SERVICE BULLETIN SUMMARY

This Service Bulletin is available at:
www.cic.bombardier.com

MODEL BD-100-1A10 (CL-300)

ATA 28-41

FUEL

**SPECIAL CHECK/MODIFICATION –
FUEL MANAGEMENT AND QUANTITY GAUGING SYSTEM (FMQGS) –
FUEL WING TANKS HIGH LEVEL SENSOR CONNECTOR**

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

EFFECTIVITY	A/C Serial No. **20001** to **20094**			
COMPLIANCE	Alert	☐		
	Recommended	☒		
	Optional	☐		
MANPOWER	2 man-hours are required for the Special Check. An additional 1 man-hour may be required to replace each connectors (total of 2). 1 man-hour is required for the testing. NOTE: The fuel venting time is not included in the labor estimates and should be considered for planning purposes before you schedule this Service Bulletin.			
KITS and/or PARTS	**YES**	☒	**NO**	☐
TOOLING	**YES**	☐	**NO**	☒
GSE	**YES**	☒	**NO**	☐
REQUIRED FOR SMART PARTS	**YES**	☐	**NO**	☒
PREREQUISITE BULLETINS	It is suggested to perform this Service Bulletin at the same time as Service Bulletin 100-28-06 to minimize downtime and cost.			

To place an order for material or kits, please call Bombardier Spare Parts Sales at:
1-888-222-1428 (in North America)
1-316-946-2377 (outside North America)

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**SPECIAL CHECK/MODIFICATION –
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1. PLANNING INFORMATION

A. Effectivity

BD-100-1A10 aircraft, Serial No. **20001** to **20094**.

All other subsequent BD-100-1A10 aircraft are scheduled for the modification in production (Ref.: Modification Summary, 100T501115).

NOTES: 1. It is suggested to perform this Service Bulletin at the same time as SB 100-28-06 to minimize downtime and cost.

2. 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 STC, STA or equivalent action changes to make sure that this bulletin can be completed.

B. Reason

Inspection of the Challenger CL-604 fuel tanks, reported that some of the level sensor connector grommet seals exposed to extended fuel environment condition, were found with deformation/damage. Although the Challenger 300 has the same installation, no Challenger 300 operators have reported damage on the level sensor connectors, grommet seal.

This Service Bulletin gives instruction to inspect and replace if applicable, the high-level sensor connectors in the left and right wing fuel tank.

C. Description

This Service Bulletin gives instructions to:

- De-fuel the applicable fuel tanks,
- Get access to the left and right wing tank high-level sensor connectors.
- Inspect the high level sensor connectors,
- Replace the applicable high level sensor connectors,
- Refuel the applicable fuel tanks, and
- Do the necessary tests to make sure the system operate correctly.

D. Compliance

Recommended at the next access opportunity or next 96 months, general visual inspection of the left and right internal section of the wing including all of the installed components, attachments and fittings from WS35.596 to WS342.698. (Time Limits/Maintenance checks – TLMC - Chapter 5, Task No. 57-ZL-00-308) whichever comes first.

NOTE: This Service Bulletin is in reference to Advisory Wire AW300-28-0035, Revision 2.

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 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.

2. This 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 Service Bulletin.

2 man-hours are necessary to do the Special Check of this Service Bulletin.

1 man-hour is necessary for the testing.

An additional 1 man-hour may be necessary to replace each of the high-level sensor connector (total of 2).

The labor required to do this Service Bulletin is at no cost if:

(i) The work is done while the aircraft is in new aircraft warranty, and

(ii) The work is done at Bombardier Business Aviation Services (BBAS) or Authorized Service Facilities (ASF), and

(iii) This Service Bulletin is scheduled in less than 12 months from its release date.

G. Material - Cost and Availability

No kit is necessary to do this Service Bulletin. The parts listed in Paragraph 3.A. may be required to do this Service Bulletin.

The parts required to do this Service Bulletin are available at no cost if:

(i) ordered during new aircraft warranty period, and

(ii) a no-charge purchase order is sent to Bombardier Aerospace in less than 12 months from this Service Bulletin release date.

