

SERVICE BULLETIN SUMMARY

This Service Bulletin is available at:

www.cic.bombardier.com

BD-100-1A10 (CL-300)

ATA 27-32

FLIGHT CONTROLS

MODIFICATION – STALL PROTECTION SYSTEM – INTRODUCTION OF THE STALL PROTECTION COMPUTER (SPC) PART NO. 822-1792-003 TO CORRECT LOOPBACK ARINC 429 FAILURE MESSAGES

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

| | | | |
|---|--|--|--|
| RECOMMENDED RELIABILITY/DISPATCHABILITY/COST AVOIDANCE | COMPLIANCE TIME Not applicable | | |
| EFFECTIVITY: A/C Serial No. 20003 to 20328 | | | |
| MANPOWER: 2 man-hours | | | |
| TLMC, CH 5, PART 4 REQUIREMENT | 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: See important information at the start of Paragraph 1. | 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 | | | |

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

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

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MODIFICATION – STALL PROTECTION SYSTEM – INTRODUCTION OF THE STALL PROTECTION COMPUTER (SPC) PART NO. 822-1792-003 TO CORRECT LOOPBACK ARINC 429 FAILURE MESSAGES

1. PLANNING INFORMATION

A. Effectivity

BD-100-1A10 aircraft, Serial No. **20003** to **20328**.

All other subsequent BD100-1A10 aircraft are scheduled for the modification in production (Ref.: Modification Summary 100T010509).

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

The SPC, Part No. 822-1792-001 or 822-1792-002, does not address the state of the ARINC chip receive buffer prior to running the self-test. The Loopback 429 test is susceptible to failure because the ARINC buffer sometimes contains data other than the test word. This failure condition occurs randomly depending on the timing of the Loopback 429 test with respect to incoming data from other sources.

The self-test of the ARINC chip is run both at initial power up of the SPC and following a Pilot Activated Test (PAT). When the Loopback 429 test fails, it causes an internal SPC ARINC failure. The internal SPC ARINC failure causes an SPS Status failure. The SPS status failure causes the “STALL PROTECTION FAIL” and “SHAKER 1 FAIL” (failure of channel A), or “SHAKER 2 FAIL” (failure on channel B) CAS messages to be displayed.

The post-modification SPC, Part No. 822-1792-003, has nine lines of code added to clear the ARINC receive buffer before proceeding with the Loopback 429 test. Incorporation of this Service Bulletin will eliminate the additional pilot work load required to verify if the EICAS messages are false, or real.

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)

C. Description

This Service Bulletin gives instructions to:

- Get access to the Stall Protection Computer (SPC),
- Replace the SPC, and
- Do the necessary tests to make sure that the system operates correctly.

D. Compliance

Recommended – Reliability/Dispatchability/Cost Avoidance

NOTE: This Service Bulletin is in reference to Advisory Wire AW300-27-0105.

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.

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.
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.

2 man-hours are necessary to do this modification.

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

- (i) the work is done at Bombardier Business Aviation Services (BBAS) or Authorized Service Facilities (ASF)

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

G. Material - Cost and Availability

No kit necessary to do this modification.

One SPC, Part No. 822-1792-003 is necessary to do this Service Bulletin. For material data, refer to Paragraph 3.

The SPC is available at no cost by sending a purchase order to Bombardier Aerospace Parts Logistics, Montreal.

Send the old SPC, Part No. 822-1792-001 or -002, to the address shown below in exchange for a 822-1792-003:

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

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

- The removed SPC, Part No. 822-1792-001 or -002 must be returned to Bombardier Aerospace, Parts Logistics in less than 10 days of receipt of replacement unit, with documentation showing the serial number of the aircraft.
- If the removed SPC 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 part.

H. Tooling

| GSE REFERENCE NO. | PART NO. | DESCRIPTION |
|------------------------|--------------|--|
| 20X-00-04 | M1-G-KIT | Portable Bonding Tester |
| 24-00-24 | S4933959-501 | Tag, Circuit Breaker |
| Commercially Available | | Micro-ohm Meter, Kiethly Model 580, or Equivalent |
| Commercially Available | | Ohmmeter, High-Current Bridge Type, Biddle Kelvin Bridge Model 247000, or Equivalent |

NOTES: 1. Refer to the BD-100 Illustrated Tool and Equipment Manual to make sure that you use the correct equipment configuration.

2. Refer to the Liability Statement for acceptable GSE equivalents.

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

I. Weight and Balance

No change.

J. Electrical Load Data

No change.

K. References

- Bombardier Aerospace, Modification Summary, 100T010509, Rev. A.
- Bombardier Aerospace, Advisory Wire AW300-27-0105.
- BD-100 Aircraft Maintenance Manual (AMM), Chapters 6, 24, 25 and 27.
- BD-100 Aircraft Illustrated Parts Catalog (AIPC), Chapter 27.
- BD-100 Illustrated Tool and Equipment Manual (ITEM), Chapters 20 and 24.
- Bombardier Aerospace, Standard Practices Manual (SPM), Chapter 51.
- Rockwell Collins, Service Bulletin SPC-5000-27-501.

L. Other Publications Affected

- BD-100 Aircraft Illustrated Parts Catalog (AIPC), Chapter 27.

