

# ***European Aviation Safety Agency***

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## **EASA SUPPLEMENTAL TYPE-CERTIFICATE DATA SHEET**

**IAI/Bedek Aviation Group Boeing 767-300  
Special Freighter Conversion  
(EASA STC:10028430 Revision 1)**

**Aircraft Manufacturer: Boeing**

The Boeing Company  
P.O. Box 3707  
Seattle, WA 98124-2207  
USA

**STC Holder: Israel Aerospace Industries**

Bedek Aviation Group  
Ben-Gurion International Airport  
Israel

For variants: 767-300 PAX

Issue 02:: 23 February 2011

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**NOTE**

**This Type Certificate Data Sheet is supplemental to the TCDS for the basic aircraft (TCDS IM.A.035). Paragraph numbering is consistent with the TCDS of the basic aircraft. Any paragraph not included in this TCDS is therefore unchanged from the basic aircraft TCDS.**

**SECTION I GENERAL**

- |      |  |   |
|------|--|---|
| 1.   | Data Sheet No:                               | TCDS.   |
| 2.   | Airworthiness Category:                      | Large Aeroplanes  |
| 3.   | Performance Category:                        | A   |
| 4.   | Certifying Authority, Aircraft:<br>(Address) | Federal Aviation Administration (USA)<br>Seattle Aircraft Certification Office,<br>1601 Lind Avenue S.W.<br>Renton, WA 98055-4056<br>United States of America |
| 4.1. | Certifying Authority, STC:<br>(Address)      | Civil Aviation Authority of Israel<br>P.O. Box 8<br>Ben-Gurion International Airport<br>Israel, 70100   |
| 5.   | Type Certificate Holder:<br>(Address)        | The Boeing Company<br>P.O. Box 3707<br>Seattle, WA 98124-2207<br>United States of America   |
| 5.1. | STC Holder:<br>(Address)                     | Israel Aerospace Industries<br>BedeK Aviation Group<br>Ben-Gurion International Airport<br>Israel, 70100  |

## **SECTION 2 (-300BDSF)**

### **I. General**

1. Aircraft: B767-300 PAX converted by EASA STC (10028430) referenced as B767-300BDSF.
2. EASA STC Certification Date: 08 January 2010
- 2.1. EASA STC Validation Application Date: 5 June 2007  
(Note: Effective date of applicable regulation is CAAI Reference Application Date)

### **II. STC Certification Basis**

1. CAAI Certification Date: 17 December 2009
- 1.1 CAAI Reference Application Date: 02 November 2006
2. CAAI Certification Basis:

Refer to FAA Type Certificate Data Sheet No A1NM for unchanged areas. FAR 25 Amendment 25-1 through 25-119 for changed areas except for reversions as follows:

- Amendment 00 (25.333, 341, 481, 483, 485, 491)
- Amendment 18 (25.343)
- Amendment 23 (25.321, 331, 349, 473, 479, 499)
- Amendment 38 (25.841)
- Amendment 46 (345, 351, 629)
- Amendment 54 (25.365(e)(2) only, 571)
- Amendment 87 (25.831 except paragraph g)

3. EASA Validation Basis: In accordance with Regulation (EC) 1702/2003

Basic aircraft as per EASA TCDS IM.A.035 for unaffected areas and CS 25 Amnd 2 for changed areas.

Equivalence to CAAI certification basis accepted except wher identified.

Including the following special conditions, as detailed below.

New EASA Special Condition:

- CRI D-02 Fuselage Doors
- CRI D-03 Class E Cargo Compartments – Essential Systems Fire Protection
- CRI H-01 Enhanced Airworthiness Programme for Aeroplane Systems – ICA on EWIS

New EASA Equivalent Safety Findings:

- CRI D-01 Carriage of Supernumeraries on Flight Deck
- CRI D-04 Improved Flammability Standards for Thermal/ Acoustic Insulation Materials
- CRI D-05 Inadvertent detection of Smoke in Lower Lobe Class C Cargo Compartments

### **III. Technical Characteristics and Operational Limitations**

1. STC Design Definition: IAI MDL TR 371-00-00-C0010

12. Maximum Certified Weights:

	<u>Pounds</u>	<u>Kilograms</u>
MTW	413,000	187,334
MTOW	412,000	186,880
MLW	326,000	147,871
MZFW	309,000	140,160

17. Minimum Flight Crew: Two (2): Pilot and Co-pilot, for all types of flight

18. Maximum Seating Capacity:

Passenger Capacity 4 Persons. Maximum total occupancy 6 persons including crew.

