



U.S. Department of Transportation  
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## Flight Standardization Board (FSB) Report

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Revision: 7  
Date: 07/26/2019

Manufacturer  
**Airbus SAS**

Type Certificate Data Sheet (TCDS)	TCDS Identifier	Marketing Name	Pilot Type Rating
A46NM	A330-200 Series	A330-200	A-330
A46NM	A330-200 Freighter Series	A330-200F	A-330
A46NM	A330-300 Series	A330-300	A-330
A46NM	A330-900 Series	A330neo	A-330

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## 1. RECORD OF REVISIONS

Revision Number	Section(s)	Page(s)	Date
Original			10/02/1996
1			04/27/2001
2			10/26/2005
3			05/30/2012
4			07/31/2013
5	5, 6, Appendix 1		06/10/2016
6	All	All	04/17/2019
7	3, 5, 9.3, 10.2, Appendices 3 and 5	3, 5, 9, 11, 54, 57 thru 59	07/26/2019

## 2. INTRODUCTION

Aircraft Evaluation Groups (AEG) are responsible for working with aircraft manufacturers and modifiers during the development and Federal Aviation Administration (FAA) certification of new and modified aircraft to determine: 1) the pilot type rating; 2) flightcrew member training, checking, and currency requirements; and 3) operational suitability.

This report lists those determinations for use by: 1) FAA employees who approve training programs; 2) FAA employees and designees who certify airmen; and 3) aircraft operators and training providers to assist them in developing their flightcrew member training, checking, and currency.

## 3. HIGHLIGHTS OF CHANGE

The purpose of this revision is to modify Training and Checking Levels in the A350 to A330 Maneuvers Differences Table for Abnormal Operations and Landing, and to modify accordingly the applicable Related Aircraft Proficiency Check (PC) example.

## 4. BACKGROUND

The Transport Aircraft Seattle AEG formed an FSB that evaluated the A330 as defined in FAA Type Certificate Data Sheet (TCDS) #A46NM. The initial evaluation was conducted during October 1993, using the methods described in FAA Advisory Circular (AC) 120-53, Crew Qualification and Pilot Type Rating Requirements for Transport Category Aircraft Operated Under FAR Part 121. A subsequent evaluation was conducted from 1994 to 1995 to evaluate

related aircraft differences training with the Airbus A320 and Airbus A340, as well as the differences training with the A330-200 variation. This led to issuance of the original A320/A330/A340 combined FSB report, subsequently revised as needed.

In 2012, an additional evaluation was conducted to evaluate the differences training between the A330-200 and the A330-200F, leading to another revision of the A320/A330/A340 combined FSB report.

In October 2016, the A330 FSB conducted an evaluation of the related aircraft differences training from the A350 to the A330. The evaluation was conducted using the methods described in the current edition of AC 120-53, Guidance for Conducting and Use of Flight Standardization Board Evaluations.

In April 2018, the A330 FSB conducted an evaluation of the differences training between the A330-300 and the A330-900. The evaluation was conducted using the methods described in the current edition of AC 120-53.

## 5. ACRONYMS

14 CFR	Title 14 of the Code of Federal Regulations
AC	Advisory Circular
ACFT	Aircraft
ACS	Airman Certification Standards
AEG	Aircraft Evaluation Group
AP	Autopilot
ASCT	Approved Simulator Course of Training
ATHR	Autothrottle
ATP	Airline Transport Pilot
AV	Audiovisual Presentation
BRK	Brakes
CG	Center of Gravity
CONF	Configuration (Flaps/Slats)
CPT	Cockpit Procedures Trainer
ECL	Electronic Checklist
EFIS	Electronic Flight Instrument System
FAA	Federal Aviation Administration
FCU	Flight Control Unit
FD	Flight Director
FE	Flight Engineer
FFS	Full Flight Simulator
FMA	Flight Mode Annunciator
FMS	Flight Management System
FSB	Flight Standardization Board
FSIMS	Flight Standards Information Management System
FSTD	Flight Simulation Training Device
FTD	Flight Training Device
GBAS	Ground-Based Augmentation System

GLS	GBAS Landing System
HO	Handout
ICBI	Interactive Computer-Based Instruction
ILS	Instrument Landing System
KCCU	Keyboard Cursor Control Unit
LOC	Localizer
LOFT	Line-Oriented Flight Training
MCDU	Multipurpose Control and Display Unit
MDR	Master Differences Requirements
MSN	Model Serial Number
NAS	National Airspace System
ODR	Operator Differences Requirements
OE	Operating Experience
OEI	One-Engine-Inoperative
OIS	Onboard Information System
PC	Proficiency Check
PF	Pilot Flying
PIC	Pilot in Command
PM	Pilot Monitoring
POI	Principal Operations Inspector
PTT	Part Task Trainer
QRH	Quick Reference Handbook
RTO	Rejected Takeoff
SIC	Second in Command
SU	Stand-Up Instruction
TASE	Training Areas of Special Emphasis
TC	Type Certificate
TCBI	Tutorial Computer-Based Instruction
TCDS	Type Certificate Data Sheet
V <sub>1</sub>	Takeoff Decision Speed
V <sub>LS</sub>	Lowest Selectable Speed
V <sub>R</sub>	Rotation Speed

## 6. DEFINITIONS

These definitions are for the purposes of this report only.

- 6.1. **Base Aircraft.** An aircraft identified for use as a reference to compare differences with another aircraft.
- 6.2. **Current.** A crewmember meets all requirements to operate the aircraft under the applicable operating part.
- 6.3. **Differences Tables.** Describes the differences between a pair of related aircraft and the minimum levels operators must use to conduct differences training and checking of crewmembers. Difference levels range from A to E.

- 6.4. Master Differences Requirements (MDR).** Specifies the highest training and checking difference levels between a pair of related aircraft derived from the Differences Tables.
- 6.5. Mixed Fleet Flying.** The operation of a base aircraft and one or more related aircraft for which credit may be taken for training, checking, and currency events.
- 6.6. Operational Evaluation.** An AEG process to determine pilot type rating, minimum crewmember training, checking, and currency requirements, and unique or special airman certification requirements (e.g., specific flight characteristics, no-flap landing).
- 6.7. Operational Suitability.** An AEG determination that an aircraft or system may be used in the National Airspace System (NAS) and meets the applicable operational regulations (e.g., Title 14 of the Code of Federal Regulations (14 CFR) parts 91, 121, 133, and 135).
- 6.8. Qualified.** A crewmember holds the appropriate airman certificate and ratings as required by the applicable operating part.
- 6.9. Related Aircraft.** Any two or more aircraft of the same make with either the same or different type certificates (TC) that have been demonstrated and determined by the Administrator to have commonality.
- 6.10. Seat Dependent Tasks.** Maneuvers or procedures using controls that are accessible or operable from only one flightcrew member seat.
- 6.11. Special Emphasis Area.** A training requirement unique to the aircraft, based on a system, procedure, or maneuver, which requires additional highlighting during training. It may also require additional training time, specialized training devices, or training equipment.
- 6.12. Specific Flight Characteristics.** A maneuver or procedure with unique handling or performance characteristics that the FSB has determined must be checked.

## **7. PILOT TYPE RATING**

- 7.1. Type Rating.** The Airbus A330-200, A330-200 Freighter, A330-300, and A330-900 type rating designation is A-330.
- 7.2. Common Type Ratings.** In accordance with the provisions of FAA Order 8900.1, Flight Standards Information Management System (FSIMS), and the current edition of AC 120-53, the A-350 type rating and the A-330 type rating are separate type ratings that have been determined to be common.
- 7.3. Military Equivalent Designations.** Military aircraft that qualify for the A-330 type rating can be found at [www.faa.gov](http://www.faa.gov/licenses_certificates/airmen_certification/) under “Licenses & Certificates,” “Airmen Certification,” “Online Services,” “Aircraft Type Rating Designators.” This webpage is kept up-to-date and can be found at [http://www.faa.gov/licenses\\_certificates/airmen\\_certification/](http://www.faa.gov/licenses_certificates/airmen_certification/).