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 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 electrical/electronic safety precautions. Refer to TASK 24-00-00-910-801.
- (2) Open and tag the circuit breakers that follow:

| CB PANEL | CB NO. | NAME | ZONE |
|----------|--------|--------------|------|
| LCBP | B10 | L STALL PWR | 211 |
| LCBP | B11 | L STALL SHKR | 211 |
| LCBP | B12 | STALL PUSHER | 211 |
| RCBP | B10 | R STALL PWR | 212 |
| RCBP | B11 | R STALL SHKR | 212 |

- (3) Remove the equipment-rack access panel 221EZ. Refer to TASK 25-72-01-000-803.

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

B. Modification

CAUTION: OBEY ALL ELECTROSTATIC DISCHARGE SAFETY PRECAUTIONS WHEN YOU DO MAINTENANCE ON ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) COMPONENTS. STATIC VOLTAGE CAN CAUSE DAMAGE TO ESDS COMPONENTS.

- (1) Obey all electrostatic discharge safety precautions. Refer to TASK 24-00-00-910-802.
- (2) Remove the SPC, Part No. 822-1792-001 or -002. Refer to TASK 27-32-01-000-801.
- (3) Return the old SPC unit to the address given in Paragraph 1.G.
- (4) Install the replacement SPC, Part No. 822-1792-003. Refer to TASK 27-32-01-400-801.

C. Testing

- (1) Do the electrical bonding test for the SPC. Refer to TASK SPM-MM 51-80-00-760-801.
- (2) Remove the tags and close the circuit breakers that follow:

| CB PANEL | CB NO. | NAME | ZONE |
|----------|--------|--------------|------|
| LCBP | B10 | L STALL PWR | 211 |
| LCBP | B11 | L STALL SHKR | 211 |
| LCBP | B12 | STALL PUSHER | 211 |
| RCBP | B10 | R STALL PWR | 212 |
| RCBP | B11 | R STALL SHKR | 212 |

- (3) Do the operational test of the stall protection system (SPS). Refer to TASK 27-32-00-710-801.

D. Close-out

- (1) Remove all tools, equipment and unwanted materials from the aircraft.
- (2) Install the equipment-rack access panel 221EZ. Refer to TASK 25-72-01-400-803.

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).

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

3. MATERIAL INFORMATION

A. Kit

No kits required.

B. Parts

The part that follows is necessary to do this Service Bulletin and is available from Bombardier Aerospace Parts Logistics, Montreal:

| NEW PART NO. | QTY | ITEM | USED PART NO. | INSTRUCTIONS - DISPOSITION |
|-------------------------|------------|------------------------------|--------------------------|---------------------------------------|
| 822-1792-003 | 1 | Stall Protection Computer | 822-1792- 001 or -002 | Refer to Paragraph 1.G. |

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.

C. Material

No materials required.

D. Publications

No publications required.

SERVICE BULLETIN EVALUATION FORM

(Your ideas will help us provide better bulletins)

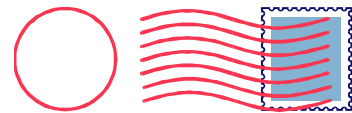
SERVICE BULLETIN: 100-27-14 **ISSUE:** Basic **DATED:** Jul 26/2011

TITLE: Modification – Stall Protection System – Introduction of the Stall Protection Computer (SPC) Part No. 822-1792-003 to Correct Loopback ARINC 429 Failure Messages

- | | STRONGLY
DISAGREE | DISAGREE | AGREE | STRONGLY
AGREE | N/A |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <ul style="list-style-type: none"> • Instructions to do the Service Bulletin were accurate. Comments: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <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"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <ul style="list-style-type: none"> • If a kit and/or parts were required, did the contents of the kit and/or parts received agree with the contents listed in the bulletin? Comments: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <ul style="list-style-type: none"> • The consumable materials listed under Paragraph 3 were easily procured. Comments: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <ul style="list-style-type: none"> • Work was accomplished in the prescribed time. Comments: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <ul style="list-style-type: none"> • Overall, I was satisfied with this Service Bulletin. Comments: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | | |
|------------------------------------|--|--|
| <i>For administrative use only</i> | PLEASE SUPPLY US WITH THE FOLLOWING DATA AND FAX TO: (514) 855-7634 or E-MAIL TO: MTL_BBAD_SB_Evaluation@aero.bombardier.com | |
| | OPERATOR: | |
| 052LB | AIRCRAFT SERIAL NO.: | |
| | TELEPHONE: | |
| | FACSIMILE: | |
| | NAME: (Please print) | |

THANK YOU FOR YOUR RESPONSE!
PLEASE RETURN THIS COMPLETED EVALUATION FORM BY MAIL, E-MAIL OR FAX



Bombardier Business Aircraft Customer Services (BBACS)

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

Attention: Customer Support Department

SERVICE BULLETIN INCORPORATION SHEET – “100-27-14”

**BOMBARDIER
SUBMISSION**

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

If your aircraft is registered on CAMP and you are reporting to them, please do not send the incorporation sheet to Bombardier. If your aircraft is on another tracking system, please contact Bombardier to make arrangements for automated data submission.

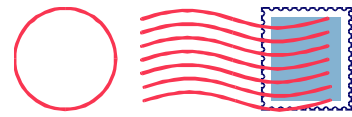
| Service Bulletin Number | Rev. | * Parts Completed | <u>COMPLIED WITH</u> | | | Remarks/Reason |
|-------------------------|-------|-------------------|--------------------------|--------------------------|--------------------------|----------------|
| | | | YES | NO | N/A | |
| 100-27-14 | Basic | - | <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"/> | _____ |

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 | |



Bombardier Business Aircraft Customer Services (BBACS)

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

Attention: Customer Support Department, Maintenance Engineering
