CENTRAL JOINT AVIATION AUTHORITIES

JOINT OPERATION EVALUATION BOARD REPORT

Cessna Aircraft Company

CE-560 Encore +

Initial issue
22 January 2008

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Cessna Aircraft Company (Cessna) has requested a JOEB process for evaluation of the CE-560 Encore +. Due to the various subjects, subgroups have been set up and are:

- FCL & OPS Subgroup
- MMEL Subgroup
- Simulator Subgroup – JSET

The following Report covers the activities of the FCL & OPS Subgroups. No specific report will be issued by the MMEL Subgroup, as the CE-560 Encore + MMEL is the document recommended for approval by the JAA. The Simulator JSET Subgroup Report is published separately.

Revision Record

Revision No:	Dated	Summary
Draft.0	06 July 2007	Initial draft
Draft.1	29 November 2007	Addition of EFB Report
Initial issue	04 December 2007	Draft Initial issue publication - no comment
Initial issue	22 January 2008	Initial issue publication

Table of Contents

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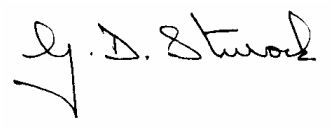

Captain Graham Sturrock
JAA Consultant
JOEB Chairman

Dated: 29 November 2007

PREAMBLE

This Joint Operation Evaluation has been performed using the following methods:

- Review and validation of the FAA Flight Standardization Board (FSB) Report;
- Review and analysis of the conversion and differences training syllabuses offered on behalf of Cessna;
- Experience of the aircraft gained during the simulator evaluation conducted at the FSI Learning Centre at Wichita, Kansas between 17 and 19 April 2007.

This Report specifies the JAA type rating endorsement, the CE-560 Encore + training, checking, and recent experience requirements for flight crew as specified in JAR-FCL 1 and JAR-OPS 1.

This Report also contains the findings of the operational acceptability evaluation of the CE-560 Encore + with regards to JAR-OPS 1. The Operational Evaluation was conducted in accordance with the processes described in the Common Procedures document dated 10th June 2004 and signed jointly by JAA, FAA and TCCA.

JAA recommends the approval of the proposed training course for an initial type rating on the CE-560 Encore +, including the necessary differences training.

JAA recommends the licence endorsement will be C500/550/560

Evan Nielsen

Flight Standards Manager
EASA Flight Standards Department
Certification Directorate

Dated: 22 January 2008

ACRONYMS AND ABBREVIATIONS

ACAS	Airborne Collision Avoidance System
CAA	United Kingdom Civil Aviation Authority
CBT	Computer Based Training
CPT	Cockpit Procedures Trainer
EASA	European Aviation Safety Agency
EFB	Electronic Flight Bag
FAA	United States Federal Aviation Administration
FADEC	Full Authority Digital Engine Control
FFS	Full-flight Simulator
FSI	Flight Safety International
FTD	Flight Training Device
ICBT	Interactive Computer Based Training
IFIS	Integrated Flight Information System
JOEB	Joint Operation Evaluation Board
LIFUS	Line Flying Under Supervision
LPC	Licence Proficiency Check
MCR	Master Common Requirements
MDR	Master Difference Requirements
MFD	Multi-function Display
NAA	National Aviation Authority
ODR	Operator Difference Requirements
OPC	Operator Proficiency Check
PFD	Primary Flight Display
TAWS	Terrain Awareness System
TCCA	Transport Canada

EXECUTIVE SUMMARY

The JOEB conducted an evaluation of the proposed differences training between the Cessna Encore and Cessna Encore + and a catch up process was used for the evaluation of the full Training Course for the Cessna Encore.

Essentially, the CE-560 Encore + is a CE-560 Encore aircraft equipped with a different avionics suite and Full Authority Digital Engine Control (FADEC). Flight characteristics are identical.

The JOEB recommends acceptance of this Report.

