

# Advisory Circular

---

## IMPLEMENTATION PROCEDURES FOR THE TECHNICAL ARRANGEMENT FOR AIRWORTHINESS CERTIFICATION BETWEEN CAAS AND CASA

General.....	1
Purpose .....	1
Applicability.....	1
Cancellation.....	1
Effective Date .....	1
References .....	1
Introduction.....	1
Participation in the Technical Arrangement .....	2
Procedures for issuance of an Australian STC .....	2
Procedures for amendment to an Australian STC.....	3
Procedures for issuance of an ATSO Authorisation.....	4
Procedures for amendments to an ATSO Authorisation .....	4
Acceptance of articles and parts .....	5
Responsibilities of Australian STC and ATSO approval holders.....	5

- 1. GENERAL.** Pursuant to paragraph 88B of the Air Navigation Order (ANO), the Director-General of the Civil Aviation Authority of Singapore (DGCA) may, from time to time, issue advisory circulars (ACs) on any aspect of safety in civil aviation. This AC contains information about standards, practices and procedures acceptable to CAAS. The revision number of the AC is indicated in parenthesis in the suffix of the AC number.
- 2. PURPOSE.** This AC is issued to provide additional information and guidance relating to the Technical Arrangement on Airworthiness Certification between the CAAS and the Civil Aviation Safety Authority (CASA) (“the TA-AC”). This document provides procedures for the application of Australian Supplemental Type Certificates (STCs) and Australian Technical Standard Order Authorisation under the provisions of the TA-AC.
- 3. APPLICABILITY.** This AC applies to a Singapore Airworthiness Requirements (SAR-21) Design and Production organisation approval holder located in Singapore intending to perform work under the TA-AC.
- 4. CANCELLATION.** This is the first AC issued on this subject.
- 5. EFFECTIVE DATE.** This AC is effective on 8 May 2015.
- 6. REFERENCES.** ANO; SAR-21; Part 21 of the Civil Aviation Safety Regulations 1998 (CASR); Technical Arrangement for Airworthiness Certification between the CAAS and CASA.
- 7. INTRODUCTION.**
  - 7.1** The TA-AC between CAAS and CASA, took effect on 10 February 2014. The TA-AC is limited to mutual recognition of Supplemental Type Certificates, Approvals<sup>1</sup> issued for Technical

---

<sup>1</sup> CAAS issues Singapore Technical Standard Order Certificate of Approval (STSO Certificate) to organisations that designed an article that has been found to meet a specific STSO or TSO. CASA issues an Australian Technical Standard Order Authorisation (ATSO Authorisation) to an article manufacturer of an article that has been found to meet a specific ATSO or TSO.

Standard Orders<sup>2</sup> (TSO) and acceptance of the articles manufactured under the provisions of the TA-AC.

7.2 Under the provisions of the TA-AC:

- a) A SAR-21 Design organisation approval holder may apply for an Australian STC to modify an Australian registered aircraft with a SAR-21 Production organisation approval holder to produce the STC articles; and
- b) A SAR-21 Design organisation approval holder may apply for an Australian Technical Standard Order ATSO Authorisation with a SAR-21 Production organisation approval holder to produce the ATSO Authorisation articles.

## **8. PARTICIPATION IN THE TECHNICAL ARRANGEMENT.**

8.1 SAR-21 Design and Production organisation approval holders located in Singapore should notify CAAS of the intention to utilise the TA-AC. The following should be provided along with the notification:

- a) Letter from the Australian Operator expressing interest to engage the services of the local Singapore organisation approval holder; and
- b) For application of Australian TSO, a letter between the local Design organisation and local Production organisation stating the commitment to apply for the Australian TSO.

8.2 Applicants located in Australia should notify CASA of their intention to provide services under the provision of the TA-AC.

## **9. PROCEDURES FOR ISSUANCE OF AN AUSTRALIAN SUPPLEMENTAL TYPE CERTIFICATE.**

9.1 A SAR-21 Design organisation approval holder in Singapore may apply for an Australian STC through CAAS under the following circumstances:

- a) The SAR-21 Design organisation approval holder already holds a CAAS STC and would like to apply for an Australian STC based on the CAAS STC that had been issued; or
- b) The SAR-21 Design organisation approval holder currently does not hold a CAAS STC but would like to apply for both a CAAS and Australian STC.

