CUSTOMER ADVISORY

MID TERM Flight Sub- Committee

Customer Advisory
Flight Sub- Committee
31 March, 2017

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AGENDA – Flight Operation ISSUES

TOP ISSUES (15 M)

- V5 Release & AFM Limitation
- G6000 – RC V4.5 SELECTED SPEED HOLD & NAV TO NAV TRANSFER
- GLOBAL VISION - SVS FAIL POSTING

TECHNICAL ISSUES (10 M)

- GVFD AUTO THROTTLE HUNTING
- VISION – FMS TEMPERATURE COMPENSATION

OTHERS (50 M)

- POST BATCH 3.3, ACARS DMU FAILED
- POST BATCH 3.3, FMS RESET
- GLOBAL VISION – GNSS
- GLOBAL EXPRESS, XRS, G5000 – SBAS GNSSU
- OPTIONAL SERVICE BULLETINS & OPERATIONAL BENEFIT
- ANSP – HANDLING DATABASES
- CROSS WIND LANDING
- RECURRENT ACTIONS
  - S9 EMERGING REGULATIONS & AVIONICS ROADMAP
  - S21 FMS ISSUES (PRIMUS 2000 & GVFD FUSION)
- OPERATIONAL AW; PROPOSE/DISCUSS NEW PROCESS

Note: Top & Technical Issues Slides were deleted, for latest information, refer to the pertinent section

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ADDITIONAL TOPICS

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Other Operational Issues

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- POST BATCH 3.3, ACARS DMU FAILED
- POST BATCH 3.3, FMS RESET
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- GLOBAL EXPRESS, XRS, G5000 – SBAS GNSSU
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Global Express/5000/XRS – ACARS DMU Failed

Condition: Post Integrated Avionic Computer (IAC) – Batch 3.3 Software Upgrade, SB 700-31-034 & 700-1A11-31-017

- Intermittent occurrences of "ACARS DMU FAILED" FMS (Flight Management System) Control Display Unit (CDU) messages on some aircraft
- Failure associated with the interruption all Datalink operations until the system recovers

Cause: Datalink unit stops its normal operation and transmission of ARINC 429 data to the IAC which triggers the message

Status: AW700-23-0578 Rev.1, released Feb/17. FMS CDU "ACARS DMU FAILED" message observed Post Batch 3.3

- Root cause under investigation

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Global Express/5000/XRS – FMS Reset

Condition: Post Integrated Avionic Computer (IAC) – Batch 3.3 Software Upgrade, SB 700-31-034 & 700-1A11-31-017

- FMS resets following a flight plan winds update request is sent through Datalink
- "FMS FAIL X" CAS message, where "X" indicates the FMS associated with the CDU where the request was made
- Flight plan is lost and FMS drops into single mode operation

Cause: Limited allocation of memory capacity of the FMS circuit card in the IAC Reset occurs when an uplink file message block from the Ground Service Provider (GSP) exceeds 1264 characters during large flight plan winds update request.

Status: AW700-31-0563 Rev 3 – Batch 3.3 Software Upgrade – In-Service Observations

- GSP status – uplink size limit for each transmission block:
  - ✓ ARINC Direct (AD)
  - ✓ Global Data Center (GDC)
  - ✓ SATCOM Direct (SD)
  - ✓ Universal (UV)

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Global Vision – Global Navigation Satellite System (GNSS)

Condition:

1. During the aircraft power-up, one or both GNSSU (Global Navigation Satellite System Unit) remains in acquisition mode

2. Momentary dual GNSS (Global Navigation Satellite System) signal loss at high latitudes above 71 degrees North/ South

Cause:

1. Software condition is associated to the GPS week rollover occurring every Sunday at 00:00 Universal Time Coordinated (UTC). If unit is powered up/down during that transition it causes a software lockup

2. Software condition susceptible at high latitudes in combination with satellite azimuth/elevation calculations, resulting in a value outside the acceptable range

Addresses in service issues and improves reliability

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Global Vision – Global Navigation Satellite System (GNSS)

Solution:

Interim:

1. AW700-34-0465 Rev. 3 providing mitigation procedure, released Jan/16
   - Avoid having aircraft powered on GPS week rollover at 23:50 to 00:00 UTC. Leave aircraft powered up to 04:00 AM if operation did not allow power down
2. AW700-34-0529 Rev.1 providing details and impact, released Jan/16
   - The GNSSU will recover with no pilot action and full GPS functionality will be resumed in approximately 2 to 5 minutes

Long term:

- GNSSU software correction new part numbers 822-2189-007 (replacing -005) and 822-2189-011 (replacing -010) by attrition as a set
  - AIPC 34−55−03 revision, released Dec/15
- GNSS software upgrade campaign addressing both conditions
  - Recommended SB 700-34-5023/ 700-34-6023, released Jul/16

Reinstated time and date reference in software load V5, allowing a recovery procedure to a GNSSU that experienced a GPS week rollover condition prior to the above SB incorporation

Addresses in service issues and improves reliability

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Global Express/5000/XRS - Global Navigation Satellite System (GNSS)

Condition:

Observed with the SBAS GNSSU (post ADS-B Out or SBAS with LPV SBs) in either NAVIGATION mode (SBAS Off) or DIFFERENTIAL mode (SBAS On)