## 8. RELATED AIRCRAFT

### 8.1. Related Aircraft on the Same TCDS.

The A330-200, A330-200 Freighter, A330-300, and A330-900 Series are related aircraft on the same TCDS.

**NOTE:** All references to the A330-200 Freighter Series aircraft are hereafter in this report referred to as A330-200F, unless otherwise stated.

### 8.2. Related Aircraft on Different TCDS.

- The A318 is related to the A330.\*
- The A319 is related to the A330.\*
- The A320 is related to the A330.\*
- The A321 is related to the A330.\*
- The A340 is related to the A330.
- The A350 is related to the A330.

\*All references to the A318, A319, A320, or A321 are hereafter in this report referred to as A320, unless otherwise stated.

## 9. PILOT TRAINING

### 9.1. Airman Experience. Airmen receiving initial A330 training should have previous operational experience in multi-engine transport turbojet aircraft, new generation avionics (e.g., electronic flight instrument systems (EFIS)), and flight management systems (FMS). Pilots without this experience may require additional training.

In order to receive A330 transition training (related aircraft differences training), A320, A340, and A350 pilots must have specific minimum pre-qualification requirements as follows:

Case 1. For transition from the A320 to A330:

- Qualified and current in the A320, and
  - A minimum of 300 hours pilot in command (PIC) and/or second in command (SIC) line experience on the A320, or
  - Specific line experience approved by the Principal Operations Inspector (POI) in coordination with the Transport Aircraft Seattle AEG.

Case 2. For transition from the A340 to A330:

- Qualified and current in the A340.

Case 3. For transition from the A350 to A330:

- Qualified and current in the A350.

**NOTE:** Airmen qualified, but no longer current in the base aircraft (A320, A340, or A350, as appropriate) must reestablish currency in the base aircraft before beginning a transition course to the A330.

## **9.2. Special Emphasis Areas.**

**9.2.1** Pilots must receive special emphasis on the following areas during initial, upgrade, transition, differences, and recurrent ground training:

- a) Flight characteristics and the degree of flight envelope protection provided by the various flight control laws for both pitch and roll control, and the normal events which result in changes in the various modes within these laws for the various phases of flight;
- b) Use of the sidestick controller, and the relationship between the two sidestick controllers, and transfer of controls;
- c) Mode awareness and mode transitions (e.g., Flight Mode Annunciator (FMA), Flight Control Unit (FCU), configuration), regardless of whether initiated by the flightcrew or by a system response to design logic; and
- d) Normal, alternate, and emergency braking systems and the means to transition from one system to the other.

**9.2.2** Pilots must receive special emphasis on the following areas during A330-200F initial, upgrade, transition, differences, and recurrent ground training:

- a) Knowledge of appropriate procedures following cabin depressurization regarding the survey of the courier (supernumerary) area and the communication with occupants; and
- b) Knowledge of appropriate procedures following a main deck cargo compartment smoke alert regarding the fire protection and commanded depressurization.

**9.2.3** Pilots must receive special emphasis on, and perform the following areas during initial, upgrade, transition, differences, and recurrent flight training:

- a) Flight characteristics and the degree of flight envelope protection provided by the various flight control laws for both pitch and roll control, and the normal events which result in changes in the various modes within these laws for the various phases of flight;
- b) Use of the sidestick controller, and the relationship between the two sidestick controllers, and transfer of controls;
- c) Mode awareness and mode transitions (e.g., FMA, FCU, configuration), regardless of whether initiated by the flightcrew or by a system response to design logic;

- d) Automatic thrust control system, including thrust lever position, use of speed trend information, and the FMA/FCU annunciations related to the various modes of normal/abnormal operation;
- e) Steep turns trained in normal law by intentional exceedance of roll stability thresholds using the sidestick controller to achieve the desired bank angle;
- f) Airplane upset recovery in modes other than normal law; and
- g) Stall prevention and recovery from an impending stall trained in normal, alternate, and direct law.

**NOTE:** Flight envelope protections are designed to prevent an aircraft from stalling in normal law; however, the aircraft may experience buffet indicative of an impending stall. In alternate and direct law, the aircraft can stall.

### 9.3. Specific Flight Characteristics.

Maneuvers/procedures required to be checked as referenced in the airline transport pilot (ATP) and type rating for airplane Airman Certification Standards (ACS) and/or part 121 appendix F.

There are no specific flight characteristics.

### 9.4. Seat Dependent Tasks.

There are no seat dependent tasks.

### 9.5. Regulatory Training Requirements that are Not Applicable to the A330.

Part 121 appendix E:

- a) Tuck and Mach buffet. A330 does not exhibit any Mach tuck tendency and therefore no training is required for this maneuver. Demonstration of the aircraft's overspeed protection capabilities is an acceptable substitution.
- b) Operation of systems and controls at the Flight Engineer (FE) station. The FE is not required for the operation of the aircraft.
- c) Recovery from specific flight characteristics that are peculiar to the airplane type. No specific flight characteristics are identified for the A330.

### 9.6. Flight Simulation Training Devices (FSTD).

There are no specific systems, procedures, or maneuvers that are unique to the A330 that require a specific FSTD for training.

## **9.7. Training Equipment.**

There are no specific systems or procedures that are unique to the A330 that require specific training equipment.

## **9.8. Differences Training Between Related Aircraft.**

See Appendix 2, Master Differences Requirements (MDR) Table, and Appendix 3, Differences Tables.

### **9.8.1 Differences Training - Same TCDS:**

- Pilots must receive differences training between the A330-200, A330-200F, A330-300, and A330-900 Series aircraft.

### **9.8.2 Related Aircraft Differences Training - Different TCDS:**

- Pilots must receive related aircraft differences training between the A320 and A330.
- Pilots must receive related aircraft differences training between the A340 and A330.
- Pilots must receive related aircraft differences training between the A350 and A330.

## **9.9. Recurrent Training for Designated Related Aircraft in Mixed Fleet Operations - Different TCDS.**

For mixed fleet flying operations of designated related aircraft on different TCDS, an alternating plan for recurrent training and checking may be developed. See Appendix 6, Related Aircraft on Different TCDS Training and Checking Plans for Mixed Fleet Flying Operations, for examples.

## **10. PILOT CHECKING**

### **10.1. Landing from a No-Flap or Nonstandard Flap Approach.**

The probability of flap extension failure on the A330 is not extremely remote due to system design. Therefore, demonstration of a no-flap approach and landing during pilot certification or a part 121, § 121.441 PC is required. Refer to FAA Order 8900.1, Volume 5 when the test or check is conducted in an aircraft versus a full flight simulator (FFS).

The control laws to be used for a no-flap landing are the control laws dictated by the particular failure condition simulated (e.g., by a dual hydraulic failure). If the maneuver is conducted in an aircraft, due to system logic, a configuration (CONF) 1 approach to a missed approach will be used. If in the aircraft, systems must not be deactivated to create the failed condition. If the maneuver is conducted in an FFS, the approach must be continued to a landing.

## 10.2. Specific Flight Characteristics.

Maneuvers/procedures required to be checked as referenced in the ATP and type rating for airplane ACS and/or part 121 appendix F.

There are no specific flight characteristics.

## 10.3. Seat Dependent Tasks.

There are no seat dependent tasks.

## 10.4. Other Checking Items.

Not applicable.

