

DATE 4/9/79

# ADVISORY CIRCULAR



DEPARTMENT OF TRANSPORTATION  
Federal Aviation Administration  
Washington, D.C.

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Subject :     ALTIMETER SETTING SOURCES

1. PURPOSE. This advisory circular provides the aviation public and industry with guidelines for setting up reliable altimeter setting sources.
2. CANCELLATION. Advisory Circular (AC) **91-14C**, dated **6/14/78** is canceled.
3. GUIDELINES, An altimeter setting source should either:
  - a. Consist of the Standard Altimeter Setting Indicator (**ASI**); or
  - b. Meet the minimum technical requirements specified in paragraphs (1) and (2) below and be operated in accordance with paragraph (3).

(1) Instrumentation. Two aircraft-type sensitive altimeters should meet the specifications of Technical Standard Order **C10b** or meet the standards of Federal Aviation Regulation (FAR) Part **43**, Appendix **E**. One aircraft-type sensitive altimeter meeting these specifications may be utilized at locations where a Part **121** or **135** operator has established a procedure for periodic cross-checking of the altimeter as specified in paragraph **3b(2)(iii)**. The height (of the instruments) above mean sea level, surveyed accurately within one foot, is marked on the instruments or posted immediately adjacent to them. Outside venting of the altimeter or altimeters is necessary only when the room in which the instruments are located is shown to be subject to a pressure differential compared to ambient atmospheric pressure,

(2) Calibration. The instruments should be calibrated and recertified to the specifications of Part **43**, Appendix **E**, by an appropriately certificated, FAA-approved instrument repair station:

(i) Within **30 days** prior to initial installation or retention as a spare, and every **24** months thereafter.

(ii) At stations utilizing two altimeters, anytime a **difference** of more than **.05** of an inch of mercury exists between the two

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instruments with indicator hands set to the instrument elevation. Immediately after calibration, the difference between the two instruments should not exceed .02 of an inch of mercury.

(iii) At stations utilizing one altimeter, any time a difference of more than .04 of an inch of mercury exists on two successive cross-checks between the station reference altimeter and the mean of the readings obtained from the two altimeters installed in an aircraft maintained under the provisions of Part 121 or the continuous airworthiness maintenance provisions of FAR Part 135.

(iv) The instruments should be calibrated to achieve maximum accuracy in the altitude range at which they will be used. (Instruments so calibrated should be marked "not for use in aircraft.") All readings should be adjusted as required by the altimeter correction card furnished by the calibration station. The instrument should be kept in a temperature-controlled environment similar to the temperature at which the instrument was calibrated.

(3) Procedures. The operator should establish procedures to ensure that responsible persons are competent to obtain accurate altimeter settings.

(i) At stations employing two altimeters, a tested method is as follows:

(A) Set both instruments to the posted height, tap or vibrate each to remove friction effects, then reset if necessary.

(B) Adjust the readings as required by the altimeter correction card.

(C) The altimeter setting, in inches of mercury, appears in the small window. The difference between instrument readings may not exceed .05 of an inch. The lower of the two readings is the official altimeter setting.

(D) The difference between instrument readings should be logged in a permanent record at least once a day.

(ii) At stations using one altimeter, a tested method is as follows:

(A) Set the instrument to posted height, tap or vibrate to remove friction effects, then reset if necessary.

(B) Adjust the reading as required by the altimeter correction card, and record the reading.

(C) From a Part 121 or 135 aircraft parked on a designated ramp area of known elevation, secure altimeter readings from both captain's and first officer's altimeters which should be adjusted to indicate the actual elevation of the ramp plus the height of the instruments above the ramp before the altimeters are read.

(D) Determine the mean of the two aircraft altimeter readings and compare the mean with the reading from the station altimeter. If the difference between the mean and the station altimeter exceeds .04 of an inch, the altimeter setting should be reported as "missing," and if the difference exceeds .04 of an inch on two successive cross-checks, the altimeter should be recalibrated before further use.

(E) The cross-check should be done daily, if an aircraft is available, but not less than three times a week. The difference between the reference instrument and the mean of the aircraft altimeter readings should be logged in a permanent record.

(4) System Approvals. Altimeter setting sources installed in accordance with this AC and intended for use with approved instrument approach procedures will require initial approval and periodic inspection by the FAA. Initial approval and annual inspections should be accomplished by the appropriate FM district office (General Aviation District Office, Air Carrier District Office or Flight Standards District Office).

(5) Future Systems. The FAA and private industry are developing automatic altimeter setting reporting systems that may include wind and other weather elements. Automatic weather reporting systems will be required to meet FAA and National Weather Service accuracy and reliability standards before they can be used to support instrument flight rule operations.

  
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