

BOMBARDIER

SERVICE BULLETIN SUMMARY

This Service Bulletin is available at:
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MODEL CL-600-2B16

ATA 32-11

LANDING GEAR

MODIFICATION – MAIN LANDING GEAR (MLG) SYSTEM – INTRODUCTION OF IMPROVED DYNAMIC JOINT AT LH/RH MAIN LANDING GEAR (MLG) SHOCK STRUT TO TRAILING ARM

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	
SPECIFIED TIME COMPLIANCE	Within 5 years from this Service Bulletin release date (Basic Issue)	
EFFECTIVITY: A/C Serial No. 5301 to 5665		
MANPOWER: 9 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	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
DEDICATED SCHEDULE	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
PREREQUISITE SERVICE BULLETINS: N/A		
NOTE: This Service Bulletin may be subject to an Airworthiness Directive which will make it necessary to implement this Service Bulletin.		

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

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

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1. PLANNING INFORMATION

NOTE: Before you do this Service Bulletin, examine all STC, STA or equivalent action changes to make sure that this Service Bulletin can be completed.

A. Effectivity

CL-600-2B16 aircraft, Serial No. **5301** to **5665**.

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:

Repeated inspections are required for the MLG shock strut lower pin potential cracks.

2. Evidence:

Repeat inspection reports found that the Main Landing Gear (MLG) trailing arm to shock strut lower pin may crack at the anti-rotation tangs.

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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3. Objective/Benefit:

The Service Bulletin gives instructions to disassemble the LH/RH MLG shock strut and trailing arm joint, and replace the trailing arm bushings with improved design and re-assemble the joint with new dynamic joint components.

Implementation of this new design will eliminate the requirement of repeat inspection of the shock strut to trailing arm pin, Part No. 19146-3 per Service Bulletin 604-32-030 and TCCA Airworthiness Directive CF-2020-54R1.

C. Description

This Service Bulletin gives instructions to:

- Get access to LH/RH Main Landing Gear (MLG) shock strut assembly.
- Do the modification of shock strut to trailing arm with improved dynamic joint per Safran Landing Systems, Service Bulletin SB19090-32-11.
- Do the required identification inscriptions per Safran Landing Systems, Service Bulletin SB19090-32-11, Section 3.B.
- Do the necessary tests to make sure that the system operates correctly.

D. Compliance

Recommended within 5 years from this Service Bulletin release date (Basic Issue).

- NOTES:
1. 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.
 2. It is suggested to align the accomplishment of this Service Bulletin with one of the following TLMC inspections; 48 month, 96 month or 192 month.

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 EASA under the Canada/EU bilateral Aviation Safety Agreement.

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F. Manpower

NOTES: 1. 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 604-00-002.

2. This Service Bulletin may require consumable materials that have specific curing times (refer to Paragraph 3.C). The accumulated curing time is not included in the man-hours and should be considered for planning purposes before you schedule this Service Bulletin.
3. Labor hours are based on the fact that the modification will be done at the next scheduled maintenance task or inspection. Therefore no man-hours are allotted to prepare the aircraft for maintenance or to prepare for this Service Bulletin.

9 man-hours are necessary to do of this modification.

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

G. Material – Cost and Availability

Kit 650K32-005 is necessary to do this modification. For material data, refer to Paragraph 3.C.

KIT NO.	PRICE
650K32-005	Please contact Bombardier Aviation Parts Services, in Montreal, for delivery lead times and confirmation of prices.

Bombardier Aviation does not pay for the kit to do this modification.

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

For those aircraft out of new aircraft warranty at the time of Service Bulletin distribution, Smart Parts pays for the kit for up to 60 months from the Service Bulletin distribution date (Basic Issue).

