

# **Civil Aviation Administration of China (CAAC)**

**Aircraft Evaluation Group (AEG)** 

# **Aircraft Evaluation Report**

For

A330-200/200F/300

**Rev.0 Date:** 10/July/2012

**Manufacturer: AIRBUS** 

# **Revision Record & Approval**

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### **Foreword**

A330-300 series aircraft was first type certificated by French Directorate General for Civil Aviation (DGAC) in October 1993, which is powered by two General Electric CF6-80 turbofan engines, and A330-300 series powered by Pratt & Whitney 4000 and Rolls Royce Trent 700 engines was certified subsequently.

A330-200 series was first type certificated by French DGAC in March 1998, which also include above three type of engines installation.

A330-200 Freighter Series (A330-200F) was first certificated by EASA in April 2010, includes Pratt & Whitney 4000 and Rolls Royce Trent 700 engines installation.

A330-200/300 series aircraft type certificate were first validated by CAAC airworthiness department in March 1997, and A330-200F type certificate was validated by CAAC airworthiness department in October 2011.

A330-200/300 series aircraft has been operated by Chinese operator since December 2005. At that time the CAAC did not yet have the function of Aircraft Evaluation Group (AEG), and when CAAC AEG started the evaluation to import type of aircraft in July 2009, they considered A330-200/300 as grandfather by CAAC AEG evaluation.

A300-200F was evaluated by CAAC AEG in February 2012, and as it shares the same pilot type rating and most of the technical publications with A330-200/300 series aircraft, catch-up evaluation for A330-200/300 series aircraft was also involved.

Note: For catch-up evaluation, CAAC AEG will based the process on the existing status of the involved grandfathered aircraft, and only considered the new variants or modifications and effected factors associated with the grandfathered type aircraft.

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# Section 1: Pilot Type Rating and Qualification Specification

### 1.1 Statement and Explanation

For A330-200 and A330-330 series airplane, even it is considered as grandfathered aircraft types for CAAC AEG evaluation, catch-up evaluation for the pilot type rating and qualification specification has been conducted by CAAC AEG, as they share same type rating than the A330-200F for which evaluation was required.

The Flight Standardization Board (FSB) catch-up evaluation was based on EASA/JAA Joint Operational Evaluation Board (OEB) Report (FCL/OPS Subgroup) which specifies the pilot type rating, training, checking, and currency specifications for the flight crews of Airbus A330-200 series, A330-300 series and A330-200F type airplanes.

Note 1: Central Joint Aviation Authorities – Joint Operation Evaluation Board Report for A320-A330-A340 CCQ & MFF published by EASA has also been referenced during catch-up evaluation for Airbus CCQ & MFF Program.

Hereby, the provisions in this section can be used, as the basis, by Chinese operators to develop their pilot qualification and training program for above airplane.

Alternate means of compliance to the requirements of CCAR 61, 91, 121, other than as specified in the provisions of this section, must be approved by Flight Standards Department of CAAC. If alternate compliance is sought, operators will be required to establish that proposed alternate means provide an equivalent level of safety to the provisions of this section, and analysis, demonstrations, proof of concept testing, differences documentation, or other evidence may be required.

### Find EASA OEB Report here:

http://easa.europa.eu/certification/experts/OEB-reports.php

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### 1.2 Pilot Type Rating and Licence Endorsement

Upon the FSB evaluation, the Pilot Type Rating for A330 series is listed as following:

| Manufacturer | Aircraft Type   | Pilot Type Rating |
|--------------|-----------------|-------------------|
|              | A330-200 series |                   |
| Airbus       | A330-300 series | A330              |
|              | A330-200F       |                   |

#### **License endorsement:**

"A330" for getting a type rating from A330-200, A330-300 and A330-200F, checking records should also be shown for the specific airplane type.

