

Advisory Wire

REFERENCE NO:	AW700-34-0501, 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:	Flight Management System (FMS) – Descent Angle changes upon Place-Distance (PD) HOLD Insertion		

1. REFERENCES:

- 1.1. Honeywell Service Information Letter (SIL) D201412000024R004, Descent Angle Change Upon Place-Distance (PD) HOLD Insertion and May Cause Vertical Deviation (VDEV) Splits, dated 6 May 2019
- 1.2. Bombardier Service Bulletin (SB) 700-31-030 / 700-1A11-31-014, Modification – Integrated Avionics Computer (IAC) System – Batch 3 Software Upgrade
- 1.3. Bombardier Service Bulletin (SB) 700-31-034 / 700-1A11-31-017, Modification – Integrated Avionics Computer (IAC) System – Batch 3.3 Software Upgrade
- 1.4. Bombardier Service Bulletin (SB) 700-31-039 / 700-1A11-31-021, Modification – Integrated Avionics Computer (IAC) System – Batch 3.4 Software Upgrade

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 following the release of the revised Honeywell SIL (Ref. 1.1) and on the variation of behavior between the different Honeywell FMS software versions.

This Flight Management System (FMS) anomaly occurs when the descent angle changes upon insertion of a HOLD on a Place-Distance (PD) waypoint while in VPATH (Vertical Path) mode.

All Honeywell FMS software versions NZ5.8 and earlier, software version NZ6.1 post Batch 3 upgrade (Ref. 1.2, IC-810, IAC PN 7017300-61010), post Batch 3.3 upgrade (Ref. 1.3, IC-810, IAC PN 7017300-61013) and post Batch 3.4 upgrade (Ref. 1.4, IC-810, IAC PN 7017300-61014) currently installed on the Global Express/5000/XRS are affected by this condition.

3. DESCRIPTION:

A situation is described in the Honeywell SIL (Ref 1.1), where the descent angle change after the insertion of a HOLD on a Place Distance (PD) waypoint in a flight plan. In the example described in the Honeywell SIL (Ref. 1.1), after crossing 'PXR' Very High Frequency Omnidirectional Range (VOR) waypoint, the pre-

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selector altitude is dialed down and a vertical DIRECT-TO to 'CIPLU' is performed (Figure 1). At this point in time, the descent angle changed to less than 3.0 degrees, in this case to 1.0 degree.

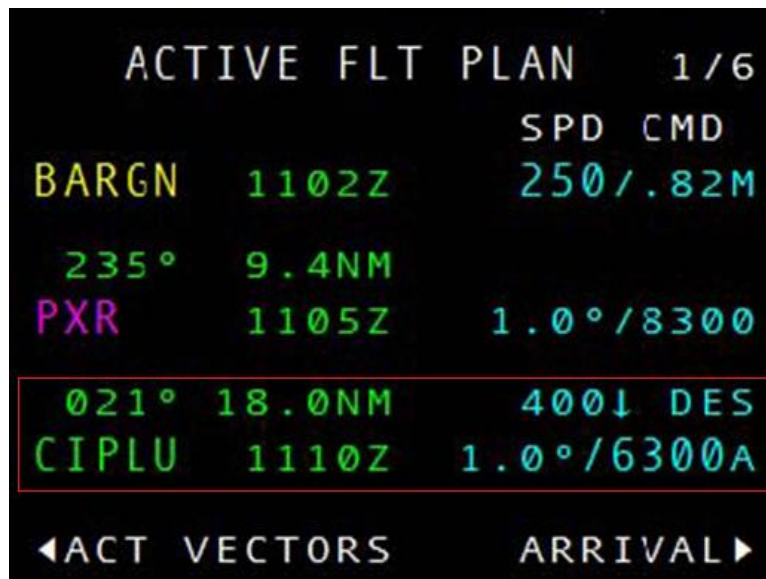


Figure 1

A PD waypoint is inserted between the next waypoint 'CIPLU' and the 'PXR' VOR waypoint. Then a HOLD is inserted on the PD waypoint. When activated, the descent angle changed back to the 3.0 degrees (Figure 2). The aircraft would also level off at this point. The active descent angle should not change while making flight plan changes in VPATH mode.

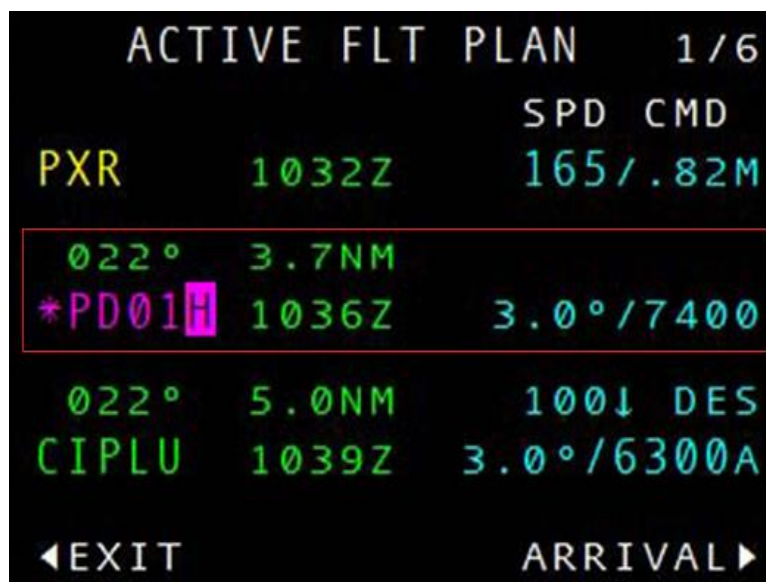


Figure 2

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Note: Post Batch 3.3 and Batch 3.4 upgrade (Ref. 1.3 and 1.4) angle behavior

The FMS will retain the previously calculated descent angle (1.0 degree in the SIL example) and use that descent angle for altitude predictions. However, flight crews may observe unexpected level offs and the vertical deviations will still be observed.

Note: Post Batch 3.3 and Batch 3.4 upgrade (Ref. 1.3 and 1.4) altitude constraint

By inserting the PD waypoint and adding the HOLD pattern on the same PD waypoint, flight crews may observe the aircraft transition into Vertical Flight Level Change (VFLCH) when sequencing into the HOLD pattern, or the FMS may transition into Vertical Altitude Hold (VALT) at the predicted altitude on the HOLD waypoint.

4. ACTION:

Operators should be familiar with the condition detailed in the Honeywell SIL (Ref. 1.1) and flight crew are encouraged to monitor FMS behavior during all flight plan changes.

Correction to this condition will be considered as a part a future software change to the IAC/FMS.

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).