OPERATIONAL EVALUATION REPORT

BOEING

B767 AND B757

GRUPO DE AVALIAÇÃO DE AERONAVES – GAA

BRAZILIAN AIRCRAFT EVALUATION GROUP

AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL

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Original	August 13th, 2018	Original report – Information extracted from IAC 121-1006 and translated into English

Approval

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1 General

1.1 Evaluation Team

1.1.1. First issue team members

Name	Task	Organization
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Acronyms

- ❑   AGL – Above Ground Level
- ❑   AFDS – Automatic Flight Director System
- ❑   AP – Auto Pilot
- ❑   B757 – Boeing 757 Airplane
- ❑   B767 – Boeing 767 Airplane
- ❑   CMD – Command
- ❑   CWS – Control Wheel Steering
- ❑   DAC – Civil Aviation Department (Departamento de Aviação Civil)
- ❑   EGPWS – Enhanced Ground Proximity Warning System
- ❑   ETOPS – Extended Overwater Operations
- ❑   FANS – Future Air Navigation System
- ❑   FMS – Flight Management System
- ❑   GAA – Brazilian Aircraft Evaluation Group (Grupo de Avaliação de Aeronaves)
- ❑   GPS – Global Positioning System
- ❑   IFR – Instruments Flight Rules
- ❑   IS – Supplementary Instruction (Instrução Suplementar)
- ❑   LOFT – Line Oriented Flight Training
- ❑   MDA – Minimum Descent Altitude
- ❑   MDR – Master Difference Requirements
- ❑   MEL – Minimum Equipment List
- ❑   MMEL – Master Minimum Equipment List
- ❑   MNPS – Minimum Navigation Performance Specification
- ❑   ODR – Operator Differences Requirements
- ❑   PIC – Pilot in Command
- ❑   POI – Principal Operations Inspector
- ❑   PWS – Predictive Windshear
- ❑   RBAC – Civil Aviation Brasilizn Regulation (Regulamento Brasileiro de Aviação Civil)
- ❑   RNP – Required Navigation Performance
- ❑   RVSM – Reduced Vertical Separation Minima
- ❑   TCAS – Traffic Alert and Collision Avoidance System
- ❑   TCDS – Type Certificate Data Sheet
- ❑   TRTO – Type Rating Training Organizations
- ❑   VNAV – Vertical Navigation
- ❑   V1 – Takeoff Decision Speed

2 Introduction

2.1 Background

The evaluation was conducted by documentation analysis using the information provided in IAC 121-1006 Original Version, issued by Departamento de Aviação Civil - DAC (Civil Aviation Department, one of the military institutions that originated ANAC) on September 20th, 2004.

2.2 Objective

This report presents ANAC collection of results obtained from the operational evaluations of Boeing aircraft models B767 and B757.

2.3 Purpose

The purpose of this report is to:

a. Define the Pilot Type Rating assigned for the B757 and B767;

b. Define the requirements for training, checking and currency applicable to flight crew, Flight attendant and aircraft dispatcher for the B757 and B767;

c. Provide the Master Differences Requirements (MDR) for flight crews requiring differences qualification for mixed-fleet-flying;

d. Provide an acceptable Operator Differences Requirements (ODR);

e. Define Flight Simulation Training Device (FSTD) standards for flight crew training and checking.

2.4 Applicability

This report is applicable to:

a. Brazilian operators of Boeing Model B767, identified as 767-200 and 767-300 in the ANAC Type Certificate Data Sheet (TCDS) EA-8302-28 – who operate under RBHA 91 and RBAC 121 rules;

b. Brazilian operators of Boeing Model B757, identified as 757-200 in the ANAC Type Certificate Data Sheet (TCDS) EA-2004T02-08 – who operate under RBHA 91 and RBAC 121 rules;

c. Approved Training Organizations certified under RBAC 142 (Type Rating Training Organizations - TRTO);

d. Civil Aviation Inspectors (INSPAC) related to safety oversight of B757 and B767 aircraft;

e. ANAC Principal Operations Inspectors (POI) of B757 and B767 operators.