#### 1.3 ODR and MDR

Operator Difference Requirement (ODR) and Master Difference Requirement (MDR) tables of A330-200, - 300 and 200F have been given by EASA OEB Report of the A330 FCL/OPS Subgroup, and Central Joint Aviation Authorities – Joint Operation Evaluation Board Report for A320-A330-A340 CCQ & MFF provides ODR and MDR for A320, A330 and A340.

Note 1: The ODR table related to Low Visibility operations is a generic document that covers all Airbus family.

Note 2: The ODR tables are available upon request to Airbus.

### 1.4 Specification for Training

The following Type Rating Training Course proposed by Airbus for A330 is included in Airbus Document A330 Flight Crew Training Program, and has to be considered as a minimum:

- -A330 Full Transition Course
- -A330 CCQ Courses
- Note 1: Since level "B" differences training between the A330-200, A330-300 and A330-200F is applicable, Airbus proposed Familiarization Briefing are adequate to cover differences when transitioning in between following A330 series airplanes:
  - -A330 Enhance and A330 Classic
  - -A330-200 and A330-300
  - -A330-200 and A330-200F
  - -Engine difference?
- Note 2: Minimum 3 months and 150 hours experiences on the base aircraft are required for Pilots who are designated to commence the CCQ course.

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- Note 3: Low visibility training module is not a requirement for type rating training, but it is included as an optional module.
- Note 4: Training courses are available by request to Airbus.

The following areas of emphasis apply to the entire A330 family:

- a) Fly by wire
  - Knowledge of flight characteristics and the degree of flight envelope protection provided by the various flight control laws both for pitch, roll and yaw control
  - Procedural and handling consequences following multiple failures that result in alternate and/or direct law
  - Knowledge of the use of side stick controller with a special emphasis on the relationship between the two controllers and the transfer of control
- b) Use of the Flight Management System
  - Knowledge of the various modes of automation
  - Knowledge and skills related to MCDU / FCU use
  - Recognition of mode awareness and transition modes through the FMA
  - CRM issues linked to automation (task sharing and crosschecks)
- c) Use of ECAM
  - Knowledge of appropriate use of ECAM in conjunction with system failures
  - Crew discipline for ECAM actions: respect of the depicted procedure, crosscheck of irreversible actions, aircraft status analysis
- d) Auto Thrust system
  - Knowledge of the thrust control system in conjunction with the "non-moving throttles"
  - Recognition of all messages associated to Auto Thrust failure, engagement and disconnection

The following additional areas of emphasis apply to the A330-200F:

- a) Flight Emergency procedure following cabin depressurization
  - Knowledge of appropriate procedures (specific to the A330-200F) regarding the survey of the cabin and the communication with occupants after a cabin depressurization
- b) Flight Emergency procedure following MDCC Smoke Alert (specific to the A330-200F)
  - Knowledge of appropriate procedures regarding the fire protection (MDCC smoke) and commanded depressurization (MDCC smoke).

Line Flying Under Supervision (LIFUS) should be conducted following A330 type rating course, and recommended as the following:

- In the case of an Standard Transition Course: a minimum of 10 sectors including a line check is recommended, meaning 8 sectors plus 2 sectors line check (Where there

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- is a change of operating conditions or route structure this should also be taken into account and may need the addition of sectors to cover these elements).
- Pilots completing the A330 CCQ course may undertake a reduced number of sectors based upon ODR tables, and recommendation is as per following table:

| Base training (aircraft) or Zero Flight Time Training (Simulator) |                                   |                             |
|---|-----------------------------------|-----------------------------|
| CCQ   | A320 to A330                      | A340 to A330                |
| LIFUS Standard  | 4 Sectors<br>(3 PF + 1 PNF)       |                             |
| LIFUS Additional sectors for specific requirements                | 2 Sectors<br>(1 PF + 1 PNF)       | 2 Sectors (PF)              |
| Line Check  | 2 Sectors<br>(1 PF + 1 PNF)       | 2 Sectors<br>(1 PF + 1 PNF) |
| Total Standard specific requirements                              | 4+2=6 Sectors<br>4+2*+2=8 Sectors | 4 Sectors                   |

- Note 1: Specific requirements include as example:
  - Oceanic Operation: MNPS/FANS
  - -Change in route structure
  - -Special operations
- Note 2: A sector is defined to be a flight comprising take-off, departure, cruise of not less than 15 minutes, arrival, approach and landing phases.
- Note 3: Under Zero Flight Time Training (ZFTT), LIFUS must be commenced within 21 days after the skill test.

