Type Acceptance Report

TAR 2/21B/1

Boeing 767-3Q8

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Introduction

This report details the basis on which Type Acceptance Certificate No.2/21B/1 was granted in the Standard Category in accordance with NZCAR Part 21 Subpart B. Specifically it aims to:

(a) Record the airworthiness certification standard used for type acceptance of the applicable model(s) in New Zealand;

(b) Summarise any outstanding requirements that must be complied with for the issue of a NZ airworthiness certificate to aircraft covered by the Type Acceptance Certificate.

Foreign Type Certificate Details

Type Certificate:	A1NM
Issued by:	Federal Aviation Administration
Manufacturer:	Boeing Airplane Company
Model:	767-3Q8
Engines:	General Electric CF6-80C2
MCTOW	412,000 lb. [186,880 kg.]
Noise Category:	FAR Part 36, including Amendments 36-1 through 36-12

The certification basis of the Boeing 767-300 is FAR Part 25 including Amendments 25-1 through 25-37; plus Amendments 25-38 through 25-45 except for some paragraphs at Amendment 25-38 plus some paragraphs at Amendments 46 and 54. Exemption No. 4725 was given against FAR 25.785(h) and a number of Equivalent Safety Findings were made. Compliance was also required with several Special Conditions. Full details of the complete certification basis are listed on the FAA Type Certificate Data Sheet.

This is an acceptable certification basis in accordance with NZCAR Part 21B Para §21.41, as FAR Part 25 is the basic standard for Transport Category Airplanes called up under Civil Aviation Rules Part 21 Appendix C. There are no non-compliances and no special conditions have been prescribed by the Director under §21.23.

Type Acceptance Application

The application for NZ type acceptance was from Air New Zealand dated 11 July 2001. The first-of-type example was intended to be serial no. 28206, proposed registration ZK-NCP.

Type Acceptance Certificate No.2/21B/1 was granted on 19 October 2001.

Model 767–3Q8 is the Boeing customer designation for 767-300ER aircraft ordered by ILFC. Thirteen serial numbers are listed on the TCDS, although the Detailed Specification is only applicable to a single example, s/n 28206, line number 694, variable number VS111. This was delivered new in March 1998 to Transaero Airlines of Moscow, and subsequently in June 1999 leased to Argentinean airline LAPA. The aircraft was taken out of the “ANZ block” and was a follow-on to VN658. The next variable number VS112 became ZK-NCN. VS111 is electrically identical to VN651 (VN651 through 658 are ZK-NCE through NCL respectively), although it was delivered with many interior fittings deleted and certified zero occupancy.

Type Data

The type data requirements of NZCAR Part 21B Para §21.43 have been satisfied by supply of the following documents:

(1) Type certificate: FAA TCDS A1NM at Revision 19 dated November 1, 2000

(2) Airworthiness design requirements: Already held by the CAA

(3) Certification compliance listing: Already held by the CAA

(4) Flight manual: Boeing 767 FAA-Approved Airplane Flight Manual
Document Number D6T11321.3Q8 – CAA Accepted as AIR 2750

(5) Maintenance manual, IPC and service data for aircraft and engine:
Not required since the 767-3Q8 is considered a first-of-type variant only.

(6) Agreement from manufacturer to supply updates of data in (4):
See email from S Bevan, Boeing Flight Operations Engineering, dated 1/08/2001.

(7) Other information: Detailed Specification D6T10330ILF-GEZ Model 767-3Q8ER
Original Release dated March 25, 1998

Boeing Letter of Definition for ILFC Follow-On Model 767-3Q8 (VS111) for TRX
LOD B-T113-98-0505, January 27, 1998 – Rev.A, B-T113-98-1517, March 16, 1998
Rev.B, B-T113-98-1656, March 17, 1998 – Rev.C, B-T113-98-1704, March 19, 1999

Additional New Zealand Certification requirements

Compliance with the following additional NZ requirements has been reviewed and found to be covered by either the original certification requirements or the basic build standard of the aircraft, except as noted:

Civil Aviation Rules Part 26

Subpart B - Additional Airworthiness Requirements

Appendix B - All Aircraft

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
B.1	Marking of Doors and Emergency Exits	FAR Part 25 §25.811(a) Amdt 25-32 Eff Feb 24, 1972
B.2	Crew Protection Requirements - CAM 8 Appdx. B # .35	Agricultural Aircraft – ***Not Applicable***

Appendix C - Air Transport Aircraft - More than 9 Pax

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
C.1	Doors and Exits	FAR Part 25 §25.809(b) Amdt 25-32 Eff Feb 24, 1972 NOTE: in respect of Emergency Exit Arrangement §25.809 is the subject of an FAA equivalent safety finding.
C.2.1	Additional Emergency Exits - per FAR 23.807(b) @ 10.5.93	Meets FAR Part 25 Certification requirements
C.2.2	Emergency Exit Evacuation Equipment – Descent means	FAR Part 25 §25.809(f) Amdt 25-32 Eff Feb 24, 1972
C.2.3	Emergency Exit Interior Marking - Size/self-illuminating	FAR Part 25 §25.811(e), Amdt 25-32 Eff Feb 24, 1972 FAA Part 25 §25.812(b) Amdt 25-51 Eff Mar 6, 1980
C.3.1	Landing Gear Aural Warning - Automatic Flap Linking	FAR Part 25 §25.729(e) Amdt 25-23 Eff May 8, 1970 *See Detailed Spec. D6T10330ILF §32-61-00 and §31-51-50*

Appendix D - Air Transport Aircraft - More than 19 Pax

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
D.1.1	Exit Types - Shall be per FAR 25.807 @ 29.03.93	FAR Part 25 §25.807 Amdt 25-15 Eff Oct 24, 1967
D.1.2	Floor Level Exits – Definition	FAR Part 25 §25.807(a) Amdt 25-15 Eff Oct 24, 1967 NOTE: in respect of Pax. Emergency Exits, §25.807(a)(7)(iv) is the subject of an FAA equivalent safety finding.
D.2.1	Additional Emergency Exits - Must meet requirements	N/A

