



TECHNICAL GUIDANCE MATERIAL

for

Conformity Inspection

SUBJECT: TECHNICAL GUIDANCE MATERIAL FOR CONFORMITY INSPECTION

EFFECTIVE DATE: 30 November 2025

1. APPLICABILITY

The TGM is applicable to all local and international designed and manufactured products, parts and appliances.

2. PURPOSE

The purpose of this technical guidance material (TGM) is to provide procedural guidelines concerning the conformance inspection. The TGM elaborates on the three procedural phase process of the conformance (Planning Phase, Conducting Phase and Concluding Phase) for the issuance of TC, STC, TA, PMA, and TSO approval.

3. REQUIREMENTS

The SACAR requires conformity inspections to be conducted on significant number of parts, assemblies, manufacturing process, installations, and functional test of a prototype aircraft to verify conformity to drawings, specifications, and special processes.

4. REFERENCE:

4.1 It is intended that the following reference materials be used in conjunction with this document:

- i. [Part 21 of Civil Aviation Regulations](#)
- ii. [Part 24 of Civil Aviation Regulations](#)
- iii. [Part 27 of the Civil Aviation Regulations, fees](#)

5. LIST OF DEFINITIONS AND ABBREVIATIONS USED IN THIS DOCUMENT

5.1. Definitions

TERMINOLOGY	DESCRIPTION
Accept	means the acknowledgement by SACAA that an item or plan

	should lead to compliance. Applicants' engineering reports are accepted;
Aeroplane	means a power-driven heavier-than-air aircraft deriving its lift in flight mainly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.
Aircraft	means an aircraft as defined in the Act, including its engines, propellers, rotor, components, parts, equipment, instruments, accessories, and material;
Applicant	means the applicant who is the legal entity on whose behalf the application was made. This will normally be the entity to which the Supplemental Type Certificate is issued when the certification activity is completed;
Approve	means to make formal acknowledgement that a product or document meets the regulations and requirements. Within this instruction the word approve is limited to the Type Certificate, STC, Type Certificate Data Sheet (TCDS), Airworthiness Limitations section of the Instructions for Continuing Airworthiness (ICA), the Flight Manual and refers to approvals made by the Director for Civil Aviation;
Certification Team	means those individuals who have been assigned to a particular type certification project, including the applicant, SACAA personnel and personnel authorized by the SACAA;
Conformance Inspection	Conformity inspections are inspections conducted on significant number of parts, assemblies, manufacturing process, installations and functional test of a prototype aircraft to verify conformity to drawings, specifications and special processes. An engineering inspection should not be confused with a conformity inspection. A conformity inspection is done to determine conformity to the engineering data, while an engineering inspection is done to determine compliance with the approval requirement.
Finding of Compliance	means a determination that an element of the design satisfies the applicable standard of airworthiness.
Means of Compliance	means the principle means by which compliance is demonstrated. Examples are analysis, test, similarity, flight test, compliance inspection, drawing review, process specification, and other actions and documents.
Finding of Compliance	means a determination that an element of the design satisfies the applicable standard of airworthiness;
Parts Manufacturer Approval	Is an approval granted by the regulating body to a manufacturer of aircraft parts.
Type Certificate	A type certificate is issued to signify the airworthiness of an aircraft manufacturing design or "type". The certificate is issued by a regulating body, and once issued, the design cannot be changed.
Technical Standard Order	Is a minimum performance standard issued by the regulating body for specified materials, parts, processes, and appliances used on civil aircraft.

Organisation responsible for type design	means an organisation that holds a type certificate, or equivalent document for an aircraft, engine or propeller type, issued by a Contracting State
Supplemental Type Certificates	A supplemental type certificate (STC) is a type certificate (TC) issued when an applicant has received regulating body design approval to modify an aeronautical product from its original design.
Regulations	means these regulations and include any technical standard issued thereunder;
Type Approval	Is granted to a product that meets a minimum set of regulatory, technical and safety requirements.

5.2. Abbreviations

ABBREVIATION	MEANING
PMA	Parts Manufacturing Approval
SACAA	South African Civil Aviation Authority
SACAR	South African Civil Aviation Regulation
SACATS	South African Civil Aviation Technical Standards
STC	Supplemental Type Certificate
TA	Type Approval
TC	Type Certificate
TGM	Technical Guidance Material
TSO	Technical Standard Order

6. GENERAL

6.1 Inspections are required to be performed to the extent necessary to ensure that part conforms to approved data and is in condition for safe operation. SACAA conformity inspections are conducted on significant number of parts, assemblies, manufacturing processes, installations and functional test of a prototype aircraft or parts/assemblies.

