

Preamble and Contents Effective: 21/12/2010

The following is a list of CS-ETSO and Subparts affected by this amendment.

Subpart A	amended (NPA 2009-11)
Subpart B Index 1	amended (NPA 2009-11)
Subpart B Index 2	amended (NPA 2009-11)
ETSO-C6d	replaced by ETSO-C6e (NPA 2009-11)
ETSO-C8d	replaced by ETSO-C8e (NPA 2009-11)
ETSO-C39b	replaced by ETSO-C39c (NPA 2009-11)
ETSO-C48	deleted (NPA 2009-11)
ETSO-C50c	deleted (NPA 2009-11)
ETSO-57a	deleted (NPA 2009-11)
ETSO-C58a	deleted (NPA 2009-11)
ETSO-C112c	newly introduced (NPA 2009-11)
ETSO-C123a	replaced by ETSO-C123b (NPA 2009-11)
ETSO-C124a	replaced by ETSO-C124b (NPA 2009-11)
ETSO-C135	replaced by ETSO-C135a (NPA 2009-11)
ETSO-C139	newly introduced (NPA 2009-11)
ETSO-C144	replaced by ETSO-C144a (NPA 2009-11)
ETSO-C145	replaced by ETSO-C145c (NPA 2009-11)
ETSO-C146	replaced by ETSO-C146c (NPA 2009-11)
ETSO-C155	newly introduced (NPA 2009-11)
ETSO-C165	newly introduced (NPA 2009-11)
ETSO-C176	newly introduced (NPA 2009-11)
ETSO-C177	newly introduced (NPA 2009-11)
ETSO-C190	newly introduced (NPA 2009-11)
ETSO-2C37e	deleted (NPA 2009-11)
ETSO-2C38e	deleted (NPA 2009-11)
ETSO-2C48a	newly introduced (NPA 2009-11)
ETSO-2C112b	replaced by ETSO-C112b (NPA 2009-11)
ETSO-2C169a	newly introduced (NPA 2009-11)

In Subpart A – GENERAL; the environmental standard paragraph 2.1 is replaced by the following:

SUBPART A – GENERAL

2.1 Environmental standards:

Unless otherwise stated in paragraph 3.1.2 of the specific ETSO, the applicable environmental standards are contained in EUROCAE/RTCA document ED-14D change 3/DO-160D change 3 “Environmental Conditions and Test Procedures for Airborne Equipment”, dated December 2002, or ED-14E/DO-160E dated March 2005 or ED-14F/DO-160F dated March 2008.

It is not permissible to mix versions within a given qualification programme.

In Subpart A – GENERAL; the following paragraphs for electronic hardware and Failure condition classification are added:

2.3 Electronic Hardware

If the article contains a complex Application-Specific Integrated Circuit (ASIC) or complex programmable logic (e.g. Programmable Array Logic components (PAL), Field-Programmable Gate Array components (FPGA), General Array Logic components (GAL), or Erasable Programmable Logic Devices) summarised as Complex Hardware to accomplish the function, develop the component according to EUROCAE/RTCA document ED-80/DO-254 “Design Assurance Guidance for Airborne Electronic Hardware”, dated April 2000. All Complex Hardware included in the article definition must be developed in accordance with EUROCAE/RTCA document ED-80/DO-254.

2.4 Failure condition classification

When applicable, any failure condition should be classified according to the severity of its effect. For further guidance see AMC 25.1309.

To develop system design assurance guidance for failure condition classifications, the applicant may use EUROCAE/SAE document ED-79/ARP 4754 “Certification Considerations for Highly-Integrated or Complex Aircraft Systems” dated November 1996.

Develop the system to, at least, the design assurance level equal to the failure condition classifications provided in the ETSO. Development to a lower Design Assurance Level may be justified for certain cases and accepted during the ETSO process but will lead to installation restrictions.

In Subpart A – GENERAL paragraph 3 Additional Information; The EUROCAE address is replaced by the following:

EUROCAE documents may be purchased from:
European Organisation for Civil Aviation Equipment
102 rue Etienne Dolet – 92240 Malakoff - France
Telephone: +33 1 40 92 79 30; Fax +33 1 46 55 62 65;
(e-mail: eurocae@eurocae.net, web site: www.eurocae.net)

The following ETSO are deleted from Subpart B Index 1:

SUBPART B

Index 1

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ETSO-C48 Carbon Monoxide Detector Instruments

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ETSO – C50c Audio Selector Panels and Amplifiers

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ETSO – C57a Headsets and Speakers

ETSO – C58a Aircraft Microphones

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The following revised ETSO are replacing ETSO-C6d, ETSO-C8d, ETSO-C39b, ETSO-C123a, ETSO-C124a, ETSO-C135, ETSO-C144, ETSO-C145 and ETSO-C146 in Subpart B Index 1 table of content:

SUBPART B

Index 1

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ETSO-C6e Direction Instrument, Magnetic (Gyroscopically Stabilized)

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ETSO-C8e Vertical Velocity Instrument (Rate-of-Climb)

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ETSO-C39c Aircraft Seats and Berths Certified by Static Testing only

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ETSO-C123b Cockpit Voice Recorders Systems

ETSO-C124b Flight Data Recorder Systems

....

ETSO-C135a Large Aeroplane Wheels and Wheel and Brake Assemblies

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ETSO-C144a Passive Airborne Global Navigation Satellite System (GNSS) Antenna

ETSO-C145c Airborne Navigation Sensors Using the Global Positioning System Augmented by the Satellite Based Augmentation System

ETSO-C146c Stand Alone Airborne Navigation Equipment Using the
Global Positioning System Augmented by the Satellite
Based Augmentation System

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The following new ETSO are inserted in Subpart B Index 1 table of content:

SUBPART B

Index 1

....

ETSO-C112c Air Traffic Control Radar Beacon System/Mode Select
(ATCRBS/ MODE S) Airborne Equipment

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ETSO-C139 Aircraft Audio Systems and Equipment

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ETSO-C155 Recorder Independent Power Supply

ETSO-C165 Electronic Map Display Equipment for Graphical
Depiction of Aircraft Position

ETSO-C176 Crash Protected Airborne Recorder Systems Image
Recorder

ETSO-C177 Crash Protected Airborne Recorder Systems CNS/ATM
Recorder

ETSO-C190 Active Airborne Global Navigation Satellite System
(GNSS) Antenna

The following ETSO are deleted from Subpart B Index 2:

SUBPART B

Index 2

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ETSO-2C37e VHF Communication Transmitting Equipment Operating
within Radio Frequency Range 117.975 to 137 MHz

ETSO-2C38e VHF Communication Receiving Equipment Operating
within Radio Frequency Range 117.975 to 137 MHz

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ETSO-2C112b Air Traffic Control Radar Beacon System/Mode Select
(ATCRBS/MODE S) Airborne Equipment

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The following new ETSO are inserted in Subpart B Index 2 table of content:

SUBPART B

Index 2

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ETSO-2C48a Carbon Monoxide Detector Instruments

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ETSO-2C169a VHF Radio Communications Transceiver Equipment
Operating Within the Radio Frequency Range 117.975
to 137.000 Megahertz