FEDERAL AVIATION AGENCY
BUREAU OF AIR TRAFFIC MANAGEMENT
WASHINGTON, D. C.

CIVIL AIR REGULATIONS DRAFT RELEASE NO. 61-15

June 22, 1961

SUBJECT: Standard Altimeter Setting (29.92" Hg.) Above 14,500 Feet Mean Sea Level (MSL)

The Bureau of Air Traffic Management has under consideration a proposal to amend Section 60.25 of Part 60 of the Civil Air Regulations to establish the concept of the standard altimeter setting (29.92" Hg.) above 14,500 feet MSL. The reasons therefor are set forth in the explanatory statement of the attached proposal which is being published in the Federal Register as a notice of proposed rule making.

The Agency desires that all persons who will be affected by the requirements of this proposal be fully informed as to its effect upon them and is therefore circulating copies in order to afford interested persons ample opportunity to submit comments as they may desire.

Because of the large number of comments which we anticipate receiving in response to this draft release, we will be unable to acknowledge receipt of each reply. However, you may be assured that all comments will be given careful consideration.

It should be noted that comments must be submitted in duplicate to the DOCKET SECTION of the Federal Aviation Agency, Room B-316, 1711 New York Avenue, N. W., Washington, D. C., prior to September 13, 1961.

D. D. Thomas

Director, Bureau of Air Traffic Management

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BUREAU OF AIR TRAFFIC MANAGEMENT

June 22, 1961

[14 CFR Part 60]

[Reg. Docket No. 787; Draft Release No. 61-15]

AIR TRAFFIC RULES

NOTICE OF PROPOSED RULE MAKING

Establishment of Standard Altimeter Setting (29.92" Hg.) Above 14,500 Feet Mean Sea Level (MSL)

Pursuant to the authority delegated to me by the Administrator (14 CFR Part 405), notice is hereby given that the Federal Aviation Agency has under consideration a proposal to amend Section 60.25 of Part 60 of the Civil Air Regulations as hereinafter set forth.

Interested persons may participate in the making of the proposed rule by submitting such written data, views or arguments as they may desire. Communications should be submitted in duplicate to the Docket Section of the Federal Aviation Agency, Room B-316, 1711 New York Avenue, N. W., Washington 25, D. C. All communications received by September 13, 1961, will be considered by the Administrator before taking action upon the proposed rule. The proposals contained in this notice may be changed in the light of comments received. All comments submitted will be available in the Docket Section for examination by interested persons when the prescribed date for the return of comments has expired. Because of the large number of comments anticipated in reply to this draft release, we will be unable to acknowledge receipt of each reply.

Section 60.25 currently requires the use of two different altimeter setting systems. Paragraph (a) of the section establishes the corrected pressure system (QNH) and provides, in essence, that, during flight at and below 23,500 feet MSL, the cruising altitudes shall be maintained by reference to an altimeter set to the current reported altimeter setting of a station along the route of flight within 100 nautical miles. Paragraph (b) of that section establishes the standard pressure system (QNE) and provides that the flight level of aircraft operating at or above 24,000 feet MSL shall be maintained by reference to an altimeter set to the standard atmospheric pressure of 29.92" Hg.

Prior to January 15, 1959, all altitudes were determined by reference to an altimeter set to a corrected atmospheric pressure (QNH). On that date, Civil Air Regulations Amendment 60-13 was adopted and use of the dual system inaugurated. Considerable experience has been gained in the use of the standard pressure system since that date and many favorable comments have been received relative to the improvement in flight safety resulting from the use of this system.

The QNH system is subject to inherent error. Since its readings are based upon the corrected atmospheric pressure for a specific location at a specific time, it is possible that pressure differences may result in altitude error of 300 feet or more between stations separated by 200 nautical miles. The greater speed typical of modern aircraft necessitates more frequent changes in altimeter settings which, in turn, increase the possibility of error as a result of poor enunciation, difficult radio communication, misreading or missetting of the instrument. The cruising levels of high speed aircraft are predominately in the higher altitude strata, thus the problems encountered are magnified in this area.

