

# SERVICE BULLETIN REVISION TRANSMITTAL SHEET

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

Discard the Basic Issue of this Service Bulletin dated Sep 24/2014, and replace in its entirety with this Revision 01.

Service Bulletin No. 100-32-25

Date of Basic Issue Sep 24/2014

Revision No. 01 Dated Jun 30/2015

**This revision has no effect for aircraft on which the Basic Issue of this Service Bulletin was done thus no other action is necessary. Do not sign the log book if you have not done this revision. Keep the previous log book entry. You may make an entry as "Not Applicable" for this revision.**

This revision is issued to clarify, in Paragraph 2.D., the marking method for the mod plate.

# SERVICE BULLETIN SUMMARY

This Service Bulletin is available at:

[www.cic.bombardier.com](http://www.cic.bombardier.com)

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

ATA 32-51

LANDING GEAR

## SPECIAL CHECK/MODIFICATION - NOSEWHEEL-STEERING CONTROL SYSTEM - REPLACEMENT OF THE STEERING MANIFOLD

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

<b>RECOMMENDED</b>	<b>COMPLIANCE TIME</b>	
SPECIFIED TIME COMPLIANCE	Within 48 months from this Service Bulletin release date (Basic Issue)	
<b>EFFECTIVITY:</b> A/C Serial No. <b>20003</b> to <b>20383</b>		
<b>MANPOWER:</b> PART A: 0.5 man-hour, PART B: 4.0 man-hours.		
<b>CONTINUED AIRWORTHINESS (CAW) FLEET CAMPAIGN</b>	YES <input type="checkbox"/>	<b>NO</b> <input checked="" type="checkbox"/>
<b>TLMC, CH 5 AFFECTED</b>	YES <input type="checkbox"/>	<b>NO</b> <input checked="" type="checkbox"/>
<b>KITS and/or PARTS</b>	<b>YES</b> <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<b>TOOLING/GSE</b>	<b>YES</b> <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<b>PLANNING INFORMATION:</b> See important information at the start of Paragraph 1.	<b>YES</b> <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<b>DEDICATED SCHEDULE</b>	<b>YES</b> <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<b>PREREQUISITE SERVICE BULLETINS:</b> N/A		
<b>NOTE:</b> This Service Bulletin is expected to be the subject of an Airworthiness Directive which will make it necessary to implement this Service Bulletin.		

To place an order for parts or kits, please call Bombardier Aerospace Parts Services at:

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

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LANDING GEAR

## SPECIAL CHECK/MODIFICATION - NOSEWHEEL-STEERING CONTROL SYSTEM - REPLACEMENT OF THE STEERING MANIFOLD

### 1. PLANNING INFORMATION

**NOTE:** This Service Bulletin is also applicable to steering manifolds in the operator's stock room.

#### A. Effectivity

BD-100-1A10 aircraft, Serial No. **20003** to **20383**.

All other subsequent BD-100-1A10 aircraft are scheduled for the modification in production (Ref.: Modification Summary 100T010704).

**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 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

Some aircraft have displayed the amber "NWS FAIL" caution message and one aircraft experienced uncommanded nosewheel steering.

Investigation revealed that a contributing factor was the presence of moisture in the electrical portion of the Electro-Hydraulic Servo Valve (EHSV) which is part of the steering manifold.

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

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

This Service Bulletin gives instructions to replace the existing steering manifold with an improved steering manifold that has an O-ring replacing the gasket and the application of sealant around the EHSV connector and its mounting bolts. This offers better protection against moisture ingress. The benefits to the operator are improved reliability and reduced maintenance.

**C. Description**

This Service Bulletin gives instructions in PART A to:

- Verify the Part No. of the steering manifold.

This Service Bulletin gives instructions in PART B to:

- Get access to the steering manifold,
- Remove the steering manifold, Part No. 40750-101,
- Return the steering manifold, for disposition,
- Install the new steering manifold, Part No. 40750-103, and
- Do the necessary tests to make sure that the system operates correctly.

**D. Compliance**

Recommended within 48 months from this Service Bulletin release date (Basic Issue).

NOTE: This Service Bulletin is in reference to Advisory Wire AW300-32-0143.

**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 in accordance with established procedures.

**B O M B A R D I E R**  
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**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.

For more information related to the manpower estimates, refer to SB 100-00-02.

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.

0.5 man-hour is necessary to do PART A of this Service Bulletin.

Bombardier Aerospace does not pay for the labor to do PART A of this Service Bulletin.

4.0 man-hours are necessary to do PART B of this Service Bulletin.

The labor required to do PART B of this Service Bulletin is at no cost for aircraft in and out of warranty if:

1. the work is done at Bombardier Business Aviation Services (BBAS) or Authorized Service Facilities (ASF), and
2. this Service Bulletin is scheduled in less than 48 months from its release date (Basic Issue).