## 10.5. FSTDs.

There are no specific systems or procedures that are unique to the A330 that require specific FSTDs for checking.

## 10.6. Equipment.

There are no specific systems or procedures that are unique to the A330 that require specific equipment.

## 10.7. Differences Checking Between Related Aircraft.

See Appendices 2 and 3.

### 10.7.1 Differences Checking Between Related Aircraft on Same TCDS:

- There are no differences checking required between the A330-200, A300-200F, A330-300, and A330-900.

### 10.7.2 Differences Checking Between Related Aircraft on Different TCDS:

- Pilots must receive differences checking between the A320 and A330. The level of checking is specified in the relevant Differences Table.
- Pilots must receive differences checking between the A340 and A330. The level of checking is specified in the relevant Differences Tables.
- Pilots must receive differences checking between the A350 and A330. The level of checking is specified in the relevant Differences Tables.

**NOTE:** Examples of related aircraft differences checks after related aircraft differences training are included in Appendix 5, Type Rating Checks After Related Aircraft Differences Training.

**10.8. Recurrent Checking for Designated Related Aircraft in Mixed Fleet Operations - Different TCDS.**

For mixed fleet flying operations of designated related aircraft on different TCDS, an alternating plan for recurrent training and checking may be developed. See Appendix 6 for examples.

**11. PILOT CURRENCY**

There are no additional currency requirements for the A330-200, A330-200F, A330-300, or A330-900 other than those already specified in 14 CFR part 61 or 121. Meeting the currency requirements in any of the A330-200, A330-200F, A330-300, or A330-900 satisfies all currency requirements for all others.

**11.1. Differences Currency Between Related Aircraft on Different TCDS.**

**11.1.1 Mixed Fleet Flying on A320 and A330.**

Pilots must receive differences currency for mixed fleet flying of the A320 and A330 in the relevant airplanes or approved FFS every 90 days as follows:

- a) Three takeoffs total as pilot flying (PF):
  - In either the A320 or A330, or
  - In a combination of the A320 and A330, and
- b) Three landings total as PF:
  - One manually flown in the A320,
  - One manually flown in the A330,
  - One manually flown or autopilot (AP) flown in either the A320 or A330, and
- c) Two line segments (see paragraph 11.1.5 for line segment currency criteria):
  - One completed in the A320, and
  - One completed in the A330.

**11.1.2 Mixed Fleet Flying on A330 and A340.**

Pilots must receive differences currency for mixed fleet flying of the A330 and A340 in the relevant airplanes or approved FFS every 90 days as follows:

- a) Three takeoffs total as PF:
  - In either the A330 or A340, or
  - In a combination of the A330 and A340, and
- b) Three landings total as PF, one of which is manually flown:
  - In either the A330 or A340.

### 11.1.3 Mixed Fleet Flying on A330 and A350.

Pilots must receive differences currency for mixed fleet flying of the A330 and A350 in the relevant airplanes or approved FFS every 90 days as follows:

- a) Three takeoffs total as PF:
  - In either the A330 or A350, or
  - In a combination of the A330 and A350, and
- b) Three landings total as PF, one of which is manually flown:
  - In either the A330 or A350, and
- c) Two line segments (see paragraph 11.1.5 for line segment currency criteria):
  - One completed in the A330, and
  - One completed in the A350.

**NOTE:** Because of numerous cockpit systems and procedures differences between the A330 and the A350 aircraft (e.g., the onboard information system (OIS), FMS, electronic checklist (ECL), keyboard cursor control unit (KCCU), cockpit setup, and preflight procedures), the FSB has recommended that line segment currency is to be maintained as per this section.

### 11.1.4 Mixed Fleet Flying on A320, A330, and A340.

Pilots must receive differences currency for mixed fleet flying of the A320, A330, and A340 in the relevant airplanes or approved FFS every 90 days as follows:

- a) Three takeoffs total as PF:
  - In either the A320, A330, or A340, or
  - In a combination of the A320, A330, and A340, and
- b) Three landings total as PF:
  - One manually flown in the A320,
  - One manually flown in the A330, and
  - One manually flown in the A340, and
- c) Two line segments (see paragraph 11.1.5 for line segment currency criteria):
  - One completed in the A320, and
  - One completed in the A330 or A340.

### 11.1.5 Line Segment Currency.

For the purposes of this report, line segment currency consists of the completion of all procedural phases of a flight from cockpit preflight through postflight, but does not require flight maneuvers such as takeoff and landing. A pilot performing the duties of either required flightcrew member position may count the performance of those duties toward the completion of a line segment. A line segment may be

completed in one flight or by cumulatively completing the necessary phases in more than one flight. A line segment may also be completed in a qualified FFS or flight training device (FTD), Level 5 or higher, using a line flight scenario where all procedural phases are completed.

#### **11.2. Related Aircraft Operating Experience (OE) - Different TCDS.**

Separate OE applies to the A330 and other designated related aircraft (e.g., an A320 or A350 aircraft). For FSB OE recommendations, see Appendix 4, Qualification and Currency Plans for Related Aircraft Transition.

### **12. OPERATIONAL SUITABILITY**

The A330-200, A330-200F, A330-300, and A330-900 are operationally suitable for operations under parts 91 and 121. The FSB determined operational compliance by conducting an evaluation of aircraft N670UW (MSN315). The list of operating rules evaluated is on file at the Transport Aircraft Seattle AEG.

### **13. MISCELLANEOUS**

#### **13.1. Observer Seat.**

The A330 center observer seat (referred to as the third occupant seat), as installed by TCDS #A46NM, has been evaluated and determined to meet requirements of § 121.581(a) and the current edition of FAA AC 120-83, Flight Deck Observer Seat and Associated Equipment, for use by the FAA for the purpose of conducting enroute inspections. The third occupant seat is considered as the primary observer seat.

#### **13.2. Landing Minima Categories (Reference 14 CFR Part 97, § 97.3).**

The A330 is considered Category C aircraft for the purposes of determining “straight-in landing weather minima.”

#### **13.3. Emergency Evacuation.**

An emergency evacuation demonstration was successfully completed on the A330-200 Series and A330-300 Series by analysis based on a similar configuration and passenger capacity as is approved for the A300. These demonstrations were conducted in compliance with 14 CFR part 25, § 25.803(c) and were thus credited compliance with § 121.291(a). Refer to TCDS #A46NM for the maximum passenger seating capacity certified for various passenger door configurations.

**NOTE:** The A330-200F has a maximum capacity of 12 supernumeraries in the cabin area. An emergency evacuation demonstration is not a requirement under part 121 for this aircraft configuration.

**13.4. Ditching Demonstration.**

A full-scale ditching demonstration, in accordance with part 121 and FAA Order 8900.1, has been completed.

**13.5. Normal Landing Flaps.**

The A330 normal “final landing flap setting” per § 91.126(c) is CONF 3 and CONF full.

