

[Reg. Docket No. 4073; Amdt. 91-7]

PART 91—GENERAL OPERATING AND FLIGHT RULES [NEW]

Lowering of Base Altitude for Standard Altimeter Setting

A notice of proposed rule making (29 F.R. 4105) and a supplemental notice of correction (29 F.R. 4778) were published in the FEDERAL REGISTER on March 28, 1964 and April 3, 1964, respectively, stating that the Federal Aviation Agency proposed to lower the base altitude for use of a standard altimeter setting (29.92" Hg.) to 18,000 feet MSL.

Interested persons were afforded an opportunity to participate in the rule making through submission of comments. Due consideration was given to all relevant matter presented.

The Air Transport Association recommended that § 91.81(a)(1) be worded, "At and below 17,500 feet MSL, to —" instead of "Below 18,000 feet MSL, to —". Such wording would create a void between 17,500 feet MSL and 18,000 feet MSL, wherein no uniform altimeter setting would be prescribed. Although a similar zone exists under current regulations between 23,500 feet MSL and 24,000 feet MSL, safety considerations associated with certain terrain elevations and with transitioning from a sea-level barometric pressure setting to the standard setting at the lower level militate against establishing such a zone at this altitude. Accordingly, the recommendation was not adopted.

The Air Line Dispatchers Association (ALDA) commented that the flight level adjustment tables in the notice set forth 26.92 as the lowest probable reading and that a reading of 26.35 had been recorded. The tables could be extended to reflect lower readings, but this was not considered necessary, since the recorded reading of 26.35 was an observation taken at Key West, Florida, in the eye of a severe hurricane. The tables as presently constructed provide for all flight conditions which may reasonably be expected to exist.

The ALDA also recommended an initial reduction of the base altitude to FL 210 or FL 200, with a later step-down to 18,000 feet MSL, so that pressure variations would not adversely affect separation of aircraft or terrain clearance. As terrain would still be a factor at FL 200 or FL 210 in some locations, and since the tables are designed to provide for adequate vertical separation, the suggestion was not adopted.

The National Business Aircraft Association, Inc. (NBAA) commented that it favors use of the standard altimeter setting in the high altitude airspace structure, but considers the provisions of the notice as unnecessary in light of its recommendation that the base of the high altitude structure remain at 24,000 feet. Accordingly, as the reasons for selection of a base altitude of 18,000 feet were based on considerations for the most efficient use of the airspace, it is presumed that NBAA would endorse the use of the standard altimeter setting at and above 18,000 feet MSL.

Additional comments submitted by the Air Line Pilots Association, U.S. Navy Attack Squadron 43, and the National Pilots Association endorsed the proposed amendment.

In consideration of the foregoing, and for the reasons stated in the Notice, Part 91 [New] of the Federal Aviation Regulations is amended, effective 0001 e.s.t., September 17, 1964, as hereinafter set forth.

1. Section 91.81 is amended to read as follows:

§ 91.81 Altimeter settings.

(a) Each person operating an aircraft shall maintain the cruising altitude or flight level of that aircraft, as the case may be, by reference to an altimeter that is set, when operating—

(1) Below 18,000 feet MSL, to—

(i) The current reported altimeter setting of a station along the route and within 100 nautical miles of the aircraft;

(ii) If there is no station within the area prescribed in subdivision (i) of this subparagraph, the current reported altimeter setting of an appropriate available station; or

(iii) In the case of an aircraft not equipped with a radio, the elevation of the departure airport or an appropriate altimeter setting available before departure; or

(2) At or above 18,000 feet MSL, to 29.92" Hg.