Note: Not for the carriage of passengers, persons carried are for the safe operation of the flight and cargo as defined in the IAI Airplane Flight Manual supplement.

19. Exits:

Emergency exits are door 1L and flight deck windows 2L and 2R. Descent Device in place of 1L Door Slide.

20. Baggage/Cargo Compartment: See Weights and Balance Manual

Location	Class	Usable Volume
Fwd	C	2500 cu. ft. = 70.75 m <sup>3</sup>
Aft	C	2270 cu. ft. = 64.24 m <sup>3</sup>
Bulk	C	341 cu. ft. = 9.65 m <sup>3</sup>
Main Deck	E	14572.9 cu. ft. = 412.4 m <sup>3</sup>

### **IV Operating and Service Instructions**

1. Flight Manual Supplement:

IAI Airplane Flight Manual Supplement 371-00-00-C0490  
IAI Weight and Balance Supplement 371-08-00-C0510

2. Mandatory Maintenance Instructions:

Limitations Section of the IAI Maintenance Planning Document Supplement 368-00-00-94107. (See also Note 4)

3. Service Letters and Service Bulletins:

As published by IAI.

## V Notes

1. Additional information is provided in FAA TCDS A1NM and EASA TCDS IM.A.035
2. An Approved Cargo Loading System must be installed.
3. LiteAir STC (EASA.IM.A.S.01079) covers the Window Plugs .
4. Incorporation of this STC affects AD compliance, either as terminating action or additional means of compliance as detailed below:

### **Terminated ADs:**

86-06-06	Emergency Evacuation Slides
86-07-09	Cargo Compartment Smoke Detectors;
87-25-09	Door Dust Cover;
89-07-10	Integrator Hook;
89-16-11	Pivot Bolts;
89-19-03	Cabin Partitions
89-26-06	Oxygen Generators;
90-01-05	Entry/Service Doors;
90-10-09	Oxygen Generator;
90-15-05	Off-Wing Evacuation System;
90-22-04	Escape Slides;
92-07-12	Off-Wing Escape System
92-07-13	Girt Bar Carrier
92-08-05	AFT Galley Tie Rods;
92-10-01	Inboard Spoilers
92-16-17	Emergency -off-wing Compartment Door Latch Replacement and Keeper Inspection;
93-01-19	Entry/Service Door;
93-05-08	Smoke Detectors;
95-08-11	Escape Slide
95-15-01	Over-Wing Escape Slide;
95-18-03	Ramp/Slide Evacuation System;
98-07-13	Wire Bundles Above Main Passenger Door;
2000-11-19	Escape Slide;
2000-15-16	Oxygen System;
2001-08-22	Potable Water Fill Line Tube;
2001-10-14	Passenger Oxygen System;
2003-13-03	Prevent interference with venting during a rapid decompression in bulk cargo compartment;
2003-14-10	Prevent chafing of the wire bundles of the VCC;
2004-08-07	To prevent interference of the A1 galley with the radial stiffener on the aft pressure bulkhead;
2004-16-10	Prevent the door-opening actuators for the off -wing slide compartment from not fitting
2004-25-10	Failure of the main deck floor stanchions and consequent collapse of the main floor during an emergency landing;
2005-05-20	Failure of flight deck door electronic equipment
2005-07-13	Failure of the IFE cooling card during a fwd cargo fire;
2005-20-05	Failure of the attachment of the 9g tie rods to the center overhead stowage bin;
2005-23-19	Outboard overhead stowage beans;
2005-24-04	To prevent overheating of the output wiring of the frequency converters;