H. Tooling

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

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GSE REFERENCE NO.	PART NO.	DESCRIPTION
24-00-24	S4933959-501	Tag, Circuit Breaker – Red
Commercially Available	CAT6037-1-01	Removal Support Outer
Commercially Available	CAT6037-1-02	Bung Inner
Commercially Available	CAT6037-1-03	Support Washer Install
Commercially Available	–	Fluid Container
Commercially Available	–	Grease Gun (Non-pneumatic)
Commercially Available	–	Hose, Transparent Plastic (Flexible)
Commercially Available	–	Reaming Mandrel 1.375 to 1.376 in (34.93 to 34.95 mm)
Commercially Available	–	Torque Wrench 50 to 60 lbf in (5.56 to 6.77 Nm)

- NOTES:**
1. Refer to the CL-604 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 CL-604, 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

WEIGHT	MOMENT
-0.16 pounds (-0.07 kg)	-86.064 pound-inches (-0.99 kgm)

J. Electrical Load Data

No change.

K. References

- TCCA Airworthiness Directive, (pending).
- Advisory Wire, AW600-32-2612.
- Bombardier Aviation, Restriction and/or Special Instruction (RSI), C-4293, Rev. --1.

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- Bombardier Aviation, Modification Summary, 600-6666, Rev. A.
- Bombardier Aviation, Modification Summary, 600-6667, Rev. B.
- Bombardier Aviation, Kit Drawing K604-85005, Rev. ---.
- Bombardier Aviation, Service Bulletin 604-32-030 "Special Check - Main Landing Gear - Lubrication and Inspection of LH/RH Main Landing Gear (MLG) Shock Strut Lower Pin 19146-3".
- Safran Landing Systems, Service Bulletin SB19090-32-11, Rev. 01 dated 23 November 2022 (attached).
- CL-604 Aircraft Maintenance Manual (AMM), Chapters 6, 7, 12, 24, 29 and 32.
- CL-604 Aircraft Illustrated Parts Catalog (AIPC), Chapter 32.
- CL-604 Standard Practice Manual (SPM), Chapters 20 and 51.

L. Other Publications Affected

None.

M. Equivalent Service Bulletins

- For the Challenger 605 aircraft, use the Service Bulletin 605-32-008.
- For the Challenger 650 aircraft, use the Service Bulletin 650-32-005.

2. ACCOMPLISHMENT INSTRUCTIONS

- NOTES:
1. All TASKs given in the procedures that follow are from the CL-604 Aircraft Maintenance Manual unless otherwise specified.
 2. All references made to zones, access panels and/or doors, are from the CL-604 Aircraft Maintenance Manual, Chapter 6.

A. Aircraft Setup

- (1) Obey all the electrical/electronic safety precautions. Refer to AMM 24-00-00-910-801.
- (2) Obey all the hydraulic safety precautions. Refer to AMM 29-00-00-910-801.
- (3) Obey all the hydraulic technical precautions. Refer to AMM 29-00-00-910-802.
- (4) Release the hydraulic pressure from the No. 2 system. Refer to AMM 12-00-04-862-802.
- (5) Release the hydraulic pressure from the No. 3 system. Refer to AMM 12-00-04-862-804.
- (6) Remove the electrical power from the aircraft. Refer to AMM 24-00-00-861-802.
- (7) Install a DO NOT OPERATE THE HYDRAULIC SYSTEM warning tag on the No. 2 and No. 3 hydraulic systems, on the HYDRAULIC control panel in the flight compartment.

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- (8) Lift the aircraft on jacks. Refer to AMM 07-10-01-581-801.
- (9) Remove the MLG wheel(s) as necessary. Refer to AMM 32-41-01-000-801.
- (10) Remove the brake unit(s) as necessary. Refer to AMM 32-43-19-000-801.

B. Modification

- NOTES:
1. 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 get an approved disposition to complete this Service Bulletin.
 2. Bushing material is copper beryllium. The use of appropriate tooling, protective measures and applicable safety precautions need apply.
 3. If bushing rework cannot be accomplished on wing in accordance with Safran Landing Systems, Service Bulletin SB19090-32-11, do the trailing arm removal. Refer to AMM 32-11-10-000-801.

CAUTION: HOLD THE WEIGHT OF THE MAIN LANDING GEAR (MLG) TRAILING ARM WITH AN AXLE JACK WHEN YOU REMOVE THE SHOCK STRUT LOWER PIN.

