

SERVICE BULLETIN SUMMARY

This Service Bulletin is available at:

www.cic.bombardier.com

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

ATA 28-41

FUEL

MODIFICATION – FUEL MANAGEMENT AND QUANTITY GAUGING SYSTEM (FMQGS) – REPLACEMENT AND RELOCATION OF FUEL QUANTITY PROBES NO. 5, AND REPLACEMENT OF FUEL QUANTITY PROBES NO. 8 WITH COMPENSATOR TO CORRECT GAUGING SYSTEM FAULTS

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

EFFECTIVITY	A/C Serial No. 20003 to 20087		
COMPLIANCE	Alert		<input type="checkbox"/>
	Recommended		<input checked="" type="checkbox"/>
	Optional		<input type="checkbox"/>
MANPOWER	33 man-hours		
KITS and/or PARTS	YES <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
TOOLING	YES <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
GSE	YES <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
REQUIRED FOR SMART PARTS	YES <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
PREREQUISITE BULLETINS	It is suggested to perform this Service Bulletin at the same time as Service Bulletin 100-28-07 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)

SERVICE BULLETIN

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

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

ATA 28-41

FUEL

MODIFICATION – FUEL MANAGEMENT AND QUANTITY GAUGING SYSTEM (FMQGS) – REPLACEMENT AND RELOCATION OF FUEL QUANTITY PROBES NO. 5, AND REPLACEMENT OF FUEL QUANTITY PROBES NO. 8 WITH COMPENSATOR TO CORRECT GAUGING SYSTEM FAULTS

1. PLANNING INFORMATION

A. Effectivity

BD-100-1A10 aircraft, Serial No. **20003** to **20087**.

All other subsequent BD-100-1A10 aircraft are scheduled for the modification in production (Ref.: Modification Summary, 100T010278).

- NOTES:**
1. It is suggested to perform this Service Bulletin at the same time as SB 100-28-07 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

This Service Bulletin describes the procedure to replace and relocate the fuel quantity probes No. 5, and to replace the fuel quantity probes No. 8 with compensator.

There have been several occurrences where the FMQGS caused erroneous fuel quantity indications and nuisance messages to appear on the engine indication and crew alerting system (EICAS). Typically, these occurrences took place during aircraft descent at low fuel quantities (total of 2 000 to 3 500 lbs, or 907 to 1 588 kg) where the fuel quantity indication on one side of the aircraft increased all of a sudden and then dashed out (magenta). The object of this modification is to prevent such occurrences to occur in the future.

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.

This document is proprietary to Bombardier Inc. and/or its affiliates and may not be reproduced or copied in any form or by any means without the prior written consent of Bombardier Inc. and/or its affiliates.

© 2006, Bombardier Inc. All rights reserved

Challenger*, Global Express*, Global Express ^{XR}, Global 5000*, Learjet* are Trademarks of Bombardier Inc.

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

C. Description

This Service Bulletin gives instructions to:

- Get access to the fuel quantity probes No. 5 and No. 8 with compensator,
- Disassemble the current installation of the fuel quantity probes No. 5,
- Replace and relocate the fuel quantity probes No. 5,
- Replace the fuel quantity probes No. 8 with compensator, and
- Do the necessary tests to make sure that the system operates correctly.

D. Compliance

Recommended at the next access opportunity or next 96 months “General Visual Inspection of the Left/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 the use of 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.

33 man-hours are necessary to do this modification.

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

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

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

G. Material - Cost and Availability

As applicable, Kit 100K28-06A (aircraft Serial No. 20005 to 20016) or Kit 100K28-06B (aircraft Serial No. 20003, 20004, 20017 to 20087) is necessary to do this modification. Only the U.S. Domestic prices are shown:

KIT NO.	PRICE
100K28-06A	\$538.00
100K28-06B	\$275.50

The above prices can change. For the prices outside of the U.S., refer to the last applicable Spare Parts Price Catalog. This data is also available from Bombardier Business Aviation Services (BBAS) at the addresses shown in the catalog.

46 kits were available when this Service Bulletin was released. Sufficient kits will be kept for the estimated amount of orders.

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

For aircraft in new aircraft warranty, the applicable kit 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.

In addition to the applicable kit shown above, the parts given in Paragraph 3.B. are also necessary to do this Service Bulletin.

2 fuel quantity probes No. 5, Part No. Part No. 762023-3-0, and 2 fuel quantity probes No. 8 with compensator, Part No. 762020-2-0, are necessary to do this modification and are 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 old fuel quantity probes No. 5, Part No. 762023-2-0, and the old fuel quantity probes No. 8 with compensator, Part No. 762020-1-0, to the address shown below in exchange for the new fuel quantity probes:

Attention: Challenger
Bombardier Aerospace
251A Wille Road
Des Plaines, IL 60018
USA

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

H. Tooling

GSE REFERENCE NO.	PART NO.	DESCRIPTION
24-00-24	S4933959-501	Tag, Circuit Breaker

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, Modification Summary, BB100T010278, Rev. C.
- Bombardier Aerospace, Kit Drawing, K1000070213, Rev. B.
- Bombardier Aerospace, Restriction and/or Special Instruction (RSI), C-100-000-28-0090, Rev. --.
- BD-100 Aircraft Maintenance Manual (AMM), Chapters 6, 12, 24, and 28.
- BD-100 Aircraft Illustrated Parts Catalog (AIPC), Chapter 28.
- BD-100 Wiring Manual (WM), Chapter 20.
- BD-100 Structural Repair Manual (SRM), Chapter 51.

L. Other Publications Affected

- BD-100 Aircraft Maintenance Manual (AMM), Chapter 28
- BD-100 Aircraft Illustrated Parts Catalog (AIPC), Chapter 28

M. Equivalent Service Bulletin

None.

