BOMBARDIER

de HAVILLAND DASH 8

SERVICE BULLETIN

Customer Support

ATA SYSTEM: 3200 NUMBER: 84-32-118

BOMBARDIER AEROSPACE REGIONAL AIRCRAFT CONSIDER THIS SERVICE BULLETIN TO BE PARTICULARLY SIGNIFICANT AND URGE OPERATORS TO PROMPTLY EVALUATE THE CONTENTS

SUBJECT: Landing Gear, RH Nacelle - Removal of Parking Brake Hand Pump Lever - ModSum 4-113803

1. PLANNING INFORMATION

A. Effectivity

Aircraft Affected:

In-Service: DHC-8 Aircraft Models 401 and 402 Serial Numbers 4001, 4003 thru 4419.

NOTE: This Service Bulletin does not apply to aircraft previously reworked by Service Bulletin 84-32-99 (ModSum 4-113723).

Production: ModSum 4-113723 will be installed before delivery on applicable DHC-8 Aircraft at Serial Number 4420 and subsequent.

NOTE: The instructions in this service bulletin are only applicable to the systems and parts installed at the time of delivery on the aircraft or as changed by Bombardier Aerospace Service Bulletin(s). Before you do this bulletin, examine all STC or equivalent action changes to make sure this bulletin can be completed.

Spares Affected:

None

B. Reason

Problem: An operator had reported an incident which involved the migration of the main landing gear parking brake hand pump lever resulting in the damage of the nacelle side panels.

During the incident, the parking brake pump lever located in the RH nacelle had dislodged from its mounting bracket and migrated down from the upper retaining collar and fell over inside the nacelle.

Due to the unpredictable nature of an object migrating from its mounting position, the possibility exists that the pump lever could lodge itself into a position that would prevent the extension of the MLG or prevent the nacelle doors from opening or become runway F.O.D.

Cause: The quick release pin used to secure the pump lever installation may not have been correctly installed, compromising the installation. If the quick release pin is not fully engaged, the potential exists for the pin to migrate out, disengaging, and allowing the pump lever to become dislodged from its installation position.

Solution: ModSum 4-113803 removes the existing parking brake hand pump lever from the RH nacelle.
ModSum 4-113804 provides the option to relocate the parking brake hand pump lever to its new productionized position in the nose compartment of the aircraft.

C. Description

The procedures in this service bulletin give the instructions to do the tasks that follow:

- all aircraft electrical power systems are selected to OFF
- the nose landing gear lock is engaged
- the main landing gear lock pins are installed through each main gear and main gear door mechanism
- work platforms or ladders are set up and properly grounded
- quick release pin is depressed and parking brake hand pump lever is removed from existing RH nacelle location and tagged
- quick release pin assembly is removed and discarded
- existing rivet hole exposed surface is treated with alodine, primed with an epoxy chromate primer and existing rivet hole is then plugged as required
- neoprene pad from around hole in flange of existing bracket assembly is removed and discarded
- quick release pin hole in the existing bracket 82974258 is opened from 0.253 to 0.263 inch diameter, the existing hole exposed surface is treated with alodine, primed with an epoxy chromate primer and existing hole is then plugged as required
- existing nacelle cushion clamp assembly is cut off and sharp edges are deburred (mounting hardware is left in place)
- close out.

D. Compliance

Bombardier Inc. highly recommends that ModSum 4-113803 be incorporated at the earliest opportunity unless otherwise directed by the operator’s airworthiness authority.

A Transport Canada Airworthiness Directive is pending.

E. Approval

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

This Service Bulletin does not affect Airworthiness Limitations (AWLs) or Damage Tolerance Inspections (DTIs).

F. Manpower

It will take an estimated 2.5 man-hours to complete this service bulletin. The breakdown of the man-hours is shown in the table that follows:

TASK	MAN-HOURS
Job Set-Up	0.50
Procedure	1.50
Test / RTS	0.00
Close-Out	0.50

For any on-site labor assistance, please speak with a Fleet Services representative for a quote. The Fleet Services group can be contacted via the Q Series Technical Help Desk by telephone at 416-375-4000 or email at: thd.qseries@aero.bombardier.com.