NOTE: Bombardier Aerospace does not pay for fuel to do this Service Bulletin.

For those aircraft in new aircraft warranty at the time of Service Bulletin distribution Smart Parts Plus does not pay for the parts at any time.

For those aircraft out of new aircraft warranty at the time of Service Bulletin distribution Smart Parts Plus pays for the parts for up to one year from Service Bulletin distribution date.

H. Tooling

GSE REFERENCE NO.	PART NO.	DESCRIPTION
24-00-24	S4933959-501	Tag, Circuit Breaker
28-00-04	-	Breathing Apparatus Kit
28C-13-01	-	Kit, Fuel Tank Venting
Commercially Available	-	Explosimeter
Commercially Available	-	Micro-ohm Meter, Kiethly Model 580, or Equivalent

NOTE: For Ground Support Equipment, refer to the Bombardier Challenger 300 GSE on the website at cic.bombardier.com.

I. Weight and Balance

No change.

J. Electrical Load Data

No change.

K. References

- Bombardier Aerospace, Restriction and/or Special Instruction (RSI), C-100-000-28-0087, Rev. B
- BD-100 Aircraft Maintenance Manual (AMM), Chapters 6, 12, 20, 24 and 28
- BD-100 Aircraft Illustrated Parts Catalog (AIPC), Chapter 28
- BD-100 Wiring Manual (WM), Chapter 28
- BD-100 Structural Repair Manual (SRM), Chapter 51, and
- BD-100 Time Limits/Maintenance Checks (TLMC), Chapter 5.

L. Other Publications Affected

- BD-100 Aircraft Illustrated Parts Catalog (AIPC), Chapter 51.

M. Equivalent Service Bulletin

None.

2. ACCOMPLISHMENT INSTRUCTIONS

NOTES: 1. All TASKs referenced in the procedures that follow are from the BD-100 Aircraft Maintenance Manual, unless otherwise specified.

2. All references made to zones, access panels and/or doors, are from the BD-100 Aircraft Maintenance Manual, Chapter 6.

A. Aircraft Setup

(1) Obey all of the electrical/electronic safety precautions. Refer to TASK 24-00-00-910-801.

(2) Obey all of the electrostatic-discharge safety precautions. Refer to TASK 24-00-00-910-802.

(3) Obey all of the fuel-system safety precautions. Refer to TASK 28-00-00-910-801.

(4) Suction de-fuel the applicable fuel tank. Refer to TASK 12-11-09-650-801.

(5) Disconnect the two primary aircraft batteries. Refer to TASK 24-32-00-040-801.

(6) Open and tag the circuit breakers that follow:

LOCATION	CB NO.	NAME	ZONE
LSPC	C3	FUEL QTY 1	221
RSPC	C3	FUEL QTY 2	222
RDCPC	C4	REFUEL DEFUEL CTRL	312
RDCPC	C5	REFUEL DEFUEL VALVES	312

(7) Put a DO NOT CONNECT - FUEL TANK MAINTENANCE placard on the dc external power receptacle.

(8) Put DO NOT CONNECT - FUEL TANK MAINTENANCE placards on the aircraft batteries.

(9) Prepare the fuel tank for access. Refer to TASK 28-10-00-840-801.

(10) Remove the left and right wing access panel that follows to get to the high- level sensor connectors. Refer to TASK 28-11-01-000-801.

ACCESS	DESIGNATION
531LB	Wing-Tank Access Panel
631LB	Wing-Tank Access Panel

(11) Remove the forward maintenance access-panel 181BL. Refer to TASK 53-63-17-000-801.

