided for quick reference. In case of discrepancy between this list and the tools called in the SPM, WM, Chapter 20, then the tools called in the SPM, WM prevail. Other approved alternative tools are acceptable and can also be used.

I. Weight and Balance

Negligible.

J. Electrical Load Data

No change.

K. References

- Bombardier Aviation, Modification Summary, 700T901683, Rev. A.
- Bombardier Aviation, Standard Practices Manual (SPM), Chapters 20 and 51.
- Crane Aerospace & Electronics, Hydro-Aire Aerospace Corp., Service Bulletin No. 38-797500-32-02, Initial Issue, dated 6 December 2022 (attached).
- Global 5000 BD-700 Aircraft Maintenance Manual (AMM), Chapters 6, 24, 29, 32 and 53.

L. Other Publications Affected

- Global 5000 BD-700 Aircraft Illustrated Parts Catalog (AIPC), Chapter 32.

M. Equivalent Service Bulletins

- For the Global Express and Global Express XRS BD-700-1A10 aircraft, use SB 700-32-046.
- For the Global 5000 BD-700-1A11 Featuring Global Vision Flight Deck aircraft, use SB 700-32-5023.

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- For the Global 6000 BD-700-1A10 aircraft, use SB 700-32-6023.
- For the Global 5000 BD-700-1A11 aircraft, use SB 700-32-5509.
- For the Global 6500 BD-700-1A10 aircraft, use SB 700-32-6509.

2. ACCOMPLISHMENT INSTRUCTIONS

- NOTES:**
1. All TASKs given in the procedures that follow are from the Global 5000 BD-700-1A11 Aircraft Maintenance Manual (AMM) unless otherwise specified.
 2. All references made to zones, access panels and/or doors, are from the Global 5000 BD-700-1A11 Aircraft Maintenance Manual (AMM), Chapter 6.

A. Aircraft Setup

- (1) Obey all electrical/electronic safety precautions. Refer to AMM 24-00-00-910-801.
- (2) Obey all hydraulic safety precautions. Refer to AMM 29-00-00-910-801.
- (3) Obey all hydraulic technical precautions. Refer to AMM 29-00-00-910-802.
- (4) In the flight compartment, on the EMS CDU, set the circuit breakers that follow to LOCKED. Refer to AMM 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 |

- (5) For the BSOV on No. 3 hydraulic system (Inboard brakes), remove the left belly fairing access panel (185BL). Refer to AMM 53-61-19-000-801.
- (6) For the BSOV on No. 2 hydraulic system (Outboard brakes), remove the right belly fairing access panel (186BR). Refer to AMM 53-61-19-000-801.

B. Modification

NOTE: If it is not possible to complete all the instructions in this Service Bulletin because of the configuration of the aircraft, submit an SRPSA for analysis and to get an approved disposition to complete this Service Bulletin. Standard SRPSA fees may apply. Refer to the Services section of the Bombardier customer portal for the latest prices, rates and fees.

- (1) Identify the CYL port on the each installed BSOV.
- (2) Remove support clamp closest to the CYL port on associated hydraulic line.
- (3) Put the hydraulic fluid container below work area.

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CAUTION: USE TWO WRENCHES WHEN YOU REMOVE / TORQUE THE HOSES / TUBES. USE ONE WRENCH TO HOLD THE FITTING, AND THE OTHER WRENCH TO LOOSEN / TORQUE THE COUPLING NUT. IF YOU DO NOT DO THIS, YOU CAN CAUSE DAMAGE TO THE COMPONENTS.

NOTE: Fully clean torque seal from the CYL port fitting to avoid contamination of port.

- (4) Disconnect the hydraulic tube from the CYL port of BSOVs and be careful to capture leaking hydraulic fluid into the container.
- (5) Do the on-wing modification of BSOVs, Part No. GW415-6175-1 (Crane Part No. 38-797500, Safran Part No. 24450-101) as given in the Section 3. B of Crane Aerospace & Electronics, Hydro -Aire Aerospace Corp., Service Bulletin No. 38-797500-32-02.

