ADVISORY WIRE

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REFERENCE NO:	AW700-34-502, Rev 01	INFORMATION TYPE:	Operational
ATA:	34-61	EFFECTIVITY:	Global Express / XRS (9002 - 9312, 9314 - 9380, 9384 - 9429) Global 5000 (9127 to 9383, 9389 to 9400, 9404 to 9431 and 9998)
SUBJECT:	**Pre and Post Batch 3 Upgrade – FMS – Lateral Navigation (LNAV) / Guidance issues commanding a turn in an opposite direction**		

1. REFERENCES:

1.1. Honeywell Service Information Letter (SIL) D201302000143R003, Flight Management System (FMS) Lateral Navigation (LNAV) / Guidance Issues, dated 28 Aug 2015

1.2. Honeywell Service Information Letter (SIL) D201011000003R021, Flight Management Systems (FMS); NZ-2000/2010 and FMZ-2000/IC-615/IC-800/IC-810/IC-1080; Reduction of Navigation Database Procedures Content due to FMS Lateral Navigation (LNAV) Display/Guidance Issues, dated 7 Nov 2016

1.3. Bombardier Service Bulletin (SB) 700-31-030 / 700-1A11-31-014, Modification – Integrated Avionics Computer (IAC) System – Batch 3 Software Upgrade, revision 4, released 03 Oct 2016

1.4. Bombardier Service Bulletin (SB) 700-31-034 / 700-1A11-31-017, Modification – Integrated Avionics Computer (IAC) System – Batch 3.3 Software Upgrade, revision 2, released 23 Jan 2017

References 1.1, 1.2, 1.3 and 1.4 are available on the Bombardier Customer Portal: (my.businessaircraft.bombardier.com) > Library > Search by Keyword

2. INTRODUCTION:

Revision 1 of this Advisory Wire (AW) provides an update on the correction availability thru the Batch 3.3 software upgrade (Ref. 1.4) of the issue detailed in the associated Honeywell SIL (Ref. 1.1).

This Flight Management System (FMS) anomaly may result in the FMS commanding a turn in a direction opposite to that expected.

Honeywell FMZ-2000 software versions NZ5.8 and earlier and software version NZ6.1 post Batch 3 software upgrade (Ref. 1.2, IC-810, IAC PN 7017300-61010) currently installed on the Global Express/5000/XRS are affected by this condition.

3. DESCRIPTION:

The Honeywell SIL (Ref. 1.1) provided details, examples with associated figures on two (2) situations where the FMS may command an incorrect turn compare to the expected operation.

- Item 1: 180 Degree course change with tight turn diameter, if the following conditions present:
  - 180 degree or greater course change using multiple legs entered by the flight crew
  - Flight crew enters a waypoint to create a base leg
  - Aircraft turn diameter exceeds the base leg length
  - Winds (any direction) are one third of the aircraft true airspeed or greater

  If the flight crew enters in an expanded base leg or Vectors to Final (VTF) was utilized, the FMS would have correctly calculated the turns and the flight plan would have been flown as expected.
- Item 2: Turn direction set by geometry course change greater than 180 degrees, when no coded turn direction specified.

  Reference VOR station, located at Azerbaijan, Gabala airport (UBBQ). GIPAR1A standard terminal arrival route (STAR) with instrument landing system (ILS) approach transition. In this procedure, the initial fix (IF) is at QBL very high frequency omnidirectional range (VOR) and no turn direction specified on the course to a fix (CF) leg.

Both items listed in the Honeywell SIL (Ref. 1.1) cannot be prevented by removal of terminal area procedures from the navigation database as described in Honeywell SIL (Ref. 1.2) for similar type of LNAV display / guidance issues.

4. ACTION:

Operators should be familiar with the conditions detailed in the Honeywell SIL (Ref. 1.1) and flight crews are encouraged to monitor aircraft guidance to ensure turn direction is consistent with the expected operation for the procedure being flown.

This anomaly was corrected with Batch 3.3 FMS software upgrade (Ref. 1.3, IAC PN 7017300-61013).

Should you have any queries pertaining to this Advisory Wire (AW), please contact your Bombardier Field Service Representative (FSR) or the Customer Response Center (CRC).