## APPENDIX 1. DIFFERENCES LEGEND

### Training Differences Legend

Differences Level	Type	Training Method Examples	Conditions
A	Self-Instruction	<ul style="list-style-type: none"> <li>• Operating manual revision (handout (HO))</li> <li>• Flightcrew operating bulletin (handout (HO))</li> </ul>	<ul style="list-style-type: none"> <li>• Crew has already demonstrated understanding on base aircraft (e.g., updated version of engine).</li> <li>• Minor or no procedural changes required.</li> <li>• No safety impact if information is not reviewed or is forgotten (e.g., different engine vibration damping mount).</li> <li>• Once called to attention of crew, the difference is self-evident.</li> </ul>
B	Aided Instruction	<ul style="list-style-type: none"> <li>• Audiovisual presentation (AV)</li> <li>• Tutorial computer-based instruction (TCBI)</li> <li>• Stand-up instruction (SU)</li> </ul>	<ul style="list-style-type: none"> <li>• Systems are functionally similar.</li> <li>• Crew understanding required.</li> <li>• Issues need emphasis.</li> <li>• Standard methods of presentation required.</li> </ul>
C	Systems Devices	<ul style="list-style-type: none"> <li>• Interactive (full-task) computer-based instruction (ICBI)</li> <li>• Cockpit Procedures Trainers (CPT)</li> <li>• Part task trainers (PTT)</li> <li>• Level 4 or 5 flight training device (FTD 4–5)</li> </ul>	<ul style="list-style-type: none"> <li>• Training can only be accomplished through systems training devices.</li> <li>• Training objectives focus on mastering individual systems, procedures, or tasks versus highly integrated flight operations or “real-time” operations.</li> <li>• Training devices are required to assure attainment or retention of crew skills to accomplish more complex tasks usually related to aircraft systems.</li> </ul>
D	Maneuvers Devices	<ul style="list-style-type: none"> <li>• Level 6 or 7 flight training device (FTD 6–7)</li> <li>• Level A or B full flight simulator (FFS A–B)</li> </ul>	<ul style="list-style-type: none"> <li>• Training can only be accomplished in flight maneuver devices in a real-time environment.</li> <li>• Training requires mastery of interrelated skills versus individual skills.</li> <li>• Motion, visual, control loading, and specific environmental conditions may be required.</li> </ul>
E	Level C/D FFS or Aircraft	<ul style="list-style-type: none"> <li>• Level C or D full flight simulator (FFS C–D)</li> <li>• Aircraft (ACFT)</li> </ul>	<ul style="list-style-type: none"> <li>• Motion, visual, control loading, audio, and specific environmental conditions are required.</li> <li>• Significant full task differences that require a high fidelity environment.</li> <li>• Usually correlates with significant differences in handling qualities.</li> </ul>

### Checking Differences Legend

<b>Differences Level</b>	<b>Checking Method Examples</b>	<b>Conditions</b>
A	None	None
B	<ul style="list-style-type: none"> <li>• Oral or written exam</li> <li>• Tutorial computer-based instruction (TCBI) self-test</li> </ul>	<ul style="list-style-type: none"> <li>• Individual systems or related groups of systems.</li> </ul>
C	<ul style="list-style-type: none"> <li>• Interactive (full-task) computer-based instruction (ICBI)</li> <li>• Cockpit Procedures Trainers (CPT)</li> <li>• Part task trainers (PTT)</li> <li>• Level 4 or 5 flight training device (FTD 4–5)</li> </ul>	<ul style="list-style-type: none"> <li>• Checking can only be accomplished using systems devices.</li> <li>• Checking objectives focus on mastering individual systems, procedures, or tasks.</li> </ul>
D	<ul style="list-style-type: none"> <li>• Level 6 or 7 flight training device (FTD 6–7)</li> <li>• Level A or B full flight simulator (FFS A–B)</li> </ul>	<ul style="list-style-type: none"> <li>• Checking can only be accomplished in flight maneuver devices in a real-time environment.</li> <li>• Checking requires mastery of interrelated skills versus individual skills.</li> <li>• Motion, visual, control loading, and specific environmental conditions may be required.</li> </ul>
E	<ul style="list-style-type: none"> <li>• Level C or D full flight simulator (FFS C–D)</li> <li>• Aircraft (ACFT)</li> </ul>	<ul style="list-style-type: none"> <li>• Significant full task differences that require a high fidelity environment.</li> </ul>

## APPENDIX 2. MASTER DIFFERENCES REQUIREMENTS (MDR) TABLE

These are the minimum levels of training and checking required, derived from the highest level in the Differences Tables in Appendix 3. Differences levels are arranged as training/checking.

Related Aircraft MDR Table – Same TCDS

To Related Aircraft ↓	From Base Aircraft →	A330-200	A330-200F	A330-300	A330-900
A330-200		Not applicable	Not evaluated	B/A	Not evaluated
A330-200F		B/A	Not applicable	Not evaluated	Not evaluated
A330-300		B/A	Not evaluated	Not applicable	Not evaluated
A330-900		Not evaluated	Not evaluated	B/A	Not applicable

Related Aircraft MDR Table – Different TCDS

To Related Aircraft ↓	From Base Aircraft →	A320	A330	A340	A350
A330		E/E	(1) Same TCDS	C/C	D/D

**NOTE:** (1) See Related Aircraft MDR Table – Same TCDS above.

### APPENDIX 3. DIFFERENCES TABLES

This Design Differences table, from the Airbus A330-200 Series to the A330-200 Freighter Series, was developed by the Flight Standardization Board (FSB) based on the detailed Operator Differences Requirements (ODR) Table proposed by Airbus. The FSB evaluation took place in January 2010. The Differences Table lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

**NOTE:** Training and checking levels indicated within each Differences Table reflect the highest level training/checking item(s). Many specific differences items within a grouping or system number may have individual training/checking levels lower than indicated herein. For a detailed overview of item-specific training/checking levels obtained from Airbus, see the listing at the end of this appendix.

FROM BASE AIRCRAFT: A330-200  TO RELATED AIRCRAFT: A330-200F	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	General		No	No	A	A
	Dimensions		No	No	A	A
	Cabin		No	No	A	A
	Cargo		No	No	A	A
	Limitations	General  Weight  CG limits	No	Yes	A	A

<b>FROM BASE AIRCRAFT: A330-200</b>	<b>DESIGN</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
<b>TO RELATED AIRCRAFT: A330-200F</b>						
	ATA 21 Air Conditioning	Ventilation  Controls and indicating	No	Yes	B	A
	ATA 23 Communications	Controls and indicating	No	No	B	A
	ATA 25 Equipment/Furnishings	General  Controls and Indicating	No	No	B	A
	ATA 26 Fire Protection	General  Controls and indicating	No	Yes	B	A
	ATA 28 Fuel	Architecture  Controls and indicating	No	No	B	A
	ATA 32 Landing Gear	Architecture	No	No	A	A
	ATA 33 Lights	Controls and indicating	No	No	A	A

FROM BASE AIRCRAFT: A330-200  TO RELATED AIRCRAFT: A330-200F	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 35 Oxygen	Architecture  Controls and indicating	No	No	B	A
	ATA 38 Water/Waste	General	No	No	A	A
	ATA 52 Doors	General architecture  Controls and indicating	No	No	A	A
	Engines	General architecture  Power ratings  Controls and indicating	No	No	B	A

This Maneuver Differences Table, from the Airbus A330-200 Series to the A330-200 Freighter Series, was developed by the FSB based on the detailed ODR Table proposed by Airbus. The FSB evaluation took place in January 2010. The Differences Table lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

**NOTE 1:** Training and checking levels indicated within each Differences Table reflect the highest level training/checking item(s). Many specific differences items within a grouping or system number may have individual training/checking levels lower than indicated herein. For a detailed overview of item-specific training/checking levels obtained from Airbus, see the listing at the end of this appendix.

**NOTE 2:** Criteria used to identify differences, as indicated in the Maneuver Differences Table, does not take into consideration training differences that may exist between related aircraft for maneuvers required by Title 14 of the Code of Federal Regulations (14 CFR) part 121, § 121.423.