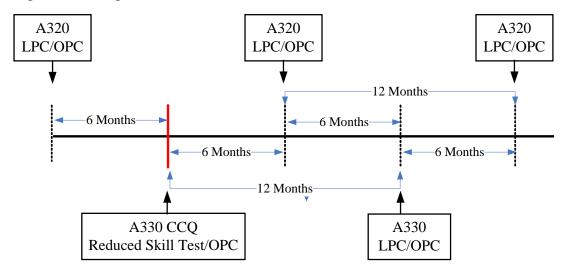
### 1.5 Specification for Checking

As required by CCAR Part 61 and 121, and in addition to the mandatory items from the skill test the following features must be checked:

- Use of side-stick controller
- Knowledge of the various modes of automation
- Knowledge and skills related to the use of MCDU/FCU and crosschecks using the FMA
- Use of ECAM, and
- Use of auto thrust system
- Note 1: The initial A330 type rating check or practical test must be conducted in A330, even following CCQ program.
- Note 2: A proficiency check conducted on one variant is valid for all variants, provided that the differences have been covered during the recurrent training, as per the approved ODR tables.

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For mixed fleet flight for operations of more than one type, an alternate recurrent training and checking program can be established upon the approval by POI. Examples of the recommend implementation plan is as follows



Note 1: Typically prerequisites for flying more than one type consists of a consolidation period following the initial line check on the new type of 50 flying hours or 20 sectors, to be achieved solely on aircraft of the new type rating.

Note 2: Concerning the recurrent training for low visibility operations, full credit applies between types, provided that low visibility training is conducted during recurrent training every 6 months and covers the all differences in accordance with low visibility ODR tables.

### 1.6 Specification for Currency

Currency is as required by CCAR Part 61 and 121.

Under Mixed Fleet Flying (MFF), the proposed currency requirement scheme is an acceptable one and will require approval by POI:

| MFF Aircraft types | <b>Currency Requirements</b>                         |  |
|--------------------|--|--|
| A 220 and A 240    | -3 take-offs and landing in either A330 or A340      |  |
| A330 and A340      | - 1 take-off and landing in each type every 90 days. |  |
| A330 and A320      | -3 take-offs and landing in either A330 or A320      |  |
| A550 and A520      | - 1 take-off and landing in each type every 45 days. |  |

### 1.7 Specification for Flight Simulation Training Devices

When this report has been finalized, the Flight Simulation Training Devices qualified in accordance with CCAR Part 60 are available for Airbus A330.

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### **Section 2: Master Minimum Equipment List**

### 2.1 Statement and Explanation

For A330-200 and A330-330 series airplane, even it is considered as grandfathered aircraft types for CAAC AEG evaluation, catch-up evaluation for MMEL has been conducted as evaluation for A330-200F MMEL was required, and all A330 aircraft are included into the single A330 MMEL.

Flight Operation Evaluation Board (FOEB) catch-up evaluation for Airbus A330 airplane has been conducted by CAAC AEG based on the Airbus A330 Master Minimum Equipment List accepted by EASA, which outlines the items of equipment that may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations,

Hereby, the MMEL and its future revisions accepted by EASA can be used, as the basis, by Chinese operators to develop their Minimum Equipment List (MEL) for above airplanes.

#### Find EASA MMEL List and signed pages here:

http://easa.europa.eu/certification/experts/MMELs-list.php

#### **MMEL document distribution:**

By AirbusWorld website.

Note: For revised MMEL items with boldface in revision highlights, it is considered as more restrict revisions and operators should incorporate into MEL within 60 days as required by AC-121/135-49.

