

at this pressure for at least 5 minutes, but not more than 15 minutes, before the test reading is taken. After the reading has been taken, the pressure shall be increased further, in the same manner as before, until the pressure corresponding to the second test point (40 percent of maximum altitude) is reached. The altimeter shall be kept at this pressure for at least 1 minute, but not more than 10 minutes, before the test reading is taken. After the reading has been taken, the pressure shall be increased further, in the same manner as before, until atmospheric pressure is reached. The reading of the altimeter at either of the two test points shall not differ by more than the tolerance specified in Table II from the reading of the altimeter for the corresponding altitude recorded during the scale error test prescribed in paragraph (b)(i).

(iii) *After effect.* Not more than 5 minutes after the completion of the hysteresis test prescribed in paragraph (b)(ii), the reading of the altimeter (corrected for any change in atmospheric pressure) shall not differ from the original atmospheric pressure reading by more than the tolerance specified in Table II.

(iv) *Friction.* The altimeter shall be subjected to a steady rate of decrease of pressure approximating 750 feet per minute. At each altitude listed in Table III, the change in reading of the pointers after vibration shall not exceed the corresponding tolerance listed in Table III.

(v) *Case leak.* The leakage of the altimeter case, when the pressure within it corresponds to an altitude of 18,000 feet, shall not change the altimeter reading by more than the tolerance shown in Table II during an interval of 1 minute.

(vi) *Barometric scale error.* At constant atmospheric pressure, the barometric pressure scale shall be set at each of the pressures (falling within its range of adjustment) that are listed in Table IV, and shall cause the pointer to indicate the equivalent altitude difference shown in Table IV with a tolerance of 25 feet.

(2) Altimeters which are the air data computer type with associated computing systems, or which incorporate air data correction internally, may be tested in a manner and to specifications developed by the manufacturer which are acceptable to the Administrator.

(c) Automatic Pressure Altitude Reporting Equipment and ATC Transponder System Integration Test. The test must be conducted by an appropriately rated person under the conditions specified in paragraph (a). Measure the automatic pressure altitude at the output of the installed ATC transponder when interrogated on Mode C at a sufficient number of test points to ensure that the altitude reporting equipment, altimeters, and ATC transponders perform their intended

functions as installed in the aircraft. The difference between the automatic reporting output and the altitude displayed at the altimeter shall not exceed 125 feet.

(d) Records: Comply with the provisions of § 43.9 of this chapter as to content, form, and disposition of the records. The person performing the altimeter tests shall record on the altimeter the date and maximum altitude to which the altimeter has been tested and the persons approving the airplane for return to service shall enter that data in the airplane log or other permanent record.

TABLE I

Altitude	Equivalent pressure (inches of mercury)	Tolerance $\pm$ (feet)
–1,000 .....	31.018	20
0 .....	29.921	20
500 .....	29.385	20
1,000 .....	28.856	20
1,500 .....	28.335	25
2,000 .....	27.821	30
3,000 .....	26.817	30
4,000 .....	25.842	35
6,000 .....	23.978	40
8,000 .....	22.225	60
10,000 .....	20.577	80
12,000 .....	19.029	90
14,000 .....	17.577	100
16,000 .....	16.216	110
18,000 .....	14.942	120
20,000 .....	13.750	130
22,000 .....	12.636	140
25,000 .....	11.104	155
30,000 .....	8.885	180
35,000 .....	7.041	205
40,000 .....	5.538	230
45,000 .....	4.355	255
50,000 .....	3.425	280

TABLE II—TEST TOLERANCES

Test	Tolerance (feet)
Case Leak Test .....	$\pm 100$
Hysteresis Test:	
First Test Point (50 percent of maximum altitude) .....	75
Second Test Point (40 percent of maximum altitude) .....	75
After Effect Test .....	30

TABLE III—FRICTION

Altitude (feet)	Tolerance (feet)
1,000 .....	$\pm 70$
2,000 .....	70
3,000 .....	70
5,000 .....	70
10,000 .....	80
15,000 .....	90
20,000 .....	100
25,000 .....	120
30,000 .....	140
35,000 .....	160