<b>FROM BASE AIRCRAFT: A330-200  TO RELATED AIRCRAFT: A330-200F</b>	<b>MANEUVER Normal Operations</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
	Before Start	Doors	No	No	A	A
	Engine Start	Engine controls and indication	No	Yes	B	A
	Taxi	Nose landing gear architecture	No	No	A	A
	Takeoff	Controls and indication, thrust controls	No	Yes	B	A
	Parking	Doors	No	Yes	A	A

FROM BASE AIRCRAFT: A330-200  TO RELATED AIRCRAFT: A330-200F	MANEUVER Abnormal Operations	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Miscellaneous	Cabin occupant communications	No	No	A	A
	ATA 26 Fire Protection	Smoke and fumes procedures	No	Yes	A	A
	ATA 52 Doors	DOOR main cargo (in flight)	No	Yes	A	A

This Design Differences Table, from the Airbus A330-200 Series to the A330-300 Series, was developed by the FSB based on the detailed ODR Table proposed by Airbus. The Differences Table lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

**NOTE:** Training and checking levels indicated within each Differences Table reflect the highest level training/checking item(s). Many specific differences items within a grouping or system number may have individual training/checking levels lower than indicated herein. For a detailed overview of item-specific training/checking levels obtained from Airbus, see the listing at the end of this appendix.

<b>FROM BASE AIRCRAFT: A330-200</b>	<b>DESIGN</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
<b>TO RELATED AIRCRAFT: A330-300</b>	General		No	No	A	A
	Dimensions		No	No	A	A
	Cabin		No	No	A	A
	Limitations	General Weight CG limits	Yes	No	A	A
	ATA 27 Flight Controls	Rudder surface	No	No	A	A

<b>FROM BASE AIRCRAFT: A330-200</b>  <b>TO RELATED AIRCRAFT: A330-300</b>	<b>DESIGN</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
	Engines	General architecture  Power ratings  Controls and indicating	No	No	B	A

This Maneuver Differences Table, from the Airbus A330-200 Series to the A330-300 Series, was developed by the FSB based on the detailed ODR Table proposed by Airbus. The Differences Table lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

**NOTE 1:** Training and checking levels indicated within each Differences Table reflect the highest level training/checking item(s). Many specific differences items within a grouping or system number may have individual training/checking levels lower than indicated herein. For a detailed overview of item-specific training/checking levels obtained from Airbus, see the listing at the end of this appendix.

**NOTE 2:** Criteria used to identify differences, as indicated in the Maneuver Differences Table, does not take into consideration training differences that may exist between related aircraft for maneuvers required by § 121.423.

FROM BASE AIRCRAFT: A330-200  TO RELATED AIRCRAFT: A330-300	MANEUVER Normal Operations	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Engine Start	Engine controls and indications	No	Yes	B	A
	Taxi	Nose landing gear architecture	No	No	A	A
	Takeoff	Controls and indication, thrust controls	No	Yes	B	A

This Design Differences Table, from the Airbus A330-300 Series to the A330-900 Series, was developed by the FSB based on the detailed ODR Table proposed by Airbus. The Differences Table lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

**NOTE:** Training and checking levels indicated within each Differences Table reflect the highest level training/checking item(s). Many specific differences items within a grouping or system number may have individual training/checking levels lower than indicated herein. For a detailed overview of item-specific training/checking levels obtained from Airbus, see the listing at the end of this appendix.

FROM BASE AIRCRAFT: A330-300  TO RELATED AIRCRAFT: A330-900	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	General		No	No	A	A
	Dimensions		No	No	A	A
	Cabin		No	No	A	A
	Limitations	General Weight Crosswind and tailwind	No	No	A	A
	ATA 28 Fuel	Center tank Fuel tank inerting system	No	No	A	A

FROM BASE AIRCRAFT: A330-300  TO RELATED AIRCRAFT: A330-900	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 30 Ice and Rain Protection	General  Anti-ice valve	No	No	A	A
	ATA 36 Pneumatic	General Architecture	No	No	A	A
	Engines	General architecture  Controls and indicating  Limitations	No	No	B	A

This Maneuver Differences Table, from the Airbus A330-300 Series to the A330-900 Series, was developed by the FSB based on the detailed ODR Table proposed by Airbus. The Differences Table lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

**NOTE 1:** Training and checking levels indicated within each Differences Table reflect the highest level training/checking item(s). Many specific differences items within a grouping or system number may have individual training/checking levels lower than indicated herein. For a detailed overview of item-specific training/checking levels obtained from Airbus, see the listing at the end of this appendix.

**NOTE 2:** Criteria used to identify differences, as indicated in the Maneuver Differences Table, does not take into consideration training differences that may exist between related aircraft for maneuvers required by § 121.423.

FROM BASE AIRCRAFT: A330-300  TO RELATED AIRCRAFT: A330-900	MANEUVER Normal Operations	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	General	Manual continuous ignition	No	Yes	A	A
	Preparation	Exterior walkaround	No	Yes	B	A
	Engine Start	After start	No	Yes	A	A
	Takeoff	Controls and indication, thrust settings	No	Yes	A	A
	Parking	Engine cool-down	No	Yes	A	A
	Supplementary Procedure	Manual engine start	No	Yes	A	A

<b>FROM BASE AIRCRAFT: A330-300</b>  <b>TO RELATED AIRCRAFT: A330-900</b>	<b>MANEUVER Abnormal Operations</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
	Engines	Engine controls and indications	No	Yes	A	A

This Design Differences table, from the Airbus A320 to the A330, was developed by the FSB based on the detailed ODR Table proposed by Airbus. The Differences Table lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

**NOTE:** Training and checking levels indicated within each Differences Table reflect the highest level training/checking item(s). Many specific differences items within a grouping or system number may have individual training/checking levels lower than indicated herein. For a detailed overview of item-specific training/checking levels obtained from Airbus, see the listing at the end of this appendix.

FROM BASE AIRCRAFT: A320  TO RELATED AIRCRAFT: A330	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	General		No	No	A	A
	Dimensions		Yes	No	A	A
	Cockpit		No	No	A	A
	Cabin		No	No	A	A
	Limitations	General  Weight  CG limits	Yes	Yes	B	B

FROM BASE AIRCRAFT: A320  TO RELATED AIRCRAFT: A330	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 21 Air Conditioning	General architecture  Pressurization  Ventilation  Controls and indicating	No	Yes	C	C
	ATA 22 Autoflight	General  Controls and indicating	No	Yes	C	C
	ATA 23 Communications	General  Controls and indicating	No	Yes	C	C
	ATA 24 Electrical Power	Alternating current, direct current, and emergency generation  Controls and indicating	Yes	Yes	C	C
	ATA 25 Equipment/Furnishings	General	Yes	Yes	B	B

FROM BASE AIRCRAFT: A320  TO RELATED AIRCRAFT: A330	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 26 Fire Protection	General  Architecture  Controls and indicating	No	Yes	C	C
	ATA 27 Flight Controls	Architecture  Flight control laws  Flaps and slats  Controls and indicating	Yes	Yes	D	D
	ATA 28 Fuel	Tanks  Fuel pumps  Controls and indicating	Yes	Yes	C	C

FROM BASE AIRCRAFT: A320  TO RELATED AIRCRAFT: A330	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 29 Hydraulic Power	Engine pumps  Electric pumps  Ram air turbine  Distribution  Controls and indicating	Yes	Yes	C	C
	ATA 30 Ice and Rain Protection	Wing anti-ice	No	No	B	B
	ATA 31 Indicating/Recording Systems	General  Architecture  Controls and indicating	No	Yes	C	C
	ATA 32 Landing Gear	System architecture  Controls and indicating, gravity extension control  Controls and indicating, BRK	No	Yes	C	C

<b>FROM BASE AIRCRAFT: A320</b>	<b>DESIGN</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
<b>TO RELATED AIRCRAFT: A330</b>						
	ATA 33 Lights	General  Controls and indicating	No	Yes	C	C
	ATA 34 Navigation	General  Controls and indicating	No	Yes	C	C
	ATA 35 Oxygen	Cabin general  Cockpit general	No	Yes	A	A
	ATA 36 Pneumatic	Generation  Distribution  Controls and indicating	No	Yes	C	C
	ATA 45 Central Maintenance System	General	No	No	A	A
	ATA 49 Airborne Auxiliary Power	General	No	Yes	B	B

FROM BASE AIRCRAFT: A320  TO RELATED AIRCRAFT: A330	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 52 Doors	General  Operation, doors and slides	No	Yes	C	C
	Engines	General  Controls and Indicating	Yes	Yes	B	B

This Maneuver Differences Table, from the Airbus A320 to the A330, was developed by the FSB based on the detailed ODR Table proposed by Airbus. The Differences Table lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

**NOTE 1:** Training and checking levels indicated within each Differences Table reflect the highest level training/checking item(s). Many specific differences items within a grouping or system number may have individual training/checking levels lower than indicated herein. For a detailed overview of item-specific training/checking levels obtained from Airbus, see the listing at the end of this appendix.