**G. Material – Cost and Availability**

Kit 100K32-25 is necessary to do this modification.

KIT NO.	PRICE
100K32-25	Please contact Bombardier Aerospace Parts Services, in Montreal, for delivery lead times and confirmation of prices.

This kit is available at no cost for aircraft in and out of warranty if:

- a no-charge purchase order is sent to Bombardier Aerospace in less than 48 months from this Service Bulletin release date (Basic Issue).

In addition to the kit shown above, the parts in Paragraph 3.B. may be necessary to do this Service Bulletin.

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The steering manifold assembly is available at no cost if a no-charge purchase order is sent to Bombardier Aerospace in less than 48 months from this Service Bulletin release date (Basic Issue).

This Service Bulletin is covered by a dedicated schedule. To ensure a timely and effective return/upgrade program, advance scheduling is required through our In-Service Implementation Team (ISIT). Please contact your Regional Manager (RM), Field Service Representative (FSR) or Customer Service Representative (CSR) as soon as is practical to schedule your aircraft.

Send steering manifold, Part No. 40750-101, for an exchange steering manifold, Part No. 40750-103, to Bombardier Aerospace at one of the two addresses given below:

Learjet – Core Returns  
8219 West Irving, Bldg 9, Dock 9,  
Wichita, KS 67209  
USA

or

Distribution Centre Frankfurt – Core Returns  
Bombardier Aerospace Germany Gmb H  
Hans-Boeckler-Strasse 9  
GROSS-GERAU Hesse 64521  
Germany

Refer to your Material Return Authorization (MRA) form to find the applicable return address.

**NOTE:** Bombardier Aerospace is maintaining a rotatable pool of replacement steering manifolds, to be supplied to the operators under the terms and conditions given below:

- The removed steering manifold must be returned to Bombardier Aerospace, Parts Services in less than 10 days of receipt of replacement unit, with documentation showing the serial number of the aircraft.
- If the removed steering manifold is not returned in less than 10 days, the operator will be charged for the replacement unit.

During or after the above free period, Smart Parts Plus does not pay for the kit or parts.

**BOMBARDIER**  
**CHALLENGER 300**  
 MODEL BD-100-1A10 (CL-300)

**H. Tooling**

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

<b>GSE REFERENCE NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>
20X-00-04 (See Note 3)	M1-G-KIT	Portable Bonding Tester,
24-00-24	S4933959-501	Tag, Circuit Breaker
Commercially Available	-	Container, Hydraulic Fluid, 5 U.S. gal (18.92 L)
Commercially Available	-	Tube, Transparent Extension, Hydraulic Fluid Draining
Commercially Available	-	Wrench, Torque

- NOTES:**
1. Refer to the BD-100 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 acceptable GSE equivalents.
  3. Any equivalent Bonding Tester can be used.

**I. Weight and Balance**

No change.

**J. Electrical Load Data**

No change.

**K. References**

- Bombardier Aerospace, Modification Summary, 100T010704, Rev. A.
- Bombardier Aerospace, Restriction and/or Special Instruction (RSI), C-100-000-32-0163, Rev. --.
- Bombardier Aerospace, Standard Practices Manual (SPM), Chapter 20.
- Bombardier Aerospace, SB 100-00-02, Service Bulletin Description and Policy.
- Messier-Dowty, Service Bulletin No. M-DT SB100-32-018 (attached).
- Advisory Wire AW300-32-0143.
- BD-100 Aircraft Maintenance Manual (AMM), Chapters 6, 24 and 32.
- BD-100 Aircraft Illustrated Parts Catalog (AIPC), Chapter 32.

**B O M B A R D I E R**  
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**L. Other Publications Affected**

None.

**M. Equivalent Service Bulletin**

None.

**2. ACCOMPLISHMENT INSTRUCTIONS**

- NOTES:
1. All TASKs given in the procedures that follow are from the BD-100 Aircraft Maintenance Manual (AMM) unless otherwise specified.
  2. All references made to zones, access panels and/or doors, are from the BD-100 AMM, Chapter 6.