2005-25-23 Off-wing emergency escape slide;  
2006-11-06 Replacing the placards on certain stowage bins with new placards;  
2007-02-18 Prevent fire hazard due to water and drain heater tapes  
2008-01-01 Flight Deck Door  
2008-03-05 Replacing the shear-pin restraints with new ones;  
2008-06-27 Replacing the shear-pin restraints with new ones;  
2008-13-21 Inspection and/or replacing defective oxygen masks with masks that have a better flow indicator;  
2008-21-05 To prevent injury to personnel and passengers during an emerg. evacuation;  
2008-23-15 Requires installing new relays, circuit breakers and wiring to allow the flightcrew to turn off electrical power to the IFE systems;  
2009-04-12 Failure of an entry or service door to open fully in the event of an emerg. evacuation  
2009-20-02 Replacement of escape slides and latches;

**AMOCs:**

89-03-51 Fire Protection System  
2000-26-05 Environmental Control System (ECS);  
2006-26-13 Prevent detachment of the shoulder restraint harness;  
2008-02-16 To prevent potential electrical arc from igniting the BMS 8-39 polyurethane foam insulation on the duct assemblies or ECS;  
2008-23-09 AN26 insulation Blankets  
2010-06-16 Fuselage Skin Scribe Marks at Lap Joints

This annex to the EASA TCDS 10028430 was created to publish selected special conditions / deviations / equivalent safety findings that are part of the applicable certification basis.

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<b>EQUIVALENT SAFETY FINDING</b>	<b>D-01: Carriage of supernumeraries on flight deck</b>
APPLICABILITY:	Boeing B767-300BDSF
REQUIREMENTS:	CS 25.783 (h) 25.785(j), 25. 25.807(g)(1), 25.810(a)(1), 25.813(b), 25.857(e), 25.1447(c)(1) (c)(3) at amdt. 2
ADVISORY MATERIAL:	-

Aeroplanes with Class E cargo compartment configurations and carrying a certain category of persons have been accepted in past without fully complying with the passenger carrying requirements of CS 25. It is the EASA position that as much as possible requirements applicable to passenger carrying aircraft are applicable to Supernumeraries Compartments.

- CS 25.783(h) – ESF for certain affected paragraphs of regulations CS 25.807 to 25.813 is detailed below.
- CS 25.785(j) – ESF for requirement to provide a handhold is justified by providing means that enable flight deck crew to warn persons in the main deck of imminent turbulence, signaling them of the need to return to their seats and fasten seat belts. Appropriate instruction placards will be installed at the entrance to the main deck cargo compartment and the requirement for pre-flight briefing of the supernumeraries in this respect will be added to the AFM.
- Section 25.807(g)(1): – ESF: approval for non-crew persons seated in the flight deck, that the door 1L (Type A) plus the flight deck crew type emergency exits (Windows 2R and 2L) provide acceptable alternative to the two Type III or type IV exits (one on each side) emergency exits required by the regulations.
- Section 25.810(a)(1) – ESF for the requirement for self-supporting slide is justified by providing alternative emergency evacuation assist means, inertia reel and harness for door 1L and existing crew type escape ropes at windows 2R and 2L, and by the fact that the occupants will be physically capable of using these assist means, trained in their usage and briefed by the flight crew in the pre-flight briefing on the operation of these means.
- CS 25.813(b) Type A emergency exits assist space – ESF: consideration that the non-crew occupants are briefed on the usage of emergency evacuation, that they are physically able to use them and they will evacuate by themselves. Additionally there are no flight attendants who would normally use the required assist space.
- CS 25.857(e) – ESF: The definition of the class E compartment is a cargo compartment on aircraft used for carriage of cargo only. The non-crew occupants are not ordinary passengers as they will be specially selected (clearly defined and trained persons). Nevertheless they are afforded with all the necessary equipment and means to ensure safe flight and emergency evacuation if necessary, equivalent to those of passengers.
- CS 25.1447(c)(1) – ESF: For oxygen equipment, it may be accepted that the oxygen dispensing units are not automatically presented to the non-crew occupants provided that:
  - The units (quick donning masks) are easily accessible to each occupant, when seated at his station with belt and harness fastened.
  - Lighted "Use Oxygen" signs are installed in the lavatory and on the galley complying with CS 25.1301, 25.1309 and 25.1541. The signs must be installed so that when illuminated, they can be immediately seen by any non-crew occupants.