**NOTE 2:** Criteria used to identify differences, as indicated in the Maneuver Differences Table, does not take into consideration training differences that may exist between related aircraft for maneuvers required by § 121.423.

FROM BASE AIRCRAFT: A320  TO RELATED AIRCRAFT: A330	MANEUVER Normal Operations	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Preparation	Preflight  Flight planning	No	Yes	B	B
	Engine Start	Sequence	No	Yes	B	B
	Taxi	Pilot eye  Turn radius	Yes	No	E	E
	Takeoff	Flight characteristics  General	Yes	Yes	E	E

<b>FROM BASE AIRCRAFT: A320</b>  <b>TO RELATED AIRCRAFT: A330</b>	<b>MANEUVER</b> <b>Normal Operations</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
	Climb/Cruise/Descent	Climb, general  Enroute navigation  Descent, general  Traffic patterns	Yes	Yes	D	D
	Approach	Nonprecision/LOC back course	No	Yes	C	A
	Landing	Visual segment landings	Yes	No	E	E

FROM BASE AIRCRAFT: A320  TO RELATED AIRCRAFT: A330	MANEUVER Abnormal Operations	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Starting	Protections	No	Yes	B	B
	Taxi	Emergency evacuation	No	Yes	D	D
	Takeoff	RTO/engine failure before V <sub>1</sub>  RTO/low visibility	Yes	No	E	E
	Climb/Cruise/Descent	Engine failure/performance  Emergency enroute navigation/backup  Emergency descent/performance  All engine flameout/relight envelope and procedure  Electrical emergency/alternate law protections	Yes	Yes	D	D

<b>FROM BASE AIRCRAFT: A320</b>  <b>TO RELATED AIRCRAFT: A330</b>	<b>MANEUVER Abnormal Operations</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
	Landing	Visual segment from approach/alternate law  Slat/flaps malfunction/V <sub>LS</sub> computation  Rejected landing/flare law  Alternate law/direct law	Yes	Yes	E	E

This Design Differences Table, from the Airbus A340 to the A330, was developed by the FSB based on the detailed ODR Table proposed by Airbus. The Differences Table lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

**NOTE:** Training and checking levels indicated within each Differences Table reflect the highest level training/checking item(s). Many specific differences items within a grouping or system number may have individual training/checking levels lower than indicated herein. For a detailed overview of item-specific training/checking levels obtained from Airbus, see the listing at the end of this appendix.

FROM BASE AIRCRAFT: A340  TO RELATED AIRCRAFT: A330	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	General		No	No	A	A
	Dimensions		No	No	A	A
	Cabin		No	No	A	A
	Limitations	General Weight CG limits	Yes	No	B	B
	ATA 21 Air Conditioning	Ventilation	No	No	A	A

FROM BASE AIRCRAFT: A340  TO RELATED AIRCRAFT: A330	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 24 Electrical Power	Alternating current generation  Emergency generation  Operations  Controls and indicating	No	Yes	C	C
	ATA 27 Flight Controls	Surface architecture  Slats/flaps  Controls and indicating	No	Yes	B	B
	ATA 28 Fuel	Fuel pumps  Crossfeed  Controls and indicating	No	Yes	C	C
	ATA 29 Hydraulic Power	Generation  Distribution  Controls and indicating	No	Yes	C	C

FROM BASE AIRCRAFT: A340  TO RELATED AIRCRAFT: A330	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 30 Ice and Rain Protection	Probe and window heat	No	No	A	A
	ATA 31 Indicating/Recording Systems	Controls and indicating	No	No	A	A
	ATA 32 Landing Gear	Landing gear architecture  Controls and indicating	No	No	A	A
	ATA 36 Pneumatic	Generation  Distribution  Controls and indicating	No	Yes	C	C
	Engines	General	Yes	Yes	B	B

This Maneuver Differences Table, from the Airbus A340 to the A330, was developed by the FSB based on the detailed ODR Table proposed by Airbus. The Differences Table lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

**NOTE 1:** Training and checking levels indicated within each Differences Table reflect the highest level training/checking item(s). Many specific differences items within a grouping or system number may have individual training/checking levels lower than indicated herein. For a detailed overview of item-specific training/checking levels obtained from Airbus, see the listing at the end of this appendix.

**NOTE 2:** Criteria used to identify differences, as indicated in the Maneuver Differences Table, does not take into consideration training differences that may exist between related aircraft for maneuvers required by § 121.423.

FROM BASE AIRCRAFT: A340  TO RELATED AIRCRAFT: A330	MANEUVER Normal Operations	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Preparation	Preflight  Flight planning	No	Yes	B	A
	Taxi	General	No	Yes	B	B
	Takeoff	General  Rotation, pitch attitude target  V <sub>1</sub> /V <sub>R</sub> split	Yes	No	B	B
	Climb/Cruise/Descent	General  Performance	No	No	A	A

<b>FROM BASE AIRCRAFT: A340</b>  <b>TO RELATED AIRCRAFT: A330</b>	<b>MANEUVER Normal Operations</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
	Visual Segment Landing	Pitch attitude target	No	No	B	B

FROM BASE AIRCRAFT: A340  TO RELATED AIRCRAFT: A330	MANEUVER Abnormal Operations	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Starting	Sequence on external power	No	Yes	A	A
	Takeoff/Engine Failure Before V <sub>1</sub>	RTO	Yes	No	B	B
	Takeoff/Engine Failure After V <sub>1</sub>	Rotation, pitch attitude target  Performance  V <sub>1</sub> /V <sub>R</sub> split	No	No	B	B
	Climb/Cruise/Descent – Engine Failure of Critical Powerplant	Performance  Maximum rate of descent	No	No	A	A
	Visual Segment Landing	Performance  Pitch target attitude	Yes	No	A	A
	Rejected Landing	Pitch target attitude	Yes	No	A	A

This Design Differences Table, from the Airbus A350 to the A330, was developed by the FSB based on the detailed ODR Table proposed by Airbus. The FSB evaluation took place in September 2016. The Differences Table lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

**NOTE:** Training and checking levels indicated within each Differences Table reflect the highest level training/checking item(s). Many specific differences items within a grouping or system number may have individual training/checking levels lower than indicated herein. For a detailed overview of item-specific training/checking levels obtained from Airbus, see the listing at the end of this appendix.

