

Title 14—AERONAUTICS AND SPACE

Chapter I—Federal Aviation Adminis- tration, Department of Transportation

[Docket No. 9511; Amdts. 29-6; 91-77; 121-61;
and 127-17]

COCKPIT VOICE RECORDERS IN HELICOPTERS

Miscellaneous Amendments

The purpose of these amendments to Parts 29, 91, 121, and 127 of the Federal Aviation Regulations is to require the installation and use of approved cockpit voice recorders in large transport category helicopters that are operating under Part 121 or 127, and to prescribe in Part 29 standards governing cockpit voice recorder installations. These amendments were proposed in notice 69-15 issued on March 29, 1969, and published in the FEDERAL REGISTER (34 F.R. 6196) on April 5, 1969.

Certain comments received questioned the value of cockpit voice recorders in helicopters. It should be pointed out that information provided by the recorders will be extremely useful in determining the probable cause of accidents involving helicopters and thereby assist the FAA in taking appropriate accident prevention measures in the interest of safety.

However, as some comments pointed out, if use of only a cockpit mounted area microphone is permitted by the regulations, the recording of voice communications may be rendered unintelligible due to ambient noise levels on some helicopter flight decks and inherent helicopter vibration. In view of this comment, the rule has been changed to permit the installation of continually energized lip microphones or voice-actuated lip microphones at the first and second pilot stations as an alternative to installation of a cockpit-mounted area microphone.

Comments also suggested that voice recorders are not generally available which are constructed to meet the challenges of helicopter vibration and cockpit noise levels, and therefore the compliance date should be extended to allow development of appropriate recorder systems. The FAA has concluded that to insure the availability of equipment and allow for realistic aircraft installation schedules, will require more time for compliance than proposed. Therefore, the compliance date is established as 1 year, rather than 6 months, after the effective date of this amendment.

The National Transportation Safety Board suggested that all turbine-powered aircraft with 10-passenger capacity operated on a scheduled basis be required to have a cockpit voice recorder, and another comment expressed the opinion that all aircraft in scheduled operations should be so equipped. Another comment stated that a flight recorder would provide more useful helicopter accident investigation information than a voice recorder, and if only one recorder is to be required, it should be the former. However, we have not been able to consider these comments in this rulemaking action because they are outside the scope of the notice.

The Air Line Pilots Association (ALPA) supported the requirement for the cockpit voice recorder, but opposed the use of any flight or voice recorder information for punitive action in any way whatsoever by a Government agency, air carrier, or other person. The agency is cognizant of the ALPA's interest and concern regarding the use of voice recorder tapes for purposes other than the investigation of aircraft accidents. Since this comment reiterates the basis for a petition filed by them with the agency, it will be considered in connection therewith.

Interested persons have been afforded an opportunity to participate in the making of this regulation and due consideration has been given to all relevant matter presented.

In consideration of the foregoing, Part 29, 91, 121, and 127 of the Federal Aviation Regulations are amended, effective July 8, 1970, as follows:

PART 29—AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY ROTORCRAFT

1. By adding a new § 29.1457 after § 29.1439, to read:

§ 29.1457 Cockpit voice recorders.

(a) Each cockpit voice recorder required by the operating rules of this chapter must be approved, and must be installed so that it will record the following:

(1) Voice communications transmitted from or received in the rotorcraft by radio.

(2) Voice communications of flight crewmembers on the flight deck.

(3) Voice communications of flight crewmembers on the flight deck, using the rotorcraft's interphone system.

(4) Voice or audio signals identifying navigation or approach aids introduced into a headset or speaker.

(5) Voice communications of flight crewmembers using the passenger loud-

speaker system, if there is such a system, and if the fourth channel is available in accordance with the requirements of paragraph (c) (4) (ii) of this section.

(b) The recording requirements of paragraph (a) (2) of this section may be met—

(1) By installing a cockpit-mounted area microphone, located in the best position for recording voice communications originating at the first and second pilot stations and voice communications of other crewmembers on the flight deck when directed to those stations; or

(2) By installing a continually energized or voice-actuated lip microphone at the first and second pilot stations.