JOEB REPORT PART I

1. PURPOSE AND APPLICABILITY

This report:

- Defines the Type Rating assigned to the CE-560 Encore +;
- Identifies Master Common Requirements (MCR);
- Provides Master Differences Requirements (MDR) for crews requiring differences training;
- Provides acceptable Operator Difference Requirements (ODR);
- Provides recommendations for Differences Training;
- Provides recommendations for Checking; and
- Provides recommendations for Currency

2. PILOT TYPE RATING REQUIREMENTS

With reference to JAR FCL 1.220 and the JOEB Evaluation Process, the pilot type rating for the CE-560 Encore+ is designated as:

C500/550/560

3. MASTER COMMON REQUIREMENTS

The CE-560 Encore + is a CE-560 Encore with a different avionics suite and Full Authority Digital Engine Controls (FADEC). Flight characteristics are identical.

The avionics suite in the CE-560 ENCORE + is the Rockwell Collins Proline 21. The Proline 21 system consists of:

- Pilot & Co-pilot Primary Flight Displays (PFD)
- One Multifunction Display (MFD) with Navigation Charts Display capability
- Digital Autopilot and Flight Director
- Yaw Damper
- Flight Management System
- Two Rockwell Collins digital NAV/COM radios
- Rockwell Collins WX radar
- Radio Altimeter
- TAWS and ACAS II

3.1 Aircraft Approach and Circling Category

The approach and circling category for the CE-560 Encore + is Category B.

4. MASTER DIFFERENCES REQUIREMENTS (MDR) TABLE

MDRs are as depicted in the MDR table at Appendix 1 to Section 14 of this Report. The base aircraft (***from*** airplane) is the CE-560 Encore. The variant (***to*** airplane) is the CE-560 Encore +. In summary, the MDR for the CE-560 Encore + is C/B/A. Level C training requires training in a Systems Device, Level B checking requires a demonstration of proficiency in the use of the ProLine 21 avionics system, and Level A currency requires no additional currency requirements other than that required for the ~~CE-500~~ C500/550/560 type rating.

5. ACCEPTABLE OPERATOR DIFFERENCES REQUIREMENTS TABLES

ODR tables are used to show an operator's compliance method. The ODR tables assume that flight crew members are qualified, current, and experienced in operating the base aircraft.

The ODR tables shown at Appendix 2 to Section 14 of this Report have been developed in accordance with AMC 1.980(b) & IEM 1.980(b) of JAR-OPS 1 Subpart N. They represent an acceptable means of compliance with the MDR provisions for the aircraft evaluated, based on those differences and compliance methods shown. These tables do not necessarily represent the only means of compliance for operators with aircraft having other differences.

Operators flying mixed CE-560 Encore and CE-560 Encore + variants must have NAA approved ODR tables pertinent to their fleet.

Within the Tables, abbreviations have the following meaning:

X = Pilot's Operating Handbook and/or AFM Supplement

CBT = Computer Based Training

CPT = Cockpit Procedures Trainer

ICBT = Interactive Computer Based Training

5. SPECIFICATION FOR TRAINING

5.1 Differences Training

The installation of the Collins ProLine 21 avionics suite requires that operators' training programmes should emphasize the differences in displays and navigation, using the methods prescribed in the System Difference Table.

Level C Training is required, and a CPT (Cockpit Procedures Trainer) is the minimum medium for training delivery. Training should consist of, as a minimum, a review of the CE-560 Encore AFM Limitations and practical training in the functions of the ProLine 21 avionics suite.

5.2 Recurrent Training and Operation of CE-560 Encore / CE-560 Encore + Variants

The recurrent training program, when flying different variants within a single licence endorsement, must comply with JAR-OPS 1.965 and with the ODR tables, defined under JAR-OPS 1.980.

6. SPECIFICATIONS FOR CHECKING

6.1 Skill Test

As required by Appendix 1 and 2 to JAR FCL 1.240 and 1.295.

6.2 Recurrent Checking - Licence Proficiency Checks and Operator Proficiency Checks

Licence Proficiency Checks and Operator Proficiency Checks must be conducted in compliance with JAR-FCL 1.245 and JAR-OPS 1.965, respectively. The Checking level is set at Level B. Level B requires some demonstration of proficiency in the ProLine 21 avionics system.

6.3 Line Checks

Line checks must be conducted in compliance with JAR-OPS 1.965(c).