B. Special Check/Modification – Fuel Tank High Level Sensor Connectors

(1) Disconnect the connectors from the fuel tank high-level sensor and inspect the rear grommet seal. Refer to the table that follows:

LEVEL SENSOR	DESIGNATION	REFERENCE
MT15 (Connector MT15P1)	Left Wing High Level Sensor (WSTN 225 LHS)	AIPC, Chapter 28-41-17, Figure 1
MT16 (Connector MT16P1)	Right Wing High Level Sensor (WSTN 225 RHS)	AIPC, Chapter 28-41-17, Figure 1

(a) If the connector rear grommet seal is protected with fuel sealant putty there is no need to replace the connector. Proceed to step (3).

(b) If the connector rear grommet seal is not protected with sealant, use one of the solutions that follow and replace the applicable connector:

	PREFERABLE	ALTERNATIVE
SOLUTION	Replace with this new type of connector	Replace with same type of connector then apply fuel sealant on the rear grommet seal, per BAPS 157-027. Refer to SRM, Chapter 51-23-04.
	Connector Part No: 85334AS0803SN22	Connector Part No: M83723/95A803N

(c) For the high level sensor connector plug-in chart, refer to the table that follows:

WIRE	FROM	TO	REFERENCE
BAC3703W-24	J427 (Pin 31)	MT15P1 (Pin 1)	Wiring Manual, Chapter 28-41-13, Page 1, Sheet 1 (LHS)
BAC3703B-24	J427 (Pin 32)	MT15P1 (Pin 2)	
BAC3703O-24	J427 (Pin 33)	MT15P1 (Pin 3)	
BBD3702W-24	J426 (Pin 31)	MT16P1 (Pin 1)	Wiring Manual, Chapter 28-41-15, Page 1, Sheet 1 (RHS)
BBD3702B-24	J426 (Pin 32)	MT16P1 (Pin 2)	
BBD3702O-24	J426 (Pin 33)	MT16P1 (Pin 3)	

(2) Do the continuity checks on all wiring disturbed by this Service Bulletin.

(3) Connect the electrical connector MT15P1 and/or MT16P1 to the receptacle on the high level sensor MT15 and/or MT16.

(4) Close the fuel tank. Refer to TASK 28-10-00-840-803.

(5) Install the left and right wing access panel that follows: Refer to TASK 28-11-01-400-801 and TASK 20-21-00-910-801.

ACCESS	DESIGNATION	TORQUE
531LB	Wing-Tank Access Panel	Torque the screws from 18 to 21 lbf in (2.03 to 2.37 Nm). While you torque the screws, keep a constant distance between the cover and the access port. The constant distance is 0.03 to 0.07 in (0.76 to 1.77 mm)
631LB	Wing-Tank Access Panel	

C. Testing

(1) Connect the two primary aircraft batteries. Refer to TASK 24-32-00-440-801.

(2) Remove the DO NOT CONNECT - FUEL TANK MAINTENANCE placard from the dc external power receptacle.

(3) Remove the DO NOT CONNECT - FUEL TANK MAINTENANCE placards from the aircraft batteries.

(4) Remove the tags and close the circuit breakers that follow:

LOCATION	CB NO.	NAME	ZONE
LSPC	C3	FUEL QTY 1	221
RSPC	C3	FUEL QTY 2	222
RDCPC	C4	REFUEL DEFUEL CTRL	312
RDCPC	C5	REFUEL DEFUEL VALVES	312

(5) Do the high-level sensors Status Check that follows:

(a) On the reversion select panel, do the procedure that follows:

NO.	STEP	EXPECTED RESULT
1	Make sure that all the knobs are in the NORM position.	The PFDs and MFDs show their usual displays.

(b) On the Cursor Control Panel (CCP), do the procedures that follow:

NO.	STEP	EXPECTED RESULT
1	Set the L/R switch to the R position.	On the MFDs, the MFD CONTROL arrow points to the right.
2	Push the A/ICE, ECS and FUEL buttons at the same time.	On the copilot MFD, the MAINTENANCE MAIN MENU page is shown.
3	On the MAINTENANCE MAIN MENU page, Select CURRENT FAULTS.	On the MFD, the CURRENT FAULTS page is shown, and no fault is related to: “L and R TNK HI LVL”

(6) Do the operational test of the high level sensor as follows:

(a) On the refuel/defuel control panel, lift the POWER switch guard.

