

PILOTS INFORMATION SHEET

MODEL BD-700-1A10 (BD-700)

ATA 31-41

INDICATING/RECORDING SYSTEMS

**MODIFICATION – INTEGRATED AVIONICS COMPUTER (IAC) SYSTEM –
RETERMINATE EGPWS STRAPPING TO GIVE PRIORITY TO IACS
“MINIMUMS, MINIMUMS” AURAL CALLOUT**

The Service Bulletin describes how to modify the Enhanced Ground Proximity Warning System (EGPWS) altitude awareness callout menu from “100, 50 and 30” to “50, 30 and 10”. This modification is recommended because of a potential conflict that may occur between the EGPWS and the Integrated Avionics Computer (IAC) system described as follows:

- Mode 6 of the EGPWS includes a function that generates altitude awareness callouts when the aircraft descends below predetermined altitudes. Currently, these predetermined altitudes are set to 100, 50 and 30 feet above ground level,
- The IAC system includes a function that generates a “MINIMUMS, MINIMUMS” aural annunciation when a radio altimeter decision height (DH) has been reached,
- A conflict between the 2 systems can occur when the aircraft reaches the altitude of 100 feet while on descent and the radio altimeter DH is set to 100 feet. Because most EGPWS callouts have priority over the IAC system aural annunciations, the IAC system “MINIMUMS, MINIMUMS” annunciation may be inhibited or silenced by the EGPWS “100” feet altitude callout. Such an occurrence is not satisfactory particularly during CAT II aircraft operations where the radio altimeter DH must be set to 100 feet.

Modification of the EGPWS altitude awareness callout menu removes the “100” feet callout. As a result, during a descent where the radio altimeter DH is set to 100 feet, the “MINIMUMS, MINIMUMS” annunciation generated by the IAC system will no longer be inhibited or silenced as the aircraft crosses the 100 feet altitude level. Change of the EGPWS altitude awareness callout menu is done by modification to the pin programming set up in the EGPWS connector A64AP1.

SERVICE BULLETIN

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

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**MODIFICATION – INTEGRATED AVIONICS COMPUTER (IAC) SYSTEM –
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1. PLANNING INFORMATION

A. Compliance

Recommended

B. 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.

C. Effectivity

BD-700-1A10 aircraft, Serial No. **9002** to **9163**.

All other subsequent BD-700-1A10 aircraft are scheduled for modification in production (Ref.: Modification Summary, 700T900087).

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.

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.
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D. Reason

This Service Bulletin describes how to modify the Enhanced Ground Proximity Warning System (EGPWS) altitude awareness callout menu from “100, 50 and 30” to “50, 30 and 10”. This modification is recommended because of a potential conflict that may occur between the EGPWS and the Integrated Avionics Computer (IAC) system described as follows:

- Mode 6 of the EGPWS includes a function that generates altitude awareness callouts when the aircraft descends below predetermined altitudes. Currently, these predetermined altitudes are set to 100, 50 and 30 feet above ground level,
- The IAC system includes a function that generates a “MINIMUMS, MINIMUMS” aural annunciation when a radio altimeter decision height (DH) has been reached,
- A conflict between the 2 systems can occur when the aircraft reaches the altitude of 100 feet while on descent and the radio altimeter DH is set to 100 feet. Because most EGPWS callouts have priority over the IAC system aural annunciations, the IAC system “MINIMUMS, MINIMUMS” annunciation may be inhibited or silenced by the EGPWS “100” feet altitude callout. Such an occurrence is not satisfactory particularly during CAT II aircraft operations where the radio altimeter DH must be set to 100 feet.

Modification of the EGPWS altitude awareness callout menu removes the “100” feet callout. As a result, during a descent where the radio altimeter DH is set to 100 feet, the “MINIMUMS, MINIMUMS” annunciation generated by the IAC system will no longer be inhibited or silenced as the aircraft crosses the 100 feet altitude level. Change of the EGPWS altitude awareness callout menu is done by modification to the pin programming set up in the EGPWS connector A64AP1.

E. Description

This Service Bulletin gives instructions to:

- Remove external avionics-compartment access-panel 140BB,
- Remove the EGPWS computer,
- Get access to the back of connector A64AP1 and remove the connector backshell,
- Re-terminate wire No. FAG5270-22 from A64AP1, pin A12 to A64AP1, pin C12,
- Install the backshell back onto connector A64AP1,
- Install the EGPWS computer,
- Do the necessary tests to make sure that the EGPWS operates correctly and that the altitude awareness callout menu has been successfully changed from “100, 50 and 30” to “50, 30 and 10”,
- Install external avionics-compartment access-panel 140BB.

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 700-00-002.

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.

2 man-hours are necessary to do this modification.

Labor is at no cost if the work is done at Bombardier Business Aviation Services (BBAS) or Authorized Service Facilities. For Bombardier Aerospace to pay for the labor, this Service Bulletin must also be scheduled in less than 12 months from its release date.

G. Material - Cost and Availability

No kit or material is necessary to do this modification.