7. SPECIFICATIONS FOR CURRENCY / RECENT EXPERIENCE

Level A currency is required. At Level A, currency is considered to be common to each variant. Thus, assessment or tracking of currency for separate variants is not necessary or applicable.
Maintenance of currency in any one variant or a combination of variants suffices for any other variant.

8. SPECIFICATIONS FOR LIFUS

Reserved.

9. ADDITIONAL JOEB FINDINGS AND RECOMMENDATIONS

9.1 Electronic Flight Bag

Guidance material covering airworthiness and operational criteria for the approval of Electronic Flight Bags (EFBs) is derived from JAA Administrative & Guidance Material Section Four: Operations, Part Three: Temporary Guidance Leaflets (JAR-OPS) Leaflet No. 36: Approval of Electronic Flight Bags (EFBs).

The Integrated Flight Information System (IFIS) which forms part of the Collins ProLine 21 avionics suite on the CE-560 Encore + aircraft hosts applications which, when displayed in this manner, have been determined as constituting an Electronic Flight Bag (EFB) according to the criteria in TGL 36. Though the IFIS system, including the MFD, have undergone airworthiness certification as an avionics system, when displaying EFB functions, the IFIS is considered to be a Class 3 EFB system hosting Type B and Type C software applications.

Both Class 3 devices and Type C software are required to undergo a full airworthiness and operational approval to the criteria described in TGL 36 Sections 6 and 7.

9.1.1 System Description

The three major functions provided by the IFIS System are:

- Display of navigational charts;
- Enhanced map overlays; and
- Graphical weather images

The charts function allows the viewing of selected Jeppesen navigation charts. The Enhanced Maps function is split into an application and a server that together provide map overlays of geopolitical, airspace, and airway data. The Graphical Weather function provides various weather images, such as NEXRAD, that are uploaded via Datalink. The standard aircraft configuration contains the Enhanced Map Overlays functions and Electronic Charts and Graphical Weather are offered as customer options.

Note: *The Graphical Weather function has not been evaluated by the JOEB*.

The FMS transmits flight plan information (origin airport, destination airport, destination arrival, destination approach, and alternate airport) used by the electronic chart function. Charts associated with each flight plan element are listed on the MFD's chart selection menu. A single pilot action selects any of these charts for immediate display. The IFIS electronic chart feature includes (but is not necessary restricted to):

- SIDs;
- STARs;
- VFR Terminal charts;
- Aerodrome charts and Terminal Information (including aerodrome directories);
- Approach and Departure Procedures;
- Chart NOTAMs

If airport diagrams or approach charts are referenced to geographical coordinates, an aircraft symbol of "own-ship" position is superimposed on the airport diagram or approach chart.

The enhanced map overlays are automatically revoked as map range is increased. The Airways and Airspace depictions are removed when range is increased above 100 nm and the Geopolitical map data is removed when map range is increased above 300nm. The features provided by the Enhanced Map

Application are considered to only provide Minor Hazards in cruise (Reference Collins Report TR2003-43).

9.1.2 Hardware Classification

The Rockwell Collins IFIS System is comprised of a FSU-5010 File Server Unit, CCP-3000 Cursor Control Panel, ECU-3000 External Configuration Unit and FSA-5000 File Server Application Software. The file server is interfaced to the Multifunction Display AFD-3010E.

The system elements carry FAA TSOs for the functions they perform and Collins Report TRC-2005-85 documents the hazard classification for the IFIS system. Misleading chart data and misleading aircraft position are classified as Major failures. All other hazards that can be caused by the system are lower criticality. The software and hardware are developed to appropriate design assurance levels for the Major classification (Software and Complex Hardware to Level C).

Rockwell Collins certified the system via a Supplemental Type Certificate to the Model 560 Type Certificate A22CE numbered ST4383WI-T. Cessna procured rights to the STC and converted it to an Amended Type Certificate by FAA Project AT4267WI-T. Compliance for all FAA requirements is shown in Collins report AAC-0442.