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# **2.2 CAAC Supplemental**

Not applicable.

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# **Section 3: Maintenance Review Board Report**

### 3.1 Statement and Explanation

For A330-200 and A330-330 series airplane, even it is considered as grandfathered aircraft types for CAAC AEG evaluation, catch-up evaluation for MRBR has been conducted as evaluation for A330-200F was required and all A330 aircraft are included into the A330 Maintenance Review Board Report (MRBR).

Maintenance Review Board (MRB) catch-up evaluation for Airbus A330 airplane has been conducted by CAAC AEG based on the Airbus A330 Maintenance Review Board Report approved by EASA, which outlines the initial minimum maintenance requirements to be used in the development of an approved operator's maintenance program for the airframe, engines, systems and components. Hereby, the MRBR and its future revisions approved by EASA can be used, as the basis, by Chinese operators to develop their maintenance program for above airplanes.

Note: Airworthiness Limitations Sections (ALS) for A330 is not included in the MRBR, but should also be included in the operator's maintenance program. The ALS includes:

- Part 1: Safe Life Airworthiness Limitation Items (SLALI)
- Part 2: Damage-Tolerant Airworthiness Limitation Items (DT ALI)
- *Part 3: Certification Maintenance Requirements (CMR)*
- Part 4: Ageing Systems Maintenance (ASM)
- Part 5: Fuel Airworthiness Limitations (FAL)

#### Find EASA Approved MRBR List here:

http://easa.europa.eu/certification/products/docs/mrbr/EASA-Approved\_MRBR.pdf

#### **MRBR** distribution:

By AirbusWorld website.

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# **3.2 CAAC Supplemental**

Not applicable.

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### **Section 4: Operational and Continued Airworthiness Instructions**

### **4.1 Statement and Explanation:**

For A330-200 and A330-330 series airplane, even it is considered as grandfathered aircraft types for CAAC AEG evaluation, as they shares most of the operational and continued airworthiness instructions with A330-200F, CAAC AEG has conducted evaluation of the operational and continued airworthiness instructions for Airbus A330 airplane based on the relevant policies and procedures of Airbus.

Hereby, the Operational & Continued Airworthiness Instructions document listed in the attachment was found acceptable by CAAC AEG, and will give the necessary guidance for properly operating and maintaining the Airbus A330 airplane within the approved operating conditions and limitations.

The CAAC AEG recommended that the Airbus C@DETS training would be necessary for proper use of these documents by airline staffs that will be required to referencing the documents for the Airbus A330 Airplane operation.

This acceptance may not assure the accuracy and applicability of the content in each document, it is the aircraft owner's or operator's responsibility to report any defect or discrepancy in the documents to the aircraft manufacturer, or report to CAAC AEG by Website: <a href="http://aeg.caac.gov.cn">http://aeg.caac.gov.cn</a>

#### **Operational & Continued Airworthiness Instructions distribution:**

By AirbusWorld website, except engine manuals are distributed by engine manufacturer directly to operators.

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### 4.2 List of Operational and Continued Airworthiness Instructions

| Manual | Reference No. | Description                       | Revision/Date |
|--------|---------------|-----------------------------------|---------------|
| FCOM   |               | A330 Flight Crew Operating Manual | As revised    |
| QRH    |               | A330 Quick Reference Handbook     | As revised    |
| WBM    |               | A330 Weight & Balance Manual      | As revised    |
| CCOM   |               | A330 Cabin Crew Operating Manual  | As revised    |
| FCTM   |               | A330 Flight Crew Training Manual  | As revised    |
| MPD    |               | A330 Maintenance and Planning     | As revised    |
|        |               | Document                          |               |
| AMM    |               | A330 Aircraft Maintenance Manual  | As revised    |
| IPC    |               | A330 Illustrated Parts Catalog    | As revised    |
| WDM    |               | A330 Wiring Diagram Manuals       | As revised    |
|        |               | (including ASM, AWM, AWL,         |               |
|        |               | ESPM)                             |               |
| TEM    | 1             | A330 Tool and Equipment Manual    | As revised    |
| TSM    |               | A330 Trouble Shooting Manual      | As revised    |
| NTM    |               | A330 Non destructive Testing      | As revised    |
|        |               | Manual                            |               |
| SRM    |               | A330 Structural Repair Manual     | As revised    |
| CMMM   |               | A330 Component Maintenance        | As revised    |
|        |               | Manual - Manufacturer             |               |