H. Tooling – Price and Availability

No equipment or special tools are necessary to do this modification.

I. Weight and Balance

No change.

J. Electrical Load Data

No change.

K. References

- Bombardier Aerospace, Modification Summary, 700T900087, Rev. B
- Bombardier Aerospace, Kit Drawing, KGC991-7536, Rev. NC
- Global Express Aircraft Maintenance Manual (AMM), Chapter 12, 24, 34 and 52
- Global Express Wiring Manual (WM), Chapter 20 and 34

L. Other Publications Affected

- Global Express Flight Crew Operating Manual (FCOM), CSP700-5000-6, Chapter 17
- Global Express Wiring Manual (WM), Chapter 34

M. Equivalent Service Bulletin

For the Global 5000 BD-700-1A11 aircraft, refer to SB 700-1A11-31-005.

2. ACCOMPLISHMENT INSTRUCTIONS

- NOTES:
1. All TASKs referenced in the procedures that follow are from the Global Express BD-700 Aircraft Maintenance Manual, unless otherwise specified.
 2. All references made to zones, access panels and/or doors, are from the Global Express BD-700 Aircraft Maintenance Manual, Chapter 6.

A. Aircraft Setup

- (1) Make sure that the aircraft is in standard configuration for maintenance. Refer to TASK 12-00-00-867-801.
- (2) Obey all electrical/electronic safety precautions. Refer to TASK 24-00-00-910-801.
- (3) Set the circuit breaker that follows to OUT (on aircraft pre SB 700-24-045) or LOCKED (on aircraft, Serial No. 9123 and subsequent or aircraft post SB 700-24-045) (refer to TASK 24-00-00-863-801):

SYSTEM NAME	CIRCUIT BREAKER NAME	BUS NAME
NAV	GPWS	DC 1

- (4) Remove the external avionics-compartment access-panel 140BB. Refer to TASK 52-45-11-000-801.

B. Modification

- (1) Remove the EGPWS computer. Refer to TASK 34-42-01-000-801.
- (2) Get access to the back of connector A64AP1.
- (3) Remove the connector backshell.
- (4) Re-terminate wire No. FAG5270-22 as follows: from A64AP1, pin A12 to A64AP1, pin C12.

NOTE: Connector A64AP1 is an ITT Cannon Arinc 600 connector. For the removal and installation of the contact pin, refer to the Wiring Manual, Chapter 20-17-60.

- (5) Install the connector backshell.
- (6) Install the EGPWS computer. Refer to TASK 34-42-01-400-801.

C. Testing

- (1) Set the circuit breaker that follows to IN (refer to TASK 24-00-00-863-802):

SYSTEM NAME	CIRCUIT BREAKER NAME	BUS NAME
NAV	GPWS	DC 1

- (2) Connect electrical power to the aircraft. Refer to TASK 24-00-00-861-801.

- (3) Do the operational test of the EGPWS. Refer to TASK 34-42-00-710-801.

NOTE: During the aural messages sequence of the Long Level 1 Self-Test, make sure that you hear altitude awareness call out messages "FIFTY", "THIRTY" and "TEN" instead of the pre-modification messages "ONE HUNDRED", "FIFTY" and "THIRTY".

- (4) Remove electrical power from the aircraft. Refer to TASK 24-00-00-861-802.

D. Close-out

- (1) Install external avionics-compartment access-panel 140BB. Refer to TASK 52-45-11-400-801.

- (2) Remove all tools, equipment and unwanted materials from the work area.

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).

3. MATERIAL INFORMATION

Not applicable.

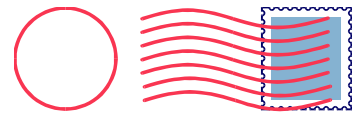
SERVICE BULLETIN EVALUATION FORM
(YOUR IDEAS WILL HELP US PROVIDE BETTER BULLETINS)

SERVICE BULLETIN <u>700-31-024</u>	ISSUE: <u>Basic</u>	DATED: <u>May 31/2005</u>
TITLE: Modification – Integrated Avionics Computer (IAC) System – Reterminate EGPWS Strapping to Give Priority to IACS “MINIMUMS, MINIMUMS” Aural Callout		

	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"/>	<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"> • The kit(s) and/or the parts, (except consumable material), were accurately listed to accomplish this Service Bulletin. Comments: 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> • The loose parts 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 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"/>

PLEASE SUPPLY US WITH THE FOLLOWING DATA AND FAX TO (514) 855-7894:	
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 – “700-31-024”

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.

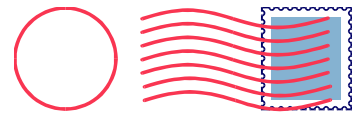
Service Bulletin Number	Rev.	* Parts Completed	Further Action Required	
			YES	NO
700-31-024	Basic	-	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>
-	-	-	<input type="checkbox"/>	<input type="checkbox"/>

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)

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Attention: Supervisor, Service Bulletin Group
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