By the definition of TGL-36 paragraph 5.1.3, as an installed system, the IFIS hardware is classified as a Class 3 device. The airworthiness certification requirements for such a device have been met by certification as an avionics suite under the STC described above.

9.1.3 Software Classification

The navigational chart display and the enhanced map overlay are each dynamic presentations that can be scrolled, panned and zoomed etc. When in this mode, by the definition of TGL-36 paragraph 5.2.2, they are Type B applications.

When an aircraft symbol denoting “own-ship” position is superimposed on the electronic chart display, by the definitions of TGL-36 Section 5.2, the application is neither Type A nor Type B but falls under the criteria described in TGL-36 Appendix C (a Type C application according to FAA AC 120-76A). This type of application requires a full airworthiness approval.

9.1.4 Certification Documentation

Operating Limitations related to the use of the IFIS chart display are contained in the AFM.

9.1.5 Guidelines for EFB Application Developers

Not applicable. The Rockwell Collins IFIS System is a closed architecture system and the avionics hardware carries a FAA TSO. The system and the applications hosted may only be modified by Rockwell Collins, and such modification would require the approval of Cessna and the FAA.

9.1.6 Operational Risk Assessment

An Operational Risk Assessment is shown at Appendix 4 to Section 14 of this Report.

9.1.7 MEL Alleviations

The EASA MMEL for the Encore+ allows relief for a failed MFD, FSU, or Cursor Control Panel (CCP). Operation of the IFIS System for electronic chart display with out-of-date electronic chart data is prohibited. An operator's MEL may be no less restrictive than the MMEL and operators may use the guidance in TGL-26 in preparing a suitable MEL entry for this device.

9.1.8 Human Machine Interface (HMI) Assessment

The MFD and the IFIS System controls were assessed for HMI criteria compliance during certification under the STC described in paragraph 9.1.2. During JOEB evaluation, no HMI issues were noted.

9.1.9 Flight Crew Operating Procedures

The crew is required by the Airplane Flight Manual Supplement 56FMC-02-00 to have Collins IFIS-5000 Integrated Flight Information System Operator's Guide, Publication Number 523-0806347 available when operating the IFIS system. The Operating Limitations for the IFIS System are included the AFM Supplement 56FMC-S15-XX for EASA-approved aircraft (where XX is the revision number of the Supplement).

During JOEB evaluation of the IFIS System, no undue crew workload assignments were noted.

CAUTION: *Flight crew operating procedures must ensure that fixation on the chart display is avoided, especially during taxying operations. During the JOEB evaluation of this system and other similar chart display systems based on pre-composed aerodrome charts, errors in the displayed own-ship position relative to the aerodrome chart have been observed, causing misleading information to be provided to the flight crew. The chart display must be used for the purpose of enhancing situational awareness only and it must not be used as the primary means of determining the aircraft position.*

The AFM Operating Limitations require the operating crew to restrict the use of the chart display in certain circumstances and these Limitations must be rigorously observed.

9.1.10 Procedures for Using the IFIS System with Other Flight Deck Systems

The IFIS system requires no interaction with other systems on the aircraft for data entry or selection and displayed IFIS information is not available on other flight deck displays. It is prudent, however, for flight crew to always carefully cross-check FMS information against IFIS chart display information and paper charts. In the event of discrepancy between sources of navigational information, the paper chart should take precedence.

9.1.11 Flight Crew Awareness of EFB Software/Database Revisions

Database revisions are displayed on the MFD with their associated expiration dates. All databases are monitored by the IFIS System to determine if they are up to date. When an installed database is out of date, the flight crew is provided a CHECK DATBASE STATUS annunciation (only when on the ground). When this annunciation is displayed, the flight crew can select the Database Effectivity page and a NOT CURRENT annunciation (in yellow) is displayed in the status column.

Flight crew SOPs should require a check of database validity before use as part of the pre-flight activity. The MMEL does not permit operations of the IFIS system with an out-of-date electronic charts database.

9.1.12 Procedures to Mitigate and/or Control Workload

IFIS System integration minimizes the workload for the crew, providing links to the Flight Management System (FMS) for chart selection and features such as a single button push for the display and removal of a display. During the JOEB evaluation, no undue workload in using the IFIS System was noted.

