



EUROPEAN AVIATION SAFETY AGENCY

Operational Evaluation Board Report Cabin Crew Evaluation

A320 Family (the A318, the A319, the A320, the A321)



A330/340 Family (A330-200/-300, the A340-200/-300, the A340-500, the A340-600)



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2 SIGNATURE PAGE and REVISION RECORD

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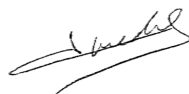
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3 LIST OF ACRONYMS

ACJ	Advisory Circular Joint
ACJ-OPS	Advisory Circular Joint - Operations
ADT	Aircraft Differences Table
AMC	Acceptable Means of Compliance
Aircraft	Generic term to designate an airplane or helicopter
CAA	Civil Aviation Authority
CAI	Certification Action Item
CBT	Computer Based Training
CC	Cabin Crew
CS	Certification Specifications
CS-CCD	Certification Specifications – Cabin Crew Data
CUP	Catch-Up Process
EASA	European Aviation Safety Agency
EASA OPS	EASA Air Operations Regulation
EC	European Commission
EU	European Union
EU-OPS	Operational Requirements – Commercial Air Transport (Aeroplanes)
GF	Grandfathering
GM	Guidance Material
JAA	Joint Aviation Authorities
(J)OEB	(Joint) Operational Evaluation Board
JAR-OPS 1	Joint Aviation Regulations – Operations, Commercial Air Transport (Aeroplanes)
KoM	Kick off Meeting
NAA	National Aviation Authorities
OEB	Operational Evaluation Board
ORO	Organisation Requirements for Air Operations
OSD	Operational Suitability Data
TC	Type Certification

TCH	Type Certificate Holder
TGL	Temporary Guidance Leaflet

4 APPLICABLE DEFINITIONS

Base aircraft means an aircraft used as a reference to compare differences with another aircraft.

Candidate aircraft means an aircraft subject to the evaluation process.

New type means an aircraft having differences requiring a completion of aircraft type specific training.

Passenger seating capacity means the passenger seating capacity of the aircraft that is subject to the initial TC process as specified in the relevant type certification data sheet or the maximum passenger seating configuration of an individually configured aircraft.

Type specific data means all design and design related data relevant to new type(s) or variant(s).

Variant means an aircraft that has significant differences to the base aircraft requiring differences training (but not requiring a completion of the full aircraft type specific training)

Note on references and reference texts:

Where references are made to requirements and where extracts of reference texts are provided, these are at the amendment state at the date of evaluation or publication of the report. Readers should take note that it is impractical to update these references to take account of subsequent amendments to the source documents.

5 EXECUTIVE SUMMARY

5.1 Evaluation Background

Further to Airbus requesting the evaluation of cabin crew aspects for the A318 as variant to the A320, and for the A340-600 as variant to the A340-200/-300, JAA completed these operational evaluations, as part of a wider JOEB evaluation for the concerned aircraft.

The conclusions of these cabin crew evaluations are contained in two JAA letters, dated 12 June 2003 for the A318, and 07 August 2002 for the A340-600 (see Appendix 2, and Appendix 1 of this report).

Similar evaluations were conducted for the A319, the A321 and for the A330-200/-300 and A340-200/-300.

For the purpose of cabin crew operation, the completion of these evaluations led to establishing the A320 family, consisting of the A318; A319; A320; A321, and of the A330/340 family, consisting of the A330-200/-300; A340-200/-300; A340-500; A340-600.

Within each of these families, transferring from one member to the other requires cabin crew additional training for the identified differences (JAR-OPS 1.1010/EU-OPS 1.1030/EASA OPS ORO.CC.250 – Operation on more than one type or variant). As shown by this report, the additional training varies in level of complexity, as determined by the associated differences.

In light of the adoption of the OSD with one of its deriving requirements to grandfather the OSD-related elements contained by the outcome of the existing (J)OEB evaluations, in July 2013 Airbus applied to EASA for an OEB CC Report Catch-Up process in order to document in an OEB CC report, the conclusions of the JAA evaluations conducted in the year 2002 and 2003 (see chapter “Synopsis of the Evaluation” of this report). The purpose of establishing such a report is to facilitate the grandfathering under the OSD CC process of the concerned elements highlighted by the said evaluations, as per the applicable requirements (amendment to Initial Airworthiness Implementing Rules, Commission Regulation(EU) No 748/2012, Article 7a - Operational Suitability Data).

Also as part of this Report Catch-Up process, and, in light of the implementation of the Operational Suitability Data (OSD) concept, which incorporates the approval of cabin crew type specific data, the design related data pertinent to cabin crew operation, addressing the A320 family and the A330/340 family, contained in the existing CCOMs, were assessed against the provisions of the EASA Certification Specifications – Cabin Crew Data(CS CCD), Appendix 1 to CS CCD 310, using cross-reference matrixes.

As well, the JAA recommendations deriving from the assessment of the cabin crew training programmes provided by Airbus for the A318 and the A340-600 to support operators’

compliance with the then applicable JAR-OPS 1 requirements (later on EU-OPS 1) were revisited in light of the currently applicable requirements contained by Annex III- Part ORO.

5.2 Purpose and Applicability

This report contains the results of the JAA cabin crew operational evaluations of the A320 family and of the A330/340 family.

This report addresses the following:

- Substantiates that the A318 is a variant of the A320 (as per JAR-OPS 1/EU-OPS 1.1030 and EASA OPS ORO.CC.250 - Operation on more than one type or variant),
- Substantiates that the A318; A319; A321 are variants of the A320 (as per JAR-OPS 1/ EU-OPS 1.1030 and EASA OPS ORO.CC.250), thus constituting the “A320 family”.
- Substantiates that the A340-600 is a variant of the A340-300.
- Substantiates that the A330-200/-300; A340-500; A340-600 are variants of the A340-200/-300, thus constituting the “A330/340 family”.
- Provides analysis for establishing compliance at the operator level, with JAR-OPS 1/ EU-OPS 1.1030 and EASA OPS ORO.CC.250 when considering the A320 family and the A330/340 family.
- Provides a systematic, consistent and uniform basis for the operational approval by the NAAs of cabin crew training programmes (as per JAR-OPS 1/ EU-OPS 1.1010 and EASA OPS ORO.CC.125/130 when operating on the A320 family and on the A330/340 family).