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

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 fuel system safety precautions. Refer to TASK 28-00-00-910-801.
- (2) Obey all electrostatic-discharge safety precautions. Refer to TASK 24-00-00-910-802.
- (3) Obey all electrical/electronic safety precautions. Refer to TASK 24-00-00-910-801.
- (4) Open and tag the circuit breakers that follow:

LOCATION	CB NO.	NAME	ZONE
LCBP	A9	L FUEL PUMP CTRL	211
LCBP	A10	L FUEL PUMP PWR	211
LSPC	C1	L ENG FUEL SOV	221
LSPC	C2	FUEL GRAVITY XFLOW	221
LSPC	C3	FUEL QTY 1	221
RCBP	A9	R FUEL PUMP PWR	212
RCBP	A10	R FUEL PUMP CTRL	212
RSPC	C1	R ENG FUEL SOV	222
RSPC	C2	FUEL XFER VALVE	222
RSPC	C3	FUEL QTY 2	222
RDCPC	C4	REFUEL DEFUEL CTRL	312
RDCPC	C5	REFUEL DEFUEL VALVES	312

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

- NOTES:** 1. To access the old fuel quantity probes no. 5 area, remove wing-tank access panels 531FB and 631FB.
2. To access the new fuel quantity probes no. 5 area, remove wing-tank access panels 531EB and 631EB.
3. To access the fuel quantity probes no. 8 with compensator area, remove wing-tank access panels 161AB and 162AB.

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

B. Modification

NOTE: While doing this modification, pay particular attention for possible surface corrosion on the wing skin, rework areas and access panels. If corrosion is found, contact your area Field Service Representative (FSR) for disposition.

- (1) Disassemble the current installation of the old fuel quantity probes No. 5.
For each wing, do as follows:

NOTE: Refer to Kit Drawing K1000070213, views B and D.

- (a) Remove the 3 standoffs, Part No. B0204034-8W, and the related hardware that follows:

- The clamps, Part No. MS21919DF1,
- The screws, Part No. NAS1801-3-8, and
- The washers, Part No. NAS1149D0316J.

NOTE: Discard the standoffs, but retain the related hardware.
This hardware will be used again later on.

- (b) Remove the standoff, Part No. B0204037-8W, and the related hardware that follows:

- The clamp, Part No. MS21919DF1,
- The screw, Part No. NAS1801-3-8, and
- The washer, Part No. NAS1149D0316J.

NOTES:

1. Retain 1 standoff (either from the left wing or the right wing) and discard the other one. The retained standoff will be used again later on.
2. Retain one of each of the related hardware and discard the remainders. The retained hardware will be used again later on.
3. Plug the standoff installation holes with two solid rivets, Part No. MS20470AD4-4A.
4. For the installation of the solid rivets, refer to the SRM, Chapter 51-42-12.

- (c) Disconnect the wiring and remove the old fuel quantity probe No. 5, Part No. 762023-2-0. Refer to TASK 28-41-13-000-801.

NOTES:

1. Retain the probe installation bolts and washers. These bolts and washers will be used again later on.

2. The old probe is to be returned to Bombardier Aerospace. Refer to Paragraph 1.G.

- (d) Temporarily stow the wire harness for the fuel quantity probe No. 5.
This wire harness will be re-routed later on.

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

- (e) As applicable (aircraft Serial No. 20003, 20004, 20017 to 20087), remove the upper bracket, Part No. 604-62304-1, and the related hardware that follows:
- The bolts, Part No. B0206001AG5-3, and
 - The nuts, Part No. B0203013-08.

NOTES: 1. Discard the related hardware.

2. For aircraft that have brackets, Part No. 1005729402-009 (left wing) and Part No. 1005729402-010 (right wing), attached to the near side of rib No. 7, leave the brackets in place. Applicable to aircraft Serial No. 20005 to 20016.

- (f) Remove the lower bracket, Part No. 604-62304-3, and the related hardware that follows:
- The bolt, Part No. B0206001AG5-3,
 - The nut, Part No. B0203013-08,
 - The nut plate, Part No. MS21059L3
 - The adjustment bolt, Part No. NAS6203-3, and
 - The washer, Part No. NAS1149D0332J.

NOTE: Discard the bolt, the nut and the nut plate, but retain the bracket, the adjustment bolt and the washer. These latter parts will be used again later on.

- (g) Replace the existing clamp, Part No. M85052/1-5, with a new clamp, Part No. M85052/1-4.

NOTE: Re-use the existing hardware to attach the new clamp.

- (2) Do the new installation of the fuel quantity probe No. 5. For each wing, do as follows:

- (a) For the lower attachment of the fuel quantity probe No. 5, do the local rework and installation that follows:

NOTE: Refer to Kit Drawing K1000070213, views F and G.

- (i) Plug the old nut plate, Part No. MS21059L3, installation holes with 2 new double flush solid rivets, Part No. B0205017AD3-3S.

- NOTES: 1. The old nut plate, Part No. MS21059L3, was removed during the accomplishment of the task described in Paragraph 2.B.(1)(f).
2. Wet install the rivets using integral fuel tank sealing compound, specification MIL-PRF-81733, Type II or Type IV, Class 1, Grade A. Refer to the SRM, Chapter 51-23-04.
3. For the installation of the solid rivets, refer to the SRM, Chapter 51-42-12.

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

- (ii) Elongate the hole in the rib as shown in views F and G of the Kit Drawing (hole used to attach and adjust the lower bracket to the rib). Use good workmanship and standard shop practices to do this rework.

NOTES: 1. Elongate the hole as much as necessary to position the probe, but stay within the limitations that follow: make sure that the length of the elongation is not more than 0.135 in (3.429 mm) and does not cut through the nearby rivet head.

2. To determine the length of the elongation, the following technique may be used: using the upper bracket against the rib, temporarily put the fuel quantity probe in position. Outline the location of the bottom bracket and then proceed to elongate the hole. Make sure that the elongation of the hole does not exceed the parameter specified in the above paragraph.

- (iii) Install the new nut plate, Part No. MS21059L3. Use 2 new solid rivets, Part No. B0205017AD3-3S, to attach the nut plate.

NOTE: Wet install the rivets using integral fuel tank sealing compound, specification MIL-PRF-81733, Type II or Type IV, Class 1, Grade A. Refer to the SRM, Chapter 51-23-04.

- (iv) Re-install the old bracket, Part No. 604-62304-3. Attach the bracket with a new bolt, Part No. B0206001AG5-3, and related nut, Part No. B0203013-08.

NOTES: 1. For the installation of the bolt, pick up on the existing fastener hole location.

2. Wet install the bolt using integral fuel tank sealing compound, specification MIL-PRF-81733, Type II or Type IV, Class 1, Grade A. Refer to the SRM, Chapter 51-23-04.