6.2 In basic term, a conformity inspection determines that the applicant has conducted 100% inspections and tests necessary to determine:

- 6.2.1 The materials and products conform to the specifications in the type design or type approval.
- 6.2.2 The parts of the products conform to the drawings in the type design and type approval.
- 6.2.3 That the manufacturing processes, construction and assembly to those specified type design or type approval
- 6.2.4 Conformity inspections are required for issuance of the of a (TA), (TC), (STC), (TSO) and PMA approval by the SACAA authority.

6.2.5 During the manufacturing inspection SACAA office evaluation of the production Approval using Quality System Audits they may use the conformity inspection process to make determination that the applicant can reproduce like articles under the production approval

6.2.6 Statement of Conformity/ Certificate of Conformance: Each applicant must submit a statement of conformity (Part 21) /certificate of conformance (Part 24) to the SACAA for each aircraft or part thereof presented to the SACAA for test. This statement of conformity must include a statement that the applicant has complied with the relevant applicable part of the regulation.

6.3 The applicant must allow the SACAA to make any inspection and any flight and ground test necessary to determine compliance with the applicable requirements SACAA regulations F2316-08.

6.4 No change may be made to an aircraft, aircraft engine, propeller, or part thereof between the time that compliance is been verified by the authority.

6.5 The conformance inspection will be conducted once a request has been submitted the SACAA certification department:

6.5.1 The SACAA conformity inspections are conducted during the manufacturing phase of prototype aircraft/parts to verify and provide objective documentation to the SACAA Airworthiness Engineering department that TC/TA test articles, parts, assemblies, installations, functions, and test setups conform to the design and attributes specified by the SACAA Airworthiness Engineering department.

6.5.2 The purpose of the conformity inspection process to:

- i. Ensure that the applied process is capable of consistently producing articles conforming to the type design or type approval requirements.
- ii. Know exactly what the product is, and know what deviations are present on the product before test.
- iii. Standardize the accomplishment of inspections involved in the evaluation of a manufacturing process that may lead to the amendment of a Type certificate or Type approval.

7. PLANNING PHASE

- a) Conformity and certification plans are developed between the applicant and the SACAA.
- b) Phase One covers who does what on the activities during the conformance. The primary output is an agreed basis of certification.

7.1 Pre-Application Inquiries/Meetings

The applicant conducts appropriate meetings with the SACAA Airworthiness Engineering about the conformance. The manufacturing/production inspector guides the development of

a conformity inspection plan with the applicant. The agenda must include the following general topics:

7.1.1 Conformity/Quality Plan, Outline-Conformity /Quality Plan, Outline certification test plan, Coordinates certification, conformity, and test requirements with appropriate Airworthiness Engineering.

7.2 Conformity/Quality Plan

7.2.1 A conformity inspection plan should focus on:

- 7.2.1.1 Verify the conformity of critical and major characteristics of materials, parts and assemblies.
- 7.2.1.2 Evaluating processes to assure production of consistent and uniform products.
- 7.2.1.3 Observing test of important functional parameters of systems, modules, components and completed products.

7.3 Outline-Conformity Plan

- 7.3.1 Aircraft General Description
- 7.3.2 Definitions
- 7.3.3 Introduction to certification program
- 7.3.4 Applicant 100% conformity inspection s
- 7.3.5 Conformity Inspection identification
- 7.3.6 First Article inspection
- 7.3.7 Tooling inspection and control
- 7.3.8 Material review prior to manufacturing
- 7.3.9 Software conformity inspections
- 7.3.10 Applicant facilities description
- 7.3.11 Supplier agreements with applicant
- 7.3.12 Subcontractor agreement
- 7.3.13 Final Assembly of product
- 7.3.14 SACAA conformity inspections during flight test
- 7.3.15 SACAA conformity inspections on the flight test simulator and bench test
- 7.3.16 SACAA conformity of spare parts

7.4 Outline Certification Test Plan

7.4.1 The following items should be included:

- 7.4.1.1 Purpose or Introduction: Identify the intent of the certification plan.
- 7.4.1.2 Description: A brief description should be included
- 7.4.1.3 CFRs- The applicable sections and sub-sections need to be listed (This is not applicable to a type approval)