The report is applicable to cabin crew operation under the framework of EASA.

5.3 Conclusions

Variants

All conclusions regarding “Variants” were reached based upon the comparison of four design-related categories of elements (see Chapter 7, 7.1), and on the assumption that similarity of location and type of portable safety equipment and procedures is demonstrated at the operator level, as per the applicable requirements (see Appendix 4).

For cabin crew, the A318, the A319, the A321, are **variants of the A320** (as per EU-OPS 1.1030 and EASA OPS ORO.CC.250).

Cabin crew differences training would be required when transferring from one aircraft to another in order to ensure compliance at the operator level, with JAR-OPS 1.1010/EU OPS 1.1010 and EASA OPS ORO.CC 125/130.

For training and checking purposes Level 1 to Level 3 Differences training (in accordance

with the OEB Handbook – Part III – Draft Procedure Document for Cabin Crew Subgroup, Difference Levels) would apply.

For cabin crew, the A330-200/-300, the A340-500; the A340-600 are **variants of the A340-200/-300** (as per JAR-OPS1/ EU-OPS 1.1030 and EASA OPS ORO.CC.250).

Cabin crew differences training would be required, where differences were identified, when transferring from one aircraft to another in order to ensure compliance at the operator level with JAR-OPS 1/EU OPS 1.1010 and EASA OPS ORO.CC 125/130.

For training and checking purposes Level 1 to Level 3 Differences training (in accordance with the OEB Handbook – Part III – Draft Procedure Document for Cabin Crew Subgroup, Difference Levels) would apply.

Type specific data assessment

The content of the Airbus CCOMs and the CBT for the A320 family and the A330/340 family complies with the requirements for type specific data, as per EASA CS CCD, and is recommended to support the operator in developing customised cabin crew training syllabi and the competent authority in approving such syllabi.

The content of this OEB CC Report should be considered as being grandfathered for the corresponding OSD CC of the A320 family and the A330/340 family.

All data provided in support of the present evaluations should be reviewed by the TCH and any change in the aircraft design or configuration with significance for cabin crew training and operation should be submitted to EASA for incorporation in this report and be appropriately reflected in this document.

Training programme option

The cabin crew training programmes for the A318 and the A340-600, which were attended by the JAA CC experts, as part of the JAA evaluation process (see Chapter 6, 6.3(a)(4) and which were revisited in light of the currently applicable cabin crew training requirements were found to be an adequate example of usage of theoretical and practical elements provided by the TCH, as per CS CCD 305- Supplementary data provided at request of the applicant.

Such a training programme content could be an option for the operator to consider as the basis for developing customised cabin crew training syllabi for the A320 family and the A330/340 family in accordance with this report.

6 SYNOPSIS OF THE EVALUATION

6.1 Evaluation Background

At the time the A340-200/-300 (certificated in 1993) were launched, the applicable operational regulation - JAR-OPS 1- did not contain reference to the concepts of aeroplane “type” and “variant” for cabin crew operation. As such, neither was a formalised JOEB Cabin Crew (JOEB CC) process established.

The augmentation of the regulation to include JAR-OPS 1.1030 – Operation on more than one type or variant- resulted in a limitation of the number of aeroplane types cabin crew could fly on.

With the introduction of the A340-500 and the A340-600 (certificated in 2002), and in order to support the implementation of the criteria detailed in JAR-OPS 1.1030, customers requested Airbus to demonstrate that the A340-600 is a variant of the A340-200/-300.

To satisfy the request of their customers, Airbus submitted to JAA a request for a JOEB evaluation for type rating assignment demonstration. The request also included an evaluation of the cabin crew aspects.

Further on, Airbus extended the assessment to establish whether the A330-200/-300 and the A340-500 are variants of the A340-200/-300, thus constituting the “A330/340 family”.

As documented by the JAA/Airbus meeting minutes, reviews of applicable documentation, meetings, aeroplane inspections, visits of the Airbus dedicated door trainers, assessment of Airbus proposed cabin crew training programme were conducted, leading to the issuance of the JAA letter dated 07 August 2002, included as Appendix 2 in this Report. The JAA letter was acceptable to all JAA NAAs.

With the entry into service of the A318, a similar JOEB evaluation was conducted, in order to demonstrate that the A318 is a variant of the A320. For cabin crew purposes, this evaluation resulted in the JAA letter dated 12 June 2003, included as Appendix 1 in this report. This letter was as well, acceptable to all JAA NAAs.

Further on, Airbus extended the assessment to demonstrate that the A 318, the A319; the A321 are variants of the A320, thus constituting the “A320 family”.

In light of the adoption of the OSD with one of its deriving requirements to grandfather the OSD-related elements contained by the outcome of the existing (J)OEB evaluations, in July 2013 Airbus applied to EASA for an OEB CC Report Catch-Up process for the A320 family and the A330/340 family, in order to document all conclusions of the above mentioned evaluations in an OEB CC report, thus facilitating the grandfathering of the concerned elements under the OSD CCD, as per the applicable requirements (see: amendment to Initial Airworthiness Implementing Rules, Commission Regulation(EU) No 748/2012, Article 7a - Operational Suitability Data, 7(a) (2)- “....Compliance findings made by the authorities in

Operational Evaluation Board processes conducted under the responsibility of the JAA or the Agency before the entry into force of this Regulation shall be accepted by the Agency without further verification.”)

6.2 Basis for Grandfathering under the OSD

The purpose of the (J)OEB CC evaluations conducted by JAA and EASA has been to determine aircraft types and variants for cabin crew operation and issue associated cabin crew training recommendations to support the NAAs’ approval of applicable training syllabi.