(b) On the refuel/defuel control panel, do the part of the operational test of the high level sensor that follows:

NO.	STEP	EXPECTED RESULT
1	Toggle the POWER switch to on.	- The ON light comes ON. - The two SOV CL lights come on.
2	Wait approximately 10 seconds for the Fuel Panel Self Test to terminate, then push and hold the LAMP TEST button.	All of the indication lights come on.
3	Release the LAMP TEST button.	All of the indication lights return to their previous condition.

(c) Connect the fuel truck to the refuel/defuel adapter.

(d) Apply fuel pressure from 30 to 55 psig (206.85 to 379.21 kPag) at the refuel/defuel adapter.

(e) On the refuel/defuel control panel, do the part of the operational test of the high level sensor that follows:

NO.	STEP	EXPECTED RESULT
1	Turn the fuel selector knob to TEST.	- The two SOV CL lights go off. - The two SOV OP lights come on. - The two H LEVEL DETECTOR lights come on. - The two SOV OP lights go off. - The two SOV CL lights come on. - After five seconds, the two H LEVEL DETECTOR lights go off. - After the same five seconds, the two SOV CL lights stay on.
2	Turn the fuel selector knob to OFF.	The two SOV CL lights stay on.
3	Toggle the POWER switch to off.	The POWER light and all of the other lights go off.

D. Close-out

(1) Remove all tools, equipment and unwanted materials from the aircraft.

(2) Install the forward maintenance access-panel 181BL. Refer to the steps that follow and to TASK 53-63-17-000-801:

(a) Torque the forward maintenance access-panel 181BL as follow:

ACCESS	DESIGNATION	TORQUE
181BL	Forward Maintenance Access-Panel	Torque the bolts Part No. NAS7303U5 and NAS7303U9 from 20 to 25 lbf in (2.26 to 2.82 Nm). Torque the stud nut Part No. B0209021-2S to 15 lbf in (1.13 Nm) +/- Torque Wrench Tolerance.

(b) Do the electrical bonding test of the forward maintenance access-panel 181BL as follow:

ACCESS	DESIGNATION	MAXIMUM RESISTANCE VALUE (MILLIOHMS)
181BL	Forward Maintenance Access-Panel	80 milliohms, before panel installation. Measured at the locations that follow: - Put one probe on the bond check fastener. Put the other probe on the copper mesh in the aft/outboard fastener hole on the LH side. - Put one probe on the copper mesh in the aft/outboard fastener hole on the LH side. Put the other probe on the copper mesh in the forward/outboard fastener hole on the RH side.
		100 milliohms after panel installation. Measured from the bond check fastener to the aircraft structure

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 parts that follow may be necessary to do this Service Bulletin for the **preferable** connector replacement solution and can be purchased from Bombardier, Spare Parts Center, Montréal:

PART NUMBER	QUANTITY	ITEM
85334AS0803SN22	0 to 2	Connector

or

The parts that follow may be necessary to do this Service Bulletin for the **alternative** connector replacement solution and can be purchased from Bombardier, Spare Parts Center, Montréal:

PART NUMBER	QUANTITY	ITEM
M83723/95A803N	0 to 2	Connector

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 Illustrated Parts Catalog prevails and shall be used to determine the latest part number.

B. Material

The consumable materials that follow, or equivalent, are necessary to do this Service Bulletin. These can be purchased from a local supplier:

DESCRIPTION	PART No./NAME	SPECIFICATION	QUANTITY	SUPPLIER (See Note)
Petrolatum	VV-P-236	-	As Necessary	Code: A
Solvent, Dry Cleaner and Degreaser	Greaseater	P-D-680 (Type I) or MIL-PRF-680 (Type I)	As Necessary	Code: B
Methyl Ethyl Ketone	-	ASTM D740, Type I or BS1940	As Necessary	Code: D
Fuel Tank Sealant CT: 24 Hours	PR1776M B2	BAMS 552-002	As Necessary	Code: C
Sealant, Environmental, CT: 30 Hours (B-1/2) 48 Hours (B-2) 72 Hours (B-4)	P/S 870, Class B, B-1/2, B-2 or B-4	MIL-PRF-81733, Type II	As Necessary	Code: C

NOTES:
1. Bombardier Aerospace does not pay for the consumable materials listed above.
2. Refer to the table on the next page for each supplier's address listed by codes.
3. The Curing Time (CT), if applicable, for each consumable material is indicated with the description of each product.
4. 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.

