

A stylized paper airplane icon is positioned above a dashed line that forms a curved path, suggesting a flight trajectory. The background features large, light grey abstract shapes.

CIVIL AVIATION GUIDANCE MATERIAL – 8709

# VERTICAL SPEED INDICATORS ON IMPORTED AIRCRAFT

VSI

CIVIL AVIATION AUTHORITY OF MALAYSIA

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## Introduction

This Civil Aviation Guidance Material 8709 (CAGM - 8709) is issued by the Civil Aviation Authority of Malaysia (CAAM) to provide guidance for Vertical Speed Indicators on Imported Aircraft, pursuant to Civil Aviation Directives 8 – Airworthiness of Aircraft.

Organisations may use these guidelines to demonstrate compliance with the provisions of the relevant CAD's issued. Notwithstanding Regulation 204 and Regulation 205 of the Malaysian Civil Aviation Regulations 2016 (MCAIR 2016), when the CAGMs issued by the CAAM are used, the related requirements of the CAD's are considered as met, and further demonstration may not be required.

A handwritten signature in black ink, appearing to read 'Chester Voo Chee Soon', written over a horizontal line.

**(Captain Chester Voo Chee Soon)**  
Chief Executive Officer  
Civil Aviation Authority of Malaysia

## Civil Aviation Guidance Material Components and Editorial practices

This Civil Aviation Guidance Material is made up of the following components and are defined as follows:

**Standards:** Usually preceded by words such as “*shall*” or “*must*”, are any specification for physical characteristics, configuration, performance, personnel or procedure, where uniform application is necessary for the safety or regularity of air navigation and to which Operators must conform. In the event of impossibility of compliance, notification to the CAAM is compulsory.

**Recommended Practices:** Usually preceded by the words such as “*should*” or “*may*”, are any specification for physical characteristics, configuration, performance, personnel or procedure, where the uniform application is desirable in the interest of safety, regularity or efficiency of air navigation, and to which Operators will endeavour to conform.

**Appendices:** Material grouped separately for convenience but forms part of the Standards and Recommended Practices stipulated by the CAAM.

**Definitions:** Terms used in the Standards and Recommended Practices which are not self-explanatory in that they do not have accepted dictionary meanings. A definition does not have an independent status but is an essential part of each Standard and Recommended Practice in which the term is used, since a change in the meaning of the term would affect the specification.

**Tables and Figures:** These add to or illustrate a Standard or Recommended Practice and which are referred to therein, form part of the associated Standard or Recommended Practice and have the same status.

**Notes:** Included in the text, where appropriate, Notes give factual information or references bearing on the Standards or Recommended Practices in question but not constituting part of the Standards or Recommended Practices;

**Attachments:** Material supplementary to the Standards and Recommended Practices or included as a guide to their application.

It is to be noted that some Standards in this Civil Aviation Guidance Material incorporates, by reference, other specifications having the status of Recommended Practices. In such cases, the text of the Recommended Practice becomes part of the Standard.

The units of measurement used in this document are in accordance with the International System of Units (SI) as specified in CAD 5. Where CAD 5 permits the use of non-SI alternative units, these are shown in parentheses following the basic units. Where two sets of units are quoted it must not be assumed that the pairs of values are equal and interchangeable. It may, however, be inferred that an equivalent level of safety is achieved when either set of units is used exclusively.

Any reference to a portion of this document, which is identified by a number and/or title, includes all subdivisions of that portion.

Throughout this Civil Aviation Guidance Material, the use of the male gender should be understood to include male and female persons.



### Record of Revisions

Revisions to this CAGM shall be made by authorised personnel only. After inserting the revision, enter the required data in the revision sheet below. The *'Initials'* has to be signed off by the personnel responsible for the change.

<b>Rev No.</b>	<b>Revision Date</b>	<b>Revision Details</b>	<b>Initials</b>



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## 1 Introduction

- 1.1 This CAGM supersedes Airworthiness Notices No. 17, Issue 1, dated 1st April 1987, which was originally issued following an incident on an imported light aircraft has shown the possible danger of the presentation of false information to the pilot due to reversed indication by the vertical speed indicator during a fast rate of descent.
- 1.2 Instruments complying with EASA ETSO-C8d, JAA JSTO Specification C8d, or the United States TSO Specifications C8d or C8e, are fitted with stops to prevent such occurrences. It is not known whether other instruments, particularly those likely to be installed in imported aircraft of less than 5700 kg (12 500 lb) maximum weight, are similarly equipped.

## 2 Action

- 2.1 Before issue of the Airworthiness Certificate and subsequent reviews for continued airworthiness of an imported aircraft, it should be established whether the vertical speed indicator is fitted with limit stops. This may be done by test or reference to the manufacturer.
- 2.2 If stops are not fitted, either the vertical speed indicator should be replaced by an instrument that has stops, or alternatively the placard defined in paragraph 3 should be fitted.

## 3 Placard

- 3.1 The following placard should be fitted adjacent to a vertical speed indicator not fitted with stops:

**‘This indicator is not fitted with limit stops and a rate of change of altitude in excess of the maximum calibration will cause indication in the reverse sense.’**

- 3.2 The placard may, as a temporary measure, be typewritten on white card, but should be replaced by a more permanent placard as soon as possible.

## 4 Record

- 4.1 A record of the action taken to comply with paragraph 2 above should be made in the aircraft log book, quoting the serial number of the instrument.



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