2.5 Cancellation

This report revokes and replaces the following ANAC issued documents:

a. IAC 121-1006, dated September 20th, 2004.

3 Pilot Type Rating

The specific pilot type rating assigned to the B757 and B767 aircraft is designated "B757/767".

Airmen who wish to pursue any specific type rating must comply with the requirements established on subparagraph 61.213(a)(1) of RBAC 61.

The GAA recommends updating the information in the ANAC type rating list (Instrução Suplementar – IS 61-004) as follows:

Table 1 - Pilot Type Rating

Avião (*Airplane*)					
Fabricante *(Manufacturer)*	**Aeronave** *(Aircraft)*		**Observações** *(Remarks)*	**Relatório de Avaliação Operacional ANAC disponível** *(ANAC Operational Evaluation Report available)*	**Designativo** *(Designative)*
	Modelo *(Model)*	**Nome** *(Name)*			
Boeing	B757 – 200 Series	B757	D	Relatório de Avaliação Operacional Boeing B757 e B767 *ANAC Operational Evaluation Report Boeing B757 and B767*	B757/767
	B767 – 200/300 Series	B767			

4 Master Difference Requirements (MDR)

The Master Difference Requirements matrix for B757 and B767 is shown in Table 2. These provisions are applied when there are differences between models which affect crew knowledge, skills, or abilities related to flight safety (e.g., Level A or greater differences) for training, checking and currency, respectively, according to IS 00-007.

Table 2 - Master Difference Requirements

		From Airplane		
		B757-200	B767-200	B767-300
To Airplane	B757-200	(4)(5)(6)	B*/A/B (1)(2)(3) (4)(5)(6)	B*/A/B (1)(2)(3) (4)(5)(6)
	B767-200	B*/A/B (1)(2)(3) (4)(5)(6)	(4)(5)(6)	A/A/B (4)(5)(6)
	B767-300	B*/A/B (1)(2)(3) (4)(5)(6)	A/A/B (4)(5)(6)	(4)(5)(6)

Notes:

(1) The Level B* for training may be accomplished via self-study provided demonstrated to ANAC that it produces results equivalent to a formal academic training course. A means should be included so that the crew demonstrates having understood the relevant differences and to certify that they have met the required training;

(2) The training in general is set as level B (see IS 00-007) and assumes that crewmembers have been exposed to the operation of doors/emergency exits or other appropriate training device. If this exposure has not occurred, it should be provided;

(3) B/A/B is based on the expectation that the operations policy and procedures are equivalent for both aircraft. If this does not occur, then levels C/A/B should be applied for specific maneuvers in the differences table;

(4) Additional training / checking / currency may be required due to system or operational differences in different variants;

(5) Installing FANS/DATA LINK/RNP requires training, checking and currency as it should be specified in the ODR; and

(6) Training, checking and currency are set as B/B/B for Predictive Windshear (PWS) and Enhanced Ground Proximity System (EGPWS).

(7) In B757 and B767 fleets operating with different engines, additional training is required. Minimum differences levels A/A/B for training, checking and currency are stablished for such operations.

5 Operator Difference Requirements (ODR)

Each operator of a mixed fleet of B757 and B767 shall produce its own ODR, as recommended by IS 00-007.

For operators flying the B757 and B767 aircraft, the ODR tables in Appendix 1 have been found acceptable by GAA and may be used by the POI for approval of an operator with the specific aircraft equipage.

6 General

6.1 Operator's Responsibility

It is the operator's responsibility to demonstrate the safety equivalence and applicability of any difference between the recommendations contained in this report and its proposed standards and procedures.

The recommendations contained in this informative document were made based on the aircraft in operation and on the existing requirements at the time of its elaboration. Changes in aircraft and requirements may require a review of this report.

6.2 Common Procedures and Characteristics

6.2.1 Auto Pilot Engaging Altitude

According to the approved Flight Manuals of both airplanes, the minimum autopilot engaging altitude at takeoff is 200 feet AGL, whether using CWS or CMD modes.

6.2.2 Minimum Altitude for Auto Pilot Use during Non-Precision Approaches

The use of AP in both aircraft is authorized up to 50 ft below the MDA, during non-precision approaches in vertical speed, flight level change and VNAV modes.