In light of the adoption by the EC of Initial Airworthiness Implementing Rules 748/2012, amended through the EASA Opinion 07/2011, which introduces the concept of Operational Suitability Data (OSD), the determination of aircraft type/variant and the approval of type specific data for cabin crew will be integrated in the Type Certification process, and performed based on the content of the associated Certification Specifications- Cabin Crew Data(CS-CCD) published by EASA on the 31st January, 2014. The CS-CCD define the process and criteria for determination of aircraft type and variant and of type specific data for cabin crew. This data will constitute the basis for the establishment of customised training syllabi by operators/training providers, subject to their NAA’s approval.

Emanating from the above, and for the purpose of ensuring compliance with the current applicable regulation, thus justifying the grandfathering process, this OEB CC Report Catch-Up process for the A320 family and the A330/340 family has been carried out having regard of the following regulatory reference and advisory material:

Regulatory reference:

- JAR-OPS 1-Joint Aviation Regulations – Operations, Commercial Air Transport (Aeroplanes) –applicable at the time of the JAA evaluations.
- EU-OPS [Commission Regulation (EC) No 859/2008 of 20 August 2008 amending Council Regulation (EC) No 3922/91 as regards common technical requirements and administrative procedures applicable to commercial transportation by aeroplane];
- PART ORO - Annex III [Commission regulation (EU) No 290/2012 of 30 March 2012 amending Regulation (EU) No 1178/2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council];
- PART CC – Annex V [Commission regulation (EU) No 290/2012 of 30 March 2012 amending Regulation (EU) No 1178/2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council]
- Commission Regulation (EU) No 69/2014 of 27/01/2014 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations

- EASA Certification Specifications and Guidance Material for Cabin Crew Data, Initial Issue, 31 January 2014 (CS-CCD)

Regulatory advisory material:

- TGL 44- for ACJ -OPS 1030- Operation on more than one type or variant
- AMC/GM to PART ORO, Annex III - Air Operations Regulation
- AMC/GM to PART CC, Annex V - Air Crew Regulation

Advisory material

- EASA OEB Handbook, Part III - Draft Procedure Document for Cabin Crew Subgroup (dated 02/06/2009).

6.3 Evaluation data compilation

The following have been considered when compiling the present OEB CC Report for the A320 family and the A330/340 family:

- a) JAA team conclusions of the A318 and the A340-/600 cabin crew operational evaluations, resulting from:
 - 1) The review of documentation provided by Airbus:
 - i. CCOMs for the A320 family and A330/340 family;
 - ii. CBT for the A320 family and A330/340 family
 - 2) The A318 and A340-600 aeroplane visits, for data validation,
 - 3) The visit of Airbus cabin door trainers for the A318 and the A340-600,
 - 4) The attendance of Airbus proposed cabin crew training programme, for the A318 and the A340-600.
- b) Use of Aircraft Differences Table (ADT) for the A320 family and the A330/340 family. The Table, displaying significant similarity was used in the OEB CC processes (EASA OEB CC Procedure Document, Appendix 3-B), and is also used by the OSD CC process (CS CCD.200/CS CCD.215), to highlight existing design differences between the “base” and the “candidate” aircraft in the case of variants. In order to demonstrate consistency of processes between the JAA evaluations and the OEB CC/OSD CC assessments, Airbus transposed the relevant information used for the JAA evaluations into the ADTs.

7 EVALUATION CONTENT

7.1 Comparison of the A320 family (A318; A319; A320; A321)

The aim of the JOEB cabin crew evaluation resulting in the JAA Letter dated 12 June 2003 (see Appendix 2) was to establish whether for cabin crew the A318 as the “candidate” aeroplane was a variant of the A320 as the “base” aeroplane, or whether they were different aircraft types. Similar evaluations were conducted for the A319 and the A321.

The data used to substantiate the JAA conclusions, data which later on was transposed in the ADTs, consists of elements that are included in four design-related categories, applicable to both the (J)OEB CC and the OSD CC evaluations.

The four categories are:

- (a) aircraft configuration
- (b) doors and exits
- (c) aircraft systems
- (d) normal and emergency operation

Guidance on how to assess the relevant elements belonging to these categories had been contained in JAR-OPS 1, Section 2; was included in the TGL 44 during the applicability of EU-OPS 1, and was also available in the JOEB Handbook – Part III –Appendix 3 – B, Detailed Information for compilation of ADT. The necessary information is also contained in the CS-CCD (CS CCD.205- Determination Elements).

Using the above categories as criteria, the following comparisons were performed:

- A: A320 versus A318
- B: A320 versus A319
- C: A320 versus A321

A. A320 versus A318

Findings:

The A318 has a shorter fuselage which can accommodate a maximum seating capacity of 136 versus 180 seats on the A320.

The following differences were identified on the A318:

- Only 2 overwing Type III exits versus 4 overwing Type III on the A320 (see Appendix 3 for door/exit configurations).
- Changes to the Cabin Inter Communication Data System (CIDS).

These differences can be adequately addressed through cabin crew differences training. They do not require aircraft type specific training in order to ensure cabin crew proficiency during operation.

Conclusion A:

For cabin crew, the A318 is a variant of the A320, as per JAR-OPS 1/ EU-OPS 1.1030, EASA OPS ORO.CC.250.

B. A320 versus A319

Findings:

The A 319 has a shorter fuselage which can accommodate depending on the door/exit configuration a maximum seating capacity of 145 or 160 seats versus 180 seats on the A320 .

The following differences were identified on the A319:

- Only 2 overwing Type III exits in a certain configuration versus 4 overwing Type III exits on the A320 (see Appendix 3 for door/exit configurations).
- Changes to the Cabin Inter Communication Data System (CIDS).

These differences can be adequately addressed through cabin crew differences training. They do not require aircraft type specific training in order to ensure cabin crew proficiency during operation.

Conclusion B:

For cabin crew, the A319 is a variant of the A320, as per JAR-OPS 1/ EU-OPS 1.1030, EASA OPS ORO.CC.250.