- 7.4.1.4 Compliance: Tell how compliance will be shown by indicating laboratory testing, flight testing,
- 7.4.1.5 analyses, similarity, etc.
- 7.4.1.6 Conformity: Indicate what parts and installation SACAA conformity will be required
- 7.4.1.7 Data: List the data to be submitted to show compliance
- 7.4.1.8 Airplane Flight Manual: Indicate if this document is affected and how it will be revised.
- 7.4.1.9 Type Certificate Data Sheet or Type Approval Data Sheet: Indicate if this document is affected and how it will be revised.
- 7.4.1.10 Master Minimum Equipment List: Indicate if the MMEL is affected and describe the minimum dispatch configuration.
- 7.4.1.11 System Criticality: For Applicable systems the results of the preliminary hazards analysis need to be made known.
- 7.4.1.12 Schedule: Provide a schedule which shows the following:
 - i. Significant Milestones
 - ii. When data submittals will be made
 - iii. When test requiring SACAA witness will be run
 - iv. When SACAA conformity inspections will be made
 - v. When final certification is required

8. ENGINEERING CONSIDERATION

8.1 What determines the need for conformity inspections:

- 8.1.1 New Type design.
- 8.1.2 New Type approval
- 8.1.3 STC, type design modification, etc
- 8.1.4 Major change to the type design, processes, materials
- 8.1.5 Major change of the type of approval
- 8.1.6 TSO approval
- 8.1.7 PMA approval

8.2 Guideline questions asked when identifying articles to be confirmed.

- 8.2.1 What articles should be conformed?
- 8.2.2 Who should be involved?
- 8.2.3 When and where should the article be conformed?
- 8.2.4 Configuration control and tracking of conformity inspections.

Note: These considerations should be addressed in the conformity inspection/certification plan, the following is the criteria for identifying the parts, assemblies, installations, and functions that could require SACAA conformity inspections and included in the company planning phase:

8.3 Criteria of identification

- 8.3.1 Complex Parts
- 8.3.2 Parts produced using new/critical processes or procedures parts
- 8.3.3 Produced using new tools/tooling
- 8.3.4 Parts produced at new facility/supplier, sub-contractor (First Article) Parts whose only means of inspection is producing tool.
- 8.3.5 Parts whose failure will be hazardous
- 8.3.6 Installation and functional verification of the above parts as needed to determine compliance to the design specifications and determine the reliability of the manufacturing processes to produce conforming articles.
- 8.3.7 Test Articles
- 8.3.8 Test Set-Ups

8.4 CONDUCTING PHASE: The process of performing conformity inspections (Phase 2)

- 8.4.1 The following steps are recommended to arrange a conformity inspection,
- 8.4.2 Contact the responsible person of the company in regard to conformance.
- 8.4.3 Review design criteria or test plan and quality control system
- 8.4.4 Identify SACAA inspections where required.
- 8.4.5 Arrange for inspection time and address.
- 8.4.6 Before any conformance can be conducted the applicant must provide evidence that 100% inspection has been conducted and statement of conformity or certificate of conformance must be provided

8.5 GENERAL DETERMINATION: CONDUCTING PHASE

- 8.5.1 It is the primary responsibility of the SACAA manufacturing /production inspectors to determine that prototype products (aircraft, engines, propellers, or components thereon conform with drawings, specifications.
- 8.5.2 It is the primary responsibility of the SACAA manufacturing /production inspectors to determine that prototype products (aircraft, engines, propellers, or components thereon conform with drawings, specifications.
- 8.5.3 Whenever special unique inspections are required, the applicant will be advised in writing by SACAA, and the applicant will be liable for the payment of the chosen responsible exclusive inspector:
- 8.5.4 A manufacture's policies, quality control procedures, experience, inspection, personnel, equipment, and facilities will dictate the extent of conformity.
- 8.5.5 Another factor which determines the degree of inspection and evaluation by the manufacturing inspector to the complexity of the product and its effect on air safety.
- 8.5.6 Conformity determination may be made through a planned of spot-checking critical parts and assemblies and by reviewing records and material review dispositions.

