ADVISORY WIRE
AW700-34-0166, Rev 1

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FROM: BOMBARDIER CUSTOMER SERVICES BUSINESS AIRCRAFT

ADVISORY WIRE

REFERENCE NO: AW700-34-0166, Rev 1

SUBJECT: Update – Weather Radar Increased Ground Clutter During Flight

EFFECTIVITY: Global Express aircraft (9002 to 9392)
Global Express XRS aircraft (9127 to 9392)
Global 5000 aircraft (9127 to 9392)

ATA: 34-61

This Advisory Wire contains Operational and Maintenance Information

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1.0 REFERENCES:

1.1 Honeywell Primus 880 Digital Weather Radar System Pilot's Guide A28-1146-102-03 Revision 3, dated 1 January 2006

1.2 SB700-34-048/700-1A11-34-022 InfoSheet No.2 Modification – Weather Radar System – Cap And Stow Two CAIMS Wires To Prevent Ground Clutter On Multi-Function Display (MFD). Released 7 July 2010

1.3 Honeywell SB 7021450-34-18 Rev. 1 Navigation - Modification (MOD) "S" to WU-440/660/880 Antenna And RCV/XMTR Unit (RTA), p/n: 7021450-401, -411, -421, -601, -611, -621, -801, -811, -821; Corrects Elevation Drift (Antenna Droop) That Occurs On Installations That Use Central Aircraft Information Maintenance System (CAIMS) Bus.

1.4 SB700-34-059/700-1A11-34-033 Modification – Weather Radar System – Connect Two CAIMS Wires And Perform Software Upload To Prevent Weather Radar Tilt Drooping. Released 21 June 2010

2.0 INTRODUCTION:

This Advisory Wire (AW) revision 1 is to provide Operators an update of a possible condition where the weather radar may display increasing amounts of ground clutter during flight. This revision will provide details on work around procedures and availability of the corrective action.

3.0 DESCRIPTION:

There have been field reports indicating that the weather radar information on the Multi Function Display (MFD) would show increasing amounts of ground clutter, during several hours of levelled flight. The weather radar antenna appears to be drooping in flight even though the tilt information of the MFD does not indicate any antenna movement in the TILT or Altitude Compensated Tilt (ACT) mode.

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Investigation and testing of this drooping condition revealed that the cause was related to an Arinc 429 general purpose bus communication protocol anomaly in the processing of pitch angle information between the Data Acquisition Unit (DAU) and the weather radar system. This Arinc 429 bus also supports some of the CAIMS communications.

The initial release of this AW provided a work around procedure and a short term solution for the aircraft experiencing the drooping condition.

- As a work around, pilots were instructed to manually adjust the tilt to clear the ground clutter interference. Tilt management techniques are described in the Weather Radar System Pilot's Guide (ref. 1.1) in Section 5 "Tilt Management". Pilots were also able to select the radar to STBY for 10 seconds and then back to WX mode, this had the effect to readjust/ reset the antenna position.

- The short term solution was to disconnect and stow the wiring associated with the CAIMS communication bus by performing Optional Service Bulletins (SBs) (ref 1.2) or submitting a Service Request for Product Support Action (SRPSA). The result is that the CAIMS Stored Flight/Ground Faults reporting becomes inoperative.

Recently the final fix was made available by the replacement of the Weather Radar Antenna (RTA) assembly with a modification "S" status (ref 1.3). This was broadcast in Infosheet No.2 of SB (ref 1.2), thus superseding the short term solution.

The SBs (ref 1.4) were released, to provide instructions to reconnect the wiring and ensure that the RTA is Mod "S", followed by a system test, for Operators that previously performed the wiring cap and stow on their aircraft as per the SBs (ref 1.2) or via SRPSA.

Please note that the test procedure in SBs (ref 1.4) basic issue, section 2.B.C Testing (2.f), the Weather Radar (RTA) will not be viewable in system Diagnostic under ATA 34, if the older CAIMS LDI Phoenix .030 is used.

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Any other LDI will provide proper Weather Radar (RTA) and GND FAULTS selection to perform the test. The SBs (ref 1.4) will be revised shortly providing this LDI detail in the test procedure (Section 2.B.C Testing).

In addition, AW700-45-0002 “CAIMS Member System Functionality Status” revision 10 incorrectly states in Table 1 that the Weather radar (RTA) do not have the Stored Flight/Ground Faults parameters selection. The AW700-45-0002 will be updated to state that this is only valid for CAIMS LDI Phoenix .030, and that any other LDI or newer version provides the Stored Flight/Ground Faults parameters selection. It is recommended that Operators always install the latest version of LDI in their PMAT.

ACTION:

Operators and Pilots should be familiar with the condition identified in this AW and the associated corrective action availability.

As a summary,

Operators that performed the wiring cap and stow by optional SBs (ref 1.2) or via SRPSA, should implement the SBs (ref 1.4) to reconnect the wiring and install a RTA Mod “S”.

For Operators that did not perform the wiring cap and stow by SB (ref 1.2) or via SRPSA, the only action required is to ensure that an RTA Mod “S” status is installed on the aircraft at their next maintenance opportunity (ref 1.3). As stated in Honeywell Vendor Service Bulletin (VSB) (ref 1.3), the RTA upgrade to Mod “S” can be done by contacting Honeywell. There is no cost to approved customers for 60 months after the initial release date of the VSB.

Note that the Mod “S” RTA was introduced in production at aircraft serial number 9393 and subs.