- These signs must be lighted on before cabin pressure altitude exceeds 15000ft. If illumination of these signs is provided by an automatic system, the flight crew must be provided with manual means to illuminate these signs in the event of failure of the automatic system.

- It may be accepted that one portable oxygen cylinder with two masks is installed in the lavatory. There is no portable oxygen cylinder in the galley for the following reason: The galley is located in the flight deck about two meters aft of the non crew seats and their PSU. The proximity of the galley to the location of the quick donning oxygen masks which are installed in the PSU together with the "Use Oxygen" and "Return to seat" lighted alert signs provide an equivalent safety to the requirement for a portable oxygen cylinder in the galley.

Note: A portable cylinder with 1 full face mask installed on the partition near the galley area is intended for use by an occupant entering main deck cargo compartment during flight.

- CS 25.1447(c)(3) – ESF :
  - The occupant has enough oxygen to return to his place.
  - "Don oxygen mask" and «return to your seat» sign complying with JAR 25.1301, 25.1309 and 25.1541 must be installed. The signs must be installed so that when illuminated, they can be immediately seen by occupant of the lavatory .
  - These signs must be lighted on before cabin pressure altitude exceeds 15000ft. If illumination of these signs is provided by an automatic system, the flight crew must be provided with manual means to illuminate these signs in the event of failure of the automatic system

The approved Airplane Flight Manual must contain an operating limitation restricting the total number of Supernumeraries on the flight deck to four persons provided that they are:

- Included in the following categories:
  - a. A crew member
  - b. An employee of the operator
  - c. An AA inspector or any other authorized representative of the AA
  - d. Any person determined by the operator, for the particular flight on which carried, to be necessary for:
    1. the safety of the flight
    2. the safe handling of animals
    3. the safe handling of radioactive materials
    4. the security of valuable or confidential cargo
    5. the preservation of fragile or perishable cargo
    6. the operation of special equipment for loading or unloading cargo
    7. the loading or unloading of outsize cargo
  - e. A person travelling to or from an assignment by the operator involving a function described in paragraph (1) (d)
  - f. Other categories of persons authorized by the Operational Authorities of the Operator
- Briefed by a flight crew member prior to each flight:
  - a. On use of the escape means (inertia reels with harness adjacent to entry door L1 and flight deck windows with escape ropes)
  - b. on the location and usage of oxygen equipment and procedures to be followed in case of depressurisation
  - c. the non smoking rules
- Found by the operator to be physically able and able-bodied to use the escape means provided.

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<b>SPECIAL CONDITION</b>	<b>D-02: Fuselage doors</b>
APPLICABILITY:	Boeing B767-300BDSF
REQUIREMENTS:	CS 25.783, 1301, 1309 at amdt. 2
ADVISORY MATERIAL:	NPA 25D-301 Issue 1

To meet the objective of safe design for showing compliance with CS 25.783, EASA will apply NPA 25D-301 issue 1 dated September 2001, for validation of the Boeing 767-300F aeroplane. Where appropriate this requirement and advisory material will be supported by the application of CS 25.1301 and 1309.

The NPA is similar in its intent to FAA AC25-783-1A, Fuselage Doors and Hatches dated 25 April 2005.

<b>SPECIAL CONDITION</b>	<b>D-03: Class E Cargo Compartment Essential System Fire Protection</b>
APPLICABILITY:	Boeing B767-300BDSF
REQUIREMENTS:	CS 25.855 at amdt. 2
ADVISORY MATERIAL:	INT/POL/25/15

*Special Condition*

*The following requirements must be complied with:*

1. *Paragraph 25.855(f) is amended by revising the text to read as:  
Cockpit voice and flight data recorders, windows and other systems or equipment within the Class E cargo compartments shown to be essential for continuing a safe flight and landing according to 25.1309 must be adequately protected against fire. If protective covers are used they must meet the requirements of Appendix F, Part III.*
2. *Re-name present JAR 25.855(f), (g), (h), (i) as JAR 25.855(g), (h), (i), (j).*