CAUTION: TAKE EXTREME CARE NOT TO PRY OR PULL ON HYDRAULIC LINE WHICH MAY CAUSE IT TO DEFORM, BEND OR DAMAGE.

CAUTION: TAKE NOTE OF ANY STRUCTURAL COMPONENTS OR LIGHTNING HOLES WHERE THE BSOVs CYL PORT HYDRAULIC LINE MAY COME INTO CONTACT WITH UPON MOVING IT TO CLEAR THE FITTING; ESPECIALLY ON THE LH SIDE BSOV. TAKING ALL PRECAUTIONS TO PROTECT THE HYDRAULIC LINE.

- (6) Re-connect the hydraulic line to the CYL port of the BSOVs and torque the line fitting from 21.42 to 23.66 lbf ft (29.04 to 32.08 Nm) using best shop practices. Apply torque seal. Refer to SPM-MM 20-22-00-910-801.
- (7) Remove the hydraulic container and discard the unwanted hydraulic fluid correctly.
- (8) Re-install the previously removed support clamps on the BSOVs CYL port hydraulic line. Refer to SPM-MM 20-21-00-910-801.
- (9) Re-identify the BSOV after modification as Part No. GW415-6175-3 (Crane Part No. 138-221, Safran Part No. 24450-103), as given in Section 3. D of the Crane Aerospace & Electronics, Hydro-Aire Aerospace Corp., Service Bulletin No. 38-797500-32-02.

NOTE: Use a mirror to verify correct application of the edge sealant on the complete contour of the new identification plate, using best shop practices.

C. Testing

- (1) In the flight compartment, on the EMS CDU, set the circuit breakers that follow to IN. Refer to AMM 24-00-00-863-802.

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

- (2) For the inboard brake system, bleed the inboard brakes. Refer to AMM 32-43-00-870-801.
- (3) For the outboard brake system, bleed the outboard brakes. Refer to AMM 32-43-00-870-802.
- (4) Do the operational test of the brake system. Refer to AMM 32-43-00-710-801.
- (5) Power ON the No. 2 and No. 3 Hydraulic Systems.
- (6) Maintain No. 2 and No. 3 Hydraulic Systems pressurized.
- (7) Make sure both the hydraulic systems are at 3000 psi.
- (8) Make sure that BSOVs are open.
- (9) Wait for five (5) minutes.
- (10) Inspect BSOVs for any external leakage, paying special attention to the interface between newly installed restrictor fitting (138-22101) and BSOV body.
- (11) For the inboard brake system, bleed the No. 3 system of all air and make sure there are no leaks. Refer to AMM 29-10-00-870-802.
NOTE: It is not necessary to jack the aircraft and cycle the landing gear
- (12) For the outboard brake system, bleed the No. 2 system of all air and make sure there are no leaks. Refer to AMM 29-10-00-870-801.

D. Close-out

- (1) For the BSOV on No. 3 hydraulic system (Inboard brakes), install the left belly fairing access panel (185BL). Refer to AMM 53-61-19-400-801.
- (2) For the BSOV on No. 2 hydraulic system (Outboard brakes), install the right belly fairing access panel (186BR). Refer to AMM 53-61-19-400-801.
- (3) Remove all tools, equipment and unwanted materials from the aircraft.

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 Services (BBACS).

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For information, correction(s), comment(s) and/or feedback regarding Service Bulletins released on the Customer Portal, please contact the Service Bulletin Group at the following email address:

bbad_SBgroup@aero.bombardier.com

3. MATERIAL INFORMATION

A. Kit

No BA kit required.