9.2 If the Australia STC applicant does not hold a CAAS STC, the applicant will need to apply for a CAAS STC, under SAR-21 Subpart C, concurrently with the application for the Australian STC. The applicable airworthiness standards used for issuing CAAS STCs are specified in SAR-21.755 and the airworthiness standards used for issuing Australian STCs are specified in regulation 21.115 of the CASR. Applicants should note that CAAS only accepts STCs applications for aircraft that has been granted a letter of acceptance of type certificate by CAAS under SAR-21 Subpart A. Refer to CAAS website on the list of type certificates that had been granted a letter of acceptance by CAAS.

9.3 For CAAS to notify CASA of the application, the applicant will need to submit to CAAS the following:

- a) A completed CASA Application Form 733;
- b) A description of the change together with the make and model of the product;
- c) Identification of the means of compliance and a list of the documentation required to show compliance; and
- d) A project schedule identifying when the modification will be carried on an Australian registered aircraft.

---

<sup>2</sup> Technical Standard Order in this AC includes: Australian Technical Standard Order (ATSO), the minimum performance standards issued by CASA for specified articles, Singapore Technical Standard Order (STSO), the minimum performance standards issued by CAAS for specified articles and Technical Standard Order (TSO), the minimum performance standards for specified articles used on civil aircraft issued by the FAA.

- 9.4 Upon receipt of the complete application for Australian STC, CAAS will notify CASA of the application and provide CASA with the application package as detailed in paragraph 9.3 together with the CAAS certification basis including all exemptions and equivalent level of safety findings granted by CAAS.
- 9.5 CAAS will obtain from the applicant the following documents, if necessary, to conduct its assessment:
- a) Compliance checklist;
  - b) Aircraft Flight Manual (AFM) supplement;
  - c) Master documentation list / master drawing list;
  - d) Manufacturing, installation instruction drawings and conformity verification documentation;
  - e) Maintenance / repair manual supplements;
  - f) Weight and balance data;
  - g) Technical Substantiation Data (i.e. Electrical Load Analysis, Structural Stress Analysis, Justification Report, etc);
  - h) Functional / Ground / Flight Test Reports;
  - i) Instructions for continued airworthiness (Airworthiness Limitations, Maintenance Manuals, Wiring Diagram Manual, and other documents where necessary); and
  - j) Electrical Wiring Interconnection System (EWIS) Analysis and EWIS Instructions for Continuing Airworthiness (ICA).
- 9.6 Unless CAAS has already issued a CAAS STC for the same type of design modification, CAAS will conduct all necessary tests and review all relevant technical data in relation to an application to form a view whether the application meets the Australian airworthiness requirements.
- 9.7 Upon satisfactory completion of the assessment, CAAS will provide to CASA:
- a) A complete package of documents, including the application and all documents considered by CAAS in the course of making its assessment; and
  - b) A letter and statement of compliance expressing CAAS's views as to whether the application meets the Australian airworthiness requirements.
- 9.8 The applicant should note that as part of CASA's assessment of the application, CASA may carry out conformity and compliance inspections during the installation of the major modification on an Australian registered aircraft.
- 9.9 CASA will then:
- a) If appropriate, in the case of a prototype aircraft, approve the major change on the prototype aircraft under CASR 21.435 and inform CAAS via an official letter; or
  - b) In any case, issue an STC after its completion of the certification program and after having verified that:
    - i) The applicant has demonstrated compliance with Australian airworthiness requirements; and
    - ii) CAAS has issued a CAAS STC for the design change and CAAS has issued a statement of compliance with the Australian airworthiness requirements.

## **10. PROCEDURES FOR AMENDMENT TO AN AUSTRALIAN SUPPLEMENTAL TYPE CERTIFICATE.**

- 10.1 Amendments to an Australian STC issued under the provision of the TA-AC should be done concurrently with amendments to a CAAS STC issued under SAR-21 Subpart C.
- 10.2 The procedures for changes to that part of a product covered by a CAAS STC are stated under SAR-21.345. A major change to a part of a product covered by a CAAS STC must not be made without CAAS approval and application for such approval can only be made by the STC holder. A minor change to that part of a product covered by a STC may be made by the STC holder without first obtaining approval from CAAS. However, to fulfil CAAS obligations as described in paragraph 10.3, any changes to a CAAS STC (regardless of major or minor) issued to support the Australian STC application shall not be made, without first obtaining approval from CAAS.

10.3 Any change to an Australian STC issued under the provision of the TA-AC shall only be made through CAAS and the holder of the Australian STC will need to notify CAAS the details of the change. CAAS will assess the notification and advise the applicant whether the amendment is required to be approved by CASA in accordance with the conditions, limitations and other requirements stated in the Australian STC. If CASA's approval is required, the holder of the Australian STC will follow the procedures for application of an Australian STC as defined under paragraph 9.2. If CASA's approval is not required, CAAS will advise CASA in writing of that determination along with the details of the relevant STC.