D.2.2	Emergency Exit Access - All Required Exits must have: Passageway unobstructed 500m wide between areas and leading to a Type I or II Exit; Crew assist space; Access to Type III or IV Exit is unobstructed Internal doors must be able to be latched open – placarded	FAR Part 25 §25.813 Amdt 25-17 Eff Jun 20, 1968 NOTE: in respect of Emergency Exit Access, §25.813(c) is the subject of an FAA equivalent safety finding. *See Boeing Detailed Spec. D6T10330ILF Figure 01-3A/B* N/A - No internal doors
D.2.3	Emergency Exit Operating Handles - Markings/Lighting	FAR Part 25 §25.811(e) Amdt 25-32 Eff Feb 24, 1972
D.2.4	Emergency Exit Evacuation Equipment – Descent means	FAR Part 25 §25.810
D.2.5	Emergency Exit Escape Route - Must be slip resistant	FAR Part 25 §25.803(e) Amdt 25-51 Eff Mar 6, 1980 [§25.810(c) not introduced until Amdt 25-72 Eff. Aug 20, 90]
D.2.6	Emergency Lightning (a) Switch Provisions; Uninterrupted Power; Last 10 min. (b) Descent Illumination - Automatic and Independent	 FAR Part 25 §25.812(f) Amdt 25-51 Eff Mar 6, 1980 FAR Part 25 §25.812(h) Amdt 25-51 Eff Mar 6, 1980
D.2.7	Emergency Interior Lighting - independent supply; min. illumination; incl. floor proximity escape path markings	FAR Part 25 §25.812(c) & (e) Amdt 25-51 Eff Mar 6, 1980 *Refer BDS D6T10330ILF §33-51-00 (uncertified flyaway)*
D.2.8	Emergency Exterior Lighting - in effect 30.04.72 or later	FAR Part 25 §25.812(f) & (g) Amdt 25-51 Eff Mar 6, 1980 *Refer Boeing Detailed Spec. D6T10330ILF §33-51-00*
D.2.9	Emergency Exit Interior Marking - Clear; instructions, Location signs above routes, by exits, on bulkheads - Meet provisions in effect 30 April 1972, or later – Min.brightness 250 microlamberts	FAR Part 25 §25.811 Amdt 25-32 Eff Feb 24, 1972 Meets FAR Part 25 certification requirements
D.2.10	Emergency Exit Exterior Markings - 2" contrasting band; opening instructions in red or bright chrome yellow;	FAR Part 25 §25.811(f) Amdt 25-32 Eff Feb 24, 1972 NOTE: In respect of Exit Band Contrast, §25.811(f)(2) is the subject of an FAA equivalent safety finding
D.3	Lavatory Fire Protection - Placards; Exterior ashtray; Waste Bin - Sealed door; built-in fire extinguisher; smoke detector system with external warning	AD DCA/GEN/7A (FAA AD 74-08-09R2); DCA/GEN/16 (FAA Part 121 §121.308 Amdt 121-185 Eff April 29, 1985) FAR Part 25 §25.791(d) Amdt 51 Eff Mar 6, 1980 *See BDS D6T10330 §25-42-00; §26-13-00; §26-24-00* NOTE: In respect of Pax Information Signs and Placards, §25.791 is the subject of an FAA equivalent safety finding
D.4	Materials for Compartment Interiors - T/C after 1.01.58: (b) Manufactured 20/8/88 - 20/8/90 - Meet heat release requirements of FAR 25 at 20.08.86 increased to 100/100 Manufactured after 20/8/90 - Meet heat release rate and smoke tests of FAR Part 25 in effect 26.09.88 (c) Seat cushions (except flightdeck) must be fireblocked	DCA/GEN/21 [FAR §121.312(a) Amdt 121-198 Eff 26/9/88] NOTE 1: In respect of Compartment Interiors, §25.853(c) is the subject of an FAA equivalent safety finding. *Boeing 8110-3 for VS111 specifically indicated that this aircraft complied with the 65/65/200 heat release and smoke density requirements of FAR 25.853(c), Amendment 25-72.* DCA/GEN/15 [FAR 25 §25.853(c) Amdt 59 Eff 26/11/84]; Standard Air NZ interior seating configuration complies.
D.5	Cargo and Baggage Compartments - T/C after 1.01.58: (a) Each C or D compartment greater than 200 cu ft shall have liners of GFRS or meet FAR 25 in effect 29.03.93 (c) Liners shall be separate from the aircraft structure	DCA/GEN/22 [FAA Part 25 §855 Amdt 25-32 Eff May 1, 1972 & Part 121 §121.314 Amdt 121-202 Eff Mar 20, 1989] *Lower lobe cargo compartments comply – see Boeing letter B-H360-01-7329 dated October 18, 2001.*