(b) The lowest usable flight level is determined by the atmospheric pressure in the area of operation, as shown in the following table:

Current altimeter setting	Lowest usable flight level
29.92 or higher.....	180
29.91 through 29.42.....	185
29.41 through 28.92.....	190
28.91 through 28.42.....	195
28.41 through 27.92.....	200
27.91 through 27.42.....	205
27.41 through 26.92.....	210

(c) To convert minimum altitude prescribed under §§ 91.79 and 91.119 to the minimum flight level, the pilot shall take the flight-level equivalent of the minimum altitude in feet and add the appropriate number of feet specified below, according to the current reported altimeter setting:

Current altimeter setting	Adjustment factor
29.92 or higher.....	None
29.91 through 29.42.....	500 feet
29.41 through 28.92.....	1,000 feet
28.91 through 28.42.....	1,500 feet
28.41 through 27.92.....	2,000 feet
27.91 through 27.42.....	2,500 feet
27.41 through 26.92.....	3,000 feet

2. Section 91.109 is amended to read as follows:

§ 91.109 VFR cruising altitude or flight level.

Except while holding in a holding pattern of two minutes or less, or while turning, each person operating an aircraft under VFR in level cruising flight,

at or above 3,000 feet above the surface, shall maintain the appropriate altitude prescribed below:

(a) When operating below 18,000 feet MSL and—

(1) On a magnetic course of zero degrees through 179 degrees, any odd thousand foot MSL altitude plus 500 feet (such as 3,500, 5,500, or 7,500); or

(2) On a magnetic course of 180 degrees through 359 degrees, any even thousand foot MSL altitude plus 500 feet (such as 4,500, 6,500, or 8,500).

(b) When operating above 18,000 feet MSL to flight level 290 (inclusive), and—

(1) On a magnetic course of zero degrees through 179 degrees, any odd flight level plus 500 feet (such as 195, 215, or 235); or

(2) On a magnetic course of 180 degrees through 359 degrees, any even flight level plus 500 feet (such as 185, 205, or 225).

(c) When operating above flight level 290 and—

(1) On a magnetic course of zero degrees through 179 degrees, any flight level, at 4,000 foot intervals, beginning at and including flight level 300 (such as flight level 300, 340, or 380); or

(2) On a magnetic course of 180 degrees through 359 degrees, any flight level, at 4,000 foot intervals, beginning at and including flight level 320 (such as flight level 320, 360, or 400).

3. Section 91.121 is amended to read as follows:

§ 91.121 IFR cruising altitude or flight level.

(a) *In controlled airspace.* Each person operating an aircraft under IFR in level cruising flight in controlled airspace shall maintain the altitude or flight level assigned that aircraft by ATC. However, if the ATC clearance assigns "VFR conditions on-top," he shall maintain an altitude or flight level as prescribed by § 91.109.

(b) *In uncontrolled airspace.* Except while holding in a holding pattern of two minutes or less, or while turning, each person operating an aircraft under IFR in level cruising flight, in uncontrolled airspace, shall maintain an appropriate altitude as follows:

(1) When operating below 18,000 feet MSL and—

(i) On a magnetic course of zero degrees through 179 degrees, any odd thousand foot MSL altitude (such as 3,000, 5,000, or 7,000); or

(ii) On a magnetic course of 180 degrees through 359 degrees, any even thousand foot MSL altitude (such as 2,000, 4,000, or 6,000).

(2) When operating at or above 18,000 feet MSL but below flight level 290, and—

(i) On a magnetic course of zero degrees through 179 degrees, any odd flight level (such as 190, 210, or 230); or

(ii) On a magnetic course of 180 degrees through 359 degrees, any even flight level (such as 180, 200, or 220).

(3) When operating at flight level 290 and above, and—

(i) On a magnetic course of zero degrees through 179 degrees, any flight level, at 4,000 foot intervals, beginning

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at and including flight level 290 (such as flight level 290, 330, or 370); or

(ii) On a magnetic course of 180 degrees through 359 degrees, any flight level, at 4,000 foot intervals, beginning at and including flight level 310 (such as flight level 310, 350, or 390).

(Sec. 307 of the Federal Aviation Act of 1958; 72 Stat. 749; 49 U.S.C. 1348)

Issued in Washington, D.C., on July 16, 1964.

HAROLD W. GRANT,
Acting Administrator.

[F.R. Doc. 64-7304; Filed, July 22, 1964;
8:45 a.m.]