- (b) For the upper attachment of the fuel quantity probe No. 5, do the installation that follows:

NOTE: Refer to Kit Drawing K1000070213, views H and J.

- (i) As applicable, plug the 2 existing holes shown in views H and J of the Kit Drawing. Use 2 new solid rivets, Part No. MS20470AD5-4A.

NOTE: Make sure that the rivet head is on the far side.

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

- (ii) Install the bracket, Part No. 604-62304-1. Attach the bracket with 2 new bolts, Part No. B0206001AG5-3, and related nuts, Part No. B0203013-08.

- NOTES:
1. For aircraft Serial No. 20005 to 20016, use the new bracket found in Kit 100K28-06A.
 2. For aircraft Serial No. 20003, 20004, 20017 to 20087, use the old bracket removed earlier during the accomplishment of the task described in Paragraph 2.B.(1).(e).
 3. Wet install the bolts using integral fuel tank sealing compound, specification MIL-PRF-81733, Type II or Type IV, Class 1, Grade A. Refer to the SRM, Chapter 51-23-04.

- (c) Install the new fuel quantity probe No. 5, Part No. 762023-3-0. Refer to TASK 28-41-13-400-801 and to Kit Drawing K1000070213, views C and E, and sections K-K and L-L.

- NOTES:
1. To complete the fastening of the bottom bracket to the rib, use the old hardware that follows:
 - One adjustment bolt, Part No. NAS6203-3, and
 - One washer, Part No. NAS1149D0332J.These parts were removed during the accomplishment of the task described in Paragraph 2.B.(1)(f).
 2. Wet install the adjustment bolt identified in the note above using integral fuel tank sealing compound, specification MIL-PRF-81733, Type II or Type IV, Class 1, Grade A. Refer to the SRM, Chapter 51-23-04.
 3. For the installation of the bolt, refer to the SRM, Chapter 51-41-04.
 4. Position the probe using the elongation hole on the bracket, Part No. 604-62304-3, with a temporary torque (loose torque) until the installation tolerances are satisfied.
 5. Make sure that the angularity of the probe and the installation tolerances (clearances) are those shown in the Kit Drawing.
 6. To attach the fuel probe, use the hardware that was retained during the accomplishment of Paragraph 2.B.(1)(c).

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

- (d) Install the new standoffs, Part No. B0204034-12W. Refer to the Kit Drawing, views C and E.

- NOTES:
1. There are 3 standoffs to be installed on the left wing and 2 standoffs to be installed on the right wing.
 2. For the installation of the new standoffs, use 2 new solid rivets, Part No. MS20470AD4-5A, and the hardware that was removed during the accomplishment of the task described in Paragraph 2.B.(1)(a).
 3. Pick-up on the existing fastener hole locations.

- (e) For the right-wing only, between stringer 9 and 10, plug the 2 holes left over after the removal of the standoffs, Part No. B0204034-8W, described in Paragraph 2.B.(1)(a). Use 2 new solid rivets, Part No. MS20470AD4-5A.

- (f) For the right wing only, re-install an old standoff, Part No. B0204037-8W. Refer to the Kit Drawing, view E and section M-M.

- NOTES:
1. The old standoff was removed during the accomplishment of the task described in Paragraph 2.B.(1)(b).
 2. For the installation of the new standoff, use 2 Hi-Lite® bolts, Part No. B0206001AG5-4, 2 nuts, Part No. B0203013-08, and the hardware that was removed during the accomplishment of the task described in Paragraph 2.B.(1)(a).

- (g) Re-route and attach the probe No. 5 wire harness to the newly installed standoffs. Refer to the Kit Drawing, views C and E, and to the WM, Chapter 20-10-10.

NOTE: To attach the wire harness to the standoffs, use the hardware that was removed during the accomplishment of Paragraph 2.B.(1)(a).

- (3) For each wing, remove the old fuel quantity probe No. 8 with compensator, Part No. 762020-1-0. Refer to TASK 28-41-09-000-801.

- NOTES:
1. Retain the hardware for re-installation.
 2. The old probe is to be returned to Bombardier Aerospace. Refer to Paragraph 1.G.

- (4) For each wing, install the new fuel quantity probe No. 8 with compensator, Part No. 762020-2-0. Refer to TASK 28-41-09-400-801.

NOTE: Use the hardware that was retained during the accomplishment of Paragraph 2.B.(3).

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

C. Testing

- (1) Close the fuel tank after maintenance. Refer to TASK 28-10-00-840-803.
- (2) Make sure that the tags are removed and that the circuit breakers that follow are closed:

LOCATION	CB NO.	NAME	ZONE
LCBP	A9	L FUEL PUMP CTRL	211
LCBP	A10	L FUEL PUMP PWR	211
LSPC	C1	L ENG FUEL SOV	221
LSPC	C2	FUEL GRAVITY XFLOW	221
LSPC	C3	FUEL QTY 1	221
RCBP	A9	R FUEL PUMP PWR	212
RCBP	A10	R FUEL PUMP CTRL	212
RSPC	C1	R ENG FUEL SOV	222
RSPC	C2	FUEL XFER VALVE	222
RSPC	C3	FUEL QTY 2	222
RDCPC	C4	REFUEL DEFUEL CTRL	312
RDCPC	C5	REFUEL DEFUEL VALVES	312

- (3) Do a capacitance check of the fuel quantity probes. Refer to TASK 28-41-13-760-801.
- (4) Do the pressure refueling of the fuel tank. Refer to TASK 12-11-01-650-801.
- (5) Do the built-in test of the fuel-quantity gauging system. Refer to TASK 28-41-00-740-801.

D. Close-out

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 Support (BBACS).