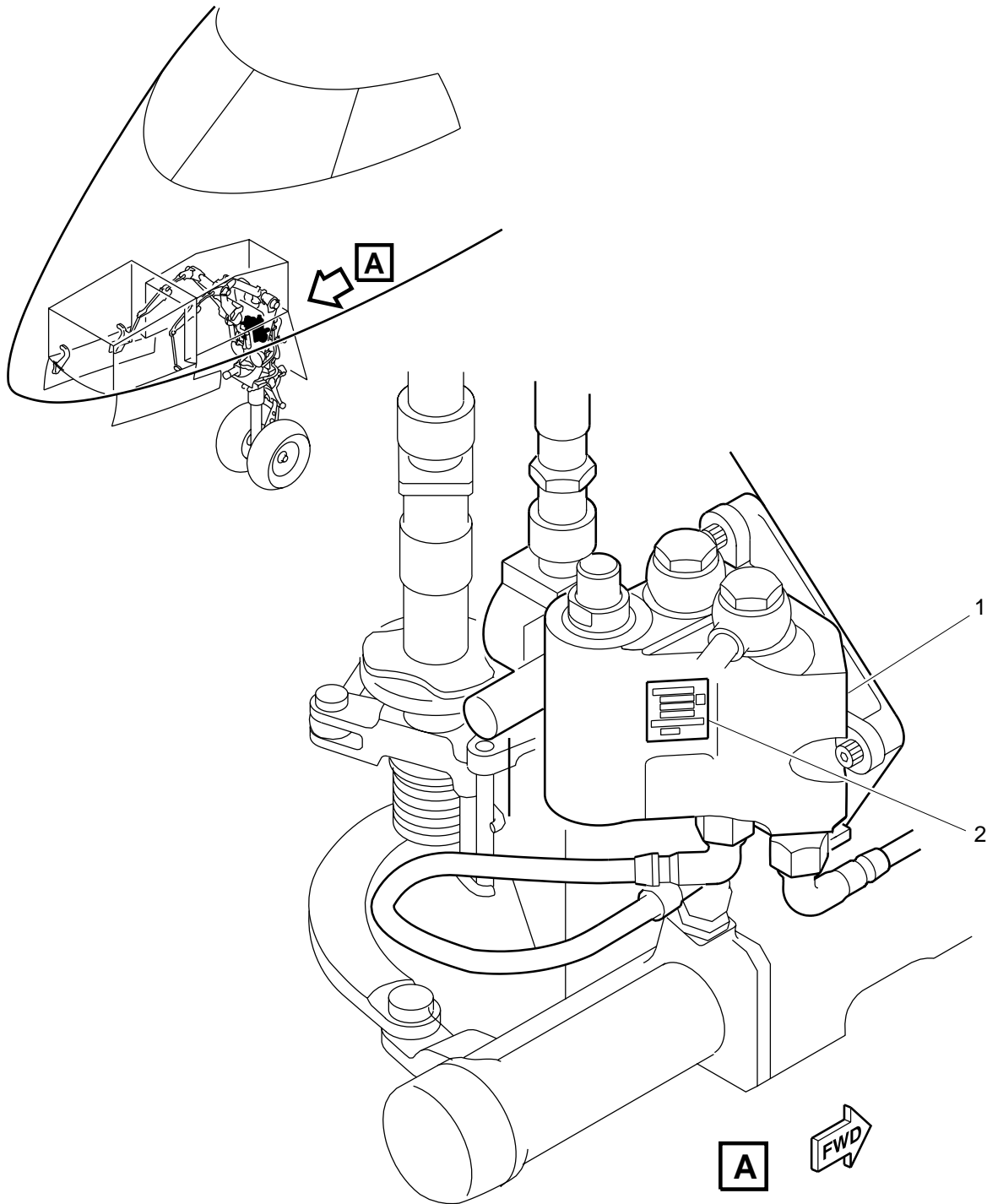
**A. Aircraft Setup**

Obey all electrical/electronic safety precautions. Refer to AMM 24-00-00-910-801.

**B. PART A – Special Check**

- (1) Verify the Part No. of the steering manifold (1) on the identification plate (2). Refer to Figure 1.
- (2) For aircraft with a steering manifold Part No. 40750-103, continue to Paragraph 2.D.
- (3) For aircraft with a steering manifold, Part No 40750-101, continue with PART B of this Service Bulletin.

BOMBARDIER  
**CHALLENGER 300**  
MODEL BD-100-1A10 (CL-300)



Steering Manifold – Special Check  
Figure 1

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

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**C. PART B- Modification – Replacement of the Steering Manifold**

NOTE: Refer to Messier-Dowty Service Bulletin No. M-DT SB100-32-018.

(1) Replace the steering manifold as follows:

NOTE: The steering manifold and EHSV are supplied as an assembly.

(a) Remove the steering manifold, Part No. 40750-101. Refer to AMM 32-51-13-000-801.

(b) Return the steering manifold for upgrade, refer to Paragraph 1.G.

(c) Install the new steering manifold, Part No. 40750-103. Refer to AMM 32-51-13-400-801.

NOTE: During the bleeding procedure for the left hydraulic system, the apex pin is removed from the upper and lower torque links on the nose landing gear. When you install the apex pin again, safety the nut with a new cotter pin, Part No. MS24665-134.

**D. Re-identification**

Write, with a permanent marker, "SB100-32-018" in the next available space on the NLG mod plate, Part No. 16275-1. If there is no mod plate or the mod plate is full, install a new mod plate, Part No. 16275-1.