C: A320 versus A321

Findings:

The A321 has a longer fuselage, which depending on the door/exit type configuration, can accommodate a maximum seating capacity of 180, or 200, or 220 seats versus 180 seats on the A320

The following differences were identified on the A321:

- In certain configurations, 4 Type I or 4 Type C floor exits (2fwd/2aft the wing) versus 4 Type III overwing exits on the A320 (see Appendix 3 for door/exit configurations).

- The forward/aft wing Type C floor level exits have the escape slides located in the fuselage underneath the floor, and not attached on the interior of the door.
- Changes to the Cabin Inter Communication Data System (CIDS).

These differences can be adequately addressed through cabin crew differences training. They do not require aircraft type specific training in order to ensure cabin crew proficiency during operation.

Conclusion C:

For cabin crew, the A321 is a variant of the A320, as per JAR-OPS 1/ EU-OPS 1.1030, EASA OPS ORO.CC.250.

7.2 Comparison of the A330/340 family (A330-200/-300; A340-200/-300; A340-500; A340-600)

The aim of the JOEB cabin crew evaluation resulting in the JAA Letter dated 07 August 2002 (see Appendix 2) was to establish whether for cabin crew, the A340-600, as the “candidate” aeroplane was a variant of the A340-200/-300 as the “base” aeroplane(s), or whether they were different aircraft types.

Similar evaluations were conducted for the A330-200/-300 and the A340-500.

The data used to substantiate the JAA conclusions, data which later on was transposed in the ADTs, consists of elements that are included in four design-related categories, applicable to both the (J)OEB CC and the OSD CC evaluations.

The four categories are:

- (a) aircraft configuration
- (b) doors and exits
- (c) aircraft systems
- (d) normal and emergency operation

Guidance on how to assess the relevant elements belonging to these categories had been contained in JAR-OPS 1, Section 2; was included in the TGL 44 during the applicability of EU-OPS 1 and was also available in the JOEB Handbook – Part III Appendix 3 – B, Detailed Information for compilation of ADT. The necessary information is also contained in the CS-CCD (CS CCD.205- Determination Elements).

Using the above categories as criteria, the following comparisons were performed:

- A: A340-200/-300 versus A330-200/-300
- B: A340-200/-300 versus A340-500
- C: A340-200/300 versus A340-600

A. A340-200/300 versus A330-200/-300

Starting from the fact that for cabin crew, no differences were identified for the A340-200 and the A340-300, the two models were treated as a single item, thus constituting the “base” aeroplane(s) for the purpose of the JOEB CC evaluation.

Starting from the fact that for cabin crew no differences were identified for the A330-200 and the A330-300, the two models were treated as a single item, thus constituting the “candidate” aeroplane(s) for the purpose of the JOEB evaluation.

Findings:

Depending on the door/exit configuration (see Appendix 3 for door/exit configurations), both the A330-200/-300 and the A340-200/-300 have a maximum seating capacity which may vary from 375 to 400; 406; 420; 440 seats.

- No differences were identified for the A330-200/300 in terms of cabin configuration; doors and exits operation; systems; normal and emergency operation.

Conclusion A:

For cabin crew, the A330-200/-300 and the A340-200/300 are one type, with no differences between the variants (models), as per JAR-OPS 1/ EU-OPS 1.1030, EASA OPS ORO.CC.250

B. A340-200/-300 versus A340-500

Starting from the fact that for cabin crew no differences were identified for the A340-200 and the A340-300, the two models were treated as a single item, thus constituting the “base” aeroplane(s) for the purpose of the JOEB CC evaluation, while the A340-500 was the “candidate” aeroplane.

Findings:

With the same door/exit configuration, the A340-500 accommodates the same maximum seating capacity of 375 seats as the A340-200/-300 (see Appendix 3 for door/exit configurations).

The following differences were identified on the A340-500

- Enhanced Cabin Intercommunication Data System (CIDS) features, as part of the Communication System;
- Interface of emergency lighting, as part of the Cabin Lighting system;

These differences can be adequately addressed through cabin crew differences training. They do not require aircraft type specific training in order to ensure cabin crew proficiency during operation

Conclusion B:

For cabin crew, the A340-500 is a variant of the A340-200/300, as per JAR-OPS 1/ EU-OPS 1.1030, EASA OPS ORO.CC.250.

C. A340-200/-300 versus A340-600

Starting from the fact that for cabin crew no differences were identified for the A340-200 and the A340-300, the two models were treated as a single item, thus constituting the “base” aeroplane(s) for the purpose of the JOEB CC evaluation, while the A340-600 was the “candidate” aeroplane.

Findings:

Both the A340-600 and the A340-200/-300 can accommodate maximum seating capacities of 400 or 440 seats.

The following differences were identified on the A340-600:

- Enhanced Cabin Intercommunication Data System (CIDS) features, as part of the Communication System;
- Interface of emergency lighting, as part of the Cabin Lighting System;
- 2 enlarged Type III (floor level) electrical overwing exits (self-help), equipped with single lane inflatable slides located in the belly faring.

These differences can be adequately addressed through cabin crew differences training. They do not require aircraft type specific training in order to ensure cabin crew proficiency during operation.

Conclusion C:

For cabin crew, the A340-600 is a variant of the A340-200/-300, as per JAR-OPS 1/ EU-OPS 1.1030, EASA OPS ORO.CC.250,

7.3 Difference Levels

The following is an excerpt from Chapter 4 – Difference Levels for Training and Checking of the EASA OEB Handbook, Part III- Draft Procedures Document for Cabin Crew Subgroup, and defines the different levels of training.

Difference level	Training	Checking
1	Self-Instruction (Written information)	Not applicable
2	Aided Instruction (CBT, Video.)	Applicable as required
3	Hands-on Training (Training Device, or Aircraft)	Applicable
4	Aided Instruction and Hands-on Training (Training Device, or Aircraft)	Applicable

Level 1: Applicable to aircraft with differences that can be adequately addressed through self-instruction. Level 1 training represents a knowledge requirement such that, once appropriate information is provided, understanding and compliance can be assumed to take place. Compliance with Level 1 training is typically achieved by methods such as issuance of operating manual page revisions, dissemination of cabin crew operating bulletins or differences hand-outs to describe minor differences between aircraft.