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

3. MATERIAL INFORMATION

A. Kit

- (1) Kit 100K28-06A is necessary to do this Service Bulletin on aircraft Serial No. 20005 to 20016 and contains the parts that follow:

NEW PART NO.	QTY	KEY WORD	USED PART NO.	INSTRUCTIONS - DISPOSITION
604-62304-1	2	Bracket	-	-
B0203013-08	8	Nut, Self Locking, Counter Bored, Six Points	-	-
B0204034-12W	5	Standoff, 2 Lugs, Upright, Light Duty	-	-
B0205017AD3-3S	8	Rivet, Solid, 100° Countersunk Head, Close Tolerance	-	-
B0206001AG5-3	6	Bolt,, Lightweight, Protruding Shear Head, Hex Drive	-	-
B0206001AG5-4	2	Bolt,, Lightweight, Protruding Shear Head, Hex Drive	-	-
M85052/1-4	2	Clamp	-	-
MS20470AD4-4A	4	Rivet, Solid, Universal Head	-	-
MS20470AD4-5A	12	Rivet, Solid, Universal Head	-	-
MS20470AD5-4A	4	Rivet, Solid, Universal Head	-	-
MS21059L3	2	Nut Plate	-	-

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

NOTES: 1. In case of discrepancy between this list and the “Service Bulletin Kit Parts List” contained in the respective kit, then the latter list prevails.

2. The actual quantity for some of the hardware contained in the kit can be greater than the amount shown in the table as these items are supplied in pre-packaged quantities.

(2) Kit 100K28-06B is necessary to do this Service Bulletin on aircraft Serial No. 20003, 20004, 20017 to 20087 and contains the parts that follow:

NEW PART NO.	QTY	KEY WORD	USED PART NO.	INSTRUCTIONS - DISPOSITION
B0203013-08	8	Nut, Self Locking, Counter Bored, Six Points	-	-
B0204034-12W	5	Standoff, 2 Lugs, Upright, Light Duty	-	-
B0205017AD3-3S	8	Rivet, Solid, 100° Countersunk Head, Close Tolerance	-	-
B0206001AG5-3	6	Bolt,, Lightweight, Protruding Shear Head, Hex Drive	-	-
B0206001AG5-4	2	Bolt,, Lightweight, Protruding Shear Head, Hex Drive	-	-
M85052/1-4	2	Clamp	-	-
MS20470AD4-4A	4	Rivet, Solid, Universal Head	-	-
MS20470AD4-5A	12	Rivet, Solid, Universal Head	-	-
MS20470AD5-4A	4	Rivet, Solid, Universal Head	-	-
MS21059L3	2	Nut Plate	-	-

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

- NOTES:**
1. In case of discrepancy between this list and the “Service Bulletin Kit Parts List” contained in the respective kit, then the latter list prevails.
 2. The actual quantity for some of the hardware contained in the kit can be greater than the amount shown in the table as these items are supplied in pre-packaged quantities.

B. Parts

The parts that follow are necessary to do this Service Bulletin and can be obtained from Bombardier, Spare Parts Center, Montréal.

ITEM	PART NUMBER	QUANTITY
762020-2-0	Fuel Quantity Probe No. 8 With Compensator	2
762023-3-0	Fuel Quantity Probe No. 5	2

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

DESCRIPTION	PART No./NAME	SPECIFICATION	QUANTITY	SUPPLIER (See Note)
Cloths, Cleaner, for Aircraft Fuel Tanks	-	MIL-C-87962	As Necessary	Code: A
Compound, Anti Seize	Petrolatum	VV-P-236	As Necessary	Code: A
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 or Type IV, Class 1, Grade A	As Necessary	Code: B
Solvent, Dry Cleaner and Degreaser	-	MIL-PRF-860A, Type I	As Necessary	Code: A

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

- 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 Commercially Available	Code: B [1] DeSoto® Aerospace Coatings PRC-DeSoto International Inc 5454 San Fernando Road, Po Box 1800 Glendale, CA 91209, USA Tel.: (818) 240-2060 Fax: (818) 549-7771 http://www.ppg.com/prc-desoto
<p>NOTE :</p> <p>[1] PRC-DeSoto International Inc. has many support centres around the world. Refer to that company's internet site for the support centre nearest to your location.</p>	

B O M B A R D I E R
CHALLENGER 300

MODEL BD-100-1A10

**BOMBARDIER
AEROSPACE**

Bombardier Inc.
400 Cote Vertu Road, West
Dorval, Quebec, Canada H4S 1Y9

DRAWN BY: R. GUERRERA	SHEET 2	MS CODE BB	PLK1000070213	REV -B
CAGE CODE 3AB48	MODEL VERSION: 05 MODEL TYPE: MAST			

NOTES

1. SEE THE RELATED T MOD/DCP FOR EFFECTIVITY (REF 100T010278)
2. THIS KIT DRAWING INCORPORATES REQUIREMENTS OF DCP IN100-15030.
3. THE PURPOSE OF THIS MODIFICATION IS TO REPLACE AND RELOCATE PROBE #5 AND TO REPLACE PROBE #8/COMPENSATOR.
4. QUANTITY: (1) KIT PER AIRCRAFT REQUIRED.
5. THIS KIT MAY BE ACCOMPLISHED AT A BOMBARDIER BUSINESS AVIATION SERVICES FACILITY, OR AN AUTHORIZED SERVICE FACILITY.
6. IDENTIFY PER BAPS 144-005
7. FINISH SPEC PER BAERD BD 100-001.
8. FINISH CODE PER BAERD-GEN-004 (BD100 SRM CHAPTER 51-01-04).
9. DIMENSIONS AND TOLERANCES PER ASME Y14.5M-1994.
10. STANDARD FABRICATION PER BAPS 188-000 (BD100 SRM CHAPTER 51-12-00).
11. INSTALL BOLTS PER BAPS 150-000 (BD100 SRM CHAPTER 51-41-02).
- ⚠ WET INSTALL FASTENERS THAT PENETRATE FUEL TANK BOUNDARIES PER BAPS 157-027 (BDD SRM CHAPTER 51-23-04).
- ⚠ POSITION THE PROBES USING ELONGATION HOLE ON BRACKET 604-62304-3 WITH TEMPORARY TORQUE (LOOSE TORQUE) ON RIVET SO THAT THE CLEARANCE BETWEEN LOWER SKIN AND BOTTOM OF PROBE IS SATISFIED AND FIX BRACKETS 604-62304-3 AND PROBES.
- ⚠ THE COMPONENTS ARE SUPPLIED BY INTERTECHNIQUE.
15. INSTALL WIRE HARNESS PER BAPS 145-003 (WIRING MANUAL CHAPTER 20).
- ⚠ FOR A/C 20017-20088 THAT HAVE BRACKETS 604-62304-1 INSTALLED, REMOVE AND RE-LOCATE AS SHOWN IN VIEW 'H' AND VIEW 'J'.
- ⚠ FOR A/C 20005-20016 THAT HAVE BRACKETS 1005729402-009/-010, KEEP BRACKETS INSTALLED AS IS AND INSTALL NEW BRACKETS 604-62304-1 (ITEM 5) AS SHOWN IN VIEW 'H' AND VIEW 'J'.
- ⚠ ELONGATE THE HOLE AS MUCH AS NECESSARY TO POSITION THE PROBE, BUT STAY WITHIN THE LIMITATIONS THAT FOLLOW. MAKE SURE THAT THE LENGTH OF THE ELONGATION IS NOT MORE THAN 0.135" AND DOES NOT CUT THROUGH THE NEARBY RIVET HEAD.