8.6 CONDUCTING PHASE:

- 8.6.1 In conducting conformity inspections, the following characteristics should receive primary consideration:
- 8.6.2 Material Fabrication
- 8.6.3 Processes and processing of materials and parts
- 8.6.4 Identify SACAA inspections where required.
- 8.6.5 Arrange for inspection time and address.
- 8.6.6 Before any conformance can be conducted the applicant must provide evidence that 100% inspection has been conducted and statement of conformity or certificate of conformance must be provided
- 8.6.7 Material Fabrication
- 8.6.8 Processes and processing of materials and parts
- 8.6.9 Critical and major dimension
- 8.6.10 Adequacy of drawings and related change of records
- 8.6.11 Material review actions
- 8.6.12 Previously produced parts (design changes not incorporated into drawings, MRS-Repairs

8.7 PROCESS SPECIFICATION EVALUATION

- 8.7.1 Step one is to evaluate the process specifications and quality control procedures for the following;
 - 8.7.1.1 Is the process information presented in an orderly and complete manner?
 - 8.7.1.2 Evaluate the loss of the basic scope of the specification through amendments to ensure the specification is usable on the product being evaluated.
 - 8.7.1.3 Does the manufacture's quality control and manufacturing departments concur that they can produce articles to the type design or type approval requirements?
 - 8.7.1.4 Evaluate the process and design specifications for ambiguous terms values, tolerance.
- 8.7.2 Step two, any tolerance that are required to control the process should be clearly defined.
 - 8.7.2.1 The data submitted in any process should not contain terms which subject to various degrees of interpretation.
 - 8.7.2.2 verification must be conducted if the articles being produced are fact being processed in accordance with specifications and drawings and that the material, tooling, equipment and planning documentation.

8.8 PRODUCT INSPECTION/PROCESS CAPABILITY

8.8.1 Step three is inspecting the actual processed article.

- 8.8.1.1 Determine that the end article conforms in all respects to the design data requirements?
- 8.8.1.2 Determination that the process operations are capable if consistently producing articles that conform with the type design or type approval requirements.
- 8.8.1.3 Results are satisfactory if it is determined by the conformity of the production process that the process will produce a conforming article every time process is employed.

8.9 TEST PARTS AND ASSEMBLIES

- 8.9.1.1 Parts and assemblies destined for official structural testing should be clearly identified.
- 8.9.1.2 Parts and assemblies subjected to structural testing beyond load limit testing should be clearly and permanently identified to prevent their use in production products and flight test.

8.10 NON-CONFORMANCE/DEVIATION

- 8.10.1.1 Non-conformance and deviations to a type design must be approved by the SACAA (Airworthiness engineering)
- 8.10.1.2 All corrective plans must be verified for implementation.
- 8.10.1.3 If the type approval is changed subsequent to a certification test, the applicant may have to either repeat the test or substantiate that the design change does not affect compliance with the relevant 50% design standard requirements compliance.
- 8.10.1.4 SACAA may conduct conformity inspections as necessary. At the end of the certification project, the configuration control system must result in a definition of the type of approval product.

9. AIRCRAFT GROUND INSPECTIONS

9.1 There are three types of Aircraft Ground Inspections:

- 9.1.1.1 Preliminary ground inspections: Progressive conformity inspections of prototype aircraft under development, prior to the flight test.
- 9.1.1.2 Official type inspection authorization: Final inspection of the completed prototype and is performed just prior to SACAA flight test. This aircraft is placed under SACAA inspection custody, and the manufacturer should not perform any work on the aircraft without concurrence of the SACAA inspection.

- 9.1.1.3 Ongoing flight test inspections: Inspections and safety checks conducted after the aircraft is returned to the SACAA flight status.

10. CONDUCTING PHASE: GENERAL REQUIREMENTS (PHASE 3)

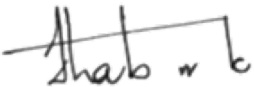
10.1 Completion of inspection documentation and returning to the originator

- 10.1.1.1 Completed documentation of the inspection shall be routed to the client and the project team.
- 10.1.1.2 Both satisfactory and unsatisfactory conditions shall be recoded
- 10.1.1.3 The applicant should ensure that the discrepancies or nonconformity recoded and must be resolved.
- 10.1.1.4

11. QUERIES

- 11.1 For any queries or feedback regarding this TGM please contact:
Manager: Airworthiness Engineering (AED) Email: eng@caa.co.za

12. AUTHORISATION

DEVELOPED BY:		
	THANDI MOFOKENG	30 NOVEMBER 2025
SIGNATURE OF M: AED	NAME IN BLOCK LETTERS	DATE
REVIEWED & VALIDATED BY:		
	LOBANG THABANTSO	30 NOVEMBER 2025
SIGNATURE OF SM: AW	NAME IN BLOCK LETTERS	DATE
APPROVED BY:		
	DEAN KHUMALO	30 NOVEMBER 2025
SIGNATURE OF E: ASO	NAME IN BLOCK LETTERS	DATE

END