- Note 1: The acceptance of above manuals is not affected due to customization.
- Note 2: The acceptance of above manual doesn't means that the other applicable technical publication for A330 couldn't be used by Chinese operators.
- Note 3: Information of Component Maintenance Manual provided by vendors can be found in the AirbusWorld website.

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# **Section 5: CCARs Compliance Checklist**

### **5.1 Statement and Explanation:**

This section is the formal notification that CAAC AEG has developed the compliance checklist for Airbus A330 airplane based on the following aircraft configuration:

- EASA Type Certificate Data Sheet NO. A.004, Issue 30.0

The checklist is provided as an aid to identify those specific requirements of rules for which compliance has already been demonstrated for the type design. The checklist also notes the requirements of rules which remain to be demonstrated compliance by the operators.

When the aircraft configuration differs from the above stated aircraft configuration, it is the responsibility of the operator and its CAAC Principle Inspector (PI) to evaluate those differences and develop the compliance to the relevant requirements of rules.

It also remains the responsibility of the operator and it's PI to evaluate the corrective actions for those items not satisfactorily addressing compliance in the checklist prior to approval of the appropriate operation.

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# 5.2 CCAR-91R2 Compliance Checklist (A330-200F)

| Articles/Subject  | Compliance                                       | Remark/Limitation                                       |
|---|--|---|
| §91.401 Civil aircraft: Certifications required             | Complies with Fuel venting and exhaust emissions | Other requirements should be checked by PI.             |
|   | requirements                                     |   |
| <b>§91.403</b> Instrument and Equipment for VFR operation   | Complies   |   |
| §91.405 Instrument and Equipment for IFR operation          | Complies   |   |
| §91.407 Instruments and Equipments for night and            | Complies   | Requirements in operation should be checked by PI.      |
| over-the-top operation                                      |  |   |
| <b>§91.409</b> Mach number indicator                        | Complies   |   |
| §91.411 Radio communication equipment                       | Complies   | Requirements in operation should be checked by PI.      |
| <b>§91.413</b> Navigation equipment                         | Complies   | Requirements in operation should be checked by PI.      |
| <b>§91.415</b> Emergency and life-saving equipment          | Complies except first Aid kits                   | First Aid kits should be checked by PI before operation |
|   |  | approval.   |
| <b>§91.417</b> Additional emergency and Life equipments for | Complies   |   |
| over water operation  |  |   |
| <b>§91.419</b> Additional emergency and Life-saving         | Not applicable                                   |   |
| equipment for rotorcraft over water flights                 |  |   |
| <b>§91.421</b> Additional emergency and Life-saving         | Not applicable                                   | Installation of additional emergency and Life-saving    |
| equipment for flights over designated land areas            |  | equipment for flights over designated land areas should |
|   |  | be checked by PI before operation approval.             |
| <b>§91.423</b> Oxygen equipment-operation at high altitude  | Complies   | Requirements for cabin oxygen should be checked by      |
|   |  | PI depending on the Operator's route profiles.          |
| <b>§91.425</b> Equipment for operation in icing conditions  | Complies   |   |
| <b>§91.427</b> ATC transponder and altitude reporting       | Complies   | Requirements in operation should be checked by PI.      |
| equipment   |  |   |
| <b>§91.429</b> Altitude alerting system or device:          | Complies   | Requirements in operation should be checked by PI.      |