The microphone specified in this paragraph must be so located and, if necessary, the preamplifiers and filters of the recorder must be so adjusted or supplemented, that the recorded communications are intelligible when recorded under flight cockpit noise conditions and played back. The level of intelligibility must be approved by the Administrator. Repeated aural or visual playback of the record may be used in evaluating intelligibility.

(c) Each cockpit voice recorder must be installed so that the part of the communication or audio signals specified in paragraph (a) of this section obtained from each of the following sources is recorded on a separate channel:

(1) For the first channel, from each microphone, headset, or speaker used at the first pilot station.

(2) For the second channel, from each microphone, headset, or speaker used at the second pilot station.

(3) For the third channel, from the cockpit-mounted area microphone, or the continually energized or voice-actuated lip microphones at the first and second pilot stations.

(4) For the fourth channel, from—

(i) Each microphone, headset, or speaker used at the stations for the third and fourth crewmembers; or

(ii) If the stations specified in subdivision (i) of this subparagraph are not required or if the signal at such a station is picked up by another channel, each microphone on the flight deck that is used with the passenger loudspeaker system if its signals are not picked up by another channel.

(iii) Each microphone on the flight deck that is used with the rotorcraft's loudspeaker system if its signals are not picked up by another channel.

(d) Each cockpit voice recorder must be installed so that—

(1) It receives its electric power from the bus that provides the maximum reliability for operation of the cockpit

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voice recorder without jeopardizing service to essential or emergency loads;

(2) There is an automatic means to simultaneously stop the recorder and prevent each erasure feature from functioning, within 10 minutes after crash impact; and

(3) There is an aural or visual means for preflight checking of the recorder for proper operation.

(e) The record container must be located and mounted to minimize the probability of rupture of the container as a result of crash impact and consequent heat damage to the record from fire.

(f) If the cockpit voice recorder has a bulk erasure device, the installation must be designed to minimize the probability of inadvertent operation and actuation of the device during crash impact.

(g) Each recorder container must be either bright orange or bright yellow.

PART 91—GENERAL OPERATING AND FLIGHT RULES

§ 91.35 [Amended]

2. Section 91.35 is amended by striking out the words "airplane" and "airplanes" wherever they appear and inserting the word "aircraft" in place thereof.

PART 121—CERTIFICATION AND OPERATIONS: DOMESTIC, FLAG, AND SUPPLEMENTAL AIR CARRIERS AND COMMERCIAL OPERATORS OF LARGE AIRCRAFT

§ 121.13 [Amended]

3. Section 121.13(b) is amended by inserting new section number 127.127 between the section numbers 127.125 and 127.145.

PART 127—CERTIFICATION AND OPERATIONS OF SCHEDULED AIR CARRIERS WITH HELICOPTERS

4. By adding a new § 127.127 after § 127.125 to read as follows:

§ 127.127 Cockpit voice recorders.

(a) No certificate holder may operate a large transport category helicopter after July 8, 1971, unless an approved cockpit voice recorder is installed in that helicopter and is operated continuously from the start of the use of the checklist (before starting engines for the purpose of flight) to completion of the final checklist at the termination of the flight.

(b) Each cockpit voice recorder must be installed in accordance with the requirements of Part 29 of this chapter.

(c) In complying with this section, an approved cockpit voice recorder having an erasure feature may be used, so that at any time during the operation of the recorder, information recorded more than 30 minutes earlier may be erased or otherwise obliterated.

(d) In the event of an accident or occurrence requiring immediate notification of the National Transportation Safety Board under Part 430 of this title, which results in the termination of the flight, the certificate holder shall keep the recorded information for at least 60 days or, if required by the Administrator or the Board, for a longer period. Information obtained from the record is used to assist in determining the cause of accidents or occurrences in connection with investigations under Part 430 of this title. The Administrator does not use the record in any civil penalty or certificate action.

(Secs. 313(a), 601, 603, and 604, Federal Aviation Act of 1958, 49 U.S.C. 1354, 1421, 1423, and 1424; sec. 6(c), Department of Transportation Act, 49 U.S.C. 1655(c))

Issued in Washington, D.C., on May 4, 1970.

J. H. SHAFFER,
Administrator.