

A stylized paper airplane icon is shown in flight, following a dashed line that represents a flight path. The path starts on the left, curves upwards, then downwards, and then upwards again towards the right. The background features large, light grey abstract shapes that resemble the map of Malaysia.

CIVIL AVIATION DIRECTIVE – 8205

TECHNICAL⁺
STANDARD ORDER
AUTHORISATIONS

CAAM PART 21 SUBPART O

CIVIL AVIATION AUTHORITY OF MALAYSIA

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Introduction

In exercise of the powers conferred by regulations 24O of the Civil Aviation Act 1969 [Act 3], the Chief Executive Officer Makes this Civil Aviation Directive (CAD) 8205 – Technical Standard Order Authorisations (CAAM Part 21 Subpart O), pursuant to Regulation 21, 23, 24, 164, 189 and 193 of the Malaysia Civil Aviation Regulation (MCA) 2016.

This CAD provides the procedures and requirements pertaining to Technical Standard Order Authorisations and for any matters connected therewith.

This CAD 8205 – Technical Standard Order Authorisations (CAAM Part 21 Subpart O), is published by the Chief Executive Officer under section 24O of the Civil Aviation Act 1969 [Act 3] and come into operation on 1st February 2022.

Non-compliance with this CAD

Any person who contravenes any provision in this CAD commits an offence and shall on conviction be liable to the punishment under section 24O of the Civil Aviation Act 1969 [Act 3] and/or under Malaysia Civil Aviation Regulation 2016.



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

Civil Aviation Directive components and Editorial practices

This Civil Aviation Directive 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.

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 Directive 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 Directive, the use of the male gender should be understood to include male and female persons.



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1 General

1.1 Citation

- 1.1.1 These Directives are the Civil Aviation Directives 8205 – Technical Standard Order Authorisations (CAAM Part 21 Subpart O), Issue 01/Revision 00, and comes into operation on 1st February 2022.
- 1.1.2 This CAD 8205 – Technical Standard Order Authorisations (CAAM Part 21 Subpart O), Issue 01/Revision 00 will remain current until withdrawn or superseded.
- 1.1.3 This Directive contains the additional standards, requirements and procedures and shall be read together with CAD 8 – Airworthiness of Aircraft.

1.2 Applicability

- 1.2.1 This CAD shall be applicable to –
- a) an applicant or holder of type certificate issued under regulation 23 of the MCAR;
 - b) an applicant or holder of certificate of approval issued under regulation 21 of the MCAR;
 - c) an applicant or holder for an approval for the aeronautical product under regulation 23 of the MCAR;
 - d) an applicant or holder of approval for the design of modification under regulation 24 of the MCAR.

1.3 Revocation

- 1.3.1 This CAD, together with CAD 8204, revokes Airworthiness Notice 76 – Approval of Equipment, issue 2 dated 15 May 2005.

1.4 Definition

- 1.4.1 In this CAD, unless the context otherwise requires—

TSO means Technical Standard Order.

2 Scope

[21.601]

- 2.1 This CAD establishes the procedure for issuing TSO authorisations and the rules governing the rights and obligations of applicants for, or holders of, such authorisations.

3 Eligibility [21.602A]

- 3.1 Any organisation that produces or is preparing to produce a TSO article shall be eligible as an applicant for a TSO authorisation.

4 Demonstration of capability [21.602B]

- 4.1 Any applicant for a TSO authorisation shall demonstrate its capability as follows—
- a) for production, by holding a production organisation approval, issued in accordance with CAD 8201, and
 - b) for design:
 - 1) for an Auxiliary Power Unit, by holding a design organisation approval, issued by the CAAM in accordance with CAD 8401;
 - 2) for all other articles, by using procedures setting out the specific design practices, resources and sequence of activities necessary to comply with CAAM Part 21.

5 Application [21.603]

- 5.1 The applicant shall submit to CAAM;
- a) an application form CAAM/AW/8205-01 and accompanied by the prescribed fee; and
 - b) shall include an outline of the information required by paragraph 7 of this CAD.
- 5.2 When a series of minor changes in accordance with paragraph 11 of this CAD is anticipated, the applicant shall set forth in its application the basic model number of the article and the associated part numbers with open brackets after it to denote that suffix change letters or numbers (or combinations of them) will be added from time to time.

6 TSO authorisation for an auxiliary power unit (APU) [21.604]

- 6.1 With regards to an TSO authorisation for an APU:
- a) by way of derogation from paragraph 5, 12 and 15 of this CAD, the following points shall apply: paragraph 3, 10, 11, 13, 15 and 16 of CAD 8102. However, a TSO authorisation shall be issued in accordance with paragraph 8 of this CAD instead of a type certificate;
 - b) by way of derogation of paragraph 11 of this CAD, the requirements of CAD 8104 shall apply to the approval of design changes by the APU TSO authorisation holder and design changes from other applicants classified as a minor change, and the requirements of CAD 8105 shall apply to the approval of design changes

by other applicants classified as a major change. Where the requirements of CAD 8105 apply, a separate TSO authorisation shall be issued instead of a supplemental type certificate; and

- c) the requirements of CAD 8106 shall apply to the approval of repair designs.