Level 2: Applicable to aircraft with systems or procedural differences that can be adequately addressed through aided instruction. At Level 2, aided instruction is appropriate to ensure crew understanding, emphasise issues, provide a standardised method of presentation of material, or to aid retention of material following training. Level 2 aided instruction typically employs such means as slide/tape presentations, computer based training (CBT), stand-up lectures or videotapes.

Level 3: Applicable to aircraft with differences that can only be addressed through use of devices capable of system training (i.e. hands-on training) Training devices are required to supplement instruction to ensure attainment or retention of crew skills and abilities to accomplish the more complex tasks, usually related to operation of particular aircraft systems. Typical training devices for Level 3 would include emergency evacuation

procedures trainers, fire and smoke trainers, cabin crew panel trainers etc. When dedicated trainers are not available, Level 3 would require hands-on training using the aircraft.

Level 4: Applicable to aircraft with differences that can only be addressed through completion of aircraft type specific training, thus constituting a new aircraft type for cabin crew operation. Level 4 would always require hands-on training utilising either appropriate emergency evacuations procedures trainers or the aircraft and appropriate aided instruction.

7.4 Recommendations for Cabin Crew Training and Checking for the A320 Family

Based on the conclusions provided by the application of the ADTs and on the guidance in the OEB Handbook - Part III regarding the Difference Levels for Training and Checking, the following assessments were carried out to establish the recommendations for cabin crew training and checking when transferring from the A320, to the A318, A319, A321, and viceversa.

- A: A320 versus A318
- B: A320 versus A319
- C: A320 versus A321

A. A320 versus A318

Findings:

For cabin crew training and checking purposes, the A318 is a variant of the A320.

Based on the differences identified for the A318, Level 2 Differences apply, when transferring from the A320 to the A318.

As shown by the Difference Levels table, checking may be required for Level 2 Differences.

Level 2 Differences applies to cabin crew training defined by the requirements of JAR-OPS 1/ EU-OPS 1.1010 and EASA OPS ORO.CC.125/130 with regard to:

- Changes to the Cabin Inter Communication data System (CIDS)

Based on the identified differences, Level 1 Differences applies when transferring from the A318 to the A320.

As shown by the Difference Levels table, checking is not applicable to Level 1 Differences.

Level 1 Differences applies to cabin crew training defined by the requirements of JAR-OPS 1/ EU-OPS 1.1010 and EASA OPS ORO.CC.125/130 with regard to:

- Only 2 overwing Type III exits on the A318 versus 4 overwing Type III on the A320.

Conclusion A1 : As Level 2 Differences training and checking provides for systems and procedural differences related to cabin crew knowledge, skills and performance which, if left uncovered, may affect flight safety, additional training is required when transferring from the A320 to the A318.

Conclusion A2 : When transferring from the A318 to the A320, Level 1 Differences applies.

B. A320 versus A319

Findings:

For cabin crew training and checking purposes, the A319 is a variant of the A320.

Based on the differences identified for the A319, Level 2 Differences applies, when transferring from the A320 to the A319

As shown by the Difference Levels table, checking may be required for Level 2 Differences.

Level 2 Differences applies to cabin crew training defined by the requirements of JAR-OPS 1/ EU-OPS 1.1010 and EASA OPS ORO.CC.125/130 with regard to:

- Changes to the Cabin Inter Communication data System (CIDS) the

Based on the identified differences, Level 1 Differences applies when transferring from the A319 to the A320.

As shown by the Difference Levels table, checking is not applicable to Level 1 Differences.

Level 1 Differences applies to cabin crew training defined by the requirements of JAR-OPS 1/ EU-OPS 1.1010 and EASA OPS ORO.CC.125/130 with regard to:

- Only 2 overwing Type III exits on the A319 versus 4 overwing Type III on the A320

Conclusion B1 : As Level 2 Differences training and checking provides for systems and procedural differences related to cabin crew knowledge, skills and performance which, if left uncovered, may affect flight safety, additional training is required when transferring from the A320 to the A319.

Conclusion B2 : When transferring from the A319 to the A320, Level 1 Differences applies.

C. A320 versus A321

Findings:

For cabin crew training and checking purposes, the A321 is a variant of the A320.

Based on the differences identified for the A321, Level 2 and Level 3 Differences apply when transferring from the A320 to the A321.

As shown by the Difference Levels table, checking may be required for Level 2 Differences and is required for Level 3.

Level 2 Differences applies to cabin crew training defined by the requirements of JAR-OPS 1/EU-OPS 1.1010 and EASA OPS ORO.CC.125/130 with regard to:

- Changes to the Cabin Inter Communication data System (CIDS)

Level 3 Differences applies to cabin crew training defined by the requirements of JAR-OPS 1/EU-OPS 1.1010 and EASA OPS ORO.CC.125/130 with regard to:

- In certain configurations, 4 Type I or 4 Type C floor exits (2fwd/2aft the wing) versus 4 Type III overwing exits on the A320 (see Appendix 3 for door/exit configurations).
- The forward/aft wing Type C floor level exits have the escape slides located in the fuselage underneath the floor, and not attached on the interior of the door.
- Type I and Type C floor level exits associated evacuation.

Conclusion C1 : As Level 2 and Level 3 Differences training and checking provide for systems; procedural differences and system training (i.e. hands-on training) related to cabin crew knowledge, skills and performance which, if left uncovered, may affect flight safety, additional training is required when transferring from the A320 to the A321.

Conclusion C2: When transferring from the A321 to the A320, Level 1 Differences applies.

7.5 Recommendations for Cabin Crew Training and Checking for the A330/A340 Family

Based on the conclusions provided by the application of the ADTs and on the guidance in the OEB Handbook - Part III regarding the Difference Levels for Training and Checking, the following assessments were carried out to establish the recommendations for cabin crew training and checking when transferring from the A340-200/300 to the A330-200/300; the A340-500; the A340-600 and viceversa.