G. Material - Price and Availability

The part(s) and material(s) detailed in Paragraph 2.A. may be either furnished or fabricated from the operator's existing stock, purchased as single items from Bombardier Aerospace Regional Aircraft or purchased directly from industry sources. DK parts are to be manufactured and approved locally (refer to disclaimer in the related text or illustration). In some cases, an equivalent to the DK part may be available from Bombardier under the production part number shown as reference in Parts Required Per Aircraft.

H. Tooling - Price and Availability

None

I. Weight and Balance

A/C Type and Model	Weight (Lb)	Arm (Inches)	Moment (Inches x Lb) x 0.001
DHC-8 Model 401/402	-1.09	+469.83	+0.51

J. Electrical Load Data

Not affected

K. Publications Affected

Maintenance Manual . . . . . PSM 1-84-2

Dash 8 Illustrated Parts Catalogue . . . . . PSM 1-84-4

ModSums Manual . . . . . PSM 1-84-12

Weight and Balance Manual (Imperial) . . . . . PSM 1-84-8

Weight and Balance Manual (Metric) . . . . . PSM 1-84-8M

L. References

The initial issue of this service bulletin was prepared to the engineering drawings and related data that follows:

DRAWING	SHEET	REV
8DK4219	1	--
8Z0376	1	--

ModSum 4-113803 Rev. ‘A’

ModSum 4Q113803 Rev. ‘A’

PCA 43323 Revision 3 (for internal reference only)

Transport Canada Airworthiness Directive Pending

2. MATERIAL INFORMATION

A. Parts Required Per Aircraft

(1) Modification Kit 8DK4219-001

(2) Detailed Kit Content:

Quantity Per Kit -001	Part Number	Description	Remarks
2	MS20470A8-7S	Rivet	See NOTE 1 below
2	B0205016AD4-4S	Rivet	See NOTE 1 below
REF	8Z0376	Retrofit	Drawing only See NOTE 2 below

NOTE 1: Quantity increased to account for losses. Actual quantity required is 1.

NOTE 2: This service bulletin is self-contained (illustrated). No drawings will be supplied.

(3) In addition to the above part(s), the following material(s) are required for the completion of this service bulletin and may be procured as single items from Bombardier Aerospace Regional Aircraft or purchased directly from industry sources.

Addresses of manufacturers and suppliers not shown below are listed in either Maintenance Manual Chapter 20 or in Structural Repair Manual Chapter 51 or, for 400 Series Aircraft, in Consumable Products Manual PSM 1-84-18.

Product ID No.	Qty. Per Aircraft	Description	Specifications
07-02	1/4 Pint	Epoxy Primer	DHMS C4.01 Type 2
07-08	1/4 Pint	Polyurethane Enamel	DHMS C4.04
07-21	1/2 Ounce	Alodine	MIL-C-5541

NOTE: Refer to CPM PSM 1-84-18 for the list of approved consumable products under each Product ID No., any of which can be used unless a note states otherwise.

C. Special Tools and Equipment Required

None

D. Existing Parts Accountability

None

3. ACCOMPLISHMENT INSTRUCTIONS

A. Job Set-Up

(1) Placard and select all aircraft electrical power to OFF. Obey all relevant WARNINGS and CAUTIONS (refer to AMM TASKs 24-00-00-861-802 and 24-00-00-910-801).

(2) Make sure that lock pins are installed through each main gear and main gear door mechanism.

(3) Make sure the nose gear ground lock is engaged.

(4) Set wheel chocks in front and behind the landing gear tires.

(5) Set up the work platforms or ladders as required to gain access to the right hand nacelle (refer to Figure 1). Make sure the work platforms or ladders are electrically grounded.

B. Procedure

(1) Remove existing parking brake pump lever P/N 72900011-001 or P/N 82900002-001 as follows (refer to Figure 2):

(a) Depress existing quick release pin assembly and remove parking brake pump lever P/N 72900011-001 or P/N 82900002-001 from existing bracket 82974258. Retain and tag the parking brake lever (Refer to AMM TASK 20-00-01-910-801).