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| Articles/Subject  | Compliance     | Remark/Limitation                                  |
|---|----------------|--|
| Turbojet-powered civil airplanes.                           |                |  |
| §91.431 Weather radar                                       | Complies       | Requirements in operation should be checked by PI. |
| §91.433 Flight recorder                                     | Complies       | Requirements in operation should be checked by PI. |
| §91.435 Emergency locator transmitter                       | Complies       | Requirements in operation should be checked by PI. |
| §91.437 Terrain awareness and warning system.               | Complies       | Requirements in operation should be checked by PI. |
| §91.439 Traffic Alert and Collision Avoidance               | Complies       | Requirements in operation should be checked by PI. |
| equipment and use   |                |  |
| §91.441 Radiation indicator                                 | Not applicable |  |
| Appendix B Category II Operations: Manual,                  | Complies       | Requirements in operation should be checked by PI. |
| Instruments, Equipment, and Maintenance                     |                |  |
| Appendix C Operations within airspace designated as         | Complies       | Reference to AFM for more information.             |
| Minimum Navigation Performance Specification                |                | Requirements in operation should be checked by PI. |
| Airspace.   |                |  |
| <b>Appendix D</b> Operations in Reduced Vertical Separation | Complies       | Requirements in operation should be checked by PI. |
| Minimum(RVSM)   |                |  |

# **5.3 CCAR-121R4 Compliance Checklist (A330-200F)**

| Articles/Subject                                    | Compliance   | Remark/Limitation                                   |
|---|--|---|
| §121.153 Aircraft certification and equipment       | Complies   | A330-200F certified for transport category airplane |
| requirements  |  |   |
| §121.155 Single-engine airplanes prohibited         | Not applicable                                     |   |
| <b>§121.157</b> Airplane limitations: Type of route | Complies   |   |
| §121.161 Demonstration of Emergency Evacuation      | Not applicable for Emergency Evacuation Procedures | Requirements in operation should be checked by PI.  |
| Procedures  |  |   |

| Articles/Subject                                     | Compliance     | Remark/Limitation                                      |
|--|----------------|--|
| §121.213 Space of passenger seats                    | Not checked    | It should be checked by PI for Cabin Layout            |
|  |                | customization.   |
| §121.215 Carriage of cargo in passenger compartments | Not applicable | The courier area compartment only dedicated to         |
|  |                | couriers   |
| §121.217 Carriage of cargo in cargo compartments     | Not applicable | There are no cargo compartments on the aircraft which  |
|  |                | allow access of the crew during flight.                |
| <b>§121.301</b> General                              | Complies       | Requirements in operation should be checked by PI.     |
| §121.305 Airplane instruments and equipment          | Complies       |  |
| §121.307 Engine instruments                          | Complies       |  |
| §121.308 Lavatory fire protection                    | Complies       |  |
| §121.309 Emergency equipment                         | Complies       | 1. Requirements should be further checked by PI for    |
|  |                | cabin layout customization.                            |
|  |                | 2. Requirements in operation should be checked by PI.  |
| §121.310 Additional emergency equipment              | Complies       | Requirements should be further checked by PI for cabin |
|  |                | layout customization.                                  |
| §121.311 Seats, safety belts, and shoulder harnesses | Complies       | Requirements in operation should be checked by PI.     |
| §121.312 Materials for compartment interiors         | Complies       |  |
| §121.313 Miscellaneous equipment                     | Complies       | Requirements in operation should be checked by PI      |
| §121.314 Cargo and baggage compartments              | Complies       |  |
| §121.315 Cockpit check list                          | Complies       | Covered by FCOM  |
|  |                | Requirements in operation should be checked by PI.     |
| <b>§121.316</b> Fuel tanks                           | Complies       |  |
| §121.317 Passenger notification                      | Complies       | 1. Requirements should be further checked by PI for    |
|  |                | cabin layout customization.                            |
|  |                | 2. Requirements in operation should be checked by PI.  |