A: A340-200/300 versus A330-200/-300

B: A340-200/-300 versus A340-500

C: A340-200/-300 versus A340-600

A. A340-200/300 versus A330-200/-300

Findings:

Since no differences were identified between the base and the candidate aeroplanes in terms of cabin configuration; doors and exits operation; systems; normal and emergency operation, for cabin crew, the A330-200/-300 and the A340-200/-300 are considered one type with common training.

Conclusion A : No additional training is required when transferring from the A340-200/-300 to the A330-200/-300 or viceversa.

Note: Possible differences may occur and should be considered at the operator level, in terms of location and type of portable safety equipment and procedures. (see Appendix 4 for ACJ-OPS 1.1030).

B: A340-200/-300 versus A340-500

Findings:

For cabin crew training and checking purposes, the A340-500 is a variant of the A340-200/-300.

Based on the differences identified for the A340-500, Level 2 and Level 3 Differences apply when transferring from the A340-200/-300 to the A340-500.

As shown by the Difference Levels table, checking may be required for Level 2 Differences and is required for Level 3.

Level 2 Differences applies to cabin crew training defined by the requirements of JAR-OPS 1/EU-OPS 1.1010 and EASA OPS ORO.CC.125/130 with regard to:

- Interface of emergency lighting, as part of the Cabin Lighting system

Level 3 Differences applies to cabin crew training defined by the requirements of JAR-OPS 1/EU-OPS 1.1010 and EASA OPS ORO.CC.125/130 with regard to:

- Enhanced Cabin Intercommunication Data System (CIDS) features, as part of the Communication System;

Conclusion B1 : As Level 2 and Level 3 Differences training and checking provide for systems; procedural differences and system training (i.e. hands-on training) related to cabin

crew knowledge, skills and performance which, if left uncovered, may affect flight safety, additional training is required when transferring from the A340-200/-300 to the A340-500.

Conclusion B2 : When transferring from the A340-500 to the A340-200/-300, Level 1 Differences applies.

C . A340-200/300 versus A340-600

Findings:

For cabin crew training and checking purposes, the A340-600 is a variant of the A340-200/-300.

Based on the differences identified for the A340-600, Level 2 and Level 3 Differences apply, when transferring from the A340-200/-300 to the A340-600.

As shown by the Difference Levels table, checking may be required for Level 2 Differences and is required for Level 3.

Level 2 Differences applies to cabin crew training defined by the requirements of JAR-OPS 1/ EU-OPS 1.1010 and EASA OPS ORO.CC.125/130 with regard to:

- Interface of emergency lighting, as part of the Cabin Lighting system

Level 3 Differences applies to cabin crew training defined by the requirements of JAR-OPS 1/ EU-OPS 1.1010 and EASA OPS ORO.CC.125/130 with regard to:

- Enhanced Cabin Intercommunication Data System (CIDS) features, as part of the Communication System;
- 2 enlarged Type III (floor level) electrical overwing exits (self-help), equipped with single lane inflatable slides located in the belly faring;
- Enlarged Type III (floor level) electrical overwing exits associated evacuation.

Conclusion C1 : As Level 2 and Level 3 Differences training and checking provide for systems; procedural differences and system training (i.e. hands-on training) related to cabin crew knowledge, skills and performance which, if left uncovered, may affect flight safety, additional training is required when transferring from the A340-200/-300 to the A340-600.

Conclusion C2 : When transferring from the A340-600 to the AA330-200/-300, Level 1 Differences applies.

8 CONCLUSIONS:

8.1 Variants

All conclusions regarding “Variants” were reached based upon the comparison of four design-related categories of elements (see Chapter 7, 7.1), and on the assumption that similarity of location and type of portable safety equipment and procedures is demonstrated at the operator level, as per the applicable requirements (see Appendix 4).

a) A320 Family

For cabin crew, the A318, the A319, the A321, are variants of the A320 (as per JAR-OPS 1/ EU-OPS 1.1030 and EASA OPS ORO.CC.250).

Cabin crew differences training would be required when transferring from one aircraft to another, in order to ensure compliance at the operator level, with JAR-OPS 1.1010/EU OPS 1.1010 and EASA OPS ORO.CC 125/130.

For training and checking purposes Level 1 to Level 3 Difference training (in accordance with the OEB Handbook – Part III – Draft Procedure Document for Cabin Crew Subgroup, Difference Levels) would apply.

NOTE 1a : *If an operator commences operation of an A320 without already operating one of the other family members (i.e. A318; A319; A321), or commences operation of one of the other family members without already operating the A320, the aircraft is a new type to the operator and Conversion and Differences training/Aircraft Type Specific and Operator Conversion training would be required for cabin crew (as per JAR-OPS 1/EU-OPS 1.1010 and EASA OPS ORO.CC.125/130). Level 4 training (in accordance with the OEB Handbook – Part III – Draft Procedure Document for Cabin Crew Subgroup, Difference Levels) would apply.*

NOTE 2a : *For the purpose of this report, the analysis has been based on comparisons and differences using the A320 as the base aircraft. This does not preclude an operator from using the data to assess differences and subsequent training levels for other combinations of aircraft within the A320 family. For example, an operator currently operating an A318 would need to compare the differences between that aircraft and the A320 and then the differences between the A320 and the A321 in order to determine which differences were appropriate and relevant to their aircraft. This data would enable an operator to determine required training for their cabin crew, when transferring from the A318 to the A321, or vice versa.*

b) A330/340 Family

For cabin crew, the A330-200/-300, the A340-500; the A340-600 are variants of the A340-200/-300 (as per JAR-OPS1/ EU-OPS 1.1030 and EASA OPS ORO.CC.250).

Cabin crew differences training would be required, where differences were identified, when transferring from one aircraft to another, in order to ensure compliance at the operator level, with JAR-OPS 1/EU OPS 1.1010 and EASA OPS ORO.CC 125/130.

For training and checking purposes Level 1 to Level 3 Differences training (in accordance with the OEB Handbook – Part III – Draft Procedure Document for Cabin Crew Subgroup, Difference Levels) would apply.