Single or Dual GPS failures at cruise altitude north of the 47 degrees latitude **Note**: mainly over Greenland / Iceland vicinity) or under specific conditions that exist within the SBAS network

Cause:

Software condition to determine the availability of SBAS ionospheric data to prevent undesired GPS sensor abort

The condition is more susceptible in regions close to the edge of the SBAS coverage or close to the boundary of a SBAS geostationary satellite footprint

Solution:

AW700-34-0516 Rev. 1, released Sep/16 provides workaround procedure and permanent solution information

Honeywell (SIL) D201502000082 Rev. 2, dated 31 May/1 2016
Provides the permanent software solution thru new MOD 4

Addresses in service issue in providing continuous GNSS SBAS operation

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Operational Issues

Current Operational Issues - VREF

****Global Express VREF – Minimum landing reference speed**

- Based on 1.33 (or 1.30) VS versus 1.2 VS (or something else) for other aircraft
- AFM performance data provided for VREF

Approved additions to VREF detailed in AFM:

- Winds and gusts: add ½ gust up to max of 10 knots;
- One Engine Inoperative: +5 knots;
- Contingency configurations such as SLATS OUT / FLAP ZERO, etc.:
- Add corrections as detailed in the QRH procedure

**Ref: AFM 06-01-1

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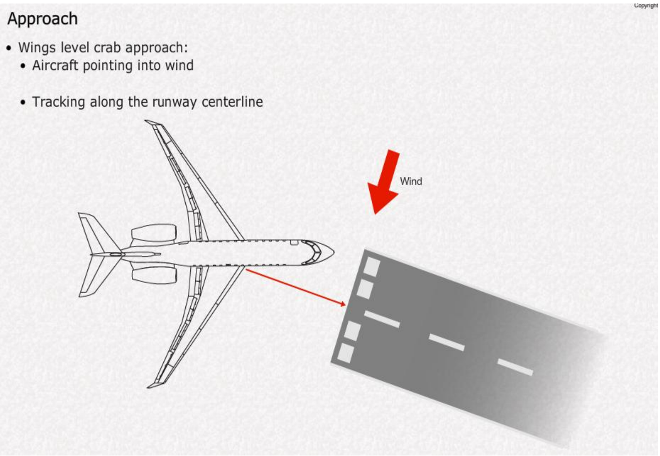
Crosswind Landings



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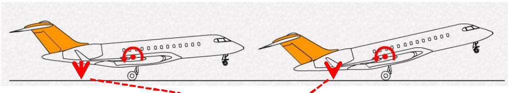
Crosswind Landings
Recommended Techniques

Effect of Pitch on wing-tip contact angle

PITCH angle	Bank Angle for wing tip contact (ground, no lift)	In Flight (lift, increased dihedral)
0	10.6	13.5
3	9.6	12.3
6	8.5	11.2
9	7.4	10.1



Wing Tip Clearance
At Touchdown Target Pitch ~ 7°- 8°

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Crosswind Landings
Recommended Techniques

Flare to Crosswind Landing

- At approximately 30 feet, commence the flare.
- During the latter part of the flare, prior to touchdown:
- Introduce sufficient rudder to align the aircraft with the runway (de-crab);
- Simultaneously apply opposite aileron to maintain wings level or very slightly into-wind wing down (max 3°) – avoid down-wind wing low.

- Relatively aggressive control inputs may be required depending on crosswind component and intensity.
- Avoid ‘walking” back and forth on rudder to steer aircraft.
- Do not use rudder to roll the aircraft.
- Do not delay touchdown”

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Crosswind Landings
Recommended Techniques

Maintain crab to compensate for drift while on approach:

- VREF + ½ Gust (max of 10 Kts).

Consider use of autobrake.

Consider use of HUD:

- May channelize attention if intensity not set appropriately or if crew not current with HUD use
- How current are you with the HUD? Should it be used?

- During the flare, align with the runway using sufficient rudder and into-wind aileron to keep the wings level or slightly wing down to compensate for drift. - Focus should be on wings level.

- Plan a positive landing – put the aircraft on the runway without delay - which is preferable to increasing / extended exposure to crosswind.

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Crosswind Landings
Recommended Techniques

- During gusty crosswind conditions touch down deliberately.
- Delayed touch-down may result in drift - may jeopardize safe landing within lateral runway parameters.

- Limit bank angles (max 3º) into wind --- FOCUS on WINGS LEVEL
- Wing tip strike may occur at approximately 8º of bank.

- Accept small amount of crab on touchdown.

- During roll-out, apply (increase) crosswind control inputs (aileron into wind) until the aircraft has achieved a normal taxi speed
- Especially important on wet/contaminated surfaces

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Crosswind Landings
Recommended Techniques

DO NOT

- Hold off the touch-down to achieve a smooth landing!
- It is not appropriate to try to finesse a landing with significant crosswind, especially with gusty conditions.

REMEMBER

- The wing sweep (34º) and span cause the wing tips to be closer to the ground as the pitch is increased during flare.

More detailed information on crosswind operations of the Global series of aircraft is available on-line. It is free at the following URL:
http://www.batraining.com/elearning/freecourses/crosswind

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