B. Parts

The part that follows is necessary to do this Service Bulletin and is available from Bombardier Aviation Parts Services, Montreal:

| NEW PART NO. | QTY | ITEM | USED PART NO. | INSTRUCTIONS - DISPOSITION |
|--------------|-------------------|------------|---------------|----------------------------|
| 138-221-901 | 2 (See Note 1) | Kit, Crane | - | - |

- NOTES:**
- One kit is required per BSOV replacement. Refer to Crane Aerospace & Electronics, Hydro-Aire Aerospace Corp., Service Bulletin No. 38-797500-32-02 for modification components.
 - The part numbers for the items listed above are subject to change without revision to this Service Bulletin. In case of discrepancy between this list and any other list, the Illustrated Parts Catalog prevails and shall be used to determine the latest part number.

C. Material

The material that follows, or equivalent, may be necessary to do this Service Bulletin. It can be purchased from a local supplier. Bombardier Aviation does not pay for this consumable.

| DESCRIPTION | PART NO./NAME | SPECIFICATION | QUANTITY | SUPPLIER (SEE NOTE) |
|------------------|----------------------|---------------|--------------|---------------------|
| Adhesive-Sealant | S30-007 (RTV 106) | - | As Necessary | Code: A |

- NOTES:**
- Refer to the table that follows for each suppliers address listed by codes.
 - At time of release of this 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.

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| SUPPLIER ADDRESS BY CODE |
|--|
| <p>Code: A</p> <p>Hydro-Aire Inc 3000 Winona Ave, Burbank, CA 91504 USA</p> |

D. Publications

No publications required.

BOMBARDIER

SERVICE BULLETIN EVALUATION FORM

(Your ideas will help us provide better bulletins)

SERVICE BULLETIN: 700-1A11-32-033 **ISSUE:** Basic **DATED:** Apr 20/2023

TITLE: MODIFICATION – BRAKE CONTROL SYSTEM – INTRODUCTION OF
RESTRICTOR ON THE CYLINDER PORT OF BRAKE SHUT-OFF VALVE
(BSOV)

For any information, correction(s), comment(s) and/or feedback regarding Service Bulletins released on the Customer Portal, please contact the Service Bulletin Group at the following email address:

bbad_SBgroup@aero.bombardier.com

NOTE: Please use Salesforce **only** for troubleshooting issues or when Engineering deviation is necessary to accomplish the Service Bulletin modification.

BOMBARDIER

SERVICE BULLETIN INCORPORATION SHEET – "700-1A11-32-033"

| | |
|----------------------------------|--|
| BOMBARDIER SUBMISSION | <p>Upon completion of the Service Bulletin, please fill-in, fax to (514) 855-8798 or e-mail to Fracas at fracas.montreal@aero.bombardier.com</p> <p>If you're reporting Service Bulletin (SB) Incorporations to CAMP, sending this Incorporation Sheet to Bombardier is not mandatory. If your aircraft is on another tracking system, please contact Bombardier to make arrangements for automated data submission.</p> |
|----------------------------------|--|

| Service Bulletin Number | Rev. | * Parts Completed | COMPLIED WITH | | | Remarks/Reason (Mandatory if N/A) |
|-------------------------|-------|-------------------|--------------------------|--------------------------|--------------------------|--------------------------------------|
| | | | YES | NO | N/A | |
| 700-1A11-32-033 | 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"/> | _____ |
| _____ | _____ | _____ | <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.
 4. Fill in 'Remark/Reason' to explain compliance method when N/A is selected. (E.g. Part not installed, N/A by effectivity, N/A by Part Serial Number, etc.)
 5. PCW means 'Previously Complied With'.

| | |
|---|--|
| Aircraft Serial No. _____ | Aircraft Reg. No. _____ |
| Airframe Hours: _____ | Airframe Landings _____ |
| S.B. Incorporation Date _____ (dd/mm/yy) | Service Order No. _____ |
| Facility incorporating S.B. _____ | |
| Name _____ | Signature _____ Date _____ (dd/mm/yy) |
| Signature not required if sent by E-Mail | |