Civil Aviation Rules Part 91

Subpart F - Instrument and Equipment Requirements

PARA:	REQUIREMENT:		MEANS OF COMPLIANCE:	
91.505	Shoulder Harness if Aerobatic; >10 pax; Flight Training		FAR Part 25 §25.785 Amdt 20 Eff March 18, 1969	
91.507	Pax Information Signs - Smoking, safety belts fastened		FAR Part 25 §25.791 Amdt 25-51 Eff Mar 6, 1980 *See Boeing Detailed Spec. D6T10330ILF §33-24-00.*	
91.509 Min. VFR	(1) ASI (2) Machmeter (3) Altimeter (4) Magnetic Compass (5) Fuel Contents (6) Engine RPM (7) Oil Pressure	FAR 25.1303(b)(1)/*§34-13-01* FAR 25.1303(b)(1)/*§34-13-01* *See Boeing Det. Spec. §34-13-05* FAR 25.1303(a)(3))/*§34-23-00* FAR 25.1305(a)(2)/*§28-41-00* FAR 25.1305(c)(3)/*§77.10.00* FAR 25.1305(a)(4)/*§31-41-20*	(8) Coolant Temp (9) Oil Temperature (10) Manifold Pressure (11) Cylinder Head Temp. (12) Flap Position (13) U/c Position (14) Ammeter/Voltmeter	N/A – Turbojet FAR 25.1305(a)(6)/*§31-41-20* N/A – Turbojet N/A – Turbojet *See Boeing Det. Spec. §27-58-00* *See Boeing Det. Spec. §32-61-00* *FAR 25.1351 (b)(6)/§24-22-00*
91.511 Night	(1)Turn and Slip (2) Position Lights	FAR 25.1303(b)(4) EFIS FAR 25.1389/*§33-43-00*	(3) Anti-collision Lights (4) Instrument Lighting	FAR 25.1401/BDS *§33-44-00* *See Detailed Spec. §33-13-00*
91.517 IFR	(1) Gyroscopic AH (2) Gyroscopic DI (3) Gyro Power Supply (4) Sensitive Altimeter	EFIS *Detailed Spec. §34-22-10* FAR 25.1303(b)(6)/*§34-22-20* FAR 25.1331(a) FAR 25.1303(b)(2)/*§34-13-05*	(5) OAT (6) Time in hr/min/sec (7) ASI/Heated Pitot (8) Rate of Climb/Descent	FAR 25.1303(a)(1)/*§34-13-02* FAR 25.1303(a)(2)/*§31.25.01* FAR 25.1323(e)/ *§30-30-00* FAR 25.1303(b)(3)/*§34.21.40*
91.519	IFR Communication and Navigation Equipment Rockwell VHF to ARINC 716 VOR to ARINC 711/ILS to ARINC 710 ADF to ARINC 712/DME to ARINC 709		FAR Part 25 §25.1307 Amdt 25-51 Eff Mar 6, 1980 Triple VHF-900B comm.s system fitted – *See BDS §23-12-00* Dual VOR/ILS systems fitted - *See BDS §34-31-00 and 51-00* Dual ADF/DME fitted – *See Det. Spec. §34-54-00 and 34-55-00*	
91.523 Emergcy Eqpmt.	(a) More Than 10 pax - First Aid Kits per Table 7 - Fire Extinguishers per Table 8 (b) More than 20 pax - Axe readily acceptable to crew (c) More than 61 pax - Portable Megaphones per Table 9		*See Boeing Detailed Specification Section. §25-61-16* *See Boeing Detailed Specification Section. §26-26-20* *See Boeing Detailed Specification Section. §25-61-19* *See Boeing Detailed Specification Section. §25-61-17*	
91.529	ELT - TSO C91a after 1/4/97 (or replacement)		*See Boeing Detailed Specification Section. §25-61-14*	
91.531	Oxygen Indicators - Volume/Pressure/Delivery		FAR Part 25 §25.1441 through 25.1450	

91.535 Press. A/c	(1) Flight Crew Member On-Demand Mask; 15 min PBE (2) 1 Set of Portable PBE (3) Crew Member - Pax Oxygen Mask; Portable PBE 120l (4) Spare Oxygen Masks/PBE (5) Min Quantity Supplement Oxygen (6) Required Supplemental/Therapeutic Oxygen Above FL250 - Quick-Donning Crew On-Demand Mask - Supplemental O_2 Masks for all Pax/Crew - Supplemental Mask in Washroom/Toilet Above FL300 - Total Outlets Exceed Pax by 10% - Extra Units Uniformly Distributed - Automatically Presented Above FL140 - Manual Means of Deploying Pax Masks	*See Boeing Detailed Spec. D6T10330ILF §35-10-20* Portable oxygen cylinders installed in cabin – *See DS §35-30-00* Pax. oxygen system designed to provide for specified descent profile – Decompression at FL430, linear descent to FL170 in 3 mins., 8 min. hold, linear descent to FL100 in 1 min. *See Boeing Detailed Spec. D6T10330ILF §35-20-60* *See Boeing Detailed Spec. D6T10330ILF §35-20-60* *See Boeing Detailed Spec. D6T10330ILF §35-20-40*
91.541	SSR Transponder and Altitude Reporting Equipment	Dual Mode S/Transponder system fitted – *See BDS §34-53-00*
91.543	Altitude Alerting Device - Turbojet or Turbofan	*See Boeing Detailed Spec. D6T10330ILF §34-16-00*
91.545	Assigned Altitude Indicator	N/A – Altitude Alerting Device fitted
A.15	ELT Installation Requirements	***To be determined on an individual aircraft basis***