7 Data requirements [21.605]

7.1 The applicant shall submit to the CAAM the following documents:

- a) a certification programme for the TSO authorisation, setting out the means to demonstrate compliance with paragraph 8.1 b) of this CAD;
- b) a statement of compliance certifying that the applicant has met the requirements of this CAD;
- c) a declaration of design and performance (DDP), stating that the applicant has demonstrated that the article complies with the applicable TSO in accordance with the certification programme;
- d) a copy of the technical data required in the applicable TSO;
- e) the exposition, or a reference to the exposition, referred to in CAD 8201 paragraph 7 for the purpose of obtaining an appropriate production organisation approval under CAAM Part 21 Subpart G;
- f) for an APU, the design organisation manual (DOM), or a reference to the DOM, referred to in CAD 8401 paragraph 6 for the purpose of obtaining an appropriate design organisation approval under CAAM Part 21 Subpart J;
- g) for all other articles, the procedures, or a reference to the procedures, referred to in paragraph 4.1 b)2) of this CAD.

7.2 The applicant shall report to the CAAM any difficulty or event encountered during the approval process that may significantly impact the TSO authorisation.

8 Requirements for the issuance of a TSO authorisation [21.606]

8.1 In order to be issued a TSO authorisation, the applicant shall:

- a) demonstrate its capability in accordance with paragraph 4 of this CAD;
- b) demonstrate that the article complies with the technical conditions of the applicable TSO or with deviations therefrom approved in accordance with paragraph 12 of this CAD, if any;
- c) comply with the requirements of this CAD; and
- d) declare that no feature or characteristic has been identified that may make the article unsafe for the uses for which certification is requested.

9 TSO authorisation privileges [21.607]

- 9.1 The holder of a TSO authorisation is entitled to produce and to mark the article with the appropriate TSO marking.

10 Declaration of Design and Performance (DDP) [21.608]

- 10.1 The DDP shall contain at least the following information:
- a) type design information corresponding to paragraph 5 of CAD 8102, identifying the article and its design and testing standard;
 - b) the rated performance of the article, where appropriate, either directly or by reference to other supplementary documents;
 - c) a statement of compliance certifying that the article has met the appropriate TSO;
 - d) reference to relevant test reports;
 - e) reference to the appropriate Maintenance, Overhaul and Repair Manuals;
 - f) the levels of compliance, where various levels of compliance are allowed by the TSO;
 - g) list of deviations accepted in accordance with paragraph 12 of this CAD.
- 10.2 The DDP shall be endorsed with the date and signature of the holder of the TSO authorisation, or its authorised representative.

11 Obligations of holders of TSO authorisations [21.609]

- 11.1 The holder of an TSO authorisation under this CAD shall:
- a) manufacture each article in accordance with CAD 8201 that ensures that each completed article conforms to its design data and is safe for installation;
 - b) prepare and maintain, for each model of each article for which a TSO authorisation has been issued, a current file of complete technical data and records in accordance with paragraph 5 of CAD 8101;
 - c) prepare, maintain and update master copies of all manuals required by the applicable airworthiness specifications for the article;
 - d) make available to users of the article and to the CAAM on request those maintenance, overhaul and repair manuals necessary for the usage and maintenance of the article, and changes to those manuals;
 - e) mark each article in accordance with paragraph 6 of CAD 8206;
 - f) comply with paragraph 2, 3 and 4 of CAD 8101;
 - g) continue to meet the qualification requirements of paragraph 4 of this CAD.

12 Approval for deviation [21.610]

- 12.1 Each manufacturer who requests approval to deviate from any performance standard of a TSO shall demonstrate that the standards from which a deviation is requested are compensated for by factors or design features providing an equivalent level of safety.
- 12.2 The request for approval to deviate, together with all pertinent data, shall be submitted to the CAAM.

13 Design Changes [21.611]

- 13.1 The holder of the TSO authorisation may make minor design changes (any change other than a major change) without further authorisation by the CAAM. In this case, the changed article keeps the original model number (part number changes or amendments shall be used to identify minor changes) and the holder shall forward to the CAAM any revised data that are necessary for compliance with paragraph 5.2 of this CAD.
- 13.2 Any design change by the holder of the TSO authorisation that is extensive enough to require a substantially complete investigation to determine compliance with an TSO is a major change. Before making such a change, the holder shall assign a new type or model designation to the article and apply for a new authorisation under paragraph 5 of this CAD.
- 13.3 No design change by any organisation other than the holder of the TSO authorisation who submitted the statement of compliance for the article is eligible for approval under this CAD unless the person seeking the approval applies under paragraph 5 of this CAD for a separate TSO authorisation.

14 Record-keeping [21.613]

- 14.1 Further to the record-keeping requirements appropriate to or associated with the quality system, all relevant design information, drawings and test reports, including inspection records for the article tested, shall be held at the disposal of the CAAM and shall be retained in order to provide the information necessary to ensure the continued airworthiness of the article and of the type-certificated product in which it is fitted.

15 Inspection by the CAAM [21.615]

- 15.1 Upon a request of the CAAM, each applicant for, or holder of a TSO authorisation for an article shall allow the CAAM to:
- a) witness any tests;
 - b) inspect the technical data files on that article.

16 Duration and continued validity [21.619]

16.1 A TSO authorisation shall be issued for an unlimited duration. It shall remain valid unless:

- a) the conditions required when TSO authorisation was granted are no longer being observed;
- b) the obligations of the holder specified in paragraph 11 of this CAD are no longer being discharged;
- c) the article has proved to give rise to unacceptable hazards in service; or
- d) the authorisation has been surrendered or revoked under the applicable administrative procedures established by the CAAM.

16.2 Upon surrender or revocation, the certificate shall be returned to the CAAM.

17 Transferability [21.621]

17.1 Except for a change in ownership of the holder, which shall be regarded as a change of significance, and shall therefore comply with paragraph 9 of CAD 8201 and paragraph 8 of CAD 8401 as applicable, a TSO authorisation issued under this CAD is not transferable.