9.1.13 Quality Assurance

For operations under JAR-OPS, the operator must include the IFIS System operation and its Administration in its Quality Assurance System, as required by JAR-OPS 1.035. In particular, the operator must have a robust system of monitoring that the electronic chart database is up to date.

9.1.14 Role of the EFB Administrator

The operator should appoint an EFB Administrator to manage the IFIS System and, in particular, the maintenance of the currency of the database. The EFB Administrator may be the person who loads the periodic navigation database for the Flight Management System (FMS) since that database and the electronic chart database use the same loading platform.

None of Cessna's maintenance material or Rockwell Collins' operation or maintenance material refers to the title of "EFB Administrator". The data loading function is considered to be a normal part of line maintenance, analogous to the FMS data loading. EFB Administrator Procedures should therefore be documented by the operator.

As a minimum, the EFB administrator must be trained on the data loading processes for the IFIS system and the acquisition and preparation of the electronic chart database.

9.1.15 Flight Crew Training

9.1.15.1 Training and Checking Requirement

The following training and checking should be required:

- Initial EFB training and checking
- Differences and Familiarisation Training
- Recurrent EFB training and checking

9.1.15.2 Initial EFB Training and Checking

9.1.15.2.1 Assumptions Regarding Flight Crew Previous Experience

Training for the use of the IFIS System should be for the purpose of operating the system itself and the electronic charts hosted on it and should not be intended to provide basic competence in the interpretation of maps and charts etc. Initial EFB training, therefore, should assume basic competence in the functions addressed by the software applications installed. Where flight crew do not have the necessary experience, additional requirements may have to be applied by the NAA.

9.1.15.2.2 Programmes Crediting Previous EFB Experience

Training programmes for the IFIS System may take credit for previous EFB experience. For example, previous experience of electronic maps and charts hosted on a Class 1 or Class 2 EFB and using similar software may be credited toward training on the IFIS System.

9.1.15.2.3 Initial EFB Training

Training required for the grant of an aircraft type rating may not recognise variants within the type nor the installation of particular equipment. Any training for the grant of a type qualification need not, therefore, recognise the installation or use of an EFB unless it is installed equipment across all variants of the type. However, where training for the issue of the type rating is combined with the operator's conversion course required by JAR-OPS 1.945, the training syllabus should recognise the installation of the EFB where it is standard equipment across the operator's fleet and the operator's SOPs are dependant on its use.

Initial EFB Training may consist of both ground-based and in-flight training. An operator/TRTO may use many methods for ground-based EFB training including written handouts or FCOM material, classroom instruction, pictures, videotape, ground training devices, computer-based instruction, and static aircraft training. Ground-based training for any EFB lends itself particularly to CBT-based instruction particularly if interactive training can be provided. In-flight EFB training should be conducted by a suitably qualified person during Line Flying Under Supervision or during Differences and Familiarisation Training.

Cessna uses Flight Safety International (FSI) as its aircraft training provider. Each aircraft is sold with training slots for crew and maintenance personnel. The FSI Pilot Training Manual provides information on the avionics suite (including the IFIS System) in Chapter 16 and this material is used to support the Ground Technical Training phase of Conversion Training. Electronic chart functionality is demonstrated and practiced during the Flight Simulator phase of flight crew training.

Additionally, Rockwell Collins provides one-on-one familiarization prior to delivery for the operation of IFIS flight deck controls and the maintenance loading computer system.

9.1.15.2.3.1 Areas of Emphasis During Initial EFB Training

- The use of the EFB hardware and the need for proper adjustment of lighting etc. when the system is used in-flight;
- The intended use of the IFIS chart display together with limitations and prohibitions on its use;
- Proper verification of the applicability of the information being used;
- The need to avoid fixation on the map display, particularly during taxying operations; and
- Failure of component(s) of the EFB

9.1.15.2.4 Initial EFB Checking

9.1.15.2.4.1 Initial Ground EFB Checking

The check conducted following the ground-based element of Initial EFB Training may be accomplished by questionnaire (oral or written) or as an automated component of EFB computer-based training depending on the nature of the training conducted.

