



Advisory Circular

CAA-AC-AWS029
October 2013

APPROVAL OF AN ALTIMETER SETTING SOURCE

1.0 PURPOSE

This advisory circular is issued to provide guidance information on approval of a reliable altimeter setting source.

2.0 REFERENCES

- 2.1 The Civil Aviation (Air Operator Certification and Administration) Regulations.
- 2.2 The Civil Aviation (Operation of Aircraft) Regulations.
- 2.3 The Civil Aviation (Airworthiness) Regulations.
- 2.4 The Civil Aviation (Approved Maintenance Organisation) Regulations

3.0 GUIDANCE AND PROCEDURE

3.1 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 (3.2) and (3.3) below and be operated in accordance with paragraph (3).

3.2 Instrumentation. Two aircraft-type sensitive altimeters should meet the specifications of the Technical Standard Order or meet the standards of Civil Aviation Regulations. One aircraft-type sensitive altimeter meeting these specifications may be utilized at locations where an operator has established a procedure for periodic cross-checking of the altimeter as specified in paragraph

3.3(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,

3.4 Calibration. The instruments should be calibrated and recertified to the specifications, of an appropriately certificated, CAA-approved instrument repair station:

- (i) Within 30 days prior to initial installation or retention as a spare, and every 12 months thereafter.
- (ii) At stations utilizing two altimeters, anytime a difference of more than 0.5 of an inch of mercury exists between the two 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 the Civil Aviation (Air Operator Certification and Administration) Regulations or the continuous airworthiness maintenance provisions of the Civil Aviation (Operation of Aircraft) Regulations.

(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.

3.5 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 an 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 CAA. Initial approval and annual inspections should be accomplished by the appropriate office.

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

A handwritten signature in dark ink, appearing to be 'James' followed by a flourish.

Civil Aviation Authority