<b>FROM BASE AIRCRAFT: A350</b>	<b>DESIGN</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
<b>TO RELATED AIRCRAFT: A330</b>	General		No	No	A	A
	Dimensions		No	No	A	A
	Cockpit		No	No	A	A
	Cabin		No	No	A	A
	Limitations		No	No	A	A
	ATA 21 Air Conditioning	Cockpit ventilation  Manual or semiautomatic cabin pressure control  Controls and indicating overhead panel	No	Yes	B	B

FROM BASE AIRCRAFT: A350  TO RELATED AIRCRAFT: A330	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 22 Autoflight	General  Controls and indicating	No	Yes	C	C
	ATA 23 Communications	Architecture  Controls and indicating	No	Yes	C	B
	ATA 24 Electrical Power	Alternating current generation  Direct current generation  Emergency generation  Capabilities and functions  Controls and indicating	No	Yes	B	A
	ATA 25 Equipment/Furnishings	General  Cockpit emergency exit  Cockpit emergency means  Controls and indicating	No	Yes	B	B

FROM BASE AIRCRAFT: A350  TO RELATED AIRCRAFT: A330	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 26 Fire Protection	General  Controls and indicating	No	Yes	A	A
	ATA 27 Flight Controls	General  Controls and indicating	No	Yes	C	B
	ATA 28 Fuel	General  Architecture  Controls and indicating	No	Yes	B	A
	ATA 29 Hydraulic Power	Architecture  Generation  Distribution  Controls and indicating	No	Yes	B	A
	ATA 30 Ice and Rain Protection	General	No	No	A	A

FROM BASE AIRCRAFT: A350  TO RELATED AIRCRAFT: A330	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 31 Indicating/Recording Systems	General  Architecture  Controls and indicating	No	Yes	B	B
	ATA 32 Landing Gear	Architecture  Braking  Nose wheel steering  Controls and indicating	No	Yes	B	A
	ATA 33 Lights	Controls and indicating	No	Yes	A	A
	ATA 34 Navigation	General  Controls and indicating	No	Yes	C	C
	ATA 42 Integrated Modular Avionics	General	No	No	A	A

<b>FROM BASE AIRCRAFT: A350</b>	<b>DESIGN</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
<b>TO RELATED AIRCRAFT: A330</b>						
	ATA 46 Information Systems	General Controls and indicating	No	Yes	B	B
	ATA 47 Inert Gas System	General	No	No	A	A
	ATA 49 Airborne Auxiliary Power	Architecture Starter/generator	No	Yes	A	A
	ATA 52 Doors	General Controls and indicating	No	Yes	B	B
	Engines	General	Yes	Yes	B	A

This Maneuver Differences Table, from the Airbus A350 to the A330, was developed by the FSB based on the detailed ODR Table proposed by Airbus. The FSB evaluation took place in September 2016. The Differences Table lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

**NOTE 1:** Training and checking levels indicated within each Differences Table reflect the highest level training/checking item(s). Many specific differences items within a grouping or system number may have individual training/checking levels lower than indicated herein. For a detailed overview of item-specific training/checking levels obtained from Airbus, see the listing at the end of this appendix.

**NOTE 2:** Criteria used to identify differences, as indicated in the Maneuver Differences Table, does not take into consideration training differences that may exist between related aircraft for maneuvers required by § 121.423.

<b>FROM BASE AIRCRAFT: A350  TO RELATED AIRCRAFT: A330</b>	<b>MANEUVER Normal Operations</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
	Preparation	Safety exterior inspection/exterior walkaround  Flight planning/preflight	No	Yes	C	C
	Engine Start	Start and after start	No	Yes	C	C
	Taxi	General	No	No	B	B
	Takeoff Checks	Checklist	No	Yes	C	C
	Takeoff	General	No	Yes	C	C

FROM BASE AIRCRAFT: A350  TO RELATED AIRCRAFT: A330	MANEUVER Normal Operations	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Climb/Cruise/Descent	General  Automation (AP, ATHR)	No	Yes	D	D
	Approach	General	No	Yes	C	C
	Visual Segment Landing	General	No	No	B	B
	Go-Around	General	No	No	B	B
	Missed Approach	Controls and indicating	No	No	C	C
	Post Landing Checks	Checklists	No	Yes	C	C
	Parking/Engine Shutdown	Checklists	No	Yes	C	C

<b>FROM BASE AIRCRAFT: A350</b>	<b>MANEUVER Abnormal Operations</b>	<b>REMARKS</b>	<b>FLT CHAR</b>	<b>PROC CHNG</b>	<b>TRAINING</b>	<b>CHECKING</b>
<b>TO RELATED AIRCRAFT: A330</b>						
	General	Use of QRH	No	Yes	D	D
	Takeoff	Engine failure after V <sub>1</sub>	No	No	B	B
	Go Around	Engine failure after instrument approach	No	No	B	B
	Landing	Landing with jammed horizontal stabilizer in out-of-trim position  Landing with flaps jammed	No	Yes	A	A
	ATA 24 Electrical Power	EMER ELEC	No	Yes	C	C
	ATA 26 Fire Protection	Smoke/fumes removal	No	Yes	C	C
	ATA 27 Flight Controls	General	No	Yes	D	D
	ATA 34 Navigation	Unreliable airspeed indication	No	Yes	C	C
	Engines	ENG failure	No	Yes	C	C

Airbus Flightcrew Operator Differences Requirement (ODR) Tables and Training Areas of Special Emphasis (TASE) are available from Airbus. Listed below are document references to applicable ODR Tables and TASE provided by Airbus.

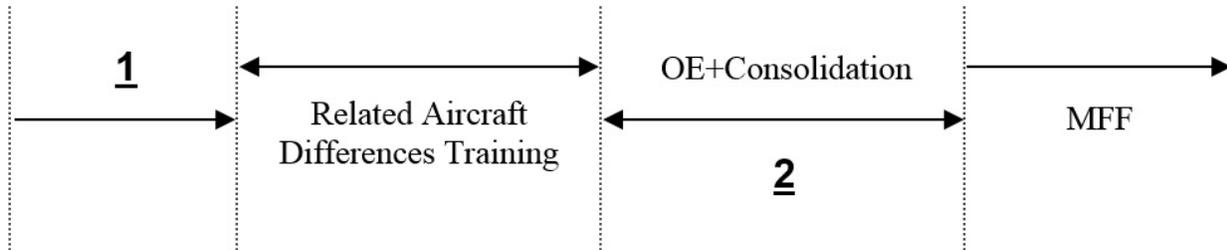
Flightcrew ODR Tables between A330 Series variations on same Type Certificate Data Sheet (TCDS):

- A330 ODR Table and TASE Reference G01RP1713249.

Flightcrew ODR Tables between A330 and related aircraft on different TCDS:

- A320 to A330 ODR Table reference G01RP1543087.
- A340 to A330 ODR Table reference G01RP1543100.
- A350 to A330 ODR Table reference G01RP1631821.

## APPENDIX 4. QUALIFICATION AND CURRENCY PLANS FOR RELATED AIRCRAFT TRANSITION



### From the A320 to the A330 Aircraft

1. Prerequisite as defined under paragraph 9.1, Case 1.
2. Following related aircraft differences training from the A320 to the A330 aircraft, a minimum of two line operating cycles of Operating Experience (OE), one as pilot flying (PF) and one as pilot monitoring (PM), on the A330 is recommended. It is also recommended that a minimum of 50 hours of line operating flight time for consolidation of knowledge and skills is completed within 90 days on the A330 aircraft before starting mixed fleet flying.

### From the A340 to the A330 Aircraft

Because of the commonality between the A340 and A330 aircraft, immediate related aircraft differences training onto the second aircraft may be conducted following completion of qualification on the first one, in accordance with approved Master Differences Requirements (MDR) and Differences Tables.

1. Prerequisite as defined under paragraph 9.1, Case 2.
2. Following related aircraft differences training from the A340 to the A330 aircraft, a minimum of two line operating cycles of OE, one as PF and one as PM, on the A330 is recommended. It is also recommended that a minimum of 50 hours of consolidation flying within 90 days is required on one type of aircraft. OE and consolidation flying must be conducted on one type only, but the type may be either the A340 or the A330. Following the consolidation period, two additional line operating cycles of OE are required on the other type of aircraft before starting mixed fleet flying.