- (1) Do the modification on LH and RH MLG assembly for shock strut to trailing arm with improved dynamic joint per Safran Landing Systems, Service Bulletin SB19090-32-11.
- (2) Do the required identification inscriptions per Safran Landing Systems, Service Bulletin SB19090-32-11, Section 3.B.
- (3) If trailing arm was removed before to incorporate Safran Landing Systems, Service Bulletin SB19090-32-11, reinstall the trailing arm. Refer to AMM 32-11-10-400-801.
- (4) Install the brake unit(s). Refer to AMM 32-43-19-400-801.
- (5) Install the MLG wheel(s). Refer to AMM 32-41-01-400-801.
- (6) Do the functional test of MLG shock strut assembly. Refer to AMM 32-11-07-720-801.

C. Testing

- (1) Remove the DO NOT OPERATE THE HYDRAULIC SYSTEM warning tag from the No. 2 and No. 3 hydraulic systems, on the HYDRAULIC control panel in the flight compartment.
- (2) Connect and energize the electrical power to the aircraft. Refer to AMM 24-00-00-861-801.
- (3) Do the landing gear extension and retraction. Refer to AMM 32-30-00-910-801.
- (4) Lower the aircraft to the ground and remove the jacks. Refer to AMM 07-10-01-586-801.
- (5) Bleed the MLG brakes. Refer to AMM 32-43-00-870-801.

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- (6) Do the operational test of the MLG brake system. Refer to AMM 32-43-00-710-801.
- (7) Do the operational test of the antiskid system. Refer to AMM 32-44-00-710-801.

D. Close-out

- (1) 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).

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

Kit 650K32-005 is necessary to do this Service Bulletin and contains the parts that follow:

NEW PART NO.	QTY	ITEM	USED PART NO.	INSTRUCTIONS - DISPOSITION
81-19090-00	1	SLS Modification Kit	-	-

- NOTES:**
- 1. In case of discrepancy between this list and the Service Bulletin Kit Parts List contained in the respective kit, then the later 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 prepackaged quantities.
 - 3. Bushing material is copper beryllium. The use of appropriate tooling, protective measures and applicable safety precautions need apply.

B. Part

No parts required.

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C. Material

The materials that follow, or equivalent, are necessary to do this Service Bulletin. These can be purchased from a local supplier. Bombardier Aviation does not pay for these consumables.

DESCRIPTION	PART NO./NAME	SPECIFICATION	QUANTITY	SUPPLIER (SEE NOTE)
Corrosion Preventive Compound	-	MIL-PRF-16173	As Necessary	Code: A
Grease Aircraft and Instrument	Aeroshell Grease 7	MIL-PRF-23827 (Type II)	As Necessary	Code: B
Coating, Polyurethane, Fluid Resistant	-	-	As Necessary	Code: B

- NOTES:**
1. Refer to the table that follows for each suppliers address listed by codes.
 2. The Curing Time (CT), if applicable, for each consumable material is indicated with the description of each product.
 3. 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	
<p>Code: A</p> <p>Chemsol, Inc. 8423 Boettner Road, Bridgewater, MI 48115 U.S.A. Tel.: 1-800-663-4057 Fax: 1-734-944-3781 www.chemsol.com</p>	<p>Code: B</p> <p>Commercially Available</p>

D. Publications

No publications required.

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SERVICE BULLETIN EVALUATION FORM

(Your ideas will help us provide better bulletins)

SERVICE BULLETIN: 604-32-031 **ISSUE:** Basic **DATED:** Dec 29/2022

TITLE: MODIFICATION – MAIN LANDING GEAR (MLG) SYSTEM –
INTRODUCTION OF IMPROVED DYNAMIC JOINT AT LH/RH MAIN
LANDING GEAR (MLG) SHOCK STRUT TO TRAILING ARM

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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.

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SERVICE BULLETIN INCORPORATION SHEET – "604–32–031"

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>
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Service Bulletin Number	Rev.	* Parts Completed	COMPLIED WITH			Remarks/Reason (Mandatory if N/A)
			YES	NO	N/A	
604–32–031	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	