<b>EQUIVALENT SAFETY FINDING</b>	<b>D-04: Improved Flammability Standards for Thermal / Acoustic Insulation Materials</b>
APPLICABILITY:	Boeing B767-300BDSF
REQUIREMENTS:	CS 25.853(a)
ADVISORY MATERIAL:	-

*The FAA has introduced upgraded flammability standards for thermal and acoustic insulation materials used in transport category airplanes through FAR 25 amendment 111, (effective on September 2nd, 2005 for new TC) and with FAR 25, Part VI and VII of Appendix F.*

*FAR 25 amendment 111 introduces new paragraph 25.856, which provides in sub-paragraph (a): new flammability propagation standards and in sub-paragraph (b): new burn through flammability standards.*

*It is agreed that thermal/ acoustic insulation materials accepted as compliant with FAR 25.856(a) will provide a level of safety at least as high as that provided by those accepted as compliant with CS 25.853(a) at amendment 2. This then constitutes an Equivalent Safety Finding and is acceptable to EASA.*

<b>EQUIVALENT SAFETY FINDING</b>	<b>D-05: Inadvertent detection of smoke in lower lobe calss C compartment</b>
APPLICABILITY:	B767-300BDSF
REQUIREMENTS:	CS 25.855(i), 25.858(a) at amdt. 2
ADVISORY MATERIAL:	-

Incorporation of automatic inhibition of lower lobe compartment smoke detection system alert signals when the main deck fire procedure has been initiated.

CS25.855(i) requires that during cargo compartment smoke penetration flight tests, no inadvertent operation of smoke or fire detectors in any other cargo compartment may occur unless the airplane’s fire extinguishing system floods each compartment simultaneously.

The ESF is required for regulation 25.858(a):

“ The detection system must provide a visual indication to the flight crew within one minute after the start of a fire...”

Equivalent Safety Finding:

1. The probability of a fire occurring in a lower cargo compartment combined with a probability of fire on the main deck is less than 1E-13. While the probability of fire is not enough as sole means of compliance with the regulations, this consideration has been accepted in the basic design of the 767 airplane and on many other models, where two lower lobe compartments share a common fire extinguishing system which is sufficient only for fire in one compartment.
2. The activation of the main deck class E fire fighting procedure depressurizes the complete airplane and shuts off ventilation airflow to all cargo compartments. Thus, with the airplane depressurized and flying at an altitude where fire cannot be sustained, the lower cargo compartments are protected from development of fire to the same level they would be if they were declared class E compartments.
3. The inhibition of the lower lobe cargo compartment will only occur after the pilot has taken a decision to activate the main deck fire fighting procedure. It would be reversible in case that the activation was done erroneously.
4. The implementation of the inhibiting function shall be done in a way that shall not cause degradation of reliability of the normal operation of the lower lobe detection systems.

The following conditions must be met:

- a. Smoke from a cargo fire in the main deck Class E cargo compartment must not result in an inadvertent smoke detection in the FWD or AFT lower lobe Class C cargo compartments.
- b. Occurrence of a main deck fire combined with a failure to inhibit a false alarm is considered a major hazard. The system must be shown acceptable via a Systems Safety Analysis.
- c. Any time during flight that the Class C cargo compartment smoke detector system alarm output is inhibited, the ventilating airflow is shut off in both the main deck and lower cargo compartments.

<b>SPECIAL CONDITION</b>	<b>H-01: Enhanced airworthiness programme for aeroplane systems – ICA on EWIS</b>
APPLICABILITY:	Boeing B767-300BDSF
REQUIREMENTS:	PART 21A.16B(a)(3), 21A.103(a)(2)(iii), CS 25.1529 & Appendix H
ADVISORY MATERIAL:	AMC 25 Subpart H

*Add to:* **Appendix H Instructions for Continued Airworthiness**

### **H25.5 Electrical Wiring Interconnection Systems Instructions for Continued Airworthiness**

The applicant must prepare Instructions for Continued Airworthiness (ICA) applicable to Electrical Wiring Interconnection System (EWIS) as defined below that include the following:

Maintenance and inspection requirements for the EWIS developed with the use of an enhanced zonal analysis procedure (EZAP) that includes:

- a. Identification of each zone of the aeroplane.
- b. Identification of each zone that contains EWIS.
- c. Identification of each zone containing EWIS that also contains combustible materials.
- d. Identification of each zone in which EWIS is in close proximity to both primary and back-up hydraulic, mechanical, or electrical flight controls and lines.
- e. Identification of –
  - Tasks, and the intervals for performing those tasks, that will reduce the likelihood of ignition sources and accumulation of combustible material, and
  - Procedures, and the intervals for performing those procedures, that will effectively clean the EWIS components of combustible material if there is not an effective task to reduce the likelihood of combustible material accumulation.
- f. Instructions for protections and caution information that will minimize contamination and accidental damage to EWIS, as applicable, during the performance of maintenance, alteration, or repairs.

The ICA must be in the form of a document appropriate for the information to be provided, and they must be easily recognizable as EWIS ICA.

For the purpose of this Appendix H25.5, the following EWIS definition applies:

- (a) Electrical wiring interconnection system (EWIS) means any wire, wiring device, or combination of these, including termination devices, installed in any area of the aeroplane for the purpose of transmitting electrical energy, including data and signals between two or more intended termination points. Except as provided for in subparagraph (c) of this paragraph, this includes:
  - (1) Wires and cables.
  - (2) Bus bars.

*Special Condition H-01 continued*

- (3) The termination point on electrical devices, including those on relays, interrupters, switches, contactors, terminal blocks, and circuit breakers and other circuit protection devices.
  - (4) Connectors, including feed-through connectors.
  - (5) Connector accessories.
  - (6) Electrical grounding and bonding devices and their associated connections.
  - (7) Electrical splices.
  - (8) Materials used to provide additional protection for wires, including wire insulation, wire sleeving, and conduits that have electrical termination for the purpose of bonding.
  - (9) Shields or braids.
  - (10) Clamps and other devices used to route and support the wire bundle.
  - (11) Cable tie devices.
  - (12) Labels or other means of identification.
  - (13) Pressure seals.
- (b) The definition in subparagraph (a) of this paragraph covers EWIS components inside shelves, panels, racks, junction boxes, distribution panels, and back-planes of equipment racks, including, but not limited to, circuit board back-planes, wire integration units and external wiring of equipment.
- (c) Except for the equipment indicated in subparagraph (b) of this paragraph, EWIS components inside the following equipment, and the external connectors that are part of that equipment, are excluded from the definition in subparagraph (a) of this paragraph:
- (1) Electrical equipment or avionics that is qualified to environmental conditions and testing procedures when those conditions and procedures are -
    - (i) Appropriate for the intended function and operating environment, and
    - (ii) Acceptable to the Agency.
  - (2) Portable electrical devices that are not part of the type design of the aeroplane. This includes personal entertainment devices and laptop computers.
  - (3) Fibre optics.

The following can be used as a guide to assess the impact of the STC on the EWIS ICA EZAP and re-application of EZAP to STC affected zone:

Step 1: Does the STC:

- Affect or modify wiring or its environment,
- Install or result in wiring being located within 5 cm (2 inches) of both primary and back-up hydraulic, mechanical, or electrical flight controls,
- Change the density of the zone or
- Change the potential effects of fire in the zone?

Step 2: If answer to step 1 is "NO", no further action required

Step 3: If answer to step 1 is "YES", perform EZAP analysis

Step 4: Determine if there is an existing (MRBR) EZAP task(s) that is applicable and effective

Step 5: If answer to step 4 is "YES", no further action required because the existing EZAP derived maintenance task(s) are adequate

Step 6: If answer to step 4 is "NO", develop appropriate task(s) and incorporate them into existing maintenance program



In case a revision to the EWIS ICA is necessary, the applicant must submit final EWIS ICA to the Agency by 7 June 2010 or the date of issuance of the certificate whichever occurs later.

-- END --