NOTE: The operator has the option to re-install the parking brake pump lever on the aircraft per Service Bulletin 84-32-119 (ModSum 4-113804). There is no requirement to carry the lever onboard the aircraft. However, Bombardier highly recommends to re-install the lever on the aircraft per SB 84-32-119, and that the lever be carried at all times.

NOTE: If the lever is not re-installed, it is the responsibility of the operator to relocate the parking brake pump lever P/N 72900011-001 or 82900002-001 to ground support equipment for servicing the parking brake system per AMM TASK 12-10-32-863-801.

(b) Carefully remove existing rivet attaching quick release pin assembly 55440-4R15DL7C-4 from M/C frame aft uplock 85414452 and discard.

(c) Deburr existing rivet hole, treat exposed surfaces with Alodine 1200S or equivalent, prime treated areas with epoxy chromate primer and plug hole with rivet B0205016AD4-4S (refer to SRM TASK 51-42-35-02-01).

(d) Remove and discard neoprene pad installed to area around hole in flange on existing bracket 82974258.

NOTE: Do not remove existing bracket 82974258.

(e) Drill existing quick release pin hole on flange to 0.253/ 0.263 inch diameter. Deburr existing quick release pin hole, treat exposed surfaces with Alodine 1200S or equivalent, prime treated areas with epoxy chromate primer. Plug 0.253/ 0.263 inch diameter hole with rivet MS20470A8-5S (refer to SRM TASK 51-42-05-00-01).

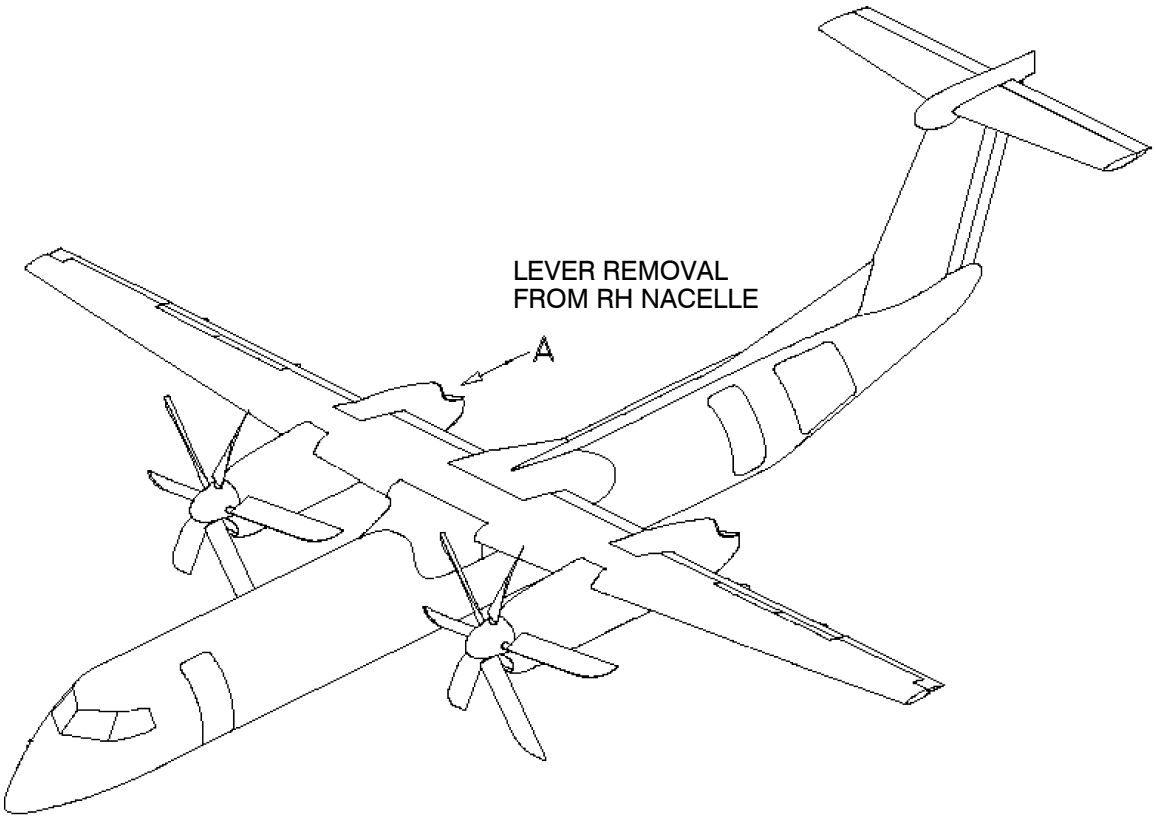
(2) Carefully cut off existing nacelle cushion clamp assembly M85449/2-18 and deburr sharp edges of remnant pieces of cushion clamp assembly (leave the original mounting hardware in place). Make sure the edge of the stiffener of M/C frame 85414452 is protected during the cutting operation (refer to Figure 2).