### From the A350 to the A330 Aircraft

1. Prerequisite as defined under paragraph 9.1, Case 3.
2. Following related aircraft differences training from the A350 to the A330 aircraft, a minimum of 12 hours of OE and a minimum of two line operating cycles, one as PF and one as PM, on the A330 is recommended. It is also recommended that a minimum of 25 hours of line operating flight time for consolidation of knowledge and skills is completed within 45 days on the A330 aircraft before starting mixed fleet flying.

## **APPENDIX 5. TYPE RATING CHECKS AFTER RELATED AIRCRAFT DIFFERENCES TRAINING**

Example of a Related Aircraft Proficiency Check (PC) for an A330 Type Rating from an A320

### EVALUATION SUMMARY

The evaluation flight profile includes those procedures and representative maneuvers that will be evaluated in a full flight simulator (FFS) with emphasis on the differences between the A320 and the A330. The sequence of events and the abnormal and emergency procedures used may be modified at the discretion of the evaluator.

### ORAL AND/OR WRITTEN TEST

- In accordance with Title 14 of the Code of Federal Regulations (14 CFR) part 121 and Airman Certification Standards (ACS), as appropriate.

### PRACTICAL TEST (FFS)

- GROUND OPERATIONS:
  - Taxi.
- TAKEOFFS:
  - Normal.
  - Crosswind.
  - Heavy.
  - Instrument.
  - Rejected with engine failure before takeoff decision speed ( $V_1$ ).
  - With engine failure after  $V_1$ .
  - Flap load relief.
- INSTRUMENT PROCEDURES:
  - Area departure, climb, cruise, and descent.
- LANDINGS:
  - Normal.
  - Crosswind.
  - Rejected/flare law.
  - With one-engine-inoperative (OEI).
  - With slat/flaps malfunction.
  - Alternate/direct law.
- NORMAL, ABNORMAL, AND EMERGENCY PROCEDURES:
  - As appropriate per approved differences requirements.

Example of a Related Aircraft PC for an A330 Type Rating from an A340

EVALUATION SUMMARY

The practical test is not required as per results of the Transport Aircraft Seattle Aircraft Evaluation Group (AEG) evaluation.

ORAL AND/OR WRITTEN TEST

- In accordance with part 121 and ACS, as appropriate.

## Example of a Related Aircraft PC for an A330 Type Rating from an A350

### EVALUATION SUMMARY

The evaluation flight profile includes those procedures and representative maneuvers that will be evaluated in an FFS or Level 6 or greater flight training device (FTD) with emphasis on the differences between the A330 and the A350. The sequence of events and the abnormal and emergency procedures used may be modified at the discretion of the evaluator.

### ORAL AND/OR WRITTEN TEST

- In accordance with part 121 and ACS, as appropriate.

### PRACTICAL TEST (MINIMUM LEVEL 6 FTD OR FFS)

- **GROUND OPERATIONS:**
  - Preflight and flight planning.
  - Engine start and after start.
- **TAKEOFF:**
  - Automation: brakes (BRK) rejected takeoff (RTO) on Flight Mode Annunciator (FMA).
- **INSTRUMENT PROCEDURES:**
  - Area departure, climb, cruise, and descent.
  - Instrument landing system (ILS) (Ground-Based Augmentation System (GBAS) Landing System (GLS)) approach.
  - Nonprecision approach.
- **NORMAL, ABNORMAL, AND EMERGENCY PROCEDURES:**
  - As appropriate per approved differences requirements (flight controls).
- **SYSTEMS:\***
  - Communication controls and indicating.
  - Flight management system (FMS) and multipurpose control and display unit (MCDU).
  - Braking indicating.
  - Navigation controls and indicating.
  - Use of quick reference handbook (QRH).
  - Radar.
  - Flight director (FD).

\* Systems section procedures are usually performed in conjunction with other procedures or maneuvers.

## APPENDIX 6. RELATED AIRCRAFT ON DIFFERENT TCDS TRAINING AND CHECKING PLANS FOR MIXED FLEET FLYING OPERATIONS

The tables below provide examples of alternating training and checking plans for mixed fleet flying operations (A320 and A330, A340 and A330, A350 and A330) after related aircraft differences training and qualification. The components of these plans consist of an Approved Simulator Course of Training (ASCT) with a Proficiency Check (PC) and an ASCT Line-Oriented Flight Training (LOFT) with a PC.

**NOTE:** Recurrent differences training for variations of aircraft having the same type certificate (TC) are to be addressed during recurrent training.

### Examples of Alternating ASCT/PC or ASCT/LOFT/PC Plan for Two Designated Related Aircraft Types

#### A320 and A330 (Separate Type Ratings)

##### Example

Period	Year 1		Year 2		Year 3		Year 4	
	6 months							
<b>PC</b>	A330	A320	A330	A320	A330	A320	A330	A320
<b>ASCT</b>	A320	A330	A320	A330	A320	A330	A320	A330

#### A340 and A330 (Separate Type Rating)

##### Example

Period	Year 1		Year 2		Year 3		Year 4	
	6 months							
<b>PC</b>	A330	A340	A330	A340	A330	A340	A330	A340
<b>ASCT</b>	A340	A330	A340	A330	A340	A330	A340	A330

A350 and A330 (Common Type Rating)

Example 1

	<b>Year 1</b>		<b>Year 2</b>		<b>Year 3</b>		<b>Year 4</b>	
<b>Period</b>	6 months	6 months						
<b>A330 Checking</b>			PC				PC	
<b>A330 Training</b>	ASCT	LOFT		ASCT	ASCT	LOFT		ASCT
<b>A350 Checking</b>	PC				PC			
<b>A350 Training</b>		ASCT	ASCT	LOFT		ASCT	ASCT	LOFT

Example 2

	<b>Year 1</b>		<b>Year 2</b>		<b>Year 3</b>		<b>Year 4</b>	
<b>Period</b>	6 months	6 months						
<b>PC</b>	A330	A350	A330	A350	A330	A350	A330	A350
<b>ASCT</b>	A350	A330	A350	A330	A350	A330	A350	A330

Examples of Alternating ASCT/PC Plan for Three Designated Related Aircraft Types

A320 and A330 and A340 (Separate Type Rating)

Example 1

	<b>Year 1</b>		<b>Year 2</b>		<b>Year 3</b>		<b>Year 4</b>	
<b>Period</b>	6 months	6 months						
<b>ASCT</b>	A320	A340	A320	A330	A320	A340	A320	A330
<b>PC</b>	A320	A330	A320	A340	A320	A330	A320	A340
<b>* Additional PC Item(s)</b>		A340 (Level E)		A330 (Level B)		A340 (Level E)		A330 (Level B)

\* Additional check item: As A330 and A340 are different type ratings, an additional check at Level B or Level E, as defined by Differences Tables, is required under an alternate recurrent plan for three types.

Example 2

	<b>Year 1</b>		<b>Year 2</b>		<b>Year 3</b>		<b>Year 4</b>	
<b>Period</b>	6 months	6 months						
<b>ASCT</b>	A320	A340	A320	A330	A320	A340	A320	A330
<b>PC</b>	A320	A340	A320	A340	A320	A340	A320	A340
<b>* Additional PC Item(s)</b>		A330 (Level B)		A330 (Level B)		A330 (Level B)		A330 (Level B)

\* Additional check item: As A330 and A340 are different type ratings, an additional check at Level B, as defined by Differences Tables, is required under an alternate recurrent plan for three types.