SUPPLIERS ADDRESSES BY CODES	
Code: A Chemsol, Inc. 36977 Fox Glen, Farmington Hills, MI 48331 USA Tel.: 1- 800.663.4057 Fax: 248.661.3941 www.chemsol.com	**Code: B** K-Chem, Inc. P.O. Box 530632 Birmingham, Alabama 35253-0632 USA Tel.: 205-592-0844 or 888-515-2436 Fax: 205-592-8106 www.k-chem.com
Code: C PRC-Desoto International 5430 San Fernando Road PO Box 1800 Glendale, CA 91209 USA Tel: (818) 240-2060 Fax: (818) 549-7790 www.ppg.com/prc-desoto/	**Code: C** Commercially Available

BOMBARDIER CHALLENGER 300

BOMBARDIER BUSINESS AIRCRAFT CUSTOMER SUPPORT

SERVICE BULLETIN EVALUATION FORM

(Your ideas will help us provide better bulletins)

SERVICE BULLETIN	100-28-07	ISSUE:	Basic	DATED:	Sep 25/2006

TITLE: Special Check/Modification – Fuel Management and Quantity Gauging System (FMQGS) – Fuel Wing Tanks High Level Sensor Connector

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
• **Instructions to do the Service Bulletin were accurate.** Comments:	❑	❑	❑	❑	❑
• **Illustration(s), figure(s), and/or kit drawing(s) were helpful to carry out instructions.** Comments:	❑	❑	❑	❑	❑
• **If a kit was required, did the kit contents received agree with the contents listed in the bulletin?** Comments:	❑	❑	❑	❑	❑
• **The loose parts listed under Paragraph 3 were easily procured.** Comments:	❑	❑	❑	❑	❑
• **Work was accomplished in the prescribed time.** Comments	❑	❑	❑	❑	❑
• **Overall, I was satisfied with this Service Bulletin.** Comments:	❑	❑	❑	❑	❑

For administrative use only	**PLEASE SUPPLY US WITH THE FOLLOWING DATA AND FAX TO: (514) 855-2535**	
0631TPPM6923	**OPERATOR:**	
	AIRCRAFT SERIAL NO.:	
	TELEPHONE:	
	FACSIMILE:	
	NAME: (Please print)	

THANK YOU FOR YOUR RESPONSE!

PLEASE RETURN THIS COMPLETED EVALUATION FORM BY MAIL OR FAX

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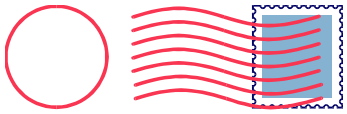

Bombardier Business Aircraft Customer Support (BBACS)

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

Attention: Supervisor, Service Bulletin Group
Department 631

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SERVICE BULLETIN INCORPORATION SHEET – "100-28-07"

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	Further Action Required YES	Further Action Required NO
100-28-07	Basic	-	☐	☐
-	-	-	☐	☐
-	-	-	☐	☐

Actual hours to accomplish Service Bulletin:

Access: _____ Modification: _____ Tests: _____ Restore: _____

* 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**
	☐	☐

Aircraft Serial No. _____ Aircraft Reg. No. _____

Airframe Landings _____ Airframe Hours _____

Date of Incorporation _____ Service Order No. _____

Facility & Location Incorporation Bulletin _____

SIGNED: _____ DATE: _____

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Bombardier Business Aircraft Customer Support (BBACS)

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

Attention: Maintenance Engineering
Department 051

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