C. Close Out

(1) Remove all tools and equipment from the work area.

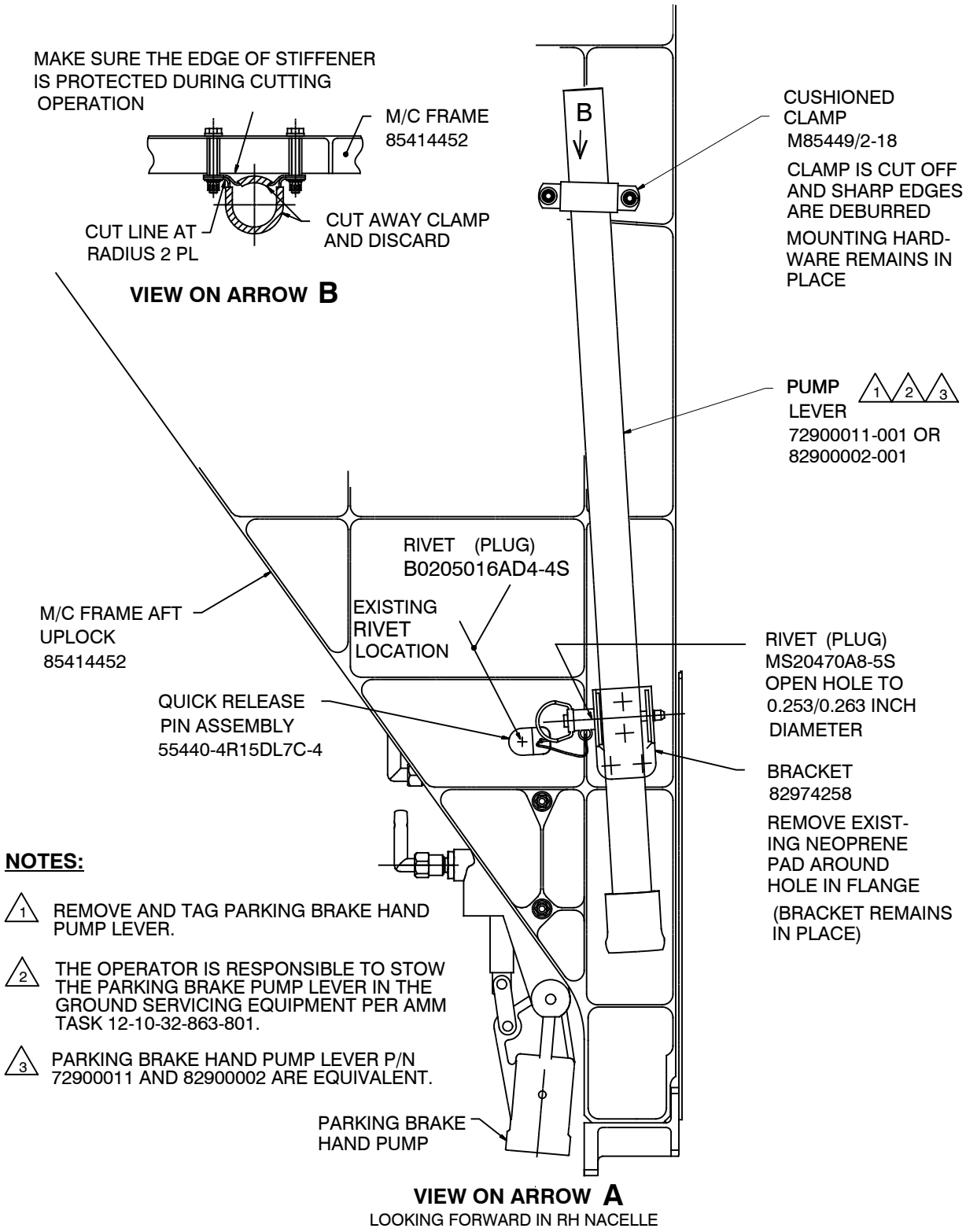
(2) On incorporation of this ModSum/Modification, add the weight and balance data shown in Section I of this service bulletin to the Weight and Balance Manual PSM 1-84-8. Under 'Description of Change' enter "ModSum 4-113723 incorporated."