NOTE 1b : *If an operator commences operation of an A340-200/-300 without already operating one of the other family members (i.e. A330-200/-300; A340-500; A340-600), or commences operation of one of the other family members without already operating the A340-200/-300, the aircraft is a new type to the operator and Conversion and Differences training/Aircraft Type Specific and Operator Conversion training would be required for cabin crew (as per EU-OPS 1.1010 and EASA OPS ORO.CC.125/130). Level 4 training (in accordance with the OEB Handbook – Part III – Draft Procedure Document for Cabin Crew Subgroup, Difference Levels) would apply.*

NOTE 2b : *For the purpose of this report, the analysis has been based on comparisons and differences using the A340-200/-300 as the base aircraft. This does not preclude an operator from using the data to assess differences and subsequent training levels for other combinations of aircraft within the A330/340 family. For example, an operator currently operating an A330-200 would need to compare the differences between that aircraft and the A340-200/-300 and then the differences between the A340-200/-300 and the A340-500 in order to determine which differences were appropriate and relevant to their aircraft. This data would enable an operator to determine required training for their cabin crew, when transferring from the A330-200 to the A340-500, or vice versa.*

8.2 Type specific data assessment

The content of the Airbus CCOMs and the CBT for the A320 family and the A330/340 family complies with the requirements for type specific data, as per EASA CS CCD, and is recommended to support the operator in developing customised cabin crew training syllabi and the competent authority in approving such syllabi.

The content of this OEB CC Report should be considered as being grandfathered for the corresponding OSD CC of the A320 family and the A330/340 family.

All data provided in support of the present evaluations should be reviewed by the TCH and any change in the aircraft design or configuration with significance for cabin crew training and operation should be submitted to EASA for incorporation in this report and be appropriately reflected in this document.

8.3 Training programme option

The cabin crew training programmes for the A318 and the A340-600, which were attended by the JAA CC experts, as part of the JAA evaluation process (see Chapter 6, 6.3 (a)(4), and





which were revisited in light of the currently applicable cabin crew training requirements was found to be an adequate example of usage of theoretical and practical elements provided by the TCH, as per CS CCD 305- Supplementary data provided at request of the applicant.

Such a training programme content could be an option for the operator to consider as the basis for developing customised cabin crew training syllabi for the A320 family and the A330/340 family in accordance with this report.


9 APPENDICES

Appendices No. 1, 2 ,3 ,4 included in this Report are considered to be integral part of the Report.

9.1 APPENDIX No. 1 – JAA Letter A340-600

 JAA <i>Joint Aviation Authorities</i>	<p>Postal Address: P.O. Box 3000 2130 KA Hoofddorp Visiting Address: Saturnusstraat 8-10 The Netherlands Tel: 31 (0)23 - 5679700 Fax: 31 (0)23 - 5621714 Website: www.JAA.nl</p>	
<p>Our reference number: 05/05-11 / 02-L042</p>	<p>7 August 2002</p>	
<p>Your reference number:</p>		
<p>Re: A340-600 JOEB First set of recommendations for Cabin Crew Issues</p>		
<p>The Joint Aviation Authorities (JAA) has completed the first phase of an evaluation of the cabin of the A 340-600 aircraft. Systems and equipment was reviewed and normal, abnormal and emergency procedures were compared for the A 340-600 and the A 340-200/300.</p>		
<p>The Joint Aviation Authorities recommend that for cabin aspects, the A 340-600 is considered as a Variant of the A 340-200/300. The aircraft cabins are assessed as functionally similar.</p>		
<p>Ground courseware CBT (for cabin base trainer) /video/transparencies are adequate to cover differences when transitioning from the A 340-200/300 cabin to the A 340-600 cabin</p>		
<p>Additional recommendations in relation to JAR OPS 1 are developed in the JOEB cabin Sub Group intermediate report.</p>		
<p>Jean-Claude Albert, DGAC France JOEB Chairman</p>		
		
<p>Karen Grange, UK CAA JOEB Member</p>		
		
<p>Thoreau-Marie-Christine, DGAC France (Consultant) JOEB Member</p>		
		
<p>Chief Executive's Office: 31 (0)23 - 5679741 Resources & Development: 31 (0)23 - 5679765</p>	<p>Regulation division: 31 (0)23 - 5679712 Licensing division: 31 (0)23 - 5679733/758 Operations division: 31 (0)23 - 5679743/764</p>	<p>Certification division: 31 (0)23 - 5679729/766 Maintenance division: 31 (0)23 - 5679711/790</p>

9.2 APPENDIX No. 2 – JAA Letter A318

 <p>JAA Joint Aviation Authorities</p>	<p>Postal Address: P.O. Box 3000 2130 KA Hoofddorp Visiting Address: Saturnusstraat 8-10 The Netherlands Tel: 31 (0)23 - 5679700 Fax: 31 (0)23 - 5621714 Website: www.JAA.nl</p>
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Our reference number: 05/05-22/03-L29	12 June 2003
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Your reference number:

Re: A 318 JOEB First set of recommendations for Cabin Crew Issues


The Joint Aviation Authorities (JAA) has completed the first phase of an evaluation of the cabin of the A 318 aircraft. Systems and equipment were reviewed and normal, abnormal and emergency procedures were compared for the A 320 and the A 318.

The Joint Aviation Authorities recommend that for cabin aspects, the A 318 is considered as a Variant of the A 320. The aircraft cabins are assessed as functionally similar.


Ground courseware CBT (for cabin base trainer) /video/transparencies are adequate to cover differences when transitioning from the A 320 cabin to the A 318 cabin

Additional recommendations in relation to JAR OPS 1 are developed in the JOEB cabin Sub-Group intermediate report.