870501-2 CT4 REV 1999-01

© 1999 Bombardier Inc.

ID: BD_100_K1000070213 -B REL MAST 5 2006-05-18

SB100-28-006-70213-B-S2-PL

PL K1000070213 – Kit – Modification and Relocation of Fuel Probe, Wing
(Sheet 2 of 3, Rev. B)

Nov 08/2006

100-28-06
Page 17 of 24

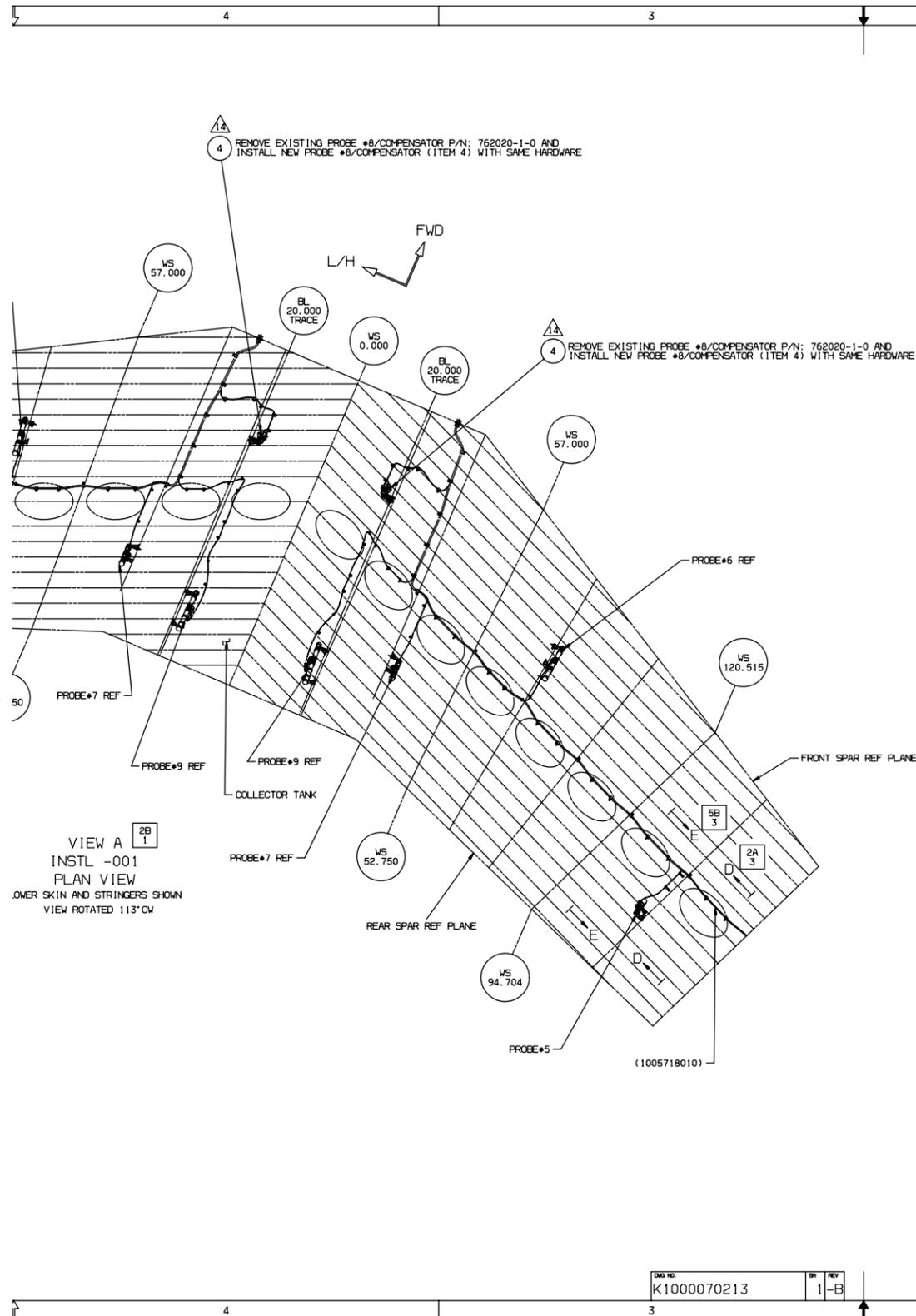
B O M B A R D I E R
CHALLENGER 300
 MODEL BD-100-1A10

BOMBARDIER AEROSPACE	Bombardier Inc. 400 Cote Vertu Road, West Dorval, Quebec, Canada H4S 1Y9	DRAWN BY: R. GUERRERA	SHEET 3	MS CODE BB	PL K1000070213	REV -B
		CAGE CODE 3AB48	MODEL VERSION: 05 MODEL TYPE: MAST			
<p>NOTES</p> <p>△ REWORK PER BEST SHOP PRACTICE. ENSURE SMOOTH TRANSITION BETWEEN OLD AND NEW HOLE CENTERS. BREAK SHARP EDGES .015".</p> <p>20. FINISH REWORKED SURFACES AND TOUCH UP INSTALLED FASTENERS PER CODE A036 (BAERD-GEN-004).</p>						
© 1999 Bombardier Inc.						
ID: BD_100_K1000070213 -B REL MAST 5 2006-05-18						
SB100-28-006-70213-B-S3-PL						

PL K1000070213 – Kit – Modification and Relocation of Fuel Probe, Wing
 (Sheet 3 of 3, Rev. B)