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| Articles/Subject                                       | Compliance     | Remark/Limitation                                      |
|--|----------------|--|
| §121.318 Public address system                         | Complies       | Requirements should be further checked by PI for cabin |
|  |                | layout customization.                                  |
| §121.319 Crewmember interphone system                  | Complies       | Requirements should be further checked by PI for cabin |
|  |                | layout customization.                                  |
| §121.320 Altitude holding and warning system           | Complies       |  |
| §121.323 Instruments and equipment for operations at   | Complies       |  |
| night  |                |  |
| §121.325 Instruments and equipment for operations      | Complies       |  |
| under IFR  |                |  |
| §121.327 Supplemental oxygen for life support:         | Not applicable |  |
| Reciprocating engine powered airplanes                 |                |  |
| §121.329 Supplemental oxygen for life support: turbine | Complies       | 1. Requirements for cabin oxygen should be checked by  |
| engine powered airplanes                               |                | PI depending on the Operator's route profiles.         |
|  |                | 2. Requirements in operation should be checked by PI.  |
| §121.331 Supplemental oxygen for emergency descent     | Not applicable |  |
| and for first aid for reciprocating engine powered     |                |  |
| airplanes with pressurized cabins                      |                |  |
| §121.333 Supplemental oxygen for emergency descent     | Complies       | 1. Requirements for cabin oxygen should be checked by  |
| and for first aid for turbine engine powered airplanes |                | PI depending on the Operator's route profiles.         |
| with pressurized cabins                                |                | 2. Requirements in operation should be checked by PI.  |
| §121.335 Oxygen Equipment standards                    | Complies       |  |
| §121.337 Protective breathing equipment                | Complies       | 1. Requirements for cabin should be checked by PI      |
|  |                | depending on the Operator's route profiles.            |
|  |                | 2. Requirements in operation should be checked by PI.  |
| §121.339 Emergency equipment for over water            | Complies       | Requirements in operation should be checked by PI.     |

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| Articles/Subject                                      | Compliance                    | Remark/Limitation                                      |
|---|-------------------------------|--|
| operations  |                               |  |
| §121.341 Equipment for operations in icing conditions | Complies                      |  |
| §121.342 Pitot heat indication systems                | Complies                      |  |
| §121.343 Flight recorders                             | Complies                      | Requirements in operation should be checked by PI.     |
| §121.344 Quick Access Recorder or equivalent          | Complies                      | Removed to §121.352 in CCAR-121R4.                     |
| equipment   |                               |  |
| §121.345 Radio equipment                              | Complies                      | Requirements in operation should be checked by PI.     |
| §121.346 Air ground two way data link communication   | Not applicable                |  |
| system  |                               |  |
| §121.347 Radio equipment for operations under VFR     | Complies                      |  |
| over routes navigated by piloting                     |                               |  |
| §121.349 Radio equipment for operations under IFR or  | Complies                      | Requirements in operation should be checked by PI.     |
| for operations under VFR over routes not navigated by |                               |  |
| piloting  |                               |  |
| §121.351 Radio equipment for extended over water      | Complies                      | Requirements in operation should be checked by PI.     |
| operations and for certain other operations           |                               |  |
| §121.352 Quick Access Recorder or equivalent          | Complies                      | Requirements in operation should be checked by PI.     |
| equipment   |                               |  |
| §121.353 Emergency equipment for operations over      | Complies except survival kits | Survival kits should be checked by PI before operation |
| uninhabited terrain areas                             |                               | approval.  |
| §121.354 Terrain awareness and warning system         | Complies                      |  |
| §121.355 Equipment for operations use specialized     | Complies                      |  |
| means of navigation                                   |                               |  |
| §121.356 Airborne Collision Avoidance System          | Complies                      |  |
| (ACAS)  |                               |  |