9.1.15.2.4.2 Skill Test & Proficiency Check

Proficiency in EFB use is not shown in the required items in App 2 to JAR-FCL 1.240 & 1.295 for the Skill Test for the issue of a type rating following type conversion training nor for the Proficiency Check for the renewal of a type rating. However, where the Skill Test is being conducted following training that is integrated with the operator's conversion course as required by JAR-OPS 1.945, or where the

Proficiency Check is being conducted concurrently with the Operator's Proficiency Check required by JAR-OPS 1.965, and where the EFB is standard equipment across the operator's fleet and the operator's SOPs are dependant on its use, proficiency in the use of the EFB should be assessed in the appropriate areas (e.g. item 1.1, item 1.5 etc. in App 2 to JAR-FCL 1.240 & 1.295).

9.1.15.2.4.3 Operator Proficiency Check

JAR-OPS 1.965(b)(1)(i) requires that flight crew demonstrate their competence in carrying out normal procedures during the Operator Proficiency Check. Therefore, were the EFB is standard equipment across the operator's fleet and the operator's SOPs are dependant on its use, proficiency in its use should be assessed.

9.1.15.2.4.4 Line Check

JAR-OPS 1.965(c) requires that flight crew demonstrate their competence in carrying out normal procedures during the Line Check. Therefore, where the EFB is standard equipment across the operator's fleet and the operator's SOPs are dependant on its use, proficiency in its use should be assessed.

9.1.15.2.4.5 Areas of Emphasis During EFB Checking

- Proficiency in the use of the IFIS map and chart displays;
- Proper selection of the IFIS map and chart displays;
- The proper check of the validity of the information and the use of the chart clip function;
- The maintenance of a proper outside visual scan without prolonged fixation on the chart display, especially during the taxying operations;
- Actions following the failure of component(s) of the EFB

9.1.15.3 Differences and Familiarisation Training

See Appendices 1 and 2 to Section 14 of this Report.

9.1.15.4 Recurrent EFB Training and Checking

9.1.15.4.1 Recurrent EFB Training

Recurrent training is not normally required for the use of the IFIS System provided its functions are used regularly in line operations. Operators should be encouraged, however, to include normal IFIS operations as a component of the annual Ground and Refresher Training required by App1 to JAR-OPS 1.965(a)(1).

9.1.15.4.2 Recurrent EFB Checking

Recurrent EFB Checking should consist of those elements of the Licence Proficiency Check, the Operator Proficiency Check and the Line Check applicable to the use of an EFB as described in paragraphs 9.1.15.2.4.2, 9.1.15.2.4.3 and 9.1.15.2.4.4. Areas of emphasis are as described in paragraph 9.1.15.2.4.5.

9.1.15.5 Suitability of Training Devices

Where the EFB is standard equipment across the operator's fleet and the operator's SOPs are dependant on its use, it is desirable that the EFB should be present during the operator's training and checking. Where it is present, the EFB should be configured and operable in all respects as per the relevant aeroplane. This should apply to:

- The Operator's Conversion Course required by JAR-OPS 1.945
- Differences or Familiarisation Training required by JAR-OPS 1.950
- Recurrent Training and Checking required by JAR-OPS 1.965

It is desirable that the device should be installed and operable in the training device (simulator) and used during all phases of flight during which it would be used under the operator's SOPs.

9.1.15.6 Alternate Means of Compliance

Alternate means of compliance for Flight Crew Training may be approved by the operator's NAA. If alternate compliance is sought, operators should be required to establish that any proposed alternate means provides an equivalent level of safety to the provisions of this Appendix. Analysis, demonstrations, proof of concept testing, differences documentation or other evidence may be required.

9.1.16 Operational Evaluation Test

NAAs should consider conducting an Operational Evaluation Test to determine the operator's implementation of the provisions of TGL 36 and the recommendations of this JOEB Report.

9.1.17 Operational Compliance Summary

Cessna have completed an Operational Compliance Summary that has been used as the basis for large parts of this Section of the JOEB report.