Civil Aviation Rules Part 121

Subpart F - Instrument and Equipment Requirements

PARA:	REQUIREMENT:		MEANS OF COMPLIANCE:
121.355	Additional Instruments (Powerplant and propeller)		FAR Part 25 is a Part 21 Appendix C standard
121.357	Additional Eqpt - Windscreen Wiper, Door, Key, Placard		*See Detailed Spec. D6T10330ILF §30-42-00 and §25-13-05*
121.359	Night Flight - Landing Light, Light in each pax cabin		*See Detailed Spec. D6T10330ILF §33-42-10 and §33-21-00*
121.361	IFR Operations	Speed, Alt, spare bulbs/fuses	*See Boeing Detailed Spec. D6T10330ILF §33-00-00*
121.363	Flights over water	Liferafts	***Operating Rule – Compliance to be determined by Operator***
121.365	Emergency Equipment	Per §91.523 and EROPS kit	***Operating Rule – Compliance to be determined by Operator***
121.367	PBE	TSO C99 cockpit equipment TSO C115 cabin equipment	Cockpit PBE – Fitted as standard Cabin PBE - Spare pbe installed per ANZ EO 767-3510-00002
121.369	Pax Address, Intercom	Meets FAR § 121.318 and 319.	DCA/GEN/24 [FAA Part 121 §121.318 Amdt 121-209 Eff Nov 27, 1989 & §121.319 Amdt 121-178 Eff Apr 28, 1982] *See BDS D6T10330ILF §23-31-00, §23-40-00 and §23-51-00*
121.371	Cockpit Voice Recorder Appendix B.5 requires TSO C84/C123		*See BDS §23-71-00* - Allied Signal CVR meets ARINC 557 Equipped with underwater locater beacon – S*ee BDS §23-71-00*
121.373	Flight Data Recorder Appendix B.6 requires TSO C124		*See BDS D6T10330ILF §31-31-00 – complies with Appendix B of FAR 121.343 – Allied Signal DFDR meets ARINC 717.* Has underwater locater beacon – *See BDS §31.31.10*
121.375	Additional Attitude Indicator		*See Boeing Detailed Spec. D6T10330ILF §34-23-10*
121.377	Weather Radar Appendix B.8 requires TSO C63		*See Boeing Detailed Spec. D6T10330ILF §34-43-00 and Appendix II (BFE)* – Rockwell WXR meets ARINC 708
121.379	Ground Proximity Warning System Appendix B.9 requires TSCO C92		AD DCA/GEN/13A – *Sundstrand GPWS meets ARINC 723* *See Boeing Detailed Spec. D6T10330ILF §34-46-00*

Summary

Type Acceptance Certificate No. 2/21B/1 has been granted to the Boeing 767-3Q8 and serial numbers listed in the Flight Manual AIR 2750 Log of Pages are now eligible for the issue of a New Zealand Airworthiness Certificate in the Standard Category in accordance with CAR §21.191, subject to any outstanding operational requirements noted above being met.

Attachments

The following documents form attachments to this report:

Three-view drawing Boeing Model 767-3Q8
Copy of Type Certificate/ Type Certificate Data Sheet A1NM

Sign off

David Gill
Team Leader Airworthiness Date: 23 October 2001