**E. Close-out**

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

**F. Recording**

You can do each PART of this Service Bulletin independently. When any PART of 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).

In an effort to improve the quality of our technical communications, we are requesting your feedback. Please take a moment to fill out our easy on-line Service Bulletin survey:

<http://csefeedback.aero.bombardier.com>

**3. MATERIAL INFORMATION**

**A. Kits**

Kit 100K32-25 is necessary to do this modification and contains the parts that follow:

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NEW PART NO.	QTY	ITEM	USED PART NO.	INSTRUCTIONS - DISPOSITION
MS24665-132	2	Pin, Cotter	MS24665-132	Discard
MS24665-134	2	Pin, Cotter	MS24665-134	Discard
MS24665-153	2	Pin, Cotter	MS24665-153	Discard
NAS1612-4A	3	O-Ring	NAS1612-4 or NAS1612-4A	Discard
NAS1612-6A	5	O-Ring	NAS1612-6 or NAS1612-6A	Discard

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

**B. Parts**

The parts that follow may be necessary to do this Service Bulletin and are available from Bombardier Aerospace Parts Services, Montreal:

NEW PART NO.	QTY	ITEM	USED PART NO.	INSTRUCTIONS - DISPOSITION
16275-1	1	Mod Plate	-	-
Messier-Dowty PN 40750-103	1	Manifold, Steering	Messier-Dowty PN 40750-101	Refer to Paragraph 1.G. for instructions.

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

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DESCRIPTION	PART NO./NAME	SPECIFICATION	QUANTITY	SUPPLIER (SEE NOTE)
Fluid, Hydraulic, Phosphate Ester, Fire-Resistant	HYJET IV-A Plus Skydrol LD-4 Skydrol 500B-4	BAMS 564-003 Type IV	As Necessary	Code: A or Code: B
Solvent, Cleaning	HFE71DA	-	As Necessary	Code: C
Brush, Small	-	-	As Necessary	Code: D
Compound, Sealing and Coating, Corrosion Inhibitive	-	MIL-PRF-81733 Type II	As Necessary	Code: D
Grease, Aircraft and Instrument, Gear and Actuator Screw	Aeroshell 33 ELF Aviation Grease 10	MIL-PRF-12827C Type I	As Necessary	Code: D
Lockwire	CRES 0.032 in. (0.81 mm)	MS20995C32	As Necessary	Code: D

- 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.

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<b>SUPPLIERS ADDRESSES BY CODES</b>	
<b>Code: A</b>  ExxonMobil Aviation Lubricants Technical Support Center 3225 Gallows Road Fairfax, VA 22037 U.S.A. Tel.: 1-866-328-7463 Fax.: 1-703-846-2002  <a href="http://www.exxonmobilaviation.com">http://www.exxonmobilaviation.com</a>	<b>Code: B</b>  Solutia Inc. J.F. Queeny Plant 201 Russel Blvd. St-Louis, MO, 63104 U.S.A. Tel.: 1-800-426-7022  <a href="http://www.solutia.com">http://www.solutia.com</a>
<b>Code: C</b>  3M Corporate Headquarters 3M Center St. Paul, MN, 55144-1000 U.S.A. Tel.: 1-888-364-3577	<b>Code: D</b>  Commercially Available

**D. Publications**

No publications required.

## SERVICE BULLETIN EVALUATION FORM

(Your ideas will help us provide better bulletins)

**SERVICE BULLETIN:** 100-32-25    **ISSUE:** Rev. 01    **DATED:** Jun 30/2015

**TITLE:**    SPECIAL CHECK/MODIFICATION – NOSEWHEEL–STEERING CONTROL  
SYSTEM – REPLACEMENT OF THE STEERING MANIFOLD

In an effort to improve the quality of our technical communications, we are replacing the standard **Service Bulletin Evaluation Form** with an on–line **Service Bulletin Survey** and we are requesting your feedback. Please take a moment to fill out our easy on–line Service Bulletin survey at:

<http://csefeedback.aero.bombardier.com>

**SERVICE BULLETIN INCORPORATION SHEET – "100-32-25"**

<b>BOMBARDIER SUBMISSION</b>	<p>Upon completion of the Service Bulletin, please fill-in, fax to (514) 855-8798 or e-mail to Fracas at <a href="mailto:fracas.montreal@aero.bombardier.com">fracas.montreal@aero.bombardier.com</a></p> <p><b>If your aircraft is registered on CAMP and you are reporting to them, please do not send the incorporation sheet to Bombardier.</b> 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
			YES	NO	N/A	
100-32-25	01	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
_____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
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_____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

**Actual hours to accomplish Service Bulletin:** \_\_\_\_\_

\* NOTES:

- 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.
- For repetitive checks (usually PART A) only the initial check should be reported unless otherwise stated in the Service Bulletin.
- When more than one part is carried out at the same time, each part should be reported.

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	