(3) On incorporation of this ModSum, make an entry that conforms to local regulatory requirements in the applicable logbook(s). Enter component serial numbers if applicable. Enter this ModSum number only after complete and functional incorporation of all work defined in this service bulletin.



AREA OF RETROFIT

RH Nacelle MLG Parking Brake Pump Lever Removal
Figure 1



RH Nacelle MLG Parking Brake Pump Lever Removal
Figure 2

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SERVICE BULLETIN (SB) – RECORD OF INCORPORATION – Q SERIES DASH 8 AIRCRAFT

To: CMDB Focal
Facsimile: (1) 416 375 4538
E--mail: cmdb.requests@aero.bombardier.com

From: _____

Company: _____

Phone: _____ **Extn:** _____

Facsimile: _____ **Date:** _____

E--mail: _____

The data that you provide below will help us record the incorporation of this ModSum and the aircraft effectivity in the maintenance manual.

Operator: _____ **Service Bulletin:** _____ **Revision:** _____

Aircraft Serial Number: _____ Model Number: _____ Date Bulletin Completed: _____

Aircraft Serial Number: _____ Model Number: _____ Date Bulletin Completed: _____

Aircraft Serial Number: _____ Model Number: _____ Date Bulletin Completed: _____

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Aircraft Serial Number: _____ Model Number: _____ Date Bulletin Completed: _____

Fax this sheet to (1) 416 375 4538 or Email PDF to:

cmdb.requests@aero.bombardier.com

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SERVICE BULLETIN (SB) – COMMENT SHEET – Q SERIES DASH 8 AIRCRAFT

To: SB Focal (Toronto), Bombardier Aerospace Commercial Aircraft
Phone: (1) 416 375 4078 **Facsimile:** (1) 416 375 4538
E--mail: syed.rizvi@aero.bombardier.com

From: _____

Company: _____

Phone: _____ **Extn:** _____

Facsimile: _____ **Date:** _____

E--mail: _____

Select appropriate box(es) and add comments or suggestions you would like us to know that may enhance the quality of our service bulletins.

Service Bulletin: _____ **Revision:** _____ **ModSum:** _____

1. PLANNING INFORMATION

☐ Effectivity ☐ Reason ☐ Description ☐ Compliance
☐ Approval ☐ Manpower ☐ Material ☐ Weight and Balance
☐ Electrical Load ☐ Tooling ☐ References ☐ Publications Affected

2. MATERIAL INFORMATION

☐ Kit Content ☐ Special Tools/Equipment ☐ Parts to Modify Spares
☐ Consumables ☐ Disposition of Existing Parts ☐ Other _____

3. ACCOMPLISHMENT INSTRUCTIONS

☐ Job Set–Up ☐ Procedure ☐ Close–Out ☐ Test
☐ Illustration(s) ☐ Other _____

4. COMMENTS, REMARKS, SUGGESTIONS

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