



EASA Safety Information Bulletin

SIB No.: 2009-28R1
Issued: 08 January 2015

Subject: **Flight Data Recorder and Cockpit Voice Recorder Systems Serviceability**

Revision: This SIB revises EASA SIB 2009-28 dated 09 December 2009 following the entry into force of Commission Regulation (EU) No [965/2012](#) in October 2014.

Ref. Publications: Commission Regulation (EU) No [965/2012](#) of 05 October 2012.

Applicability: All aircraft having a Flight Data Recorder (FDR) and/or Cockpit Voice Recorder (CVR) and/or a combination recorder installed. The affected equipment is known to be installed on, but not limited to, CS (JAR, FAR, PART) 25 certificated aeroplanes and CS (JAR, FAR, PART) 29 certificated helicopters.

Description: 1. Safety Investigation Authorities have reported several cases in which the FDR or CVR have not recorded data as expected, due to a malfunction of the unit or the dedicated equipment. Such failures may remain hidden for a certain amount of time, as it is difficult or impossible to determine the full system functionality on board the aircraft. This behaviour is described as a dormant failure.

In addition, it was found on many occasions that either the FDR or the CVR were recording data to a quality insufficient to serve the needs during an investigation, and not up to the standards recommended by industry guidance documents.

Finally, Safety Investigation Authorities found cases where the information necessary to convert the FDR raw data into parameters expressed in engineering units, as provided by the Type Certificate (TC) or Supplemental Type Certificate (STC) Holder, was incomplete or inaccurate. In such cases, an aircraft operator cannot develop the documentation which is required to be kept per air operation rules.

This is information only. Recommendations are not mandatory.

2. The consolidated Commission Regulation (EU) No 965/2012 paragraphs CAT.GEN.MPA.195(b), NCC.GEN.145(b) and SPO.GEN.145(b) require aircraft operators to conduct operational checks and evaluations of FDR recordings, CVR recordings and data link recordings to ensure the continued serviceability of the recorders.

This regulation is supplemented by Acceptable Means of Compliance (AMC) and Guidance Material (GM) which recommend that these operational checks include periodic inspection of the recordings of the FDR, the CVR and of the data link recording, as well as periodic calibration checks of some FDR parameters.

3. ICAO Annex 6, Part I, Appendix 8 provides the following additional guidance to ensure the continued serviceability of the recorders:

“7. Inspections of FDR and CVR systems

7.1 Prior to the first flight of the day, the built-in test features for the flight recorders and flight data acquisition unit (FDAU), when installed, shall be monitored by manual and/or automatic checks.”

Note: ICAO Annex 6, Part III, Appendix 4 (helicopters) and Annex 6, Part II, Appendix 2.3 (general aviation – aeroplanes) contain the same instructions.

EASA also proposes amended AMC to CAT.GEN.MPA.195(b), NCC.GEN.145(b) and SPO.GEN.145(b) that recommend *“when installed, the aural or visual means for pre-flight checking the flight recorders for proper operation should be used every day. When no such means is available for a flight recorder, the operator should perform an operational check of this flight recorder at time intervals not exceeding 7 days.”*

4. In accordance with Regulation (EC) No [216/2008](#), the Agency carries out on behalf of the Member States the functions and tasks of the State of Design, Manufacture and Registry when related to design approval. In addition, according to Regulation (EU) No [996/2010](#), the Agency is entitled to access all relevant factual information when it has been authorised to appoint an adviser to a safety investigation. Since flight recorders are an essential tool to quickly determine the circumstances of an accident or a serious incident that can have implications for the airworthiness of products, parts or appliances, the Agency may take mandatory action if there is a deficiency preventing the flight recorders to perform their intended function, as mentioned in GM 21.A.3B(b).

This is information only. Recommendations are not mandatory.

Consequently, the Agency should be informed of any malfunction or insufficient performance of a FDR installation or a CVR installation, or hindrance in applying the related serviceability tasks.

Recommendations: EASA recommends the following:

Design Approval Holders of (Supplemental) Type Certificates that include FDR and CVR installation(s) should review the relevant instructions for continued airworthiness and should ensure that they provide sufficient information to European aircraft operators for maintaining the serviceability of flight recorders, allowing them to be compliant with Commission Regulation (EU) No 965/2012. In particular, the TC or STC Holder should provide the necessary information to convert FDR raw data into flight parameters expressed in engineering units.

When developing Master Minimum Equipment List (MMEL) content for the FDR or CVR, the TC or STC Holder should take the guidance from CS-MMEL into account.

The provisions of ICAO Annex 6 regarding flight recorder maintenance requirements and EUROCAE document ED-112A may also be considered.

Aircraft Operators, when developing the aircraft maintenance programme, should, in addition to the requirements of Commission Regulation (EU) No 965/2012 and the corresponding AMCs and GMs, consider the instructions for continued airworthiness provided by the TC or STC Holder for the CVR/FDR and the ICAO guidelines as described above as a minimum.

The quality of the FDR and CVR recordings should be evaluated during the recording inspections and shown to be within acceptable limits. In particular, all required signals recorded by the CVR should meet intelligibility standards, and all mandatory FDR parameters should meet the performance recommended in the AMCs.

FDR and CVR malfunction occurrences, recurrent reliability issues and recording quality deficiencies should be reported to the competent authority and to the TC or STC Holder.

Dispatch with any known recording failure of the CVR or of FDR required parameter(s) should not be authorised, unless it is done in accordance with the provisions of the operator's approved Minimum Equipment List.

This is information only. Recommendations are not mandatory.

Cases where the operator is unable to perform the required serviceability tasks (e.g. in case of lack of instructions or documentation) should be reported to the competent authority.

Aircraft Maintenance Organisations should perform FDR and CVR maintenance in accordance with the applicable aircraft maintenance programme, when required by the aircraft operator. In the absence of detailed instructions, the guidelines of the relevant AMC to Commission Regulation (EU) No 965/2012 should be used.

FDR and CVR malfunction occurrences and recurrent reliability and recording quality issues should be reported to the competent authority and to the TC / STC Holder.

National Aviation Authorities should transmit to the Agency reports from aircraft operators of cases where a TC or STC Holder fails to address issues of reliability or recording quality with a flight recorder installation, provides incomplete instructions for the continued serviceability of a flight recorder system, or fails to provide the information needed by an aircraft operator to comply with Commission Regulation (EU) No 965/2012.

Safety Investigation Authorities should report to the Agency significant findings about the serviceability of a flight recorder or the quality of a recording.

Contacts:

For further information contact the Safety Information Section, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu.

This is information only. Recommendations are not mandatory.