Capt. Stuart Grüber,
JOEB Chairman A 318



Luana Herescu, CJAA
JOEB Member



Thoreau-Marie-Christine, DGAC France (Consultant)
JOEB Member



Chief Executive's Office:	31 (0)23 - 5679741	Regulation division:	31 (0)23 - 5679712
Resources & Development:	31 (0)23 - 5679755	Licensing division:	31 (0)23 - 5679733/756
		Operations division:	31 (0)23 - 5679743/764
		Certification division:	31 (0)23 - 5679725/766
		Maintenance division:	31 (0)23 - 5679711/780

9.3 APPENDIX No. 3 - Minimum required number of Cabin Crew members for aircraft models/exit configuration

This table, provided by Airbus, compiles amongst others, information regarding the minimum required cabin crew numbers for the variants (models) constituting the “A320 family” and the “A330/340 family”. The numbers derive from the emergency evacuation demonstrations and analysis conducted at the time of the Type Certification (TC) of the aeroplane types and variants (models) under discussion in this Report.

* At least one crewmember has to be seated on the center swivel CAS (if installed)

** Other exit mix for door 2 & 3 on A321 possible, see Seat Frame Specification. For 201 seats or more, 5 CA are required

*** Ninth cabin crewmember to be seated either door 2 or door 3

Aircraft model	Exit Configuration	Maximum Passenger Seat Capacity	Authority acceptance	Minimum Required Cabin Crew Member	Door 1 Fwd Exit	Door 2	Over wing exit	Door 3	Door 4 Aft Exit	Door 5
A318	C-III-C	136	JAA, FAA	3	2		-		1*	
A319	C-III-C	145	JAA, FAA	3	2		-		1*	
A319	C-III-III-C	160	JAA - DGAC 156	4	2		-		2*	
A320	C-III-III-C	179	JAA, FAA	4	2		-		2*	
A320	C-III-III-C	180	JAA	4	2		-		2*	
A321	C-C-C-C	220	JAA, FAA	5	1	1		1	2*	
A321**	C-I-I-C	200	JAA	4	1	1		1	1*	
A321**	C-III-III-C	180	JAA	4	1	1		1	1*	

EASA Operational Evaluation Board – Cabin Crew Evaluation

Aircraft model	Exit Configuration	Maximum Passenger Seat Capacity	Authority acceptance	Minimum Required Cabin Crew Member	Door 1 Fwd Exit	Door 2	Over wing exit	Door 3	Door 4 Aft Exit	Door 5
A330-200/-300 A340-200/-300	A-A-I-A	375	JAA, FAA	8	2	2		2	2	
A330-200/-300 A340-200/-300	A-A-A-A	400	JAA FAA 379 with 8 CA	8	2	2		2	2	
A330-200	A-A-A-A	406	JAA FAA 379 with 8 CA	9	2	2		2	3	
A330-300 A340-300	A-A-A-A	440	JAA FAA 379 with 8 CA	9	2	2		2	3	
A340-200	A-A-A-A	420	JAA FAA 379 with 8 CA	9	2	2		2	3	
A340-500	A-A-I-A	375	JAA, FAA	8	2	2		2	2	
A340-600	A-A-III-A-A	440	JAA FAA 379 with 8 CA	9***	2	2/3	-	2/3	2	
A340-600 A320 Family ; A330/340 Family	A-A-III-A-A	400	JAA FAA 379 with 8 CA	8	2	2	-	2	2	

9.4 APPENDIX No. 4 – JAR-OPS 1/EU-OPS 1 and associated ACJ –OPS

1.1030 – Operation on more than one type or variant.

INTRODUCTION:

JAR-OPS 1.1030 and EU-OPS 1.1030 have an identical content.

ACJ-OPS 1.1030 had been part of “Section 2” of JAR-OPS 1 and migrated into the content of TGL 44 during the applicability of EU-OPS 1. The ACJ furnishes valuable information for identifying aeroplane types and variants for cabin crew operation and training, and is provided below, for reference.

JAR–OPS 1.1030 Operation on more than one type or variant

(See ACJ OPS 1.1030)

and

EU-OPS 1.1030 – Operation on more than one type or variant

(a) An operator shall ensure that each cabin crew member does not operate on more than three

aeroplane types except that, with the approval of the Authority, the cabin crew member may operate on four aeroplane types, provided that for at least two of the types:

- (1) Non-type specific normal and emergency procedures are identical; and
- (2) Safety equipment and type specific normal and emergency procedures are

similar.

(b) For the purposes of sub-paragraph (a) above, variants of an aeroplane type are considered to be different types if they are not similar in each of the following aspects:

- (1) Emergency exit operation;
- (2) Location and type of portable safety equipment; and
- (3) Type specific emergency procedures.

[Amdt. 3, 01.12.01]

ACJ OPS 1.1030

Operation on more than one type or variant

See JAR-OPS 1.1030

1. For the purposes of JAR-OPS 1.1030(b)(1), when determining similarity of exit operation the following factors should be assessed to justify the finding of similarity:

- a. Exit arming/disarming;
- b. Direction of movement of the operating handle;
- c. Direction of exit opening;
- d. Power assist mechanisms;
- e. Assist means, e.g. evacuation slides.

Self-help exits, for example Type III and Type IV exits, need not be included in this assessment.

2. For the purposes of JAR-OPS 1.1030(a)(2) and (b)(2), when determining similarity of location and type of portable safety equipment the following factors should be assessed to justify the finding of similarity:

- a. All portable safety equipment is stowed in the same, or in exceptional circumstances, in substantially the same location;
 - b. All portable safety equipment requires the same method of operation;
 - c. Portable safety equipment includes:
 - i. Fire fighting equipment;
 - ii. Protective Breathing Equipment (PBE);
 - iii. Oxygen equipment;
 - iv. Crew lifejackets;
 - v. Torches;
 - vi. Megaphones;
 - vii. First aid equipment;
 - viii. Survival equipment and signalling equipment;
 - ix. Other safety equipment where applicable.
3. For the purposes of sub-paragraph of JAR-OPS 1.1030(a)(2) and (b)(3), type specific emergency procedures include, but are not limited, to the following:

- a. Land and water evacuation;
- b. In-flight fire;
- c. Decompression;
- d. Pilot incapacitation.

4. When changing aeroplane type or variant during a series of flights, the cabin crew safety briefing required by AMC OPS 1.210(a), should include a representative sample of type specific normal and emergency procedures and safety equipment applicable to the actual aeroplane type to be operated.

[Amdt. 3, 01.12.01]