§ 135.147 Dual controls required.

No person may operate an aircraft in operations requiring two pilots unless it is equipped with functioning dual controls. However, if the aircraft type certification operating limitations do not require two pilots, a throwover control wheel may be used in place of two control wheels.

§ 135.149 Equipment requirements: General.

No person may operate an aircraft unless it is equipped with—

(a) A sensitive altimeter that is adjustable for barometric pressure;

(b) Heating or deicing equipment for each carburetor or, for a pressure carburetor, an alternate air source;

(c) For turbojet airplanes, in addition to two gyroscopic bank-and-pitch indicators (artificial horizons) for use at the pilot stations, a third indicator that is installed in accordance with the instrument requirements prescribed in §121.305(j) of this chapter.

(d) [Reserved]

(e) For turbine powered aircraft, any other equipment as the Administrator may require.


§ 135.150 Public address and crewmember interphone systems.

No person may operate an aircraft having a passenger seating configuration, excluding any pilot seat, of more than 19 unless it is equipped with—

(a) A public address system which—

(1) Is capable of operation independent of the public address system required by paragraph (b) of this section, except for handsets, headsets, microphones, selector switches, and signaling devices;

(2) Is approved in accordance with §21.305 of this chapter;

(3) Provides a means of two-way communication between the pilot compartment and—

(i) Each passenger compartment; and

(ii) Each galley located on other than the main passenger deck level;

(4) Is accessible for immediate use from each of two flight crewmember stations in the pilot compartment;

(5) Is accessible for use from at least one normal flight attendant station in each passenger compartment;

(6) Is capable of operation within 10 seconds by a flight attendant at each of those stations in each passenger compartment from which its use is accessible;

(7) For transport category airplanes manufactured on or after November 27, 1990, meets the requirements of §25.1423 of this chapter.

(b) A crewmember interphone system which—

(1) Is capable of operation independent of the public address system required by paragraph (a) of this section, except for handsets, headsets, microphones, selector switches, and signaling devices;

(2) Is approved in accordance with §21.305 of this chapter;

(3) Provides a means of two-way communication between the pilot compartment and—

(i) Each passenger compartment; and

(ii) Each galley located on other than the main passenger deck level;

(4) Is accessible for immediate use from each of two flight crewmember stations in the pilot compartment;

(5) Is accessible for use from at least one normal flight attendant station in each passenger compartment;

(6) Is capable of operation within 10 seconds by a flight attendant at each of those stations in each passenger compartment from which its use is accessible;

(7) For large turbojet-powered airplanes—

(i) Is accessible for use at enough flight attendant stations so that all floor-level emergency exits (or entryways to those exits in the case of exits located within galleys) in each passenger compartment are observable from one or more of those stations so equipped;

(ii) Has an alerting system incorporating aural or visual signals for use by flight crewmembers to alert flight attendants and for use by flight attendants to alert flight crewmembers;
§ 135.151 Cockpit voice recorders.

(a) No person may operate a multig- 

genine, turbine-powered airplane or 


gerotorcraft having a passenger seating 


capacity of six or more and for 


which two pilots are required by cer-


tification or operating rules unless it 


is equipped with an approved cockpit 


voice recorder that:

(1) Is installed in compliance with 

§ 23.1457(a)(1) and (2), (b), (c), (d)(1)(i), 

(2) and (3), (e), (f), and (g); § 25.1457(a)(1) 

and (2), (b), (c), (d)(1)(i), (2) and (3), (e), 

(f), and (g); § 27.1457(a)(1) and (2), (b), 

(c), (d)(1)(i), (2) and (3), (e), (f), and (g); 

or § 29.1457(a)(1) and (2), (b), (c), (d)(1)(i), 

(2) and (3), (e), (f), and (g) of this chapter, 

as applicable; and

(2) Is operated continuously from the 

use of the check list before the flight 

to completion of the final check list at 

the end of the flight.

(b) No person may operate a multig- 

genine, turbine-powered airplane or 


gerotorcraft having a passenger seating 

configuration of 20 or more seats unless 

it is equipped with an approved cockpit 

voice recorder that—

(1) Is installed in accordance with 

the requirements of § 23.1457 (except 

paragraphs (a)(6), (d)(1)(ii), (4), and (5)); 

§ 25.1457 (except paragraphs (a)(6), 

(d)(1)(ii), (4), and (5)); § 27.1457 (except 

paragraphs (a)(6), (d)(1)(ii), (4), and (5)); 

or § 29.1457 (except paragraphs (a)(6), 

(d)(1)(ii), (4), and (5)) of this chapter, 

as applicable; and

(2) Is operated continuously from the 

use of the check list before the flight 

to completion of the final check list at 

the end of the flight.

(c) In the event of an accident, or oc- 
currence requiring immediate notifica-
tion of the National Transportation 

Safety Board which results in termina-
tion of the flight, the certificate 
holder shall keep the recorded informa-
tion for at least 60 days or, if requested 

by the Administrator or the Board, for 
a longer period. Information obtained 

from the record may be used to assist 
in determining the cause of accidents 
or occurrences in connection with in-
vestigations. The Administrator does 
not use the record in any civil penalty 
or certificate action.

(d) For those aircraft equipped to 
record the uninterrupted audio signals 
received by a boom or a mask micro-
phone the flight crewmembers are re-
quired to use the boom microphone 
below 18,000 feet mean sea level. No 

person may operate a large turbine en-
gine powered airplane manufactured 
after October 11, 1991, or on which a 

cockpit voice recorder has been in-
stalled 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.

(e) In complying with this section, an 

approved cockpit voice recorder having 
an erasure feature may be used, so that 
during the operation of the recorder, 

information:

(1) Recorded in accordance with para-

graph (a) of this section and recorded 

more than 15 minutes earlier; or

(2) Recorded in accordance with para-

graph (b) of this section and recorded 

more than 30 minutes earlier; may be 
erased or otherwise obliterated.

(f) By April 7, 2012, all airplanes sub-

tected to paragraph (a) or paragraph (b) 

of this section that are manufactured 

before April 7, 2010, and that are re-

quired to have a flight data recorder 

installed in accordance with § 135.152, 
must have a cockpit voice recorder 

that also—

(1) Meets the requirements in 

§ 23.1457(d)(6) or § 25.1457(d)(6) of this 

chapter, as applicable; and

(2) If transport category, meet the re-

quirements in § 25.1457(a)(3), (a)(4), and 

(a)(5) of this chapter.

(g)(1) No person may operate a multi-

engine, turbine-powered airplane or 

rotorcraft that is manufactured on or