## **11. PROCEDURES FOR ISSUANCE OF AN ATSO AUTHORISATION.**

11.1 A SAR-21 Design organisation approval holder in Singapore who has an arrangement with a SAR-21 Production organisation approval holder to produce the article may apply for an ATSO Authorisation through CAAS.

11.2 Applicants intending to apply for an ATSO Authorisation will need to first apply for a STSO certificate of approval under SAR-21 Subpart E. CAAS will issue a STSO Certificate of Approval when the TSO article meets the airworthiness design standards specified in SAR-21.760.

11.3 In addition to the documents required under SAR-21 Subpart E for an application of a CAAS STSO Certificate, the applicant will also need to submit to CAAS the following:

- a) A copy of the technical data required by the applicable ATSO or TSO;
- b) A description of the applicant quality system in the detail specified in regulations 21.143 and 21.144 of the CASR. To show compliance with these regulations, the applicant may refer to current quality system data filed with CASA as part of a previous ATSO Authorisation application or produce a CAAS Production organisation Approval or inform with supporting documents that it has an arrangement with a SAR-21 Production Organisation Approval holder to produce the article; and
- c) If a series of minor changes in accordance with regulation 21.611 of the CASR is anticipated – the basic model number of the article and the part number of the components with open brackets after it to denote the suffix change letters or numbers (or combinations of them) that will be added from time to time.

11.4 Upon satisfactory completion of the assessment, CAAS will provide to CASA:

- a) A complete package of documents, including the application and all documents considered by CAAS in the course of making its assessment;
- b) A statement of compliance certifying that the applicant has met the requirements of Subpart 21.0 of the CASR and that the article concerned meets the applicable ATSO or TSO that is effective on the date of application of that article;
- c) CAAS STSO Certificate of approval for the article; and
- d) A letter expressing CAAS's views as to whether the application meets the requirements of regulations 21.143 and 21.144 of the CASR for the issuance of an ATSO Authorisation.

11.5 CASA will then assess the application and issue an ATSO Authorisation after the completion of its own assessment of the application and after it has verified that the application meets the requirements of regulations 21.143 and 21.144 of the CASR for the issue of an ATSO Authorisation.

## **12. PROCEDURES FOR AMENDMENTS TO AN ATSO AUTHORISATION.**

12.1 Amendments to an ATSO Authorisation issued under the provision of the TA-AC should be made concurrently with amendments to a CAAS STSO Certificate of Approval issued under SAR-21 Subpart E.

#### Major changes by an ATSO Authorisation holder

- 12.2 For major changes, the ATSO Authorisation holder will need to notify CAAS and apply for a new application as detailed in paragraph 11.

#### Minor changes by an ATSO Authorisation holder

- 12.3 A holder of a STSO Certificate may approval minor design changes but should notify CAAS of the change within 6 months of making the change and preferably before shipment of the articles. However, to fulfil CAAS obligations as described in paragraph 12.4, any changes to a STSO Certificate of Approval issued to support the ATSO Authorisation shall not be made, without first obtaining approval from CAAS.
- 12.4 An ATSO Authorisation holder may make minor design modifications (any modification other than a major modification) without further approval by CASA. In this case, the changed article keeps the original model number (part numbers may be used to identify minor changes). However, the ATSO Authorisation holder must notify CASA, through CAAS, of any such changes and provide CASA with copies of any revised data that is necessary for compliance with sub-regulation 21.605(3) of the CASR. CAAS will accept such notifications with any revised data that is necessary for compliance with sub-regulation 21.605(3) of the CASR, and provide them to CASA.

### **13. ACCEPTANCE OF ARTICLES AND PARTS.**

- 13.1 Applicants for Australian STC and ATSO Authorisation approval should note the following on the acceptance of articles and parts.

#### Prototype Articles and Parts

- 13.2 For the purpose of demonstrating compliance with an STC design, CASA will accept articles released with CAAS Form AW95 (marked with non-approved data) for installation on board the STC prototype aircraft.

#### Production Articles and Parts

- 13.3 CASA will accept articles released with a CAAS Form AW95 for use on Australian registered aircraft after the CASA has issued either an STC which covers these articles, or an ATSO Authorisation which covers these articles.

### **14. RESPONSIBILITY OF THE AUSTRALIAN STC AND ATSO AUTHORISATION APPROVAL HOLDERS.**

- 14.1 The approval holder requirements as stated under SAR-21.1505 are applicable.
- 14.2 The approval holders that utilise the TA-AC are expected to assist CAAS and CASA in investigation, analysng and drafting the respective mitigating actions.