10. AIRCRAFT REGULATORY COMPLIANCE CHECKLIST

Compliance with JAR-OPS 1 Subparts K & L has been demonstrated by means of the checklist at Appendix 3 to Section 14 of this Report. It should be noted that Cessna regards the provision of certain mandatory items of equipment to be the responsibility of the operator, and NAAs should confirm that the scale and location of these items complies with the relevant paragraph(s) of Subpart K or L.

11. SPECIFICATIONS FOR TRAINING DEVICES AND SIMULATORS

Training and checking should be accomplished in a Cockpit Procedures Trainer that replicates the layout and functions of the ProLine 21. Use of an aeroplane cockpit, with ground power attached, is acceptable as a CPT.

The CE-560 Encore + full flight simulator located at the FSI Learning Centre at Wichita, Kansas (UK/FS-463) has been granted a qualification to JAR-STD 1A Interim Level C. This device is the subject of a separate Report.

12. APPLICATION OF JOEB REPORT

This JOEB report should be used by JAR-OPS 1 operators and their respective National Authorities to determine crew qualification requirements (training, checking, and currency) in support of CE-560 Encore + operations.

13. ALTERNATE MEANS OF COMPLIANCE

Operators proposing alternate means of complying with the recommendations herein will be required to demonstrate to their NAA that an equivalent level of safety will be achieved.

14. MISCELLANEOUS

14.1 Cabin Crew

According to the requirements of JAR-OPS 1.990, there is no requirement for cabin crew to be carried, but if persons meeting the criteria described in JAR-OPS 1.988 and 1.989 (cabin crew) are carried, they are to be trained in accordance with JAR–OPS 1, subpart O.

14.2 Appendices

The following Appendices are attached:

Appendix 1 – MDR table
Appendix 2 – Acceptable ODR tables
Appendix 3 – Compliance Checklist
Appendix 4 – EFB Operational Risk Assessment

Appendix 1 – MDR Table

MASTER DIFFERENCE REQUIREMENTS (MDR)			
TYPE RATING: CE-500		**FROM AEROPLANE**	
		CE-560 ENCORE	**CE-560 ENCORE +**
TO AEROPLANE	**CE-560 ENCORE**	-	Not evaluated
	CE-560 ENCORE +	**C / B / A**	-

Level C Training. Level C differences training can only be accomplished through use of devices capable of systems training. It is applicable to variants having "part task" differences that affect skills or abilities, as well as knowledge. Training objectives focus on mastering individual systems, procedures, or tasks, as opposed to performing highly integrated flight operations and manoeuvres in "real time." Level C may also require self-instruction or aided instruction of a crewmember, but cannot be adequately addressed by a knowledge requirement alone. Training devices are required to supplement instruction to ensure attainment or retention of crew skills and abilities to accomplish the more complex tasks, usually related to operation of particular aircraft systems. While Level C systems knowledge or skills relate to specific rather than fully integrated tasks, performance of steps to accomplish normal, abnormal/non-normal procedures/emergency or manoeuvres related to particular systems (flight guidance control systems/flight management systems) may be necessary. Typically, the minimum acceptable training media for Level C would be interactive computer based training (ICBT), cockpit systems simulators, cockpit procedure trainers, part task trainers (e.g., inertial navigation system (INS), flight management system (FMS), or traffic collision avoidance system (TCAS) trainers or similar devices.

Examples of devices acceptable for Level C training:

a. Interactive computer based training to include FMS trainers, systems trainers, etc;
b. Flight training devices (FTD), level FTD 1 (JAA);
c. The use of specific systems incorporated in FTD level FTD 2 (JAA);
d. Specific systems incorporated in full flight simulators (FFS) certified to Level D or Level C may also be acceptable; or
e. A static airplane

Level B Checking. Level B checking indicates a "task" or "systems" check is required following transition and recurring differences training. Level B checking typically applies to particular tasks or systems such as INS, FMS, TCAS, or other individual systems or related groups of systems.

Level A Currency. At Level A currency is considered to be common to each variant. Thus, assessment or tracking of currency for separate variants is not necessary or applicable.
Maintenance of currency in any one variant or a combination of variants suffices for any other variant.