6.2.3 Landing Minima

For determination of minima for landing both airplanes are considered as category C. Minima for circular approach should be approved in the operational specifications of each company.

6.2.4 Landing Flap Selection

For both airplanes the normal landing flap is "Flap 30". "Flap 25" should only be used when the required performance in the "landing climb" condition is not achieved with "Flap 30".

6.2.5 Emergency Procedures

The operator should establish a single procedure for takeoff with engine failure after V1 and for rejected landing or balked landing.

6.3 Differences between the airplanes

6.3.1 Requirements to B757/B767 Variants

Requirements for aircraft differences are presented in Item 4. The provisions are applied when there are differences between variants affecting knowledge and skills related to flight safety.

6.3.2 Use of MMEL/MEL

The MEL approval and the dispatch according to the MEL should be subject to analysis and eventual training. The Operator should specify the procedures and crew trainings that are typical of each aircraft.

7 Training Specifications

7.1 General

7.1.1 Previous Experience

The provisions of this section consider that the training program is applied to technical crew members with experience in operation on large aircraft and wide body, according to RBAC 121. For crew members without this experience, additional requirements can be necessary to be approved case by case.

7.1.2 B757 and B767 Individual Programs

Numerous combinations of training programs may be acceptable, according to operator's experience. Therefore, approvals should be made on case-by-case basis by operator.

7.2 Initial, Transition and Upgrade Training

7.2.1 Pilots: RBAC 121.419 – Initial, Transition and Upgrade Ground Training

The Initial and upgrade ground training for either B757 or B767, or both, should be performed in accordance with the provisions of RBAC 121. No provision or exclusive requirement is specified. However, when more than one model is operated simultaneously, or transition from one model to the other is performed, appropriate instruction for each variant should be required according to the ODR.

7.2.2 Pilots: RBAC 121.424 – Initial, Transition and Upgrade Flight Training

The Initial and upgrade flight training for either B757 or B767, or both, should be performed in accordance with the provisions of RBAC 121. No provision or exclusive requirement is specified. When initial, transition or upgrade flight training is performed as specified in RBAC 121.424 and several models are operated, the training is considered appropriate for each variant, because the flight characteristics of each variant are similar or equivalent.

7.2.3 Crewmember Emegency Training

Appropriate emergency training should be provided to each crew member on the location, function and operation of emergency equipment that is different in each variant of B757 and B767. When the elements of the interior

configuration are the same, the training can be credited simultaneously for each variant.

On the other hand, if there are differences in the interior of two or more aircraft of the same model, the differences training should be executed. Emergency training consists of instructions on procedures assigned to each crew member including crew coordination, communication, and other procedures specific to each variant or model.

7.2.4 Auto Landing

If the operator conducts automatic landing operations on both the B757 and B767, then appropriate training on each type of aircraft should be done. The training can be done in simulator or aircraft.

7.2.5 FANS, EGPWS and TCAS

Crew members operating aircraft with any of these systems should receive appropriate training to ensure knowledge, skills and proficiency in the routine operation of each of these systems.

7.3 Differences Training

7.3.1 Differences Training – RBAC 121.418

Unless a full-scale training or upgrade program is performed for each of the variants, a differences training is required for each B757 / B767 as shown in the ODR. Ground training on the following topics for B757 and B767 is required:

a) General Description

b) Performance Characteristics

c) Engines

d) Aircraft Systems

e) Normal, Abnormal and Emergency procedures

f) Limitations

g) Further instructions on specific characteristics of the fleet

7.3.2 Fleet with different engines

In B757 and B767 fleets operating with different engines, additional training is required. Although not explicit in the MDR, minimum differences levels A/A/B for training, checking and currency are stablished for such operations.

7.3.3 FMS Training

A wide variety of programming for FMS is available to operators.

Crews should receive training that addresses the characteristics of each system in its entirety.

7.3.4 Recurrent Training

Recurrent training should include appropriate training to attend to RBAC 121.427.

7.4 Other Trainings

7.4.1 LOFT Program

When there is a basic difference in the operation of each variant (e.g., domestic and international operation) a LOFT training should be established for each of them. Credit is allowed in the common aspects of operations.