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| Articles/Subject                                       | Compliance                             | Remark/Limitation                                      |
|--|--|--|
| §121.357 Airborne weather radar equipment              | Complies                               | Requirements in operation should be checked by PI.     |
| requirements   |  |  |
| §121.358 Low altitude windshear system equipment       | Complies                               |  |
| requirements   |  |  |
| <b>§121.359</b> Cockpit voice recorders                | Complies                               | Requirements in operation should be checked by PI.     |
| <b>§121.360</b> Ground proximity warning / glide slope | Complies                               | Requirements in operation should be checked by PI.     |
| deviation alerting system                              |  |  |
| §121.361 Language requirement for placards and         | Complies                               | Require further check by PI before operation           |
| markings   |  |  |
| §121.589 Forward Observer's seat for En route          | Complies                               |  |
| inspections  |  |  |
| <b>§121 Appendix B</b> First Aid Kits and Emergency    | Not Complies                           | First Aid Kits and Emergency Medical Kits installation |
| Medical Kits   |  | should be checked by PI before operation approval.     |
| §121 Appendix H Extended range operation with two      | 180-minute (ETOPS) operations approved | It is the responsibility of PI for ETOPS operational   |
| engine airplanes (ETOPS)                               |  | approval   |
| §121 Appendix I Doppler Radar and Inertial             | Complies                               | Requirements in operation should be checked by PI.     |
| Navigation System (INS)                                |  |  |

# **5.4 CCAR-135 Compliance Checklist**

Not applicable.

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### **Section 6: Other Evaluation Items**

#### **6.1 Forward Observer Seat**

Based on the compliance statement submitted by Airbus, CAAC AEG concluded that the seat referred to as the "third occupant seat" (center seat) of Airbus A330 is considered to have met the requirements of AC-121-28. The seats referred to as the "fourth and fifth occupant seats" (left and right seats) may be used by CAAC inspectors at their discretion.

Modifications to the above facilities from the original specifications will need approval by the responsible Principle Inspector (PI) of CAAC, additional analysis, demonstrations, proof of concept testing, differences documentation, or other evidence may be required.

### **6.2 Flight Crew Sleeping Quarters**

The Flight Crew Rest Compartment (FCRC) is an option that can be installed into A330-200F airplane.

Based on the compliance statement submitted by Airbus, CAAC AEG concluded that the FCRC facilities of Airbus A330-200F is considered to have met the requirements of AC-121-008 except the dimensions for each sleeping surface, but operational approval maybe granted upon POI acceptance.

### **6.3 Electronic Flight Bag**

This paragraph is the formal statement that CAAC AEG has evaluated the Class 1, 2 or 3 Electronic Flight Bag (EFB) – LPC (Less Paper Cockpit) with "Fly Smart with Airbus" Flight Operation Software suite of Airbus A330 airplane based on the EASA and FAA Joint OEB/FSB evaluation determination, and concluded that the compliance, at the manufacturer level, of LPC for operational use in A330, but for operator to use the LPC without paper backup, the specific operational approval is still required.

Modifications to either the software or hardware from the original specifications will need re-approval by Flight Standards Department of CAAC, additional analysis, demonstrations, proof of concept testing, differences documentation, or other evidence may be required.

Note 1:Since there is no equivalent document as EASA JOEB Report of the A380-800 EFB Subgroup available, Airbus training programs should be developed to assist operators in its operational approval, include Software applications, Standard Operating Procedures, Administration Procedures and Administrator Training, Operational compliance summary for operating Airplane using the LPC.

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# **6.4 Head-up Display/Enhanced Flight Vision System**

Not applicable.

### **6.5** Emergency Evacuation Demonstration

Not applicable.

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# **Appendix: CAAC AEG Team and Point of Contact**

### A.1: CAAC AEG Team

Mr. Xue Shi Jun Director, Aircraft Evaluation Division, Flight Standards

Department

Ms. Fan Jing Zhu Engineer, AEG Office of Shanghai Aircraft Airworthiness

**Certification Center** 

Mr. Liu Yun Lei Engineer, AEG Office of Civil Aviation Safety and Technology

Center

### **A.2: Airbus Point of Contact**

Ms. Régine VADROT Head of Operational Certification Engineering - Product

Integrity (EAV)

Ms. Bo Juan Airbus China

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