number of correlation points to accurately establish the conversion from the recorded values to engineering units or discrete state over the full operating range of the parameter. Except for airplanes having separate altitude and airspeed sensors that are an integral part of the flight data recorder system, a single correlation may be established for any group of airplanes—

(1) That are of the same type;

(2) On which the flight recorder system and its installation are the same; and

(3) On which there is no difference in the type design with respect to the installation of those sensors associated with the flight data recorder system. Documentation sufficient to convert recorded data into the engineering units and discrete values specified in the applicable appendix must be maintained by the certificate holder.

(k) Each flight data recorder required by this section must have an approved device to assist in locating that recorder under water.

(l) The following airplanes that were manufactured before August 18, 1997 need not comply with this section, but must continue to comply with applicable paragraphs of §125.225 of this chapter, as appropriate:

(1) Airplanes that meet the Stage 2 noise levels of part 36 of this chapter and are subject to §91.801(c) of this chapter, until January 1, 2000. On and after January 1, 2000, any Stage 2 airplane otherwise allowed to be operated under Part 91 of this chapter must comply with the applicable flight data recorder requirements of this section for that airplane.

(2) British Aerospace 1–11, General Dynamics Convair 580, General Dynamics Convair 600, General Dynamics Convair 640, deHavilland Aircraft Company Ltd. DHC–7, Fairchild Industries FH 227, Fokker F–27 (except Mark 50), F–28 Mark 1000 and Mark 4000, Gulfstream Aerospace G–159, Jetstream 4100 Series, Lockheed Aircraft Corporation Electra 10–A, Lockheed Aircraft Corporation Electra 10–B, Lockheed Aircraft Corporation Electra 10–E, Lockheed Aircraft Corporation Electra L–188, Lockheed Martin Model 382 (L–100) Hercules, Maryland Air Industries, Inc. F27, Mitsubishi Heavy Industries, Ltd. YS–11, Short Bros. Limited SD3–30, Short Bros. Limited SD3–60.

(m) All aircraft subject to the requirements of this section that are manufactured on or after April 7, 2010, must have a flight data recorder installed that also—

(1) Meets the requirements in §25.1459(a)(3), (a)(7), and (a)(8) of this chapter; and

(2) Retains the 25 hours of recorded information required in paragraph (f) of this section using a recorder that meets the standards of TSO–C124a, or later revision.

(n) In addition to all other applicable requirements of this section, all Boeing 737 model airplanes manufactured after August 18, 2000 must record the parameters listed in paragraphs (a)(88) through (a)(91) of this section within the ranges, accuracies, resolutions, and recording intervals specified in Appendix E to this part. Compliance with this paragraph is required no later than February 2, 2011.

[Doc. No. 28109, 62 FR 38387, July 17, 1997; 62 FR 48135, Sept. 12, 1997, as amended by Amdt. 125–42, 68 FR 42937, July 18, 2003; 68 FR 50069, Aug. 20, 2003; Amdt. 125–54, 73 FR 12568, Mar. 7, 2008; Amdt. 125–56, 73 FR 73179, Dec. 2, 2008; Amdt. 125–54, 74 FR 32801, 32804, July 9, 2009]

§125.227 Cockpit voice recorders.

(a) No certificate holder may operate a large turbine engine powered airplane or a large pressurized airplane with four reciprocating engines unless an approved cockpit voice recorder is installed in that airplane 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 certificate holder shall establish a schedule for completion, before the prescribed dates, of the cockpit voice recorder installations required by paragraph (a) of this section. In addition, the certificate holder shall identify any airplane specified in paragraph (a) of this section he intends to discontinue using before the prescribed dates.

(c) The cockpit voice recorder required by this section must also meet the following standards:

(1) The requirements of part 25 of this chapter in effect after October 11, 1991.

(2) After September 1, 1980, each recorder container must—

(i) Be either bright orange or bright yellow;

(ii) Have reflective tape affixed to the external surface to facilitate its location under water; and

(iii) Have an approved underwater locating device on or adjacent to the container which is secured in such a manner that it is not likely to be separated during crash impact, unless the cockpit voice recorder and the flight recorder, required by §125.225 of this chapter, are installed adjacent to each other in such a manner that they are not likely to be separated during crash impact.

(d) 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.

(e) For those aircraft equipped to record the uninterrupted audio signals received by a boom or a mask microphone the flight crewmembers are required to use the boom microphone below 18,000 feet mean sea level. No person may operate a large turbine engine powered airplane or a large pressurized airplane with four reciprocating engines manufactured after October 11, 1991, or on which a cockpit voice recorder has been installed after October 11, 1991, unless it is equipped to record the uninterrupted audio signal received by a boom or mask microphone in accordance with §25.1457(c)(5) of this chapter.

(f) In the event of an accident or occurrence requiring immediate notification of the National Transportation Safety Board under 49 CFR part 830 of its regulations, which results in the termination of the flight, the certificate holder shall keep the recorded information for at least 60 days or, if requested 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 49 CFR part 830. The Administrator does not use the record in any civil penalty or certificate action.

(g) By April 7, 2012, all turbine engine-powered airplanes subject to this section that are manufactured before April 7, 2010, must have a cockpit voice recorder installed that also—

(1) Meets the requirements of §25.1457(a)(3), (a)(4), (a)(5), and (d)(6) of this chapter;

(2) Retains at least the last 2 hours of recorded information using a recorder that meets the standards of TSO–C123a, or later revision; and

(3) Is operated continuously from the start of the use of the checklist (before starting the engines for the purpose of flight), to the completion of the final checklist at the termination of the flight.

(h) All turbine engine-powered airplanes subject to this section that are manufactured on or after April 7, 2010, must have a cockpit voice recorder installed that also—

(1) Is installed in accordance with the requirements of §25.1457 (except for paragraph (a)(6)) of this chapter;

(2) Retains at least the last 2 hours of recorded information using a recorder that meets the standards of TSO–C123a, or later revision; and

(3) Is operated continuously from the start of the use of the checklist (before starting the engines for the purpose of flight), to the completion of the final checklist at the termination of the flight.

(4) For all airplanes manufactured on or after December 6, 2010, also meets the requirements of §25.1457(a)(6) of this chapter.

(i) All airplanes required by this part to have a cockpit voice recorder and a flight data recorder, that install datalink communication equipment on or after December 6, 2010, must record all datalink messages as required by the certification rule applicable to the airplane.

[Doc. No. 25530, 53 FR 26149, July 11, 1988, as amended by Amdt. 125–54, 73 FR 12568, Mar. 7, 2008; Amdt. 125–54, 74 FR 32801, July 9, 2009; Amdt. 125–60, 75 FR 17046; Apr. 5, 2010]

§125.228 Flight data recorders: filtered data.

(a) A flight data signal is filtered when an original sensor signal has been