It is proposed herein to amend Section 60.25 to require the use of the standard pressure system (QNE) at all times during flight above 14,500 feet MSL and to require the use of the corrected pressure system (QNH) at all times during flight at and below 14,500 feet MSL. It is necessary to recognize in the rule that, whenever the pressure is less than 29.92" Hg., the level of the aircraft would be below the altimeter indication. For this reason, measures to provide terrain clearance and to preclude conflict between the two systems are included herein. To remain at or above the minimum safe altitude, the pilot would apply a correction factor graded to various altimeter settings below 29.92" Hg. To maintain the separation provided by the rules governing the use of cruising altitudes, pilots would not select nor controllers assign certain flight levels when the altimeter setting is below 29.92" Hg. The number of flight levels so affected would be dependent on the altimeter setting in the area. Flights operating VFR above 14,500 feet MSL, but less than 3000 feet above the surface, would not be required to conform to the hemispheric cruising altitude rules and could, therefore, operate at any flight level at or above the minimum safe altitude.

Two tables would be included in the rule. One table specifies the correction factor to be applied so as to remain at or above the minimum safe altitude. The other table specifies the minimum flight level to be used under various atmospheric pressure conditions. Both tables are scaled in increments of 500 feet with respect to altimeter setting increments of one-half inch of mercury.

In consideration of the foregoing, notice is hereby given that Section 60.25 of Part 60 of the Civil Air Regulations (14 CFR Part 60) is proposed to be amended as follows:

Section 60.25(c), governing overseas operations, is covered elsewhere and is considered superfluous. Paragraph (c) will, therefore, be deleted from the regulation.

60.25 Altimeter setting. The cruising altitude or flight level of aircraft shall be maintained by reference to an altimeter which shall be set:

(a) *At or below 14,500 feet mean sea level (MSL).* To the current reported altimeter setting of a station along the route of flight within 100 nautical miles; *Provided*, That where there is no such station, the current reported altimeter setting of an appropriate available station shall be used; *And provided further*, That in aircraft having no radio, the altimeter shall be set to the elevation of the airport of departure or appropriate altimeter settings available prior to departure shall be used.

(b) *Above 14,500 feet mean sea level (MSL).* To standard atmospheric pressure 29.92" Hg. provided, however, that:

(1) When flight is conducted in accordance with a cruising altitude prescribed in § 60.32 or 60.44, the lowest usable flight level shall be that specified in the following table:

Altimeter setting	Lowest usable flight level
29.92 or higher	150
29.91 to 29.42	155
29.41 to 28.92	160
28.91 to 28.42	165
28.41 to 27.92	170
27.91 to 27.42	175

Note: For example, when the altimeter setting is reported between 29.41 and 28.92 Hg., a westbound VFR flight conforming to the cruising altitude rules would cruise no lower than flight level 165; an eastbound VFR flight would cruise no lower than flight level 175; an IFR flight conforming to the cruising altitude rules would cruise no lower than flight level 160.

(2) Where the minimum safe altitude, as prescribed in Section 60.17, is above 14,500 MSL, the lowest usable flight level shall be the flight level equivalent of the minimum safe altitude plus the number of feet specified in the following table:

Altimeter setting	Correction factor
29.92 or higher	None
29.91 to 29.42	500 feet
29.41 to 28.92	1,000 feet
28.91 to 28.42	1,500 feet
28.41 to 27.92	2,000 feet
27.91 to 27.42	2,500 feet

Note: For example, the minimum safe altitude of a route is 16,000 feet MSL and the altimeter setting is reported between 29.91 and 29.42 Hg., the lowest usable flight level will be 165, which is the flight level equivalent of 16,500 feet MSL (minimum safe altitude plus 500 feet).

This amendment is proposed under the authority of Section 307 of the Federal Aviation Act of 1958 (72 Stat. 749; 49 U.S.C., 1348).

D. D. Thomas

Director, Bureau of Air Traffic Management

Issued in Washington, D. C., on June 22 ,1961