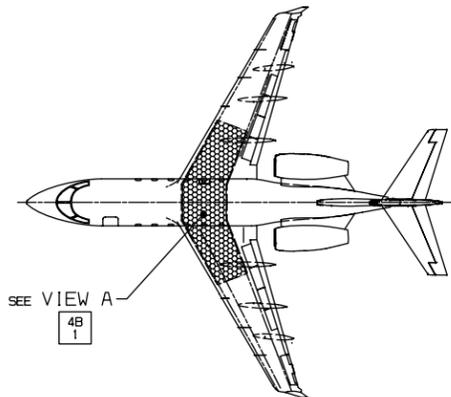
Nov 08/2006

100-28-06
 Page 18 of 24



PROCEDURE NOTES:

1. REMOVE FUEL QUANTITY PROBE #5 PER BD100 AMM TASK #28-41-13-000-801 AND PROBE #8/COMPENSATOR PER BD100 AMM #TASK 28-41-09-000-801 FOR BOTH LHS AND RHS.
2. REMOVE HARDWARE AND STANDOFFS THAT SUPPORT WIRES AS SHOWN IN VIEWS B & D. STOWE WIRES FOR RE-ROUTING.
3. REMOVE PROBE #5 SUPPORT BRACKETS 604-62304-1/-3 AS SHOWN ON KIT DRAWING.
4. REWORK RIB BY ELONGATING EXISTING HOLE AS SHOWN IN VIEWS F & G.
5. RE-INSTALL BRACKETS 604-62304-1/-3 AS SHOWN IN VIEWS F, G, H & J.
6. RE-INSTALL STANDOFFS PICKING UP EXISTING FASTENER LOCATIONS ON INBD SIDE OF RIB #7 AS SHOWN IN VIEWS C & E. INSTALL STANDOFF ON STGR #10 (RHS) AS SHOWN IN VIEW E & SECTION M-M.
7. RE-ROUTE WIRES AS SHOWN IN VIEWS C & E.
8. INSTALL FUEL QUANTITY PROBE #5 PER BD100 AMM TASK #28-41-13-400-801 AND PROBE #8/COMPENSATOR PER BD100 AMM #TASK 28-41-09-400-801 FOR BOTH LHS AND RHS.
9. PERFORM BUILT-IN TEST OF THE FUEL QUANTITY GAUGING SYSTEM PER BD100 AMM #TASK 28-41-00-740-801.
10. RESTORE AIRCRAFT TO AIRWORTHY CONDITION.
11. UPDATE A/C RECORDS TO REFLECT INCORPORATION OF THIS MODIFICATION.



PARTS DISPOSITION LIST				
QTY	PART NO.	NAME	REMOVED PARTS DISPOSITION	SPARE DISPOSITION
1	762023-2-0	PROBE #5	RETURN TO BA	N/A
1	762020-1-0	PROBE #8/COMPENSATOR	RETURN TO BA	N/A
4	B0204034-8W	STANDOFF	SCRAP	N/A
1	NAS6203-3	BOLT	RE-INSTALL	N/A
1	MS21059L3	NUTPLATE	SCRAP	N/A
1	B0206001AG5-2	PIN	SCRAP	N/A
2	B0206001AG5-3	PIN	SCRAP	N/A
3	B0203013-08	NUT	SCRAP	N/A
1	B0204037-8W	STANDOFF	SCRAP	N/A
1	B0204037-8W	STANDOFF	RE-INSTALL	N/A
3	MS21919DF1	CLAMP	RE-INSTALL	N/A
3	NAS1801-3-8	SCREW	RE-INSTALL	N/A
2	NAS1801-3-10	SCREW	RE-INSTALL	N/A
3	NAS114900316J	WASHER	RE-INSTALL	N/A
3	NAS114900332J	WASHER	RE-INSTALL	N/A
1	M85052/1-5	CLAMP	SCRAP	N/A
1	604-62304-1	BRACKET	RE-INSTALL	N/A
1	604-62304-3	BRACKET	RE-INSTALL	N/A

NOTE
Details enlarged for clarity.

MODIFICATION KIT DRAWING

BOMBARDIER AEROSPACE
 DRAWN BY: QUERREIRA
 UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.
 LINEAR: .0005, .001, .002, .005, .010
 TOLERANCES: .0005, .001, .002, .005, .010
 ANGULAR TOLERANCES: ± 0°30'
 ALL MACHINING SURFACES:

KIT - MODIFICATION & RELOCATION OF FUEL PROBE, WING

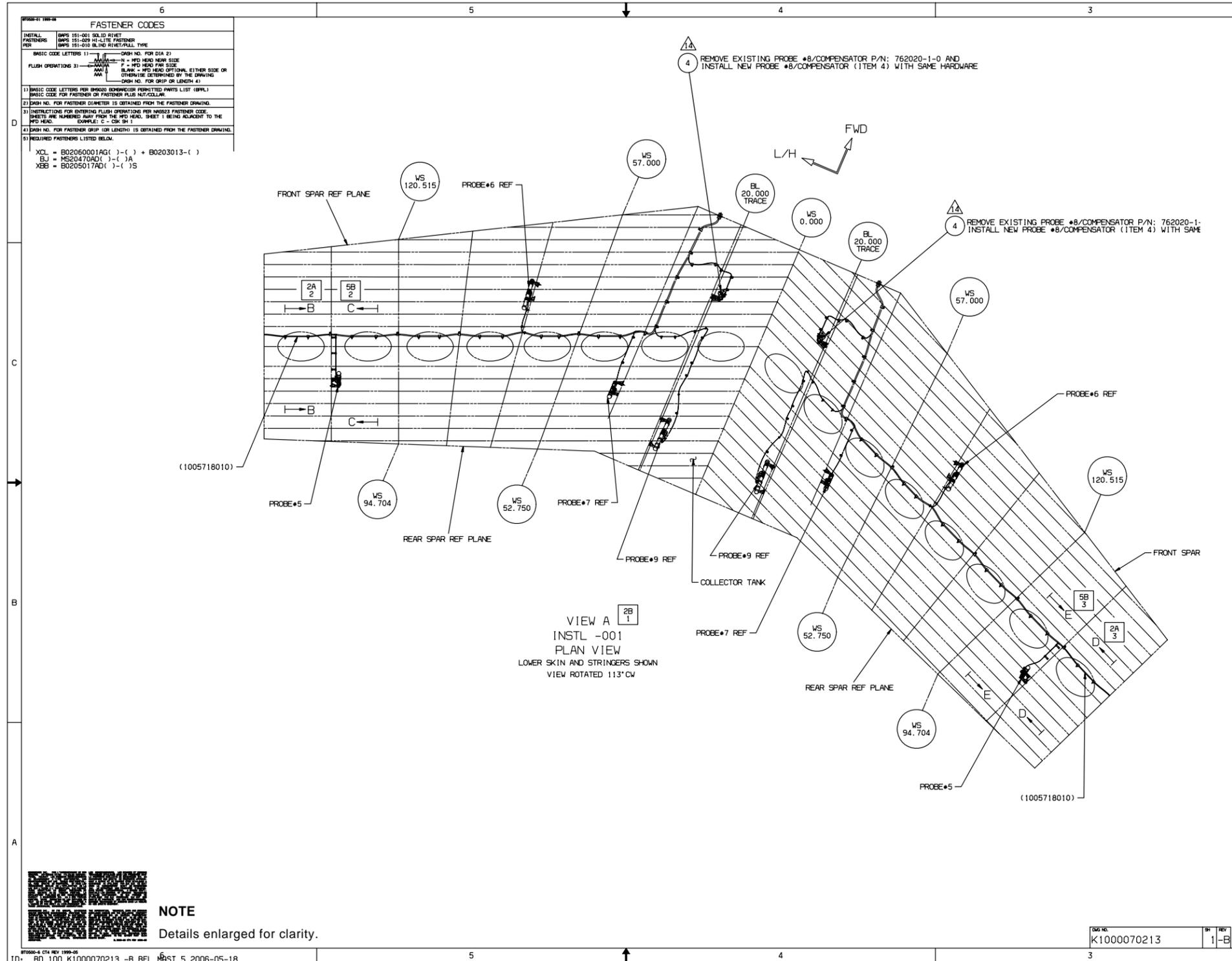
DATE CODE: JBB K1000070213
 MODEL VERSION: 05 TYPE: MAST
 SCALE: 1/10 AND AS NOTED | SHEET 1 of 3
 © 1999 Bombardier Inc.

K1000070213 – Kit – Modification and Relocation of Fuel Probe, Wing
(Sheet 1 of 3, Rev. B)

Nov 08/2006

100-28-06
Page 19 of 24

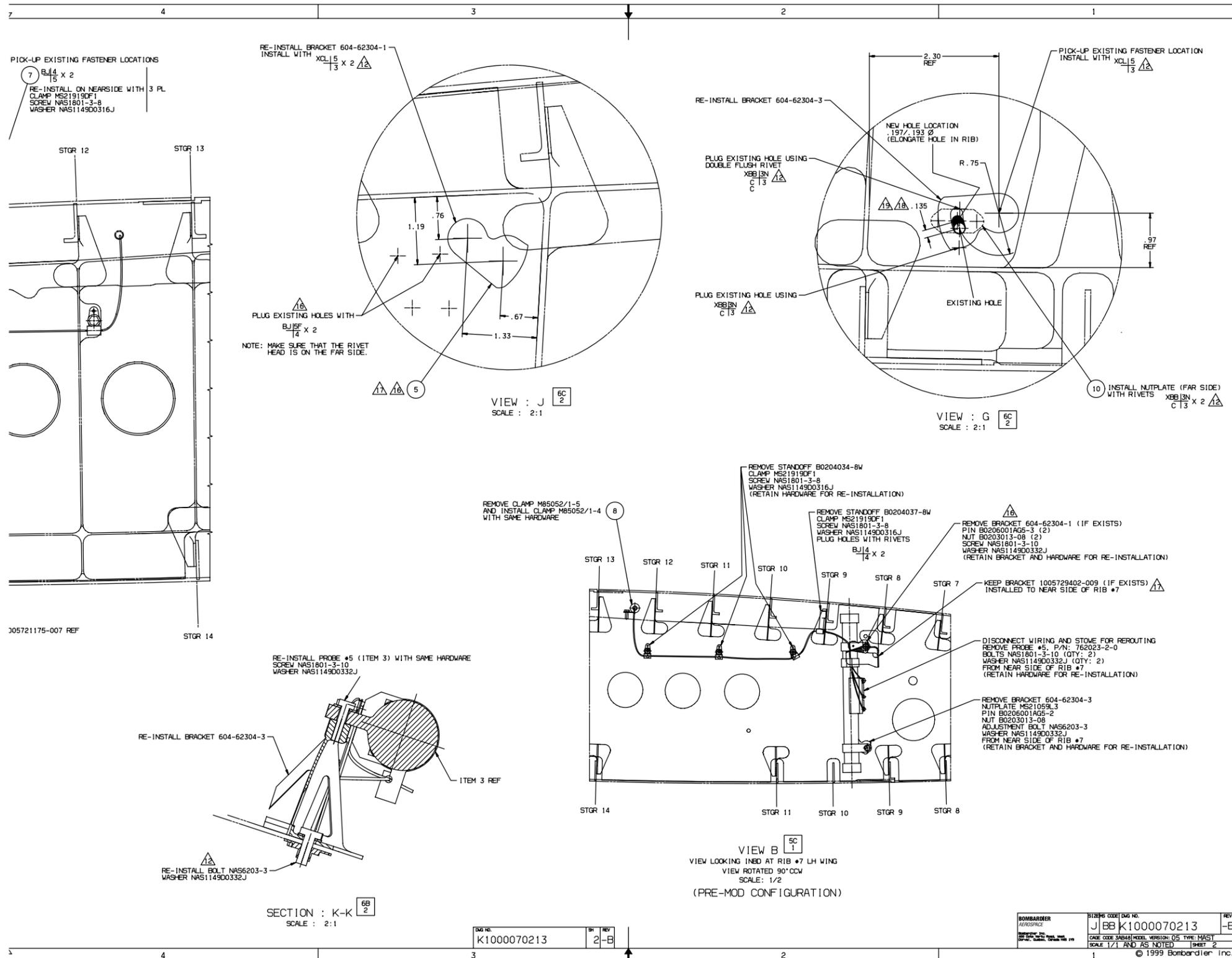
SB100-28-006-70213-B-S1-1



K1000070213 – Kit – Modification and Relocation of Fuel Probe, Wing
 (Sheet 1 of 3, Rev. B, continued)

