

ICS 49.090
CCS V 54

MH

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

MH/T 2007-2015

**Specification for regular checking of flight recorders
(English Translation)**

Issued on: March 9, 2015

Implemented on: June 1, 2015

Issued by: Civil Aviation Administration of China

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was proposed by the Aviation Safety Office of the Civil Aviation Administration of China.

This standard was approved by the Aircraft Airworthiness Certification Department of the Civil Aviation Administration of China.

This standard is under the jurisdiction of the China Academy of Civil Aviation Science and Technology.

Drafting organization of this standard. China Civil Aviation Science and Technology Research Institute.

Drafters of this standard. Wang Haofeng, Miao Lingyun, Shu Ping, Zhong Minzhu, Wang Chun, Cheng Yan.

Periodic inspection specifications for flight recorders

1 Scope

This standard specifies the relevant requirements for the regular inspection of civil aircraft flight recorders and the inspection specifications for recording parameters.

This standard is applicable to the regular inspection of civil aircraft flight recorders.

2 Terms and definitions

Flight recorders

Installed inside a civil aircraft, used to record aircraft flight data, cockpit audio and other information to assist in the investigation of accidents or incidents, and equipment with corresponding protection devices.

Note: In this specification, flight recorder refers to flight data recorder, cockpit voice recorder and combined flight recorder (flight data and cockpit voice Two-in-one recorder).

Regular checking

In order to ensure the continuous availability of the flight recorder and the accuracy, reliability and quality of the recorded data, the flight recorder shall be inspected within the prescribed inspection period.

Periodic data downloading and decoding, and checking and proofreading of mandatory recording parameters and recording data of each channel.

Regular period

The inspection of the flight recorder shall be carried out in accordance with the regular inspection required in the relevant maintenance manual (maintenance program) of each type approved by the Administrator Time interval or at least every 24 months.

Data decoding

The process of downloading recorded data from the flight recorder and decoding.

Error rate

The proportion of error codes in the flight recorder data download and decoding process due to not finding the synchronization word.

3.1 Work content

The regular inspection of the flight data recorder includes.

-Visual inspection of the flight data recorder;

- Connect with data download equipment, power on and download flight data;
- Use professional decoding software to decode and convert the downloaded flight data;
- Relevant parameter inspection and verification and decoding report filling, etc.

3.2 Visual inspection of flight data recorder

The overall appearance of the flight data recorder should have no mechanical damage that would affect normal operation.

3.3 Continuous recording time check

The continuous recording time should retain at least the last 25 h (aircraft) or 10 h (rotor aircraft) recorded information during the operation. The recorded information the readout shall ensure that the recorder operates normally within the standard recording duration.

3.4 Record data quality check

The analysis of the flight data recorder should assess the quality of the recorded data to determine the recording error (including the recorder, acquisition equipment, flight the error generated by the data source of the machine and the tool used to extract the data from the recorder) is within acceptable limits, and the error characteristics and distribution are determined;

The uniformly distributed frame error rate of the flight data should not be higher than 3%. If the frame error rate exceeds 5%, or one or If multiple mandatory parameters are recorded incorrectly, the flight recorder system is considered to be malfunctioning.

3.5 Checking the continuity of flight data

The flight data of the last complete flight segment (non-ground test data) of the actual flight should be used to check the continuity of the recording time.

The recording time of row data should be continuous.

3.6 Checking the validity of mandatory recording parameters

The flight data of the last full segment of the actual flight should be used to evaluate the validity of the recorded parameters.

4.1 Work content

Work content includes.

- Visual inspection of the cockpit voice recorder;
- Connect with cabin sound data download equipment, power on and download cabin

sound data;

--Translate and verify the downloaded cabin sound data through ground decoding equipment;

--Check the sound recording quality of each channel (the sound recording should be clearly identifiable) and the filling of the decoding report.

4.2 Visual inspection of cockpit voice recorder

The overall appearance of the cockpit voice recorder should be free of mechanical damage that affects normal operation.

4.3 Continuous recording time check

The continuous recording time should retain at least the last 2 h or 30 min recorded information during the operation.

4.4 Check content

The inspection content includes.

--Inspect voice communications (if recorded) sent or received through aircraft communications equipment, such as conversations between crew members and controllers words;

-Check the cockpit call records (if recorded), such as direct conversations between crew members;

--Check the cockpit voice communication (if recorded) by the crew members through the aircraft internal communication system, such as the pilot and the pilot, Conversations between flight attendants;

--Inspect the voice or audio signal (if recorded) introduced into the aircraft audio system for identification of assisted navigation, such as aircraft system System prompt information;

--Check and monitor the cockpit area microphone (if recorded) to ensure that all cockpit voices are completely recorded;

--Check the recording date and time information of each channel, and the recording time of each channel must meet the recording requirements;

--Check the data link data information (if recorded).

4.5 Erase Record

If the cockpit voice recorder to be inspected has been artificially erased, it needs to be marked in the decoding report.