

digital method of recording and storing data, and a method of readily retrieving that data from the storage medium. The parameters in appendix D or E of this part, as applicable, that are set forth below, must be recorded within the ranges, accuracies, resolutions, and sampling intervals as specified.

(1) Except as provided in paragraph (b)(3) of this section for aircraft type certificated before October 1, 1969, the following parameters must be recorded:

- (i) Time;
- (ii) Altitude;
- (iii) Airspeed;
- (iv) Vertical acceleration;
- (v) Heading;
- (vi) Time of each radio transmission to or from air traffic control;
- (vii) Pitch attitude;
- (viii) Roll attitude;
- (ix) Longitudinal acceleration;
- (x) Control column or pitch control surface position; and
- (xi) Thrust of each engine.

(2) Except as provided in paragraph (b)(3) of this section for aircraft type certificated after September 30, 1969, the following parameters must be recorded:

- (i) Time;
- (ii) Altitude;
- (iii) Airspeed;
- (iv) Vertical acceleration;
- (v) Heading;
- (vi) Time of each radio transmission either to or from air traffic control;
- (vii) Pitch attitude;
- (viii) Roll attitude;
- (ix) Longitudinal acceleration;
- (x) Pitch trim position;
- (xi) Control column or pitch control surface position;
- (xii) Control wheel or lateral control surface position;
- (xiii) Rudder pedal or yaw control surface position;
- (xiv) Thrust of each engine;
- (xv) Position of each thrust reverser;
- (xvi) Trailing edge flap or cockpit flap control position; and
- (xvii) Leading edge flap or cockpit flap control position.

(3) For aircraft manufactured after October 11, 1991, all of the parameters listed in appendix D or E of this part, as applicable, must be recorded.

(c) Whenever a flight recorder required by this section is installed, it

must be operated continuously from the instant the airplane begins the takeoff roll or the rotorcraft begins the lift-off until the airplane has completed the landing roll or the rotorcraft has landed at its destination.

(d) Except as provided in paragraph (c) of this section, and except for recorded data erased as authorized in this paragraph, each certificate holder shall keep the recorded data prescribed in paragraph (a) of this section until the aircraft has been operating for at least 25 hours of the operating time specified in paragraph (c) of this section. In addition, each certificate holder shall keep the recorded data prescribed in paragraph (b) of this section for an airplane until the airplane has been operating for at least 25 hours, and for a rotorcraft until the rotorcraft has been operating for at least 10 hours, of the operating time specified in paragraph (c) of this section. A total of 1 hour of recorded data may be erased for the purpose of testing the flight recorder or the flight recorder system. Any erasure made in accordance with this paragraph must be of the oldest recorded data accumulated at the time of testing. Except as provided in paragraph (c) of this section, no record need be kept more than 60 days.

(e) In the event of an accident or occurrence that requires the immediate notification of the National Transportation Safety Board under 49 CFR part 830 of its regulations and that results in termination of the flight, the certificate holder shall remove the recording media from the aircraft and keep the recorded data required by paragraphs (a) and (b) of this section for at least 60 days or for a longer period upon request of the Board or the Administrator.

(f)(1) For airplanes manufactured on or before August 18, 2000, and all other aircraft, each flight recorder required by this section must be installed in accordance with the requirements of § 23.1459 (except paragraphs (a)(3)(ii) and (6)), § 25.1459 (except paragraphs (a)(3)(ii) and (7)), § 27.1459 (except paragraphs (a)(3)(ii) and (6)), or § 29.1459 (except paragraphs (a)(3)(ii) and (6)), as appropriate, of this chapter. The correlation required by paragraph (c) of