LOFT programs administered by operators should be approved by ANAC/SPO to ensure their effectiveness.

7.4.2 Specific Operation (ETOPS, MNPS, RVSM)

In case only one variant performs a specific type of operation, an appropriate specific training should be provided.

7.4.3 Flight Attendants: RBAC 121.421 – Initial and Transition Ground Training

Due to differences in cabin configuration, the Flight Attendants should be trained separately on each type of aircraft. Such qualification can be completed simultaneously. Credit can be allowed for common items.

7.4.4 Aircraft Dispatchers: RBAC 121.422 and 121.427

Aircraft dispatchers may be qualified concurrently on both aircraft. The provisions of RBAC 121.422 apply to each variant.

8 Exam Specifications

8.1 General

8.1.1 Exam Items

The knowledge, procedures and maneuvers specified in RBAC 61 and RBAC 121 relating to multi-engine jet aircraft apply to B757 and B767.

8.1.2 Area of Special Emphasis

The following areas should be treated during the examinations as needed:

a) Manual and automatic flight proficiency;

b) Adequate visual scanning without prolonged fixation in the FMS shall be demonstrated by the examined pilot. Failures of FMS components should be addressed;

c) Proper selection of map displays, raw data, Flight Director and AFDS should be demonstrated by the pilot examined, particularly in instrument approaches;

d) GPS / FMS navigation should be performed if approved for the operator;

e) When appropriate, demonstration of ETOPS proficiency, RNP, RVSM, or other equipment or specialized operations.

8.1.3 No Flap Landing

Demonstration of approach proficiency and abnormal landing without flap should be performed.

8.1.4 Use of MEL

The use of MEL should receive appropriate emphasis as part of the check for workload and safety issues.

8.1.5 Proficiency Checks

Proficiency checks should be performed as designated in RBAC 61 and RBAC 121 for both B757 and B767. The examination on one aircraft shall be adequate for the other aircraft except for the specific recommendations. The proficiency checks for PIC should be alternated between aircraft types.

8.2 Recent Experience

8.2.1 Required Recent Experience – RBAC 121.439

The maintenance of recent experience should be made for each aircraft separately in accordance with RBAC 121.439. Pilots who are qualified on both aircraft should maintain the recent experience, in accordance with RBAC 121.439, on any aircraft and perform a complete landing and take-off operation on the other aircraft within the last 60 days to keep the currency.

9 Flight Training Device and Simulators Specifications

9.1 Flight Training Devices and Simulators Standards

Flight training devices and simulators standards for B757 and B767 shall meet the requirements of RBAC 121. When both aircraft are operated simultaneously, the combination of flight training devices and simulators shall adequately address training requirements that may result from differences in required skills for different operations depending on the equipment (e.g. when there are different specific operations such as ETOPS, etc.). Training and recurrent checks may be performed on both the B757 and B767 simulators or combination of simulators and flight training devices, as appropriate for a particular operator due to its type of fleet and operation.

10 Compliance to RBHA 91 and RBAC 121

Compliance checklists are provided as an aid to ANAC operations certification divisions and were not demonstrated to the ANAC Aircraft Evaluation Group – GAA/GCOI/SPO.

APPENDIX 1 – B757 and B767 ODR

DESIGN OPERATOR DIFFERENCE REQUIREMENTS TABLE						
From Base Aircraft: B757-200 **To Related Aircraft:** B767-200/300				COMPLIANCE METHOD		
DESIGN FEATURE	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHEKING	CURRENCY
Body	Larger diameter and longer body	No	No	B	A	A
Landing Gear	Larger curve radius, different angle of the truck	No	No	B	A	A
Limitations	Different placard speeds (-300) increases related to MGW, MTOW and others	No	No	B	A	B
30 Ice and Rain Protection	Protection of different leading edges	No	No	B	A	A
32 Landing Gear	Different backup braking system, tail ski, larger struts, different EICAS messages	No	No	B	A	A

Note: Level B Training can be addressed via slide/video/traditional instruction or equivalent method after approved.