Operational Evaluation Board (OEB) Report
Global 6000/Global 5000 GVFD sw ver 4.5.7 Steep Approach Landing

Preliminary OEB Findings

1. Background
The European Aviation Safety Agency (EASA) Operational Evaluation Board (OEB) conducted an Operational Suitability Evaluation of the steep approach landing for the BD-700-1A10 Global Vision Flight Deck (GVFD) also known as the “Global 6000” and BD-700-1A11 Global Vision Flight Deck also known as the “Global 5000 GVFD”. The evaluation was conducted in concert with EASA Flight Test.

2. Purpose
The purpose of this document is to report on the steep approach evaluation conducted in concert with EASA flight test.

3. Scope
(a) On 14 and 15 May 2013 two flight tests were completed on BD700-1A10, Serial No 9313, C-FTIO with aircraft software configuration V4.5.7 at Wichita (KICT).
(b) On 29 May steep approach awareness training (classroom and FFS) was delivered to the EASA OEB pilot.
(c) On 3 June 2013 one operational evaluation T3 flight was conducted on BD700-1A10, Serial No 9313, C-FTIO with aircraft software configuration V4.5.7 at Wichita (KICT) with the EASA OEB pilot.
(d) On 17 June 2013 one test flight was completed on BD700-1A10, Serial No 9313, C-FTIO with aircraft software configuration V4.5.7 at London City Airport (EGLC).

4. OEB Recommendations
All findings raised during the evaluation are closed.

The EASA OEB found the Global 6000/Global 5000 GVFD sw ver 4.5.7 is operationally suitable for steep approach landing operations up to an approach path angle of 5.50 degrees, using procedures provided by Bombardier Aerospace contained within the Aircraft Flight Manual Supplements 29 and 40.

The EASA OEB has determined that eLearning, pre-flight briefing and flight training is required for competency in conducting steep approach landing operations.

The EASA OEB has determined that adherence to this report is required prior to performing steep approach landing procedures.

5. Limitations
See Aircraft Flight Manual Supplements 29 and 40 for applicable limitations.
6. Specifications for Training

6.1 Pilot Training Prerequisite

No prerequisite is required before entering the Steep Approach pilot course except a current type rating on the aeroplane, or full initial type rating training up to, but excluding, the skill test.

6.2 The crew shall be trained using the instructor led Global Vision Steep Approach procedure provided by Bombardier Aerospace or as in equivalent company SOP’s.

The steep approach pilot training course may be included as an integral part of the aeroplane type rating training course.

6.3 Steep Approach Pilot Training Programme

6.3.1 Flight Training

Flight training as pilot flying (PF) and pilot monitoring (PM) may be conducted in a Global 6000/Global 5000 GVFD sw ver 4.5.7 or higher software configuration in a Level C or D FFS or in the aircraft with an unrestricted Type Rating Instructor (TRI) especially authorised to conduct steep approach training. The flight training shall address the following:

(a) Briefing prior to the simulator or aircraft session to include limitations, normal and abnormal procedures, performance with special emphasis on landing distances and brake cooling.

(b) Phases of the steep approach to include the stabilized approach concept as a key success for steep approach landing, appropriate slats/flaps configuration, approach speed and flare initiation.

6.3.2 Initial Training

The initial training shall comprise, as a minimum, three steep approaches as pilot flying:

(a) one approach following a 5.5 degree approach path angle with full stop landing to comply with normal procedures with or without autobrake with HUD; and

(b) one approach following a 5.5 degree approach path angle with engine anti-ice introducing an abuse in speed and 1000ft stabilisation criteria, managed by the crew to minima followed by a go-around; and

(c) one approach following a 5.5 degree approach path angle with an engine failure below 400ft agl, followed by a full stop landing or a go-around at pilot discretion.

6.3.3 Recurrent Training

The recurrent steep approach training shall be performed every 6 months, and shall include as a minimum:

(a) one approach following a 5.5 degree approach path angle with full stop landing to comply with normal procedures with or without autobrake with HUD as a minimum; and

(b) one approach following a 5.5 degree approach path angle with engine anti-ice introducing an abuse in speed and 1000ft stabilisation criteria, managed by the crew to minima followed by a go-around; and
(c) one approach following a 5.5 degree approach path angle with an engine failure below 400ft agl, followed by a full stop landing or a go-around at pilot discretion.

6.3.4 Training Areas of Special Emphasis applicable to steep and steeper approaches

(a) Aircraft operating, navigation and system limitations applicable to steep approach
   (i) Weights
   (ii) Anti-ice systems and operations in icing conditions
   (iii) Automatic flight control system
   (iv) Flight management system
   (v) Inoperative systems
   (vi) Head up display
   (vii) Approaches
   (viii) Wind limits and tailwind conditions
   (ix) Minimum decision heights
   (x) Landing airfield limits

(b) Training requirements, charts and authorisation

(c) Normal Procedures (SAL Card)
   (i) FMS/Landing Data
   (ii) Configuration change timelines
   (iii) Before Landing considerations
   (iv) Required flare technique
   (v) Go-around considerations
   (vi) After Landing considerations

(d) Non-Normal Procedures
   (i) Flight Controls
   (ii) Excess speed
   (iii) Configuration
   (iv) Single engine procedure
   (v) Steep approach modes

(e) Emergency Procedures
   (i) Excessive speed
   (ii) Gear unsafe
   (iii) Landing in configuration other than defined steep approach configuration

(f) Performance (slat/flap and spoilers full)
   (i) Stall speeds
(ii) Approach climb speed
(iii) Approach climb gradient
(iv) Landing climb speed
(v) Landing climb gradient
(vi) Landing field length and landing speed
(vii) Stopping Distance

7. Recency Experience /Currency

The OEB determined that there are no specific recent experience or currency requirements for steep approach.

8. Training Credits

Training credit (initial and recurrent) may be given for steep approach training performed in either variant of the GVFD equipped aircraft provided a briefing covering the steep approach procedures differences is undertaken.

9. Period of Validity of Competence

Before performing steep approach landing operations, an operator shall ensure that the commander fulfils the requirements of Annex III to Commission Regulation (EU) No 965/2012 of 05 October 2012 (“Part-ORO”) ORO.FC.105(b)(2);(c) and AMC1 ORO.FC.105(b)(2);(c) and AMC1 ORO.FC.105(c).

10. Recurrent Checking

There is no requirement for knowledge checking or flight checking for Global 6000/Global 5000 GVFD steep approach qualification. A certificate of completion steep approach training is sufficient to demonstrate qualification.

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