



ED-112B Change 1

MINIMUM OPERATIONAL PERFORMANCE STANDARD FOR CRASH PROTECTED AIRBORNE RECORDER SYSTEMS

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SUPERSEDES ED-112A

FOREWORD

1. This document was developed by EUROCAE Working Group 118 “Crash-protected and lightweight flight recorders” and was approved by the Council of EUROCAE on 19 December 2024.
2. This document introduces Change 1 to ED-112B, which supersedes ED-112A “Minimum Operational Performance Specification for Crash-protected Recorder Systems” (September 2013).

ED-112A superseded the ED-112 document, which in turn superseded two previously published documents; ED-55 “Minimum Operational Performance Specification for Flight Data Recorder Systems” of May 1990 (including Amendment 1 of Sept 1998) and ED-56A “Minimum Operational Performance Specification for Cockpit Voice Recorder System” of December 1993 (including Amendment 1 of Nov 1997).

ED-112B Change 1 introduces the changes made to ED-112B section 2-1.16.2 Survival Criteria (Fixed Recorders), 3-1.8.1 Survival Criteria (Deployable Recorders) and section 2-4.2.7 Deep Sea Pressure and Sea Water Immersion, and several editorial edits (following several comments on the correct use of UK English language, a consistency check has been applied in the full document) and clarifications on sections III-2.1.9, and II-A.1, wording in Figure 1-1.1 and the removal of section III-2.2.8 (Means of Replay) and 6.1.2 (Purpose and Scope).

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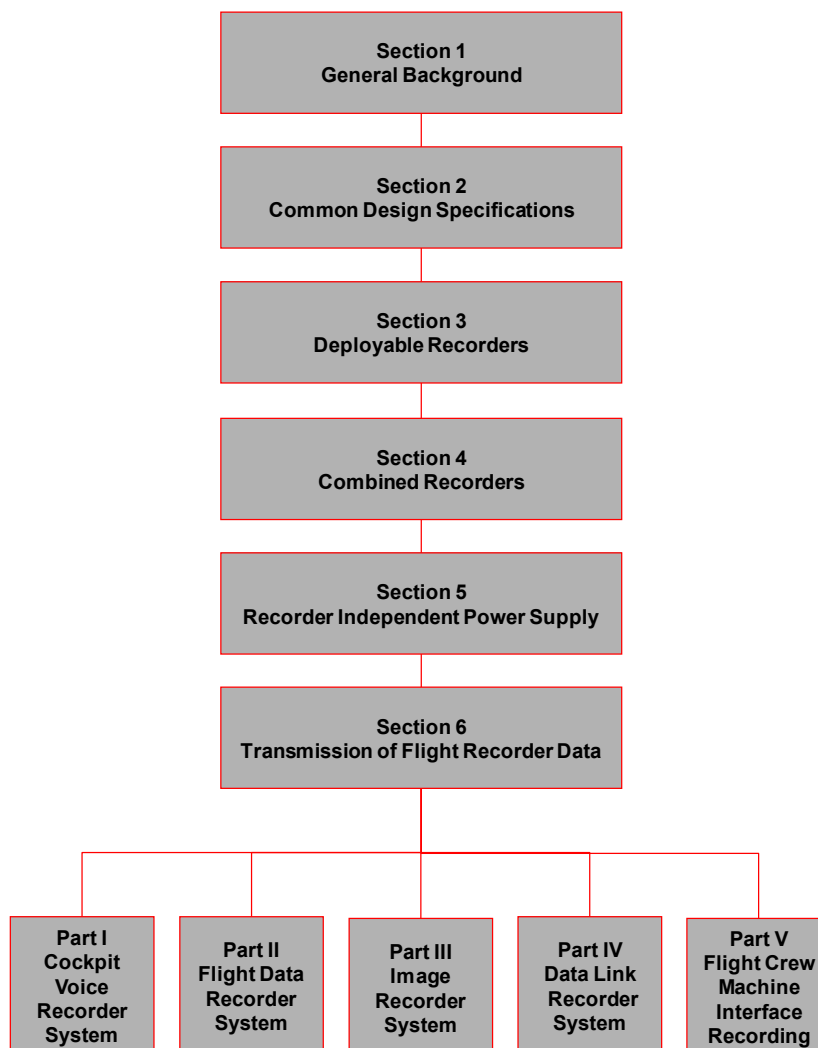
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ED-112B Change 1 introduces the changes made to ED-112B section 2-1.16.2 Survival Criteria (Fixed Recorders), 3-1.8.1 Survival Criteria (Deployable Recorders) and section 2-4.2.7 Deep Sea Pressure and Sea Water Immersion. Existing text removed from ED-112B is formatted as ~~►C1 strikethrough◄~~. New text in ED-112B Change 1 is formatted as ►C1 new text◄. C1 refers to the changes performed in ED-112B Change 1.

1-1.1.2 Description of Content

Figure 1-1.1 Part IV was labelled as ~~►C1 “CNS/ATM Recorder System”◄~~, whereas Part IV is named as “DATA LINK RECORDER SYSTEM”. Figure 1-1.1 Part IV has been amended to ►C1 “Data Link Recorder System”◄ as in the figure below.

FIGURE 1-1.1: ORGANISATION OF DOCUMENT



2-1.16.2

Survival Criteria (Fixed Recorders)

- a. The crash-protected **▶C1 recording medium memory module**, of the recorder shall be capable of preserving the recorded information when subjected to the **▶C1 three four** following sequences of tests:
- Impact shock, shear and tensile test, penetration resistance, static crush, high temperature fire and fluid immersion,
 - Impact shock, shear and tensile test, penetration resistance, static crush, low temperature fire and fluid immersion,
 - Impact shock, shear and tensile test, penetration resistance, static crush, **▶C1 and deep sea pressure ▶C1 and sea water immersion**,
 - ▶C1 Sea water immersion (Note 1)**.
- b. A single **▶C1 recorder crash protected memory module** shall be used for all of the tests required by a given sequence, **▶C1 except for the following**:
- Where otherwise specified in 2-4.2.7 (a) (deep sea pressure).
 - A single crash protected memory module having completed the impact shock, penetration resistance, static crush and deep sea pressure test may then be used for the sea water immersion test. This test shall be performed in its entirety as specified in 2-4.2.7 (b) (crash protected memory module open). Alternatively, a separate crash protected memory module that has not be used in any other test sequence may be used for the sea water immersion test.
- However, it is not required that a single **▶C1 recorder crash protected memory module** should survive all **▶C1 test** sequences **▶C1-of test**.
- c. The need for repairs to the recording medium as a consequence of the crash survival tests shall be minimised.
- ▶C1 Post-test Following test** sequences **▶C1 i-, ▶C1 & ▶C1 iii-** **▶C1 and iv**, it shall be possible to recover the data from the recording medium with only simple repairs such as replacing the interconnection harness to the crash protected memory module. Re-soldering memory devices or ancillary components is not permitted.
 - ▶C1 Post-test Following test** sequence ii. (**▶C1 Low low** temperature fire), removal of individual memory devices to allow information recovery either separately or in combination after re-attachment to the original or replacement crash protected memory module is permitted.
- d. Test procedures are defined in CHAPTER 2-4.

▶C1 NOTE 1 *It is not permissible to combine the sea water immersion test with the deep sea pressure test. This is because the crash protected memory module is closed during the deep sea pressure test and is to be open during the sea water immersion test.*