Nov 08/2006

100-28-06
 Page 20 of 24



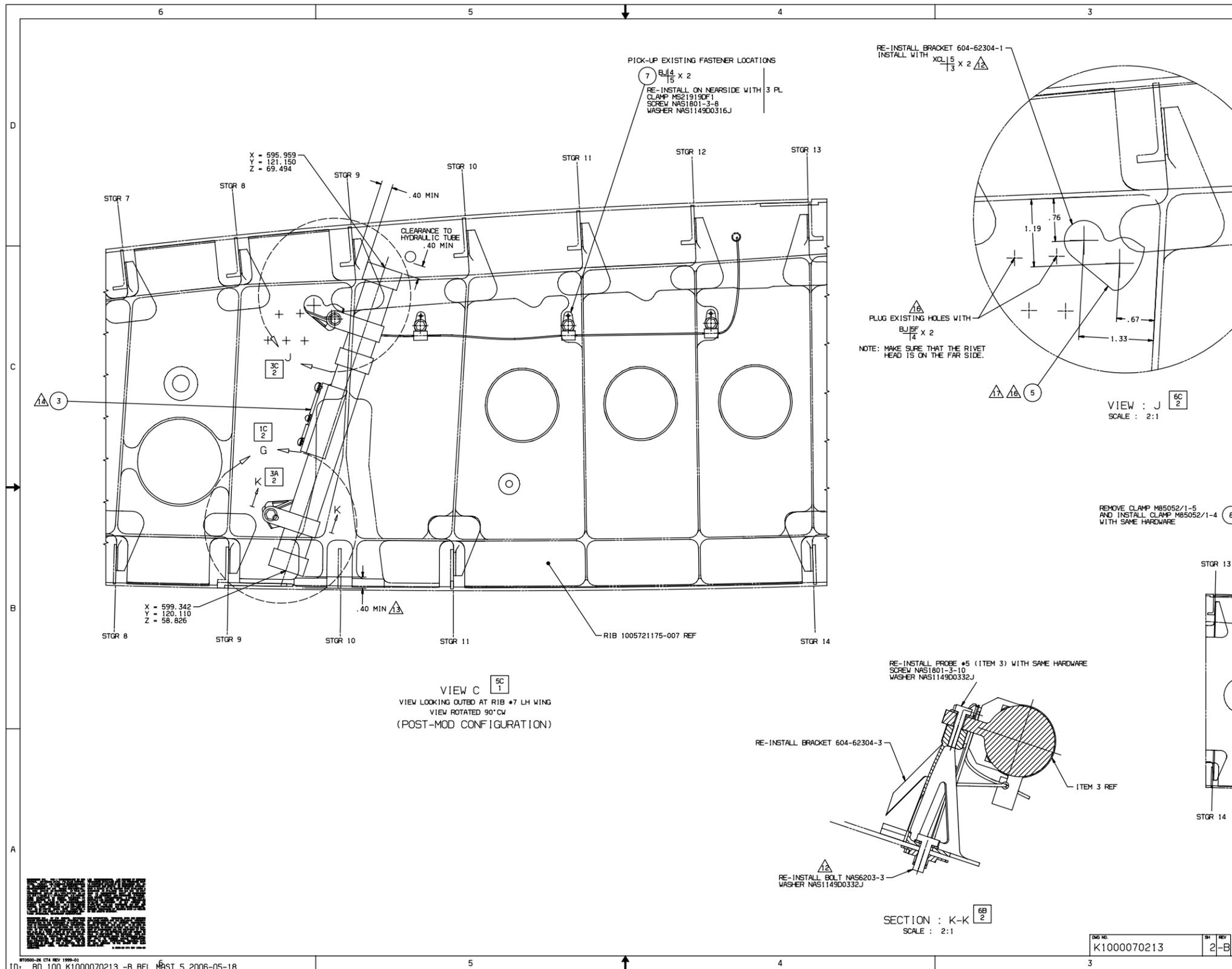
K1000070213 – Kit – Modification and Relocation of Fuel Probe, Wing
(Sheet 2 of 3, Rev. B)

Nov 08/2006

100-28-06
Page 21 of 24

BOMBARDIER AEROSPACE	SIZE CODE JBB	DWG NO. K1000070213	REV -B
CAUSE CODE (SABER) MODEL VERSION: OS TYPE: MAST		SCALE: 1/1 AND AS NOTED	SHEET: 2
© 1999 Bombardier Inc.			

SB100-28-006-70213-B-S2-1



ID: BD_100_K1000070213 -B_REL_MST 5 2006-05-18

K1000070213 – Kit – Modification and Relocation of Fuel Probe, Wing
(Sheet 2 of 3, Rev. B, continued)

Nov 08/2006

100-28-06
Page 22 of 24

SERVICE BULLETIN EVALUATION FORM

(Your ideas will help us provide better bulletins)

SERVICE BULLETIN: <u>100-28-06</u>	ISSUE: <u>Basic</u>	DATED: <u>Nov 08/2006</u>
TITLE: Modification – Fuel Management and Quantity Gauging System (FMQGS) – Replacement and Relocation of Fuel Quantity Probes No. 5, and Replacement of Fuel Quantity Probes No. 8 with Compensator to Correct Gauging System Faults		

	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"/>				
<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"/>				
<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"/>				
<ul style="list-style-type: none"> • The loose parts listed under Paragraph 3 were easily procured. Comments: 	<input type="checkbox"/>				
<ul style="list-style-type: none"> • Work was accomplished in the prescribed time. Comments: 	<input type="checkbox"/>				
<ul style="list-style-type: none"> • Overall, I was satisfied with this Service Bulletin. Comments: 	<input type="checkbox"/>				

For administrative use only	PLEASE SUPPLY US WITH THE FOLLOWING DATA AND FAX TO: (514) 855-2535	
0631TPAC6923	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 – “100-28-06”

Upon completion of the Service Bulletin, please fill-in, fold and return/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